

WATER

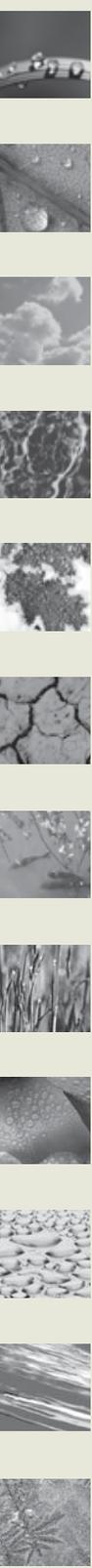
CONSERVING
RECYCLING



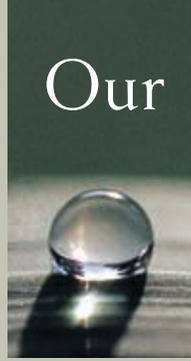
2006
ANNUAL REPORT



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Our innovative management

From the General Manager

Along with being a wet year, Fiscal Year 2006 was marked by a number of important milestones in meeting long-term water supply reliability goals. We continued to work with the many customers and businesses we served in implementing aggressive water conservation and water recycling programs to help secure a reliable water supply into the 21st century. EBMUD has long recognized the importance that resource conservation and reuse play in long-term water supply planning efforts; and despite continuing population growth, water demand is at the same level as the 1970s, some 35 years later. This annual report brings together information on EBMUD's Water Conservation and Water Recycling programs and summarizes key Fiscal Year 2006 accomplishments. The activities and successes described in this report represent EBMUD's continuing mission to: manage the natural resources with which EBMUD is entrusted; provide reliable, high quality water and wastewater services at fair and reasonable rates for our customers; and preserve and protect the environment for future generations.

On behalf of the EBMUD Board of Directors, I extend our appreciation for the continuing partnerships with our customers.

Dennis M. Diemer

of this most precious resource sets the standard...

Water, one of the most vital resources for survival, is becoming increasingly scarce in California. Fluctuations in climate coupled with growing population and increasing environmental protections are placing greater demand on our finite water supply. Following the 1976-77 and 1987-1992 droughts, the East Bay Municipal Utility District (EBMUD) acted to ensure adequate and reliable water supplies to meet East Bay water needs. In October 1993, EBMUD adopted a long-term Water Supply Management Program (WSMP) to guide the provision of a reliable, high-quality water supply through the year 2020. The WSMP seeks to address the ever-changing issues that may impact the reliability of EBMUD's water supply system, including the risk of catastrophic earthquake damage to the Mokelumne aqueducts and growing demands for water by more than 1.35 million customers.

For more than 30 years, demand management and water reuse have been important components in EBMUD's water policies and practices designed to promote wise and efficient use of our limited water supply. EBMUD is a leader in promoting water use efficiency as a foundation for its long-range water resource management planning. But even with successful demand reduction, the WSMP predicted EBMUD would be unable to meet its customers'

need for water during severe droughts affecting the Mokelumne River, without imposing extreme rationing measures. EBMUD's objective is to impose no greater than 25 percent rationing of total EBMUD potable water demand during a severe drought.

Recognizing water conservation and water recycling as key components of EBMUD's water supply reliability, the EBMUD Board of Directors set a 25-year goal of conserving and recycling an additional 49 million gallons per day (MGD) by 2020 over 1995 levels. EBMUD plans to continue its investments in water conservation and water recycling programs over the next five fiscal years.

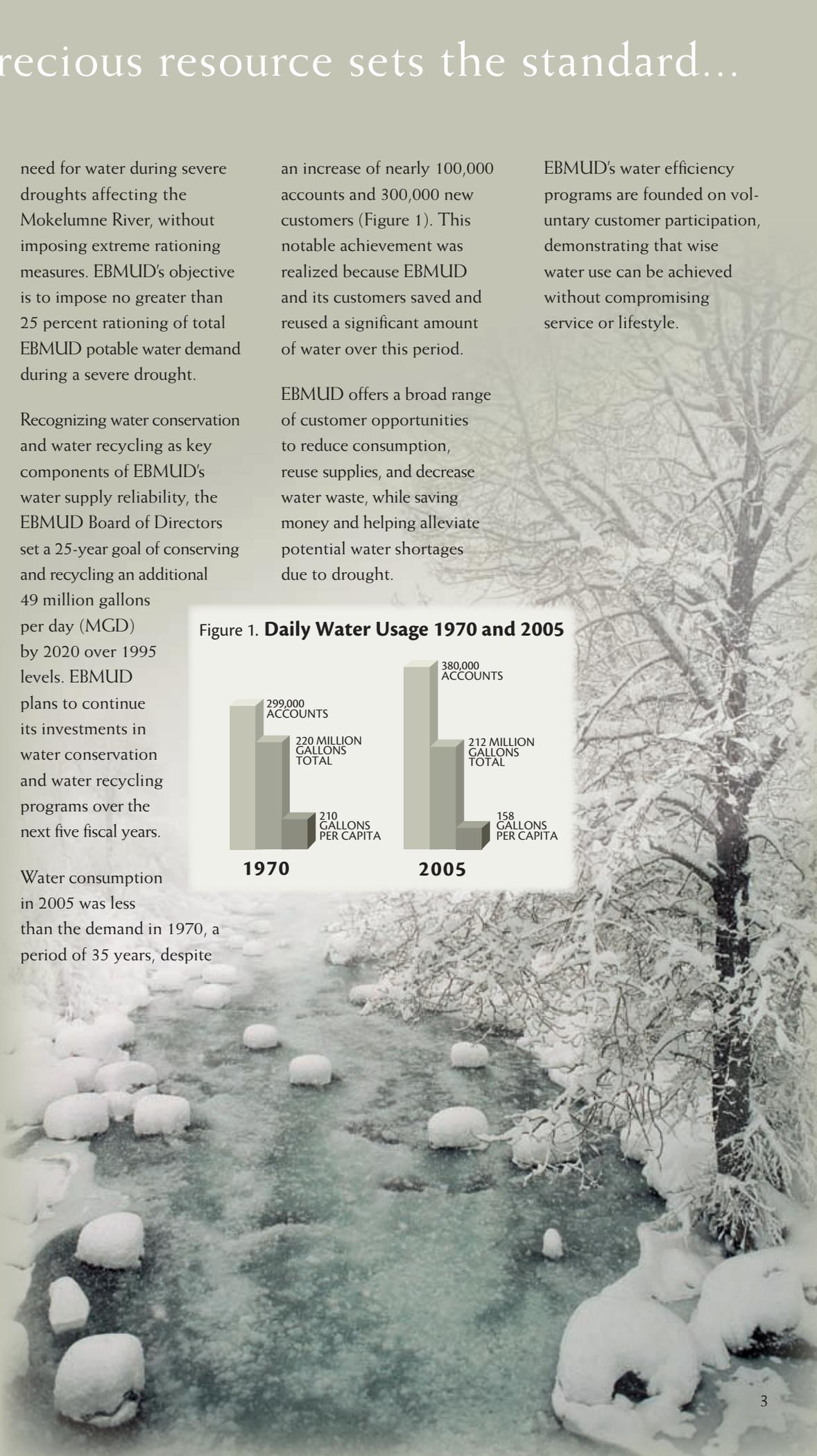
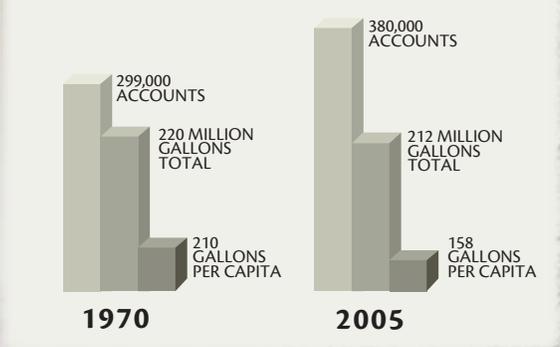
Water consumption in 2005 was less than the demand in 1970, a period of 35 years, despite

an increase of nearly 100,000 accounts and 300,000 new customers (Figure 1). This notable achievement was realized because EBMUD and its customers saved and reused a significant amount of water over this period.

EBMUD offers a broad range of customer opportunities to reduce consumption, reuse supplies, and decrease water waste, while saving money and helping alleviate potential water shortages due to drought.

EBMUD's water efficiency programs are founded on voluntary customer participation, demonstrating that wise water use can be achieved without compromising service or lifestyle.

Figure 1. Daily Water Usage 1970 and 2005





Water Conservation Program Overview

WATER CONSUMPTION

Measuring and understanding water consumption is essential to meeting consumer demand and developing effective water conservation and water recycling services. EBMUD provides meter reading services, tracks water use patterns, offers free water use surveys, and maintains an archival water demand database encompassing more than 30 years of data. The approximate percentage of indoor (70%) and outdoor (30%) customer water use has remained relatively unchanged, while overall demand continues to drop through the use of best management practices and new technology. The average daily potable water demand in 2005 was estimated at 212 MGD for EBMUD's more than 1.35 million customers. The average water demand distribution by customer sector is shown in Figure 2.

WATER CONSERVATION PROGRAM

To meet vital objectives in water conservation, EBMUD continually monitors water demand, new technology, and changing consumer preferences; and works closely with other local, regional, state and national utilities, organizations and researchers to enhance our services. EBMUD promotes demand-side conservation by working with customers and supply-side conservation by detecting and repairing leaks, and improving the efficiency of the water distribution system. Table 1 summarizes the WSMP Water Conservation Program goals and projected results through 2005.

Eleven years ago, EBMUD's 1994 Water Conservation Master Plan (WCMP), was established to identify and develop programs to meet

Table 1. SUMMARY OF GOALS 1995 - 2020

WSMP 2020 TARGET	WATER CONSERVED TO DATE	FY 06 ADDED SAVINGS	REMAINING 2020 TARGET
35 MGD	19.5 MGD	1.5 MGD	15.5 MGD

a 35 MGD goal for water savings by the year 2020. Programs include water-use surveys, water-saving device distribution, financial incentives, and targeted education and outreach. Additional water savings are projected to come from customer adoption of emerging technologies, including natural replacement of water-using equipment and high-efficiency appliances.

The WCMP is designed to evolve and adapt as new information is gained from pilot studies and lessons learned.

KEY WATER CONSERVATION FY06 ACCOMPLISHMENTS

- Saved a projected 550 million gallons of water annually (or 1.5 MGD);
- Distributed nearly \$1 million and more than 7,300 conservation rebates for purchasing and installing water-efficient products;
- Distributed more than 6,400 high-efficiency clothes washer rebates for 44.5 million gallon annual estimated water savings;
- Expanded Irrigation Reduction Information System (IRIS), adding 610 new landscape water budgets on nearly 2,500 irrigation customer water bills;

- Completed phase one of an End Use Demand Study using advanced metering systems (AMS) and data logging systems to measure residential customer water demand. The study successfully identified leaks, broken equipment, unintended irrigation, excessive irrigation, and other high water use, helping customers find more water conservation opportunities;

- Received approximately \$900,000 in state and federal grant funding for incentives and research including:

\$405,000 toward residential clotheswasher rebates with the Bay Area Regional Clotheswasher Program;

\$217,000 toward a statewide voluntary water-efficient product rating and labeling program with the California Urban Water Conservation Council;

\$150,000 toward research on sub-metering of multi-family residences;

\$75,000 to implement an End Use Demand Study of real time automated metering; and

\$50,000 for a WaterSmart commercial conservation best practices guidebook.

Figure 2

Water Use by Customer Category

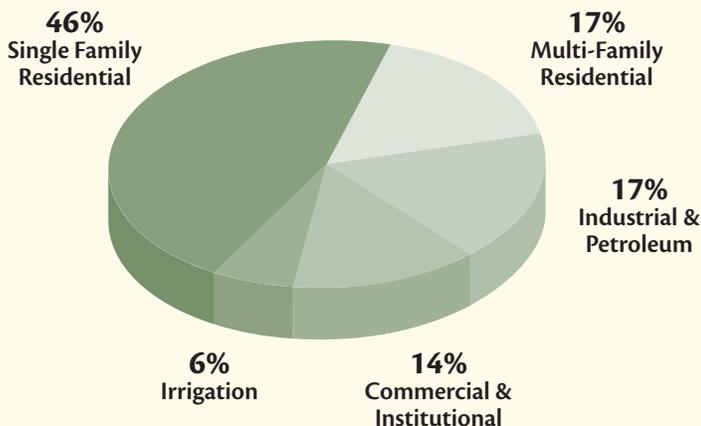
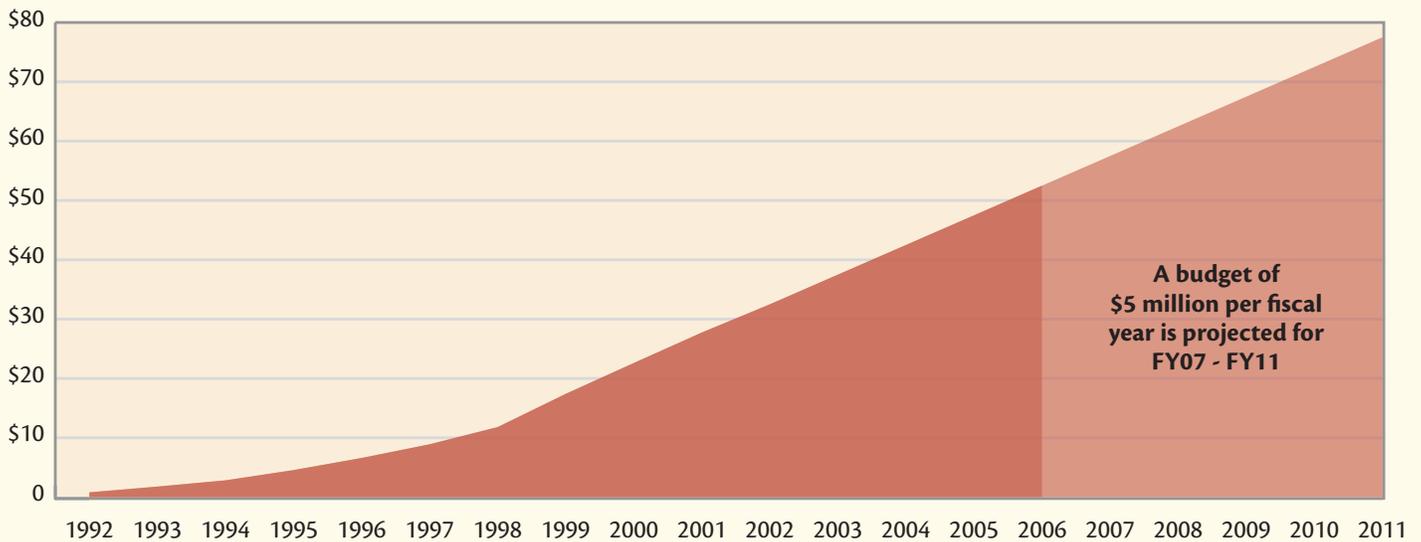


Figure 3. **CUMULATIVE CONSERVATION INVESTMENTS** (in millions)



WATER SAVINGS

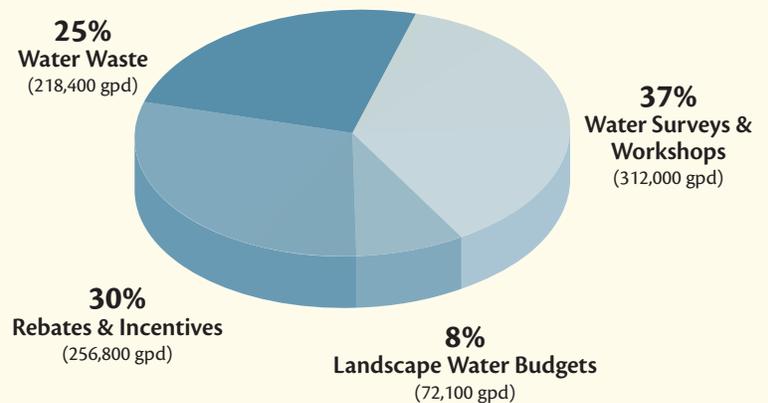
Since the early 1990s, EBMUD has invested more than \$50 million in water conservation programs and plans to invest an additional \$25 million over the next five years (Figure 3) In FY06, EBMUD offered its customers access to a variety of free water conservation services to improve water use efficiency including indoor and landscape consultation services, free plumbing devices, and a variety of financial incentive offerings covering plumbing fixture and appliance upgrades, and water efficient landscaping improvements. Common to all EBMUD water conservation programs is the promotion of voluntary behavior changes and cost-effective technology that deliver water efficiency without loss of amenity or function. For example, EBMUD recommends landscape management practices

that reduce water use while improving landscape health and appearance, and promotes high-efficiency toilets and clothes washers that perform as well or better than standard models, while saving substantial water and energy costs.

EBMUD-funded FY06 customer incentives, water use surveys and workshops contributed an estimated 0.9 MGD (nearly 330 million gallons annually) to the annual water conservation goal (Figure 4). FY06 new products and technology, water-efficiency education programs, and projected natural conservation actions by EBMUD customers saved an additional 0.6 MGD, bringing the yearly total to 1.5 MGD. Since 1994, water conservation programs have saved an estimated 19.5 MGD or more than 7 billion gallons annually.

Figure 4

Est. FY06 Water Savings by Program Type
0.9 MGD TOTAL



Note: An additional 0.6 MGD in projected natural replacement savings increased the FY06 total to 1.5 MGD

While water use surveys can help identify and suggest ways to reduce use through best practices, EBMUD financial incentives reward customers who retrofit their homes and businesses with water-efficient hardware and equipment. The FY06 incentive programs distributed nearly \$1 million to EBMUD customers for the

retrofit of plumbing fixtures, appliances, process equipment, and irrigation systems with water-efficient models. EBMUD also funds water distribution system leak detection, meter testing, and pipeline replacement projects that increase water conservation beyond this reported total.



LOOKING FORWARD

The success of current and future EBMUD water conservation programs will depend in large part on maintaining excellent customer service while providing for on-going incorporation of new technology and adaptation to changing market conditions. Initiatives planned for FY07 and beyond to achieve water conservation goals and objectives include:

- Continuing expansion and integration of self-service, web-enabled, and automated conservation services such as access to account information, ordering conservation materials, tracking of conservation rebates, signup for conservation workshops, and estimated water and life cycle cost savings from "conservation calculator" tools.
- Participating in water-efficient product testing, rating and labeling programs to encourage innovation in technology and to help identify high performance products through market enhancement measures. This includes participation in the development of statewide programs funded by the California Department of Water Resources under Proposition 50, and a new USEPA WaterSense voluntary product rating and labeling program in concert with other voluntary programs such as Energy Star.

- Continuing research, led and sponsored by EBMUD, in technology such as landscape irrigation (e.g., weather-based controllers), food service equipment (e.g., air-cooled ice machines), consumer appliances (e.g., dishwashers), and advanced metering systems.
- Continuing outreach to local municipal, business, and institutional partners to increase the visibility of water conservation success and education programs promoting sustainable water use practices.

water SMART

EBMUD also has developed program-specific marketing under a new customer-friendly WaterSmart brand emphasizing the positive benefits of water conservation and incentive programs. New and planned EBMUD WaterSmart programs and services include:

- Implementing a business customer and partner qualification and recognition program to reward conservation best management practices among business customers;
- Evaluating a water conservation revolving loan program to expand incentive alternatives to willing customers interested in maximizing conservation savings and to stretch limited conservation program dollars;



Pardee Reservoir spillway overflow from heavy 2006 rainfall and snowmelt.

- Developing and launching a pilot WaterSmart Gardener nursery outreach and customer education program for outdoor landscaping;
- Planning, designing and constructing WaterSmart exhibits within EBMUD's service area, including the Alamo Creek WaterSmart Education Center within the Camino Tassajara Project in San Ramon, to showcase water supply, conservation and recycling programs, and customer success in efficient water management practices;
- Piloting and distributing a WaterSmart Development Best Practices Guidebook for businesses and planning agency partners; and
- Creating a WaterSmart Garden Grant Program to standardize EBMUD sponsorship of community-developed water conserving demonstration gardens.

EBMUD provides water conservation educational and rebate information to assist customers with their water-efficient product purchasing decisions.



EDUCATION AND OUTREACH

Education, outreach, support materials (such as publications, school curricula) and activities (such as public workshops, and demonstration projects) help promote voluntary customer participation in conservation practices.

EBMUD continues to market water conservation services via broad-based, cost-effective general media outlets to communicate the value of water and the importance of using it wisely.

Why should we conserve water in a wet year?

Water use efficiency is a year-round activity that provides multiple benefits in wet, normal and dry years. FY06 saw a record number of days of rainfall in March 2006 and the snow pack in the EBMUD Mokelumne Watershed reached 131 percent of normal in April 2006. Although it was a wet year, more than 11,000 EBMUD customers received conservation services, incentives, or free devices to help them save water. These customers will realize the long-term benefits of improving water use efficiency by saving on their water and energy bills, being better prepared for drought, and contributing to overall water supply and environmental sustainability.

Table 2. **WATER CONSERVATION PROGRAM SUMMARY**

PROGRAM	ACTIVITY LEVEL	INCENTIVES PAID (\$)	ESTIMATED SAVINGS (GPD)
RESIDENTIAL			
Single Family Surveys	504	--	38,100 ¹
Multi-Family Surveys	271	--	93,100 ¹
Toilet Replacement Rebates	446	\$51,600	9,500
Clothes Washer Rebates	6,453	\$721,700	122,000
Device Distribution	13,437	--	3,500 ²
Water Waste and Leak Repair	54	--	17,700
Subtotal:	21,165	\$773,300	283,900
BUSINESS			
Water Surveys	231	--	70,600 ¹
Commercial Dishwashing Spray Valves	51	--	5,600
Customized Rebates	5	\$53,800	18,900
Commercial Clothes Washer Rebates	170	\$26,000	17,700
Toilet Replacement Rebates	95	\$23,800	600
Water Waste	49	--	200,700
Subtotal:	601	\$103,600	314,100
OUTDOOR			
Residential Landscape Surveys and Workshops	253	--	18,600
Commercial Irrigation Surveys	203	--	109,300
Commercial and Residential Landscape Rebates	98	\$78,400	61,400
Irrigation Reduction Information System	610	--	72,100
Subtotal:	1,164	\$78,400	261,400
TOTAL	22,930	\$955,300	859,400

¹ Includes water savings from devices delivered through on-site visits

² Includes only over the counter device distribution water savings



Water Conservation in the Home

In FY06, EBMUD issued nearly 7,000 appliance and fixture rebates and distributed more than 13,400 devices to residential customers totaling nearly \$800,000. FY06 residential water savings was estimated at over 280,000 gallons per day or more than 100 million gallons annually. Figure 5 shows home water savings by program element.

display within a model home. The display will demonstrate sustainable design choices and technology and will serve as an information resource for new home buyers as they landscape their new homes.

WATER USE SURVEYS

EBMUD staff review customer billing and meter data for abnormal high consumption

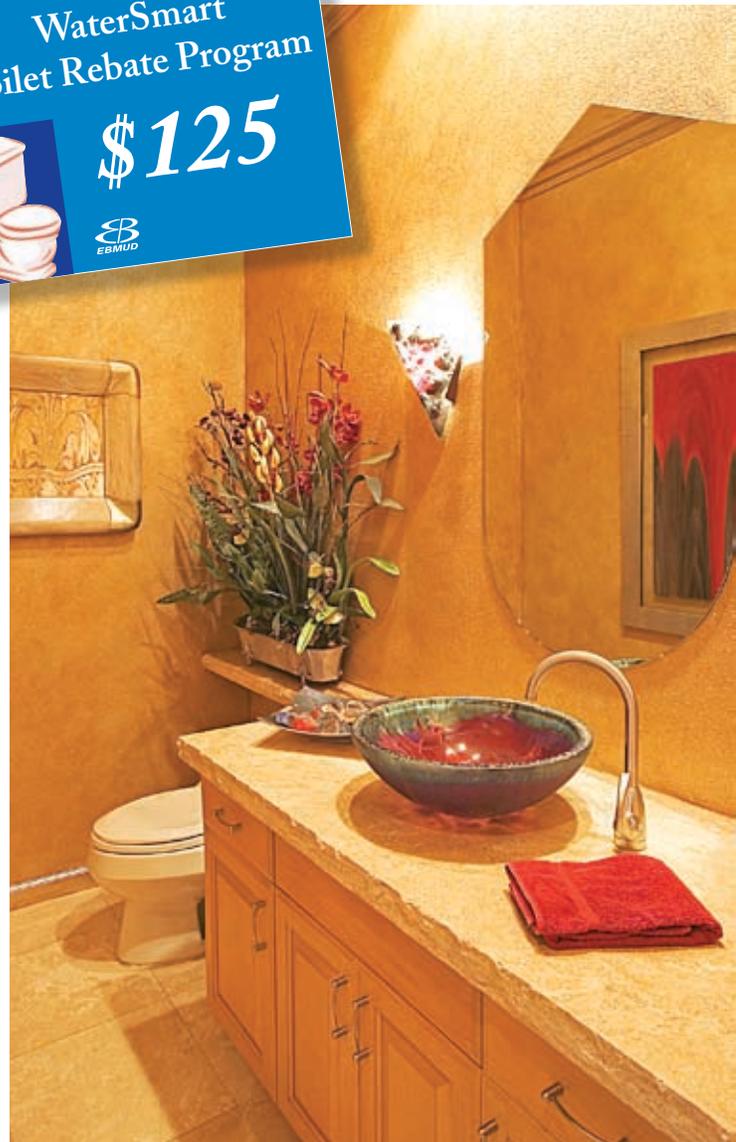
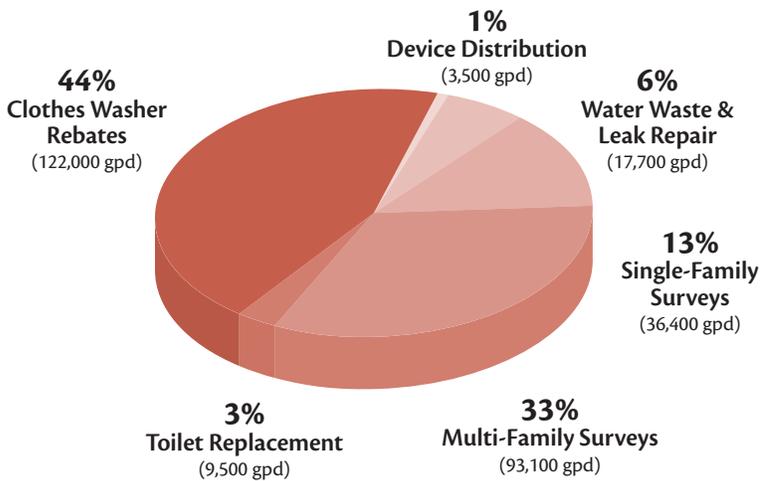


Figure 5

Est. FY06 Home Water Savings

0.3 MGD



NEW DEVELOPMENT

EBMUD worked with residential developers in the San Ramon Valley to help ensure water efficient designs. EBMUD staff reviewed landscape plans and offered alternatives to traditional landscape design including sub-surface drip irrigation and xeriscaping. In coordination with these developers, EBMUD designed a demonstration landscape and an indoor educational

and then assist customers in identifying and repairing leaks. Self-survey kits are provided free of charge to customers to help guide them through a step-by-step water use self-assessment. EBMUD provides customers who return completed self-surveys with free water conserving devices such as showerheads and faucet aerators upon request.

EBMUD staff perform home visits providing recommendations for replacement of inefficient water using fixtures, and improved water use practices. Wireless technology, such as laptop computers, aerial photography, and mapping software data is utilized to help customers understand how to manage water more efficiently at home.

EBMUD High-Efficiency Toilet Rebate offers at point of purchase can influence consumer choices.

EBMUD works to make water efficiency a visible, year-long activity, contacting customers through community events, bill inserts and post-card mailings with simple reminders to turn off their irrigation system in winter and to check for leaks.

"EBMUD has been very helpful and effective in helping me deal with my high water bill due to two leaky toilets. I can't say enough good things about your company."

– Ms. Chamblin, Oakland

WATERSMART TOILET REBATE PROGRAM

EBMUD's WaterSmart High-Efficiency Toilet (HET) Rebate Program experienced a four-fold increase over FY05 levels in the number of HETs (including pressure-assisted and dual-flush toilets) rebated, with a FY06 total of 446. During the same period, the number of qualifying HET models available in the market within EBMUD's service area more than doubled. This increase is due in large part to consistent, in-person EBMUD staff outreach to home improvement retailers who display EBMUD conservation program materials. Outreach to manufacturers and distributors also helped to increase the availability of qualifying HET models.

WATER-EFFICIENT APPLIANCES

In cooperation with other Bay Area water agencies and with support of grant funding obtained through the California Department of Water Resources, EBMUD offered its customers financial incentives ranging from \$50 to \$125 for the purchase and installation of high-efficiency clothes washers.

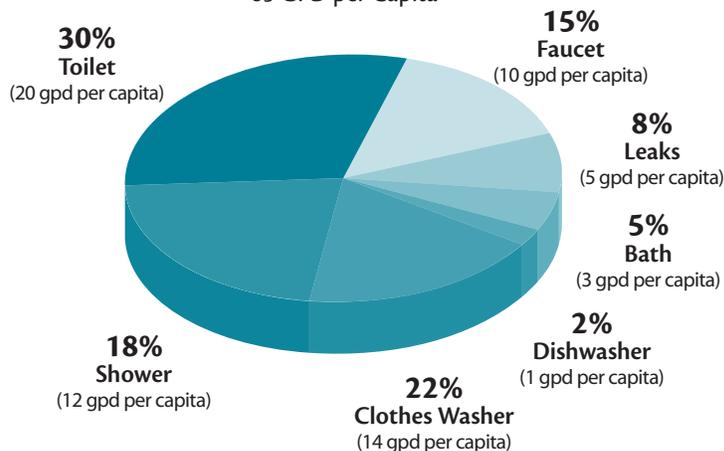
In FY06, EBMUD rebated more than 6,450 residential clothes washer installations, a 13 percent increase over the prior year, for an estimated water savings of 122,000 gallons per day or more than 44.5 million gallons per year. Since the program began in 1996, EBMUD has rebated nearly 45,000 clothes washer installations which resulted in saving an estimated 310 million gallons annually. Per capita single family indoor water use is shown in Figure 6.



Figure 6

Average Per Capita Single-Family Indoor Water Use

65 GPD per Capita



While native and low-water use plants are more water efficient for residential landscaping, lawns can also be irrigated efficiently with new technology and proper management to save water and money.

Water Conservation in Business and Industry

EBMUD's water saving programs are available to business customers to assist with improving indoor and outdoor water-use efficiency. Services include free water use surveys; life-cycle cost savings estimates; financial incentives for appliance, (e.g., commercial clotheswasher) plumbing fixture (e.g., high-efficiency toilet) and process equipment (e.g., cooling systems); and select conservation "grants" for custom water-efficiency projects. Marketing approaches to promote business conservation programs include EBMUD's website, community event sponsorship, free audits, and personalized letters to qualifying customers. A key benefit to EBMUD water conservation efforts is ongoing relationships with product vendors in helping promote water efficiency and EBMUD services.

WATER-EFFICIENT FIXTURES AND APPLIANCES

EBMUD incentives for business customers include rebates for plumbing fixtures such as high-efficiency gravity and pressurized toilets, low- or zero-water using urinals, commercial-grade clotheswashers, pre-rinse dishwashing spray valves, boiler-less food steamers, air-cooled ice machines, and recirculating cooling systems. In FY06 EBMUD provided more than 321 business conservation rebates totaling \$125,000 and saving an estimated 314,100 gallons per day (or nearly 115 million gallons annually).

KEY ACCOUNT SERVICES

EBMUD offers specialized key account services to larger customers or multi-metered accounts to achieve greater water savings and enhance



EBMUD and PG&E are conducting a joint research project to document energy and water conservation benefits of commercial hot water heaters in a local restaurant.

customer service. Many business accounts have large production facilities or multiple office locations, facilitating the implementation of water conservation practices across many uses. Key account services included the WaterSmart cities and schools programs, focused conservation outreach to large homeowners associations and property management companies, and select commercial and industrial customers.



CUSTOMIZED INCENTIVES

For more than 11 years, EBMUD has offered custom financial and technical assistance to select businesses that undertake specialized water-efficiency projects. To maximize cost-effective, water savings benefits, EBMUD conducts joint research and co-funds projects with its customers that demonstrate



A key EBMUD FY06 account is the United States Postal Service (USPS) at its main office in Oakland.

The USPS received about \$50,000 in EBMUD incentives for the replacement of 180 commercial toilets, the retrofit of 59 urinals, and installation of new water-efficient faucets, using just 0.5 gallons per minute. These collective improvements are estimated to save the USPS more than 19,000 gallons of water per day and add nearly 7 million gallons per year to EBMUD's water supply reliability efforts. The USPS expects to realize an annual cost savings of approximately \$40,000 for its conservation efforts. EBMUD rebates were effective in accelerating the USPS payback period by 23%.

expected water conservation savings. Each project is required to enter into a performance agreement and meet an established water budget to be eligible for EBMUD financial assistance. Figure 7 shows business water savings by program.

COMMERCIAL LANDSCAPE IRRIGATION UPGRADES

EBMUD's Commercial Landscape Irrigation Upgrade Program is designed to help large-landscape irrigators



Laundry and kitchen equipment are elements of a water use efficiency assessment completed for the West County Jail facility.

improve the efficiency of existing irrigation systems. The goal of the program is to minimize customer water consumption and utility costs, and to introduce customers to new efficient irrigation technology. Water-efficient equipment also can help to reduce overspray and runoff, improve turf and plant health, and reduce asphalt and fence damage caused by inefficient sprinkler equipment.

Customers who participate in an irrigation water audit may qualify for rebates up to 50 or even 100 percent of the material cost of installing water-efficient equipment, up to a current total incentive of \$20,000 per account. The free irrigation water audit includes a site inspection of the customer premises, advice on water consumption patterns and recommendations to improve irrigation efficiency on plant water needs, sprinkler uniformity, water pressure, and irrigation controllers and scheduling.

EBMUD staff follows up with a detailed report to the customer of the site visit. High-efficiency, rotating spray nozzles and self-adjusting

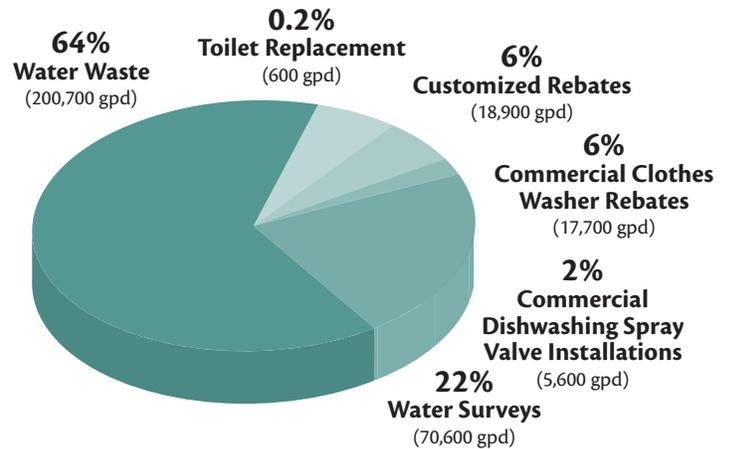
irrigation controllers continue to be the most popular irrigation upgrades. The landscape manager also receives an offer to participate in EBMUD's free Irrigation Reduction Information System (IRIS) landscape water budgeting program during the site inspection.

In FY06, EBMUD completed 203 commercial irrigation water use surveys with an estimated savings of 109,000 gallons per day and provided 58 commercial irrigation rebates totaling more than \$52,000

Figure 7

Est. FY06 Business Water Savings

0.3 MGD



with estimated additional savings of 60,000 gallons per day for a combined estimated total of more than 61 million gallons annually.

Specific commercial customers and/or their professional contractors are recognized for their water conservation efforts with a "success story" posting on EBMUD's Water Conservation Website. The success story will explain the new irrigation technologies or improved irrigation management methods applied and track and report on water consumption and water savings.

"Our crew is really appreciative of the (conservation) program that EBMUD put together. You have made a tremendous impact on their careers and we really appreciate your hard work and effort that went into this training."

— Mr. Blancaflor, City of Hercules



Water Conservation for Outdoors

Outdoor water conservation services are targeted to large residential customers and commercial landscape irrigators. Services include water use surveys, landscape consultations, irrigation uniformity tests, leak detection and a variety of financial rebates for irrigation system upgrades. FY06 outdoor water conservation savings were estimated at more than 261,000 gallons per day or greater than 95 million gallons annually. Outdoor water savings by program are shown in Figure 8.

RESIDENTIAL LANDSCAPE SURVEYS AND INCENTIVES

In the fall of 2005, EBMUD conducted a direct mail campaign offering free on-site consultations to residential customers to help improve the efficiency of their landscape irrigation. The consultations emphasized correct scheduling of automatic irrigation controllers and plant selections, among other sustainable landscape practices. During FY06, more than 180 residential customers participated in landscape consultations.

EBMUD continues to offer rebates of up to \$1,000 to residential customers for a portion of material costs for low water-use landscaping and irrigation system improvements. Program revisions to improve water savings and reduce administrative overhead include requiring a minimum outdoor use of 1,000 gallons per day. Looking forward, EBMUD has initiated a program to promote sustainable landscape practices and retail purchases through educational signage, training, and incentives offered in partnership with retail plant nurseries.

IRRIGATION REDUCTION INFORMATION SYSTEM

EBMUD's Irrigation Reduction Information System (IRIS) continues to be a leader in landscape water budget programs across the state. The program is designed to inform EBMUD irrigation customers how much water should have been used during a billing period. Water use estimates are based on actual irrigated landscape areas and



New metering technology allows EBMUD staff to share detailed data with residential customers to identify water savings opportunities.

real time weather data from the customer's microclimate. The program prints the water budget on every water bill the customer receives after joining the program. Approximately 2,500 commercial customers currently receive information on their water bill and approximately 5,700 landscape water budgets have been completed. In FY06, 610 new customers were added to the system. With an average of 250 billing days per year and approximately 60 budgets calculated and printed each day, that equates to 15,000 landscape water budgets printed and provided to EBMUD IRIS customers in FY06.

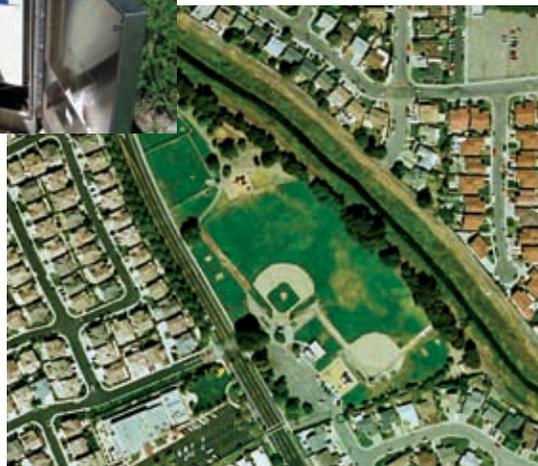


Above: A key objective is to provide EBMUD customers with tools that help identify inefficient water use practices such as landscape irrigation overspray and runoff.



Above right: EBMUD provides technical and financial assistance to customers to improve landscape management and water-efficiency through irrigation scheduling using weather-based and other automated controllers.

Right: IRIS utilizes a geographic information system, aerial photography, land parcel and weather data to calculate landscape water budgets.



WATERSMART IRRIGATION CONTROLLER PROGRAM

WaterSmart Irrigation Controllers (WSIC) are a new generation of landscape irrigation timers that automatically adjust irrigation schedules based on weather and site conditions. Throughout FY06, EBMUD developed a new WSIC incentive program and served as lead agency in a grant-funded Northern California program to promote the new technology. The Northern California partners procured services and developed a Web-based database to pool program data for reporting and evaluation purposes. EBMUD began offering rebates for qualified WSIC products in June 2006. Working through the California Urban Water Conservation Council, EBMUD coordinated an ongoing statewide program evaluation with a comparable program in Southern California. EBMUD also conducted extensive market research including focus groups of



residential customers and in-depth interviews with commercial landscape managers. The research findings informed the design of EBMUD's financial incentive program, including outreach tactics, collateral marketing materials, and the customer participation process.

"This was just great. The presenters were dynamic and well-informed. I would like to attend more."

– Workshop Participant
The Garden at Heather Farm

WATERSMART GARDENER PROGRAM

EBMUD is in the planning stages for its new WaterSmart Gardener Program, intended as a partnership with nurseries to inform their staffs and educate customers about water-efficient landscapes and EBMUD-offered programs and services. The program will be designed to assist customers in making informed plant purchases. Assistance will be provided through a list of plants that meet several requirements: drought tolerance, ease of maintenance, and freedom from pests and disease. A copy of the EBMUD plant book, *Plants*

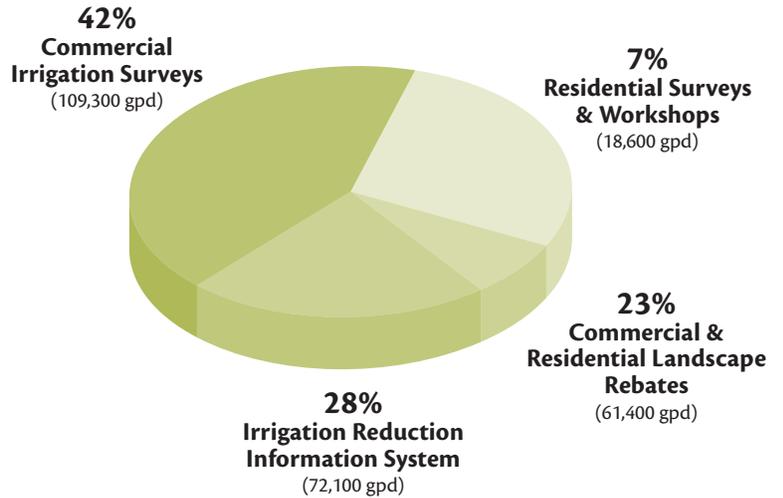
and *Landscapes for Summer-Dry Climates* is on display in many participating East Bay nurseries, and all plants on the list are from the book.

EBMUD is currently partnering with the Alameda County Waste Management Authority on its Bay-Friendly Landscaping (nursery education) program. Launched in September 2005, the program is operating in five Alameda County nurseries. The program's Nursery Advisory Panel met for a second time in January 2006 to analyze the first four months of operation. All participating nurseries are offering in-house coupons in the 2006 Bay-Friendly Garden Tour guide.

Figure 8

Est. FY06 Outdoor Water Savings

0.3 MGD Total



EBMUD's free irrigation surveys and uniformity tests help customers improve their water-efficiency, while reducing runoff and water costs.





Water Conservation Research

EBMUD regularly partners with a number of Northern and Southern California, U.S. and a few international water agencies, energy utilities and green business organizations and other research entities to study and pilot new water-efficiency programs and technology.

END USE DEMAND STUDY

EBMUD is conducting small advanced metering system (AMS) pilot studies throughout its service area to test new metering technologies as a means to improve customer service and water-efficiency practices. The pilot studies are partially funded by a grant from the United States Bureau of Reclamation (USBR) and involve retrofitting water meters with electronic devices that can transmit meter reads remotely and that can collect, record, and transmit hourly water consumption data.

During the past year, more than 300 AMS devices were installed in residential areas. To date, the study has been very successful in identifying leaks, broken irrigation equipment, excessive irrigation, and other high water-using activities to save customers thousands of dollars on their water bills as well as helping to save millions of gallons of water.



EBMUD received a \$24,000 grant from the U.S. Bureau of Reclamation for its water- and energy-efficiency research on commercial food steamers with PG&E. As a result of the study, both utilities now recommend the water and energy saving boiler-less food steamers.

FOOD SERVICE STUDIES

In FY06, EBMUD continued to offer incentives for dish-washing pre-rinse spray valves and commercial dishwashers. EBMUD also completed a boiler-less food steamer study and initiated work on an air-cooled commercial ice machine pilot study in partnership with the PG&E Food Service Technology Center and the City of Seattle, to research and advance the use of water- and energy-efficient products within the food service industry. The research is expected to be completed in July 2007 and if adopted by EBMUD customers, could save tens of millions of gallons of water annually.



EBMUD, together with PG&E and the City of Seattle, have teamed up to research the water and energy consumption of commercial ice machines.



Above: Manual faucets in public restrooms provide adjustable timed water delivery.

Right: A concealed automatic sensor controls faucets in a public restroom.



PLUMBING FIXTURE RESEARCH

EBMUD is currently engaged in a study to monitor various types of public restroom faucet controls (manual and automatic sensor) to determine which style is the most cost-effective, useful, and water efficient for its customers.

EBMUD is investigating the potential benefit of these AMS systems as a new water conservation tool not available with traditional monthly or bimonthly meter reading.

UNIVERSITY OF CALIFORNIA AT BERKELEY SUBSURFACE IRRIGATION STUDY

The University of California at Berkeley (UCB) wanted to restore Grinnell Glade to its original grandeur and asked EBMUD for help. UCB and EBMUD teamed up to research the water conservation potential of a new high-tech irrigation system. The amount of water used to irrigate the UCB Grinnell

EVAPOTRANSPIRATION STUDY

EBMUD is participating in two state-wide, multi-agency studies with the California Department of Water Resources (DWR), the Irvine Ranch Water District, CUWCC and other water utilities to advance the gathering and availability of evapotranspiration (ET) weather data for use in water-efficient landscaping and controller technology.

One project includes the installation of up to 10 new California Irrigation Management Information System (CIMIS) weather stations in "non-ideal" urban settings (two within EBMUD's service area) to collect previously unattainable ET data. A second project will develop protocol to use over the Web to access ET data for updating ET-based irrigation controllers in the future. The first phase will develop sample software to test the sharing of data with the newly developed protocol. The information

gathered from this study will help with the programming of ET controllers in the future for various microclimates in EBMUD's service area.

MULTI-FAMILY RESIDENTIAL METERING STUDY

EBMUD received a \$150,000 grant from DWR in April 2006 to evaluate factors affecting water use at multi-family properties. The project includes: conducting surveys of external stakeholders such as property owners, tenants, regulatory agencies, water utilities, and public interest groups; conducting field tests of metering technology at select building sites within EBMUD's service area, and program administration and reporting. This project is expected to be completed in April 2008.



Left: UCB Grinnell Glade before water efficient irrigation improvements.



Below center: Sub-surface irrigation system is installed.

Below right: Grinnell Glade restored to its original grandeur with the help of EBMUD's recommended sub-surface irrigation system.

Glade lawn from 2006 through 2007 will be compared to evaluate the efficiency of conventional overhead spray irrigation versus sub-surface (underground) irrigation. Separate water meters will measure the water use of the two irrigated areas and technologies. EBMUD's recommended sub-surface irrigation approach will help to prevent over-spray and excess run-off while promoting plant root structure for a water conscious and healthy lawn. Study results are expected to be available in early 2008.





Water Conservation In the Community

WATERSMART BUSINESS DEVELOPMENT GUIDEBOOK

EBMUD received a \$100,000 grant from the California Department of Water Resources for the development of a guidebook on water efficiency best practices for new business construction. The project involves both a guidebook for use in offering plan reviews for new businesses and conducting surveys of water utilities and government planning agencies to assess implementation challenges. The guidebook is expected to be completed in April 2007.

WATERSMART SCHOOLS

EBMUD has expanded its school outreach programs to: help increase water efficiency at schools; help save money for schools and entire school districts; provide a positive effect on school community outreach and support; and provide students with an education on responsible water use and environmental protection.

Since program inception, EBMUD has performed more than 300 water-use audits, distributed free devices, and provided more than \$150,000 in financial incentives for water conservation retrofits at dozens of public and private schools and colleges. Total water savings to local schools is estimated at more than 250,000 gallons per day or more than 45 million gallons per annual school year.

In FY06, EBMUD funded an elementary-grade assembly program on water conservation that included actors from the National Theatre for Children. EBMUD also continued its partnership with the Watershed Project in sponsoring Kids in Gardens Teacher Workshops on water conservation curriculum for more than 100 educators and providing \$5,500 in Teacher Action Grants for nine elementary and middle school water conservation demonstration gardens.

Community events provide EBMUD customers an opportunity to learn about water conservation services.

WORKSHOPS

EBMUD regularly collaborates with other water and energy utilities to provide educational workshops and showcase water conservation technologies and best practices at local trade shows. These partnerships improve customer service and help to reduce administrative costs. EBMUD participated in more than 20 community events and workshops in FY06.



A new Sensory Garden at Lake Merritt in Oakland will demonstrate water-efficient landscaping practices.

examples of native and other climate-appropriate plants presented in thematic sections and demonstrates water-efficient irrigation design. The conservation garden was built through a partnership between EBMUD, the City, East Bay Conservation Corps, and Vision of Hope for Youth.



A WaterSmart Demonstration Garden takes shape through EBMUD's cooperative effort with the City of Richmond.



■ In FY06, EBMUD collaborated with the Oakland East Bay Garden Center and Friends of Oakland Parks and Recreation

DEMONSTRATION GARDENS

■ In partnership with the City of Richmond, EBMUD installed a new Water Conservation Demonstration Garden in the City's Civic Center area. Designed to demonstrate sustainable plant choices and landscape practices, the garden features beautiful

on the design and installation of The Sensory Garden at Lake Merritt in downtown Oakland. The garden uses low-water use Mediterranean plants and a self-adjusting, weather-based WaterSmart irrigation controller, coupled with an on-site weather station to help water the garden accurately.



WATER

RECYCLING



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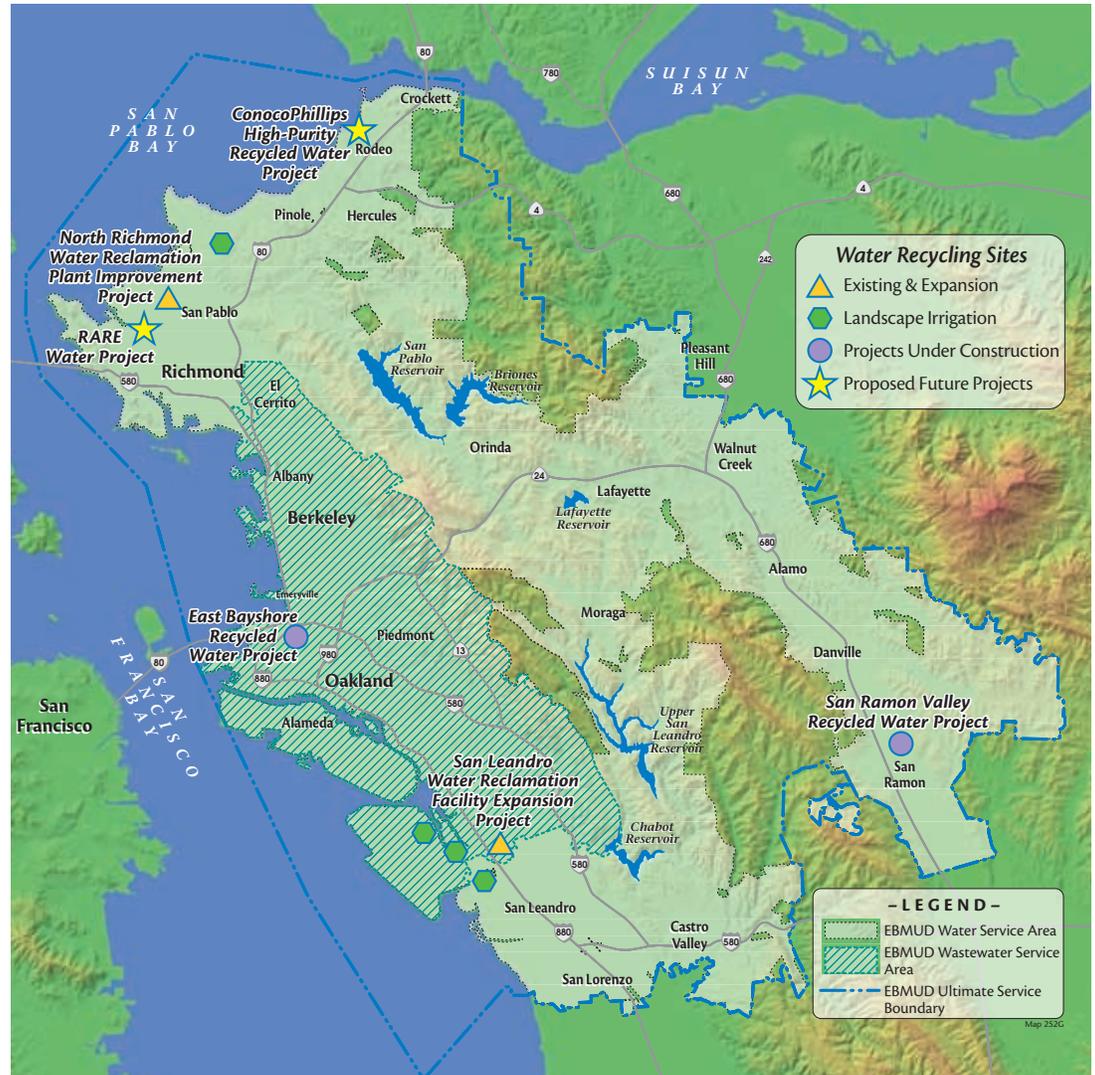
Water Recycling Overview

Map 1. EBMUD RECYCLED WATER PROJECT LOCATIONS

Recognizing water recycling as an important method for stretching limited water supply resources, EBMUD's Board of Directors adopted the Water Supply Management Program in 1993 with recycled water included as a key element in a diverse and balanced supply portfolio. The Board set a water recycling goal of 14 million gallons per day (MGD) by 2020, which means that by then EBMUD customers will be recycling a total of at least 5.1 billion gallons per year. This amount of water will save enough of our potable (drinking water) supply to meet the indoor and outdoor water needs of approximately 90,000 EBMUD customers and will help reduce the severity of water rationing that may be required in future droughts.

Key words that best sum up EBMUD's recycled water program in the past fiscal year are: **Progress, Partnership, Coordination, Public Education, and Training.**

Because EBMUD's water service area covers 325-square miles but its wastewater service area is only 83-square miles (see Map 1), EBMUD must partner with other public entities and wastewater



districts in order to be supplied with a wastewater source necessary to produce recycled water and achieve the recycled water goal. These partnerships enable EBMUD to continue expanding recycled water use throughout our entire service area. (See Table 1)

EBMUD has been using recycled water at its main wastewater treatment plant (MWWTP) since 1971 for various industrial and irrigation purposes. Current recycled water use of 5.9 MGD at the MWWTP is not counted toward EBMUD's 14 MGD goal to reduce potable water demand with

recycled water use because, historically, in-plant industrial and irrigation needs have not been met with potable water. The use of recycled water by EBMUD's MWWTP and all of EBMUD's recycled water partner agencies also benefits San Francisco Bay by reducing the amount of treated wastewater discharged into it.

Table 1. **CURRENT PARTNERSHIPS**

Project/Customer & Location	Began Operation	Type of Use	Current & Projected Recycled Water Use (MGD)	Partner Agency
Richmond Country Club Richmond	1984	Irrigation	0.18	WCWD
Metropolitan Golf Links Oakland	1988	Irrigation	0.01	SL WPCP
Chuck Corica Golf Complex Alameda	1991	Irrigation	0.37	SL WPCP
Harbor Bay Parkway Alameda	1991	Irrigation	0.02	SL WPCP
North Richmond Water Reclamation Plant & Improvement Project Chevron Refinery, Richmond	1996	Industrial (cooling tower use)	4.0	WCWD
San Ramon Valley, Phase 1 Contra Costa County	February 2006	Irrigation	0.7	DSRSD
East Bayshore, Phase 1A Alameda County	1st deliveries expected in early 2007	Irrigation, Industrial, Commercial Building Toilet Flushing	0.7	EBMUD-only project
TOTAL			6.0	

Abbreviations: MGD = Million gallons per day (annual average)
SL WPCP = City of San Leandro Water Pollution Control Plant

DSRSD = Dublin San Ramon Services District
WCWD = West County Wastewater District

Current Water Recycling Projects

SAN RAMON VALLEY RECYCLED WATER PROGRAM

In 1995, EBMUD and the Dublin San Ramon Services District (DSRSD) created a Joint Powers Authority: the DSRSD-EBMUD Recycled Water Authority (DERWA).



A special pipe assembly enables The Bridges Golf Club to irrigate with potable water only in emergencies or strictly limited conditions.

After years of planning, design, and construction, this partnership effort known as the San Ramon Valley Recycled Water Program (SRVRWP) began delivering recycled water to customers this year. The first phase of this multi-phased, irrigation-only project will deliver an annual average of 700,000

gallons per day. When complete, the SRVRWP will supply EBMUD with 2.4 MGD of recycled water for parts of San Ramon, Danville and Blackhawk and DSRSD with 3.3 MGD for portions of Dublin and the Dougherty Valley. Large irrigation users include golf courses, parks, common areas within homeowner associations, roadway medians, greenbelts, schools, and office complexes.

SRVRWP HIGHLIGHTS

- **Construction:** DERWA completed the SRVRWP recycled water tertiary-treatment facilities (Recycled Water Factory) at DSRSD's wastewater treatment plant (WWTP). Treatment includes sand filtration and extra disinfection using ultra-violet light and chlorine.
- **Retrofits:** Connecting EBMUD's Phase 1 customers to the SRVRWP requires retrofitting plumbing at customer sites for recycled water use.



The beautiful landscaping at The Seasons Apartments in San Ramon enhances the quality of life for its residents and is irrigated now with recycled water from the San Ramon Valley Recycled Water Program.

Some sites also require cross-connection testing to ensure complete separation of the potable and recycled water systems. EBMUD workers commenced installing service lateral pipelines and recycled water meters for retrofitted

sites. EBMUD first started supplying recycled water in February. By the end of the fiscal year, EBMUD had connected a total of 23 out of 39 Phase 1 sites to the recycled water system.

- **Training, Coordination, Outreach, and Education:**
- Customers and their landscapers benefited from EBMUD's Recycled Water Site Supervisor Training program.
- EBMUD participated with a recycled water information display at various San Ramon

The Bridges Golf Club at Gale Ranch in San Ramon started irrigating with recycled water in December 2006.

school events and provided flyers and trilingual recycled water information banners to the schools retrofitted in Phase 1.



State regulation requires signs to let the public and landscape workers know where recycled water is used for irrigation and to advise them not to drink the recycled water.

- EBMUD, DERWA, and DSRSD coordinated to conduct tours of the SRVRWP, provide briefings to the community, and develop a brochure aimed at preventing accidental cross connections by contractors and landscape maintenance workers.
- DERWA, DSRSD, and EBMUD representatives met to review and prepare for potential operational and emergency incident scenarios.
- In preparation for the start-up of SRVRWP recycled water service, EBMUD organized a tour of the Recycled Water Factory and some customer sites in San Ramon for various EBMUD operations and maintenance work groups.
- **Site Evaluation Program:** EBMUD created and implemented an award-winning Site Evaluation Program

(SEP), intended to enhance the likelihood of a successful transition from potable to recycled water, providing a significant value-added service for recycled water customers.

"I thought the site evaluation for Villa San Ramon was very well done. The evaluation provided good topical coverage."

– Dan Shelloe
Owner and Principal, Villa San Ramon Retirement Residence

A horticultural expert experienced with recycled water conducted the site



Workers constructing the required plumbing retrofits at the Villa San Ramon Retirement Residence.

Any site, such as this one, where both potable and recycled water systems will be in place requires water service shutdown and cross-connection testing to ensure that the two water systems have been completely separated before recycled water can be supplied to the customer.

evaluations, which provided essential information to EBMUD's SRVRWP landscape irrigation customers before their water supply was switched from potable to recycled water. The SEP also will benefit East Bayshore Recycled Water Project customers.

- **Outside Funding:** EBMUD led an effort that successfully secured \$3 million in federal funding to help fund design and construction of Phase 2 components.





Current Water Recycling Projects

EAST BAYSHORE RECYCLED WATER PROJECT

The East Bayshore Recycled Water Project (EBRWP) is a multi-phased project that,

toilet flushing in a high-rise office building and at EBMUD's headquarters); racetrack spray down; and wetlands restoration.

■ **Outreach:** EBMUD provided a "heads-up" on all pipeline construction by mailing construction notices, accompanied by an EBRWP fact sheet

and map. EBMUD distributed an estimated 5,000 construction notices via mail and email. Additionally, in certain areas with many Chinese and Spanish speakers, EBMUD offered translation assistance in these two languages.

"It is always a pleasure working with the Recycled Water Team. You are so customer and service oriented and we appreciate all that you do."

— *Thomas Jamison*
Director of Maintenance,
Operations, Transportation &
Child Nutrition
San Ramon Valley Unified
School District



Installing microfiltration membrane tubes to produce clean, safe recycled water for EBRWP customers.

when completed, will provide an annual average of up to 2.5 MGD of recycled water to portions of Alameda, Albany, Berkeley, Emeryville, and Oakland. First-phase EBRWP construction will provide an annual average of 700,000 gallons per day of recycled water, starting in early 2007. This project's recycled water will serve multiple uses: irrigation (e.g., parks, schools, greenbelts, golf courses); industrial/commercial (cooling towers, industrial processes,

EBRWP HIGHLIGHTS

■ **Construction:** The year started with construction of the EBRWP recycled water tertiary-treatment facilities at EBMUD's MWWTP in Oakland. Treatment includes microfiltration and chlorine disinfection. The on-site 1.5-million gallon storage tank was completed this year. EBMUD's recycled water pipeline crew installed 2.2 miles of distribution pipeline in downtown Oakland.

■ **Retrofits:** EBMUD awarded a retrofit design and construction contract; design started in June 2006.



University Village will irrigate with recycled water from the East Bayshore Recycled Water Project when the system reaches Albany in 2008.

NORTH RICHMOND WATER RECLAMATION PLANT IMPROVEMENT PROJECT

Since 1996, EBMUD's North Richmond Water Reclamation Plant (NRWRP) has been providing recycled water for cooling tower use at Chevron's Richmond Refinery. The Chevron Refinery is EBMUD's largest customer for both potable and recycled water, with a total water need of about 12 MGD. The NRWRP uses secondary effluent from the West County Wastewater District, treats it further to meet the California Department of Health Services' ter-

tiary treatment standards, as well as meeting specific water quality requirements for cooling towers. Chevron's historical recycled water demand has been about 3 MGD. In FY05, EBMUD and Chevron

determined that improvements were needed at EBMUD's NRWRP and at the Chevron Refinery in order to make possible Chevron's increased use of recycled water. During the summer of 2006, EBMUD

commenced work at the NRWRP to improve the quality and reliability of the recycled water supplied to Chevron for cooling tower use. With the NRWRP and Chevron improvements in place, Chevron expects to increase its cooling tower use of recycled water to an average of 4 MGD.



EBMUD is making water quality and reliability improvements at its North Richmond Water Reclamation Plant so it can supply additional recycled water for cooling towers at the Chevron Refinery in Richmond.



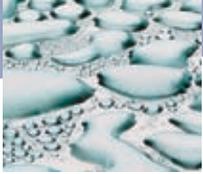
The City of Oakland's landscaping around Cameron Stanford House (on left, behind trees) and the former Municipal Boathouse on Lake Merritt's shore will be irrigated with recycled water.



Oakland's newly-installed Mandela Parkway landscaping will be irrigated with recycled water starting in early 2007.

The racetrack at Golden Gate Fields in Albany will be sprayed down with recycled water before each horse race. Racetrack dust control is essential to enhancing the supply of oxygen required by race horses for peak performance.





Planned Water Recycling Projects

RICHMOND ADVANCED RECYCLED EXPANSION WATER PROJECT

EBMUD made significant progress in working with Chevron on a project proposed to produce up to 4 MGD of high-purity recycled water for boiler make-up water at Chevron's refinery: the Richmond Advanced Recycled Expansion (RARE) Water Project. Chevron's boilers require high-purity feedwater for effective operation. To meet this need, Chevron currently uses potable water, which it further treats prior to use in its boilers. The RARE Water Project would supply this existing water demand with highly-treated recycled water, offsetting potable water use. The RARE treatment facility, to be constructed at the Chevron Refinery, will be owned and operated by EBMUD. The

Once the NRWRP enhancements and the RARE Water Project are in place, approximately 50% of Chevron's Richmond Refinery water needs will be met with recycled water, thereby freeing up about 7 to 8 MGD of our limited drinking water supply for the benefit of all EBMUD customers.

"We found the site evaluation very helpful. In fact, we used suggestions in the evaluation to improve common area landscaping at Easthampton."

— *Brian Ritter*
Homeowner Association Services
Property Manager, Easthampton
San Ramon

RARE HIGHLIGHTS

■ **Planning:**

EBMUD completed a feasibility study on the RARE Water Project. The study included pilot testing treatment processes. Based on the study's favorable findings, EBMUD and

Chevron decided to proceed with the RARE Water Project.

■ **Contracts:** EBMUD awarded contracts to consultants for preliminary design work and



EBMUD and the ConocoPhillips Refinery in Rodeo are studying the feasibility of this refinery becoming another recycled water customer.

for assistance with the California Environmental Quality Act (CEQA) process. EBMUD and its consultants initiated preparation of preliminary design documents.

■ **CEQA/EIR:** EBMUD

broadly circulated a Notice of Preparation regarding the Environmental Impact Report (EIR). A 30-day scoping and comment period followed. EBMUD held an agency scoping meeting in Richmond. EBMUD and its consultants started drafting the EIR.

■ **Outreach:** Following the EIR scoping meeting, EBMUD began outreach briefings.

■ **Outside Funding:** EBMUD received a \$75,000 grant commitment from the State Water Resources Control Board for RARE Water Project planning.

CONOCOPHILLIPS HIGH-PURITY RECYCLED WATER PROJECT

EBMUD and the ConocoPhillips (COP) Refinery in Rodeo entered into a Memorandum of Understanding to evaluate the feasibility of developing a recycled water project. The COP Recycled Water Project would deliver up to 2 MGD of high-purity recycled water to replace potable water used for boiler feedwater. A future phase could provide an additional 2 MGD of recycled water for cooling towers. Several potential supply sources for the COP Project include the Pinole-Hercules WWTP, the Rodeo WWTP, and/or the COP WWTP.

EBMUD and COP completed the first phase of the technical study, with results that indicate the project is feasible. The parties, in cooperation with the wastewater supply agencies, are in the process to obtain commitments to proceed with the second phase of the technical study.



The Chevron Refinery in Richmond is EBMUD's largest user of potable and recycled water.

West County Wastewater District is participating as a partner in this regional project that reuses a resource otherwise lost to the Bay.

Outreach, Education and Training

In addition to the efforts connected to specific recycled water projects, EBMUD was involved in a number of other public outreach, education, and training activities during FY06.

PRINT MATERIALS

- EBMUD used a variety of print media to communicate recycled water information, including: the EBMUD's Customer Pipeline (newsletter); EBMUD's FY05 Annual Report; Water Conservation and Water Recycling FY05 Annual Report; and The District LOG (EBMUD's employee newsletter).

- EBMUD prepared a 12-page newspaper insert including information about its recycled water program that was distributed by an Oakland-based, minority community-focused weekly newspaper. EBMUD printed additional copies of the insert for distribution via other local weekly newspapers and at special events.

PRESENTATIONS & EVENTS

- EBMUD's Recycled Water Program was represented in a variety of special events, including: State of the Estuary Conference; Green Festival; and Earth Day.



TRAINING

- Recycled water cannot be provided to customers until they have designated a Recycled Water Site Supervisor and that Supervisor has received the required training. Recycled Water Site Supervisor Training (SST) was a major highlight in FY06. Staff conducted three sessions of the required SST to train all SRVRWP Phase 1 customers. Trainers included recycled water and water conservation staff and a horticulturist experienced with recycled water. EBMUD provided a "new-and-improved" version of its award-winning training manual and a variety of other materials, some of which also were available in Spanish.
- EBMUD provided recycled water overview/health and safety training for various EBMUD work groups.

Recycled Water Site Supervisor Training is aimed at making EBMUD's customers and their landscape workers aware of the safe and efficient-use requirements for recycled water. The training also emphasizes that water conservation remains an important practice.



EBMUD produced two award-winning videos as part of the SST program. Customers and their Recycled Water Site Supervisors receive these videos, along with training manuals, to assist in educating new workers.



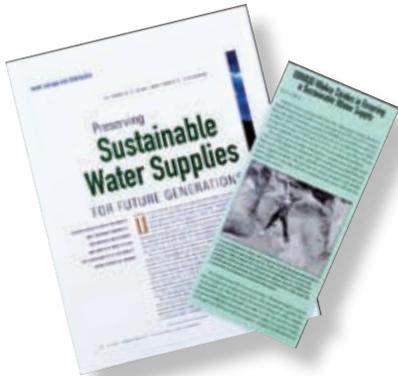
Proactive, broad public outreach and education is a high priority for EBMUD. Use of print media is just one of the ways EBMUD informs the public about recycled water and our recycled water projects.

- Major presentations included the League of Women Voters of the Bay Area and the Marina Coast Water District (Monterey County).
- At the request of a Richmond City Councilmember, EBMUD briefed the City Council on recycled water and responded to questions.



Water Recycling Leadership

- American Water Works Association's July 2005 issue of *Journal AWWA* included a sidebar article drafted by EBMUD that focused on EBMUD's recycled water program. The sidebar accompanied a feature article on sustainability.



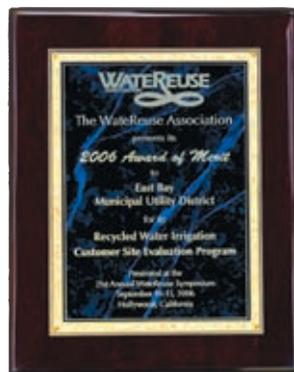
- EBMUD was actively involved with planning and participating in the WaterReuse Association (WRA), California Section Annual Conference held in San Francisco.

- In FY06, the national WRA invited EBMUD to present three papers on recycled water at the Annual WaterReuse Symposium scheduled for September 2006. WRA also announced that it would present EBMUD with a national 2006 Award of Merit for EBMUD's pioneering and proactive Recycled Water Irrigation Customer Site Evaluation Program.

- The consultant hired by WRA to develop a national training manual for Site Supervisors requested use of EBMUD's award-winning training manual to assist in this national effort.



Oakland's 555 City Center was constructed with dual plumbing, thanks to EBMUD's initiative and the developer's willingness to construct the first high-rise office building in Northern California that will flush toilets and urinals with recycled water.



EBMUD's innovative Recycled Water Irrigation Customer Site Evaluation Program received a WaterReuse Association Award of Merit.

"EBMUD has advanced water reuse management practices in ways that other programs would do well to emulate."

— Pick Talley, President WaterReuse Association

RECYCLED WATER FACTS:

- While even more highly disinfected than drinking water, recycled water is not drinking water, and is not added to the drinking water supply.
- Recycled water is safe and children will not get sick from playing on turf that is irrigated with recycled water.
- Recycled water must meet stringent, cautious and rigorous standards set by the California Department of Health Services to protect public health and the environment.
- Recycled water that met established standards has been used for irrigation in parks, schools, and golf courses in California since 1929 with no reported instances of a public health problem.

RECYCLED WATER BENEFITS:

- Drought-proof or drought-resistant supply
- Saves drinking water supply
- Protects community and private investments in parks and landscaping
- Green and healthy environment enhances quality of life
- Protects San Francisco Bay through reduced discharges of treated wastewater
- A reliable water supply is essential to a strong local economy
- Permits more fresh water to be left instream, protecting fish and wildlife resources

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