



Water Conservation

This section discusses the Water Conservation efforts within Central Basin’s service area



6.1 Overview

Since the drought of the 1990’s, Central Basin has been a leader implementing aggressive water conservation programs to help limit water demand in its service area. District programs have included a strong emphasis on education and the distribution of rebate incentives and plumbing retrofit hardware. The results of these programs, in conjunction with passive conservation measures such as modifications to the plumbing and building codes, have resulted in significant reductions in retail water use within Central Basin’s service area. By current estimates, demand management conservation saves over 4.5 billion gallons of imported water every year. This represents the average water use of almost 30,000 families in southern California.

Central Basin’s conservation programs are made up of a wide array of cost-effective programs that contribute to conserving water, improving water quality, reducing imported water needs and increasing the region’s water supply reliability.

Central Basin prides itself in the partnerships it has created with Federal, State, and local entities to offer these programs. By developing integrated programs with its partners, Central Basin has been able to leverage funding and resources to provide effective programs throughout its region.

This section will present the past and current water conservation efforts Central Basin has undertaken for the past 15 years. In addition, provide a detailed analysis of Central Basin’s water conservation programs, according to the California Urban Water Conservation Council’s (CUWCC) recommended Best Management Practices (BMPs), followed by a brief description of Central Basin’s upcoming conservation efforts and its Conservation Master Plan to promote additional water savings for the service area by the year 2030.

Water Conservation is made of two main elements: *Active* and *Passive*. Below is a brief description of these two.

Active Conservation: Water savings produced from incentive based programs: Rebates, Giveaways, Retrofits, etc.

Passive Conservation: Water savings produced from building and plumbing codes, consumer behavioral changes, and price responses.

6.2 Central Basin’s Past and Current Water Conservation Efforts

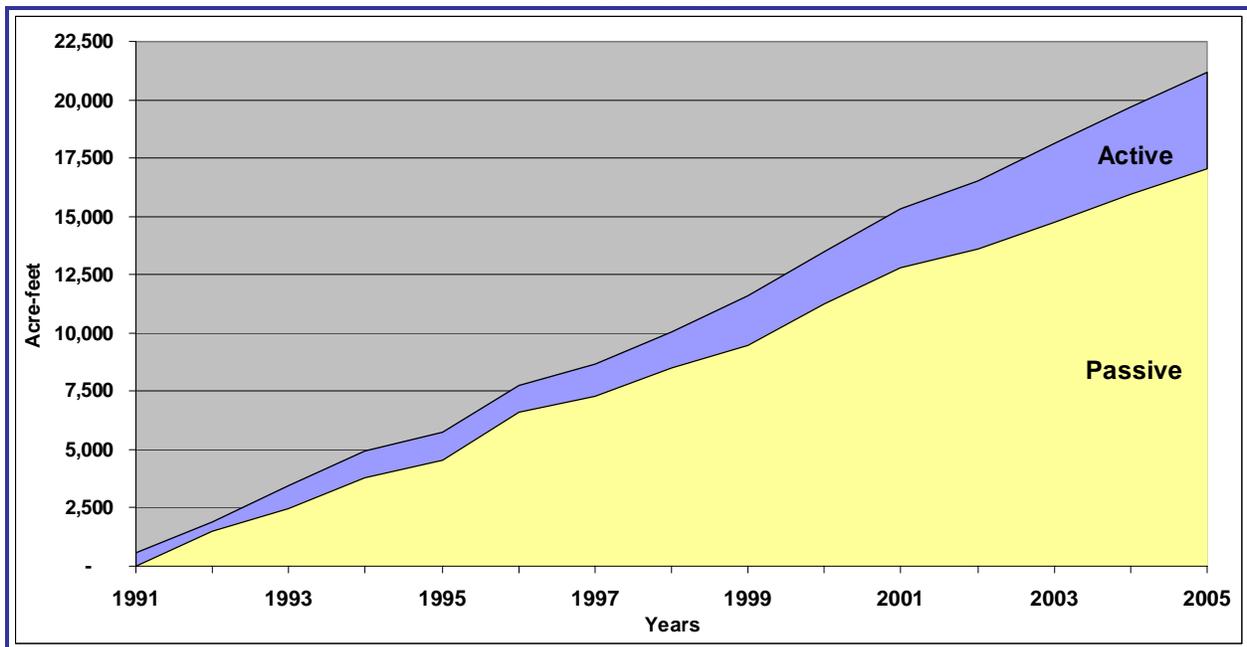
Today, Central Basin’s conservation programs are made up of a wide array of cost-effective programs, which include:



- Zero Water Consumption Urinal Program
- Ultra Low Flow Toilets
- High Efficiency Clothes Washer Rebate Program
- Commercial, Industrial, and Institutional Rebates
- Commercial Clothes Washers
- Water brooms
- Cooling Towers Conductivity controllers
- Pre-rinse spray nozzles
- X-ray machine Recirculating devices
- Landscape Conservation Programs
- Weather Based Irrigation Controller
- Landscape Classes
- School Education Programs
- Public Outreach

It is estimated that Central Basin has distributed and installed over 327,100 devices from 1990 to 2003. As a result, it is estimated that Central Basin currently saves, from active and passive conservation combined, over 21,100 AF (6.8 billion gallons) or 8% percent annually, of Central Basin's total water demand. The total cumulative savings to date since 1990 is over 158,900 AF.

**Figure 6-1
Central Basin Conservation Water Savings
From 1990 to 2005**

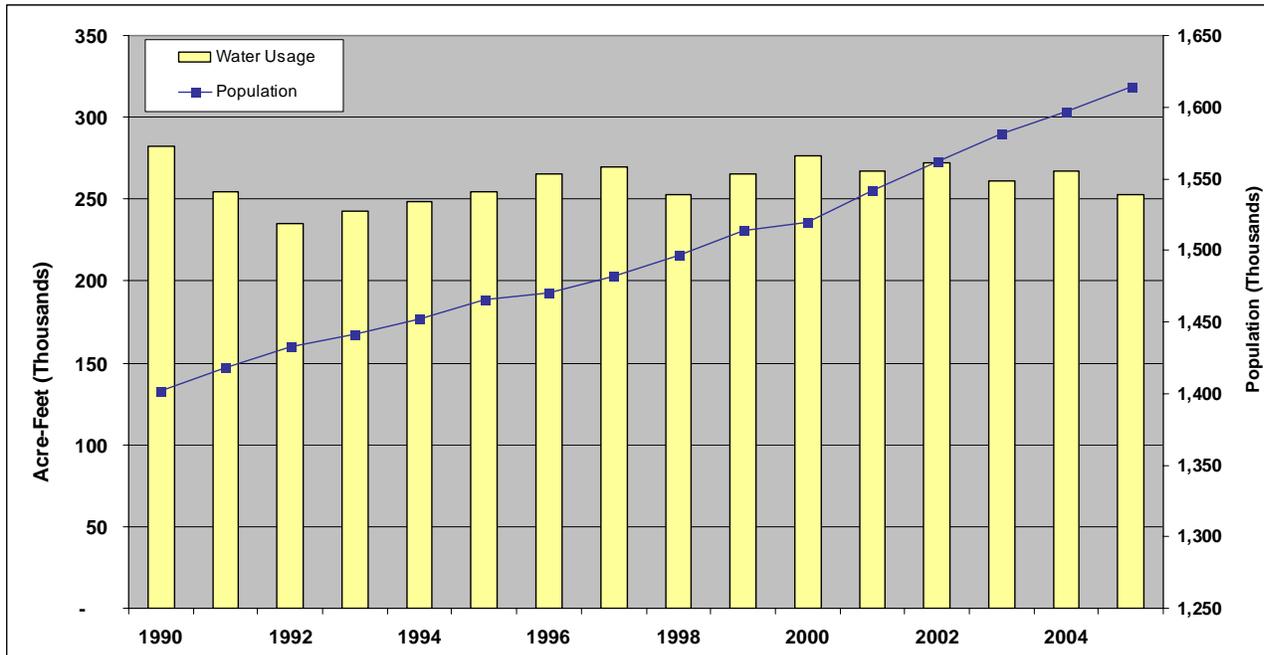


Source: Estimated total water savings from conservation from MWD-MAIN Model 2004.

Conservation savings can further be verified by comparing Central Basin's water usage versus population. As shown in Figure 6-2, water usage has remained relatively consistent while population has escalated an average of 1% annually.



Figure 6-2
Total Water Demand vs. Population Growth
From 1990 to 2005



Source: Central Basin’s water sales database and MWD Demographic Data, 2005.

6.2.1 Metropolitan Water District’s Conservation Goal

MWD, in adopting its 2004 IRP Update, is committed to an aggressive conservation goal. MWD’s IRP Update set water supply targets for southern California through 2025, which includes a conservation target of 1.1 MAF over the next 20 years. MWD’s strategy and approach for meeting the conservation targets is outlined in a “Conservation Strategy Plan.” The Strategy Plan emphasizes three main areas of incentive based conservation: Residential, Landscape, and Commercial, Industrial & Institutional (CII), and provides Board policy guidelines and action plans for the implementation of conservation under MWD’s Conservation Credit Program.

6.3 California Urban Water Conservation Council

In 1991, the CUWCC was created to increase water use efficiency by integrating urban water conservation BMPs into the planning and management of California water agencies. It is a partnership of agencies and organizations concerned with water supply and conservation of natural resources in California.

To encourage water use efficiency, the CUWCC asked water agencies and organizations to sign a Memorandum of Understanding (MOU) regarding urban water conservation in California, which committed participating urban water suppliers to use their “good faith efforts” to implement the CUWCC’s 14 BMPs.



Central Basin was one of the first urban water suppliers to become signatory to the CUWCC’s MOU. In addition, Central Basin has submitted a *Best Management Practices Wholesaler Water Agency Report* to the CUWCC every other year that details Central Basin’s progress in implementing the 14 BMPs as currently specified in the MOU. In Appendix F, the District has attached its 2003-04 Agency Report.

The BMPs are becoming increasingly important as benchmarks of agency conservation efforts throughout the State. This UWMP, for example, requires agencies that are not members of the CUWCC to describe current and future implementation efforts for all 14 BMPs (referred to as Demand Management Measures, or DMMs). Eligibility for grant funding from State agencies, such as DWR, is now contingent upon satisfactory completion of the UWMPs, and the conservation reporting within them.

6.3.1 Best Management Practices (BMPs)

The BMP’s are a list of recommended conservation measures that have been proven to provide reliable savings to a given urban area. There are currently 14 BMPs that a signatory member is committed to implement. Table 6-1 lists the 14 existing BMPs.

**Table 6-1
List of Best Management Practices for
California Urban Water Conservation Council**

1. Residential Water Surveys <i>Indoor and outdoor audits of residential water use and distribution of water-saving devices</i>
2. Residential Plumbing Retrofits <i>Distribution or installation of water-saving devices in pre-1992 residences</i>
3. System Water Audits <i>Unaccounted for water calculated annually, and distribution system audits as required</i>
4. Metering with Commodity Rates <i>Metering of consumption and billing by volume</i>
5. Large-Landscape Conservation <i>ET-based water budget for large landscape irrigators</i>
6. High Efficiency Clothes Washers <i>Rebates for efficient washing machines</i>
7. Public Information <i>Public information to promote water conservation</i>
8. School Education <i>Provision of education materials and services to schools</i>



<p>9. Commercial, Industrial, and Institutional Conservation (CII) <i>Programs to increase water use efficiency in CII sectors</i></p>
<p>10. Wholesale Agency Assistance <i>Support by wholesalers for conservation programs of retail water suppliers</i></p>
<p>11. Conservation Pricing <i>Uniform or increasing block rate structure, volume related water charges, and service cost recovery</i></p>
<p>12. Conservation Coordinator <i>Designation of staff coordination of agency conservation programs</i></p>
<p>13. Water Waste Prohibition <i>Enforced prohibition of wasteful use of water</i></p>
<p>14. Residential Ultra-Low Flush Toilet Replacement <i>Programs promoting replacement of high-water-using toilets with ultra-low flush toilets</i></p>

As a signatory to the MOU, Central Basin currently implements the wholesaler BMPs, which are BMPs #3, 7, 8, 10, 11, and 12. Although only certain BMPs apply to a wholesaler, Central Basin also provides additional support to its cities and water retailers (customers) through BMP #10. As a water wholesaler representing 24 cities throughout southeast Los Angeles County, Central Basin also supports its customers with BMPs #5, 6, 9, and 14. In order to enhance the programs, Central Basin offers partnership opportunities to its customers who can add additional funding and resources in order to increase the size of the programs or rebates, which increases participation and water savings.

6.4 Central Basin’s Conservation Programs

Central Basin’s mission is to ensure a safe reliable supply of water to its service area. Since the drought of the 1990s, Central Basin has strived to expand its role in water use efficiency. Not only is water conservation and education a method for public outreach, but an essential part of Central Basin’s water resources portfolio to drought-proof the region.

Although Central Basin is required to meet only the wholesaler BMPs, Central Basin is committed to assisting its customer agencies with their conservation efforts. Described below are Central Basin’s efforts in each of the 14 BMPs.

6.4.1 BMP #1 - Water Survey Programs for Single-family Residential and Multifamily Customers

Residential surveys look to all the water using devices inside the home such as toilets, faucets, showerheads, etc. A trained surveyor checks for leaks and tests the flow



indoors and outdoors. Once the survey is completed, recommendations are provided for retrofitting certain water use devices, and educational materials are also supplied to the resident.

Because Central Basin is a water wholesaler and does not have direct access to single or multi-family customer account data, Central Basin can only provide support to the water retailers. MWD currently provides funding for residential survey devices, and if requested, Central Basin will act as the liaison to MWD and provide retailers with funding available through MWD. It is anticipated that Central Basin will review the market strategy for promoting residential water use surveys within the Conservation Master Plan.

Residential surveys provide cities and water retailers with a great opportunity to provide their customers with a program that offers customer outreach opportunities.

6.4.2 BMP #2 - Residential Plumbing Retrofit

This BMP recommends the distribution and retrofit of low-flow showerheads, ultra-low flush toilets, and faucet aerators, as well as the adoption of enforceable ordinances.

Since 1990, it is estimated that Central Basin has distributed the following number of faucet aerators and low-flow showerheads.

**Table 6-2
Residential Plumbing Retrofit Devices**

Devices	1990 - 2000		2000 - 2005		Total	
	# units	AF	# units	AF	# units	AF
Faucet Aerators	1,154	3.6	0	0	1,154	3.6
Low-flow Showerheads	237,049	1,115	7,500	35	244,549	1,150

6.4.3 BMP #3 - System Water Audits, Leak Detection, and Repair

In 1996, Central Basin and its sister agency, West Basin Municipal Water District, partnered with the United States Bureau of Reclamation (USBR) and hired a consultant to develop and provide a Water Audit and Leak Detection Program (Program). The Program was offered to 40 water purveyors. Of the 40, only 10 participated in the audit, and of the 10, only 3 agencies found their unaccounted for water to be above 10%.

According to BMP #3, water retailers shall complete an annual pre-screening system audit of its potable water system to determine the need for a full-scale system audit.

This BMP is geared more towards a water retailer, but Central Basin has provided support in the past. As part of its Conservation Master Plan, Central Basin will seek input from its water retailers regarding support for this program.



6.4.4 BMP #4 - Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections

Since Central Basin is a water wholesaler, this BMP does not directly apply. However, every water agency within Central Basin's service area bills their retail customers according to meter consumption. This BMP requires that agencies identify intra- and inter-agency disincentives and barriers to retrofitting mixed use commercial accounts with dedicated landscape meters and conduct a feasibility study to assess the merits of a program that provides incentives to switch mixed use accounts to dedicated landscape meters.

By encouraging the installation of dedicated landscape meters, agencies will be able to recommend the appropriate irrigation schedules through future landscape programs.

6.4.5 BMP #5 - Large Landscape Conservation Programs and Incentives

Despite the urbanization of southern California, the region is dotted with large turf areas that require year-round irrigation to keep them green. Large turf areas include city and county parks, golf courses, schools, cemeteries, and street medians. Central Basin is reducing demand for imported water for irrigation purposes by providing recycled water in its service area. Virtually anywhere potable water is used to irrigate, recycled water can, and should, replace it. However, in areas where recycled water cannot reach or be applied to large landscape areas, Central Basin provides other programs to conserve water. Below is a list of the programs Central Basin is currently implementing.

Irrigation Controller Programs

In 2004, MWD was awarded a Proposition 13 grant for a new Weather-Based Irrigation Controller (CBIC) Program. Metropolitan and its member agencies developed a Project Advisory Committee (PAC) to work on developing the program, which includes marketing, reporting, databasing, and implementing. Metropolitan allocated a limited amount of funding to each member agency for this program. Central Basin has been working with the PAC to develop the program. Central Basin recognizes the water savings potential and is beginning to test weather-based irrigation controllers in sites that use potable imported water. The plan is to use the new controllers in areas where recycled water cannot reach. The funding incentives provided vary on the number of stations and acreage at each site. The funding is used to help pay for the hardware and to help motivate cities, parks, and schools to participate in the program.

Protector Del Agua Irrigation Program

Central Basin also partners with MWD on the "Protector Del Agua" or "Protector of Water" landscape classes. In partnership with cities, classes are offered to residents as a way to teach them about various topics that help conserve water



and reduce urban runoff. Residents learn about gardening with native plants and using weather-based irrigation controllers to conserve water and reduce runoff.

Over 50% of the potable water used in southern California goes to maintain landscaping; therefore offering these classes is an ideal way to reduce outdoor water waste. By educating the public on properly maintaining the irrigation system, trouble-shooting problems, such as over-watering, that are simple yet difficult to address, can be solved without spending additional funding.

Wireless Irrigation Controllers

Central Basin, along with its partners, submitted and received Proposition 50 funding for a research project to test how wireless irrigation controllers can be used to conserve water in outdoor landscaping. Central Basin will partner with cities and water retailers to offer wireless irrigation controllers to schools, parks, businesses, and other large landscape areas that are currently using older hydraulic-type irrigation systems. By providing wireless irrigation controllers, sites will have the ability to inexpensively retrofit their current irrigation systems. Wireless irrigation controllers use weather data to irrigate and can save between 20% - 50% of outdoor water use, and also reduce urban runoff by up to 70%. This research program will be implemented in 2006.

6.4.6 BMP #6 - High-Efficiency Washing Machine Rebate Programs

Beginning in 1999, Central Basin participated with MWD in a pilot program with southern California Edison (Edison) to offer rebates to residents who replaced their existing clothes washer with a high efficiency model. The rebate from Edison varied according to the model purchased (which was tied into the total energy savings), but the amount offered by Central Basin and MWD at the time was capped at \$35 per washer. That pilot program ended in September 1999.

In 2003, Central Basin again partnered with MWD on a new program. MWD received funding from CALFED and provided a higher rebate incentive. Central Basin developed the program and offered residents a \$100 rebate.

The CALFED portion of the funding expired, but the program was so successful that, at the request of the MWD member agencies, MWD continued to provide funding at the current level. The High-Efficiency Clothes Washer (HECW) Program has exceeded all expectations and continues to be one of Central Basin's more successful programs. When the HECW's first hit the market, they were quite expensive. But market demand has helped to drive the price down. The new HECW's cost twice as much as regular inefficient models, but by providing a \$100 rebate (along with other utility/store incentives), consumers are purchasing the new HECW's. In addition to saving 50% water, the HECW's also have other benefits: they save 60% electricity and use less detergent. Consumer acceptance has been very positive.



In 2004, the MWD Board of Directors, along with the support of Central Basin, approved additional funding to continue the program through 2005. At the same time, MWD applied for Proposition 50 funding in an effort to maintain the program at the higher incentive level through 2006. MWD was successful in its Prop. 50 application and was awarded roughly \$1.6 Million from the California Department of Water Resources for the High-Efficiency Clothes Washer Rebate Program. This funding will allow MWD and Central Basin to continue offering its \$100 rebate to residents in an effort to encourage the purchase of high-efficient clothes washers with a Water Factor (WF) of 6.0 or less.

The Water Factor of a clothes washer can range from 13.5 to 3.6, with the lower number being more efficient. A complete list of qualifying washers can be obtained at MWD’s web site, www.bewaterwise.com, or by calling the District’s program vendor at, 1-877-732-2830.

In 2003, the Governor of California signed Assembly Bill 1561 that would require clothes washer manufacturers to only manufacturer and provide residential washers with a WF of 8.5 in 2007 and 6.0 by 2010. The legislation was adopted by the California Energy Commission and was submitted to the Federal Government for approval. The Federal Government must approve this legislation before the new standards can be applied. This process is anticipated to take 1 – 2 years.

As long as funding is available, MWD and Central Basin will continue offering its \$100 rebate to residential customers for clothes washers with a WF of 6.0 or less. Table 6-3 illustrates the number of rebates Central Basin has distributed over the past two years.

**Table 6-3
High-Efficiency Washing Machine**

	2003	2004	Total
\$ per Rebate	\$100	\$100	n/a
# of Rebates	541	758	706
Water Savings (AF)	8	11	19

In an effort to continue the successful washer rebate program, MWD along with its member agencies applied for and received Proposition 50 funding from DWR in the amount of \$1,660,000. This funding will allow Central Basin to continue its rebate program through 2006.

6.4.7 BMP #7 - Public Information Programs

Public information is a very broad term with various meanings. Since Central Basin operates a strong outreach program, public information about Central Basin and its mission, programs and events are constantly disseminated to many interested parties. The method by which the public receives this information is important.



- The first significant method is the Public Information Committee (PIC), formed several years ago. The Committee is made up of Public Information and Public Affairs Officers from cities and water agencies within Central Basin’s service area. The purpose is to share information on a variety of topics that would be of interest to customers.
- Central Basin, in cooperation with MWD, also provide inspection tours of the Colorado River Aqueduct and the State Water Project to legislators, local elected officials, retail agency staff, and the general public on various dates throughout the year. The purpose of the three-day trips is to give local decision-makers a better understanding and appreciation of the water supply throughout the State.
- Central Basin, through its Speaker’s Bureau, provides speakers to local community groups, service clubs, and schools when requested. In addition, Central Basin operates a very successful and aggressive school education program that promotes the importance of conservation and recycled water.
- Central Basin is also active in the California Water Awareness Campaign (CWAC), which is an association formed several years ago to coordinate efforts throughout the state during “May is Water Awareness Month.” With this effort, water agencies throughout the State, large and small, can tap into a large pool of knowledge and materials to promote a water awareness message not only in May, but throughout the year.
- Central Basin maintains a strong link with the local news media through press releases on important subjects and periodic meetings with newspaper editorial boards.

6.4.8 BMP #8 - School Education Programs

Water and environmental education continue to be critical components of Central Basin’s outreach strategy. Therefore, Central Basin offers a variety of elementary through high school programs free of charge to all schools within its service area. The following is a list of Central Basin’s current and future education programs. Descriptions of each program can be found in Section 6.5.

- Planet Protector Water Explorations
- Think Earth It’s Magic
- Conservation Connection
- Think Earth Curriculum Kits
- Water Awareness Month Poster Contest
- Water Wanderings: A Journey Through Water
- SEWER SCIENCE

6.4.9 BMP #9 - Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts



Central Basin, in partnership with MWD, participates in MWD's region-wide CII rebate program. Central Basin helps promote these rebates to the businesses, schools and facilities throughout its service area. Rebates are offered for commercial clothes washers, waterbrooms, cooling tower conductivity controllers, pre-rinse spray nozzles, x-ray machine recirculating devices and commercial toilets and urinals.

In 2002, the CUWCC pursued and received a \$2.3 million grant from the California Public Utilities Commission (CPUC) to purchase and install restaurant pre-rinse spray nozzle valves. The new nozzles use 1.6 gpm compared to 2 to 6 gpm valves. These valves conserve water, heating costs, and reduce waste-water discharge. Central Basin supported CUWCC's efforts in marketing the program. The nozzles and installations were provided free of charge to the food services sector.

In 2003, Central Basin applied for and received a \$780,000 Proposition 13 grant for the purchase and installation of 2,600 Waterfree Urinals. Waterfree urinals can save an average of 40,000 gallons of water per year. Central Basin is currently working with cities, water purveyors, schools, businesses, and other facilities to install the devices.

In 2005, Central Basin entered into a 10-year agreement with MWD to help support the on-going regional marketing efforts of the CII rebate program. As a way to increase the success of this program, Central Basin offers the cities and water purveyors with partnering opportunities to increase the rebate amounts. Over the years, agencies have partnered to provide higher rebate incentives in an effort to increase program participation of their customers.

6.4.10 BMP #10 - Wholesale Agency Programs

The programs provided by Central Basin are done in partnership with and benefit the retail water agencies that are located within the 24 cities serviced by Central Basin.

Among the 14 BMPs Central Basin provides assistance for are:

- **BMP #3 - System Audits**
- **BMP #5 - Landscape Programs**
- **BMP #6 - Washing Machines**
- **BMP #7 - Public Information**
- **BMP #8 - School Education**
- **BMP #9 - CII Rebates**
- **BMP #10 - Wholesaler Incentives**
- **BMP #12 – Water Conservation Coordinator**
- **BMP #14 - ULFT Replacement**

Since 2000, Central Basin has acquired more than \$1 million from State and local grant funding sources for program development and implementation. Furthermore, Central Basin markets, designs and implements a majority of the BMPs within its service area. Central Basin has also invested over \$1 million to provide conservation programs that help increase water supply reliability for the region.



Central Basin plans on expanding its conservation programs and the support it provides to cities and water retailers in their conservation program efforts.

6.4.11 BMP #11 - Conservation Pricing

In 2003, Central Basin passed-through MWD's two-tiered rate structure to its customer agencies to promote water conservation and regional water supply reliability. This rate structure called for customer agencies, in coordination with Central Basin, to develop a reasonable budget for their Tier 1 annual maximum limit for imported water. Through voluntary purchase agreements, these customers will pay a higher price (Tier 2) for purchases that exceed their Tier 1 allotment.

To help assist agencies from exceeding their Tier 1 allocation limits, Central Basin works with agencies to enhance conservation, education and expand recycled water use.

6.4.12 BMP #12 - Water Conservation Coordinator

As the regional wholesaler, Central Basin has a water conservation coordinator that not only promotes Central Basin's conservation programs and devices but also works with cities and water agencies to enhance their conservation efforts. This close collaboration between Central Basin's conservation coordinator and the customer agencies' staff provides for a successful execution of the BMPs. In addition, Central Basin's conservation coordinator represents the service area at regional and statewide workshops and organizations.

Central Basin's conservation coordinator also seeks Federal, State, and local funding to develop new programs that cities and water purveyors can partner on and provide additional benefits to the end-users.

6.4.13 BMP #13 - Water Waste Prohibition

Central Basin encourages its customer agencies to adopt water waste prohibition ordinances. Central Basin can also assist local cities and agencies to develop ordinances that will reduce water wasting in the area.

6.4.14 BMP #14 - Residential Ultra-Low-Flush (ULFT) Toilet Replacement Programs

One of Central Basin's more successful programs has been its free ULFT distribution program. Since 1991, Central Basin has provided over 80,000 ULFTs to the public "free of charge" in an effort to conserve water. These devices have proven water savings and have contributed to the overall water reduction over the years.

In 2004, Central Basin partnered with MWD on a joint project to identify the existing opportunity within Central Basin's service area for this device. Data shows that there



are still many inefficient toilets that need to be replaced. Within Central Basin, there is a 30% - 40% saturation level in many of its cities. The saturation levels and program performance will continue to be evaluated. For the time being, Central Basin plans on continuing to provide ULFTs and rebates as long as funding is available, programs continue to be cost-effective, and a significant saturation level has not been met.

Due to the large areas of high density and numerous multi-family facilities, there are still many older toilets that need replacing. Central Basin will continue to partner with cities and water purveyors in order to implement these programs. In addition, Central Basin will continue to offer its \$50 rebate for the purchase and installation of ULFTs.

Central Basin also provides a \$70 rebate for the purchase and installation of dual-flush toilets. These new toilets have the capability of flushing at either 0.8 gallons for liquids and 1.6 gallons for solids; they average 1 gallon per flush. Also, new 1 gallon per flush High-Efficiency Toilets (HET) are beginning to enter the market place. Advances in technology continue to create new conservation devices that are more water efficient than today's products.

Tables 6-4 and 6-5 illustrate the ULFT Rebate Program and the ULFT Replacement Program for the last five years.

Table 6-4
ULFT Rebate Program

	2000	2001	2002	2003	2004	Total
\$ per Rebate	\$50	\$50	\$50	\$50	\$50	n/a
# of Rebates	662	895	619	493	649	3,318
Water Savings (AF)	19	26	18	14	18	95

Table 6-5
ULFT Replacement Program (Free ULFT Distributions to the Public)

	2000	2001	2002	2003	2004	Total
# of Devices	7,250	5,975	3,650	2,574	2,608	22,057
Water Savings (AF)	211	174	106	74	75	640

6.4.15 Additional Conservation Programs

Central Basin is very active in working with MWD to develop new conservation programs that are included in the CUWCC BMPs. In 2005, MWD implemented several new programs that Central Basin supports, including:

Synthetic Turf Program

MWD, in partnership with the USBR, developed and provided funding to test the



effectiveness of using synthetic turf. Central Basin helped promote the program by issuing press releases and forwarding information to cities, water purveyors, non-profit organizations and others.

City Makeover Program

Central Basin continues to support MWD's City Makeover Program. Through a competitive application process, MWD provides funding for development of new water efficient landscapes that promote California native plants and water efficient techniques. More information about this program can be found on MWD's web site; www.mwdh2o.com.

Community Partnering Program

MWD, in cooperation with the Member Agencies, accepts applications from nonprofit organizations and public agencies that promote discussions and educational activities for regional water quality, conservation and reliability issues. This program provides support for the following types of programs:

- after-school water education
- community water festivals
- watershed education outreach
- environmental museum exhibits
- library water resources education book drives
- public policy water conferences
- other projects that directly support water conservation or water quality education

6.5 Current and Future Education Programs

6.5.1 CURRENT PROGRAMS

Planet Protector Water Explorations

Now in its tenth year of operation, *Planet Protector Water Explorations* is a collaborative water education field trip program between Central Basin and the Roundhouse Marine Research Station and Aquarium in Manhattan Beach. The Roundhouse is operated by Oceanographic Teaching Stations, a non-profit organization, and is affiliated with the Los Angeles County Office of Education.

The objectives of *Planet Protector Water Explorations* are:

1. To increase the awareness of water as a valuable and limited resource.
2. To encourage water conservation efforts.
3. To introduce the concept of water recycling.



4. To introduce the concept of ocean water desalination.
5. To increase the awareness of urban runoff pollution.
6. To teach about local marine life.
7. To promote the concept of stewardship of the environment and its resources.

By the end of the 2004-2005 school year, over 25,000 students will have experienced *Planet Protector Water Explorations* since the program began in September 1995. Table 6-6 displays the number of students that have been educated through the *Plant Protector Water Exploration* program from fiscal year 2000-01 to fiscal year 2004-05. Beginning in fiscal year 2004-05, additional programs have become available to students, therefore increasing the number of students that are educated through the various programs.

**Table 6-6
School Education Program
(Number of Students)**

Grade Level	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04	FY 2004-05 ¹	Total
Grades K-3rd	250	110	190	330	1,014 ²	1,894
Grades 4th-6th	1121	872	830	1190	1,632	5,645
Grades 7th-8th	140	95	105	60	876	1,276
High School	0	0	0	0	174	174
Total	1,511	1,077	1,125	1,580	3,696	8,989

[1] Program includes *Planet Protector Water Exploration* in addition to *Think Earth It's Magic*, *Conservation Connection*, and *Think Earth* curriculum kits for Fiscal Year 2004-05 only.

[2] Only third graders participate in this program.

Think Earth It's Magic

Through Central Basin's membership as part of the Think Earth Environmental Education Foundation, *Think Earth It's Magic* is a collaborative program between Central Basin, Los Angeles County Sanitation Districts, and MWD. *Think Earth It's Magic* combines Think Earth's award winning environmental education curriculum, which is designed to promote conservation behaviors and stewardship of the environment, with an environmental magic show that cleverly ties together what students learn in the classroom. By the end of the 2004-2005 school year, over 500 elementary school students will have participated in *Think Earth It's Magic*.

Conservation Connection

We turn on the tap and water flows out. We turn on a lamp and light fills the room. We depend on water and energy. We need water and energy to live in this



world. But where do we get the water and energy that we use? And will we always have enough to meet our needs?

Conservation Connection answers those questions, showing the connections between California, our water and energy supply, and us. But providing information is only part of *Conservation Connection*. The goal of the curriculum is to get students actively involved – in their homes and at school – in conserving water and energy. Within the program, students have the opportunity to: survey their family’s water and energy use, and survey water and energy use at their school.

After gathering data, analyzing their findings, and reviewing recommendations, students make, implement, and monitor plans to decrease water and energy use. By participating in this action-based curriculum, students will learn to look critically at important environmental issues and take responsibility for finding solutions. By the end of 2004-2005 school year over 500 middle school students will have participated in *Conservation Connection*.

Think Earth Curriculum Kits

Through Central Basin’s membership as part of the Think Earth Environmental Education Foundation, all teachers that participate in *Planet Protector Water Explorations* receive a grade appropriate *Think Earth* curriculum unit. *Think Earth* units are usually distributed each March, so that teachers have them prior to Earth Day in April. Each *Think Earth* unit contains a video, two color posters, a teacher’s guide, and student booklets. The entire *Think Earth* curriculum is correlated to the California State Content Standards for the following content areas: Language Arts, Science, Social Science, and Mathematics. Over the past ten years over 25,000 students within Central Basin’s service area have participated in *Think Earth*.

Water Awareness Month Poster Contest

All teachers who have or will participate in *Planet Protector Water Explorations* during the 2004-2005 school year will be notified in February to have their students participate in the 2005 “Water Is Life” Poster Contest, which is sponsored by Central Basin and MWD. In addition, teachers at each of Central Basin’s primary through secondary schools will be notified in February. As in previous years, one grand-prize winner is selected from each District and receives a fully-loaded laptop computer during an award ceremony in June 2005. Each grand-prize winner will also have his or her artwork featured in MWD’s “Water Is Life” 2006 Calendar. Over the past ten years over 25,000 students within Central Basin’s service area have had an opportunity to participate in this program.

6.5.2 FUTURE PROGRAMS



Water Wanderings: A Journey Through Water

Water Wanderings is a collaborative classroom visitation program between Central Basin and the S.E.A. Lab in Redondo Beach. This collaborative hands-on classroom program will take fourth graders on a 2 ½-hour journey through California's water. The program will be correlated to many of the fourth grade State standards for social science and science. Included in the program will also be a "touring tide pool," a van outfitted with touch tanks that will enable students to touch live marine creatures and plants. The program schedule calls for classes to began, October 2005 and last through June 2006 for the 2005-06 fiscal year.

SEWER SCIENCE

Staff is currently exploring the possibility of partnering with the Los Angeles County Sanitation Districts on this exciting high school science program. *Sewer Science* is a hands-on laboratory program that teaches students about wastewater treatment. During a week-long lab, students create wastewater; treat it through the use of tanks employing physical, biological, and chemical methods; and apply analytical procedures to test its quality. *Sewer Science* is correlated to the California State Content Standards for the following high school sciences: chemistry, physics, and microbiology. It is staff's intention to have the program developed by the end of Summer 2005, and then to shortly begin marketing efforts to schedule program dates from September 2005 through June 2006.

6.6 Funding Partnerships

In addition to partnering with MWD on programs, Central Basin also seeks State funding. In 2004 and 2005, the Department of Water Resources and the State Water Resources Control Board provided funding for programs through various chapters of Proposition 50. As a leader in water conservation, Central Basin, in partnership with its cities and water retailers, developed several conservation programs and applied to the State's grant funding competitive process. If funding is awarded, Central Basin will work with its cities and water purveyors to provide programs to the local communities.

6.6.1 Proposition 50 Programs

In 2005, Central Basin, with support from cities, water retailers, and environmental groups, applied for and received Proposition 50 - Chapter 7 - Water Use Efficiency Research Grant in the amount of \$164,052. This grant funding from the Department of Water Resources will allow the District to work with its partners to purchase and test wireless irrigation controllers. These controllers will be used to retrofit older hydraulic systems and make them more water efficient. Wireless technology has been proven as an effective way for various devices to communicate and Central Basin, along with its



partners, will be using the technology to conserve water in large outdoor landscapes. This program will be implemented in 2006.

Central Basin also applied for the Proposition 50 - Chapter 8 - Integrated Regional Water Management Grant Program. Central Basin partnered with various cities, water purveyors and stakeholders to develop an integrated approach at developing regional programs. Funding is being sought for the purchase and installation of weather-based irrigation controllers and for the development of landscape workshops and demonstration gardens. If successful, Central Basin will provide education and devices that will conserve water, reduce urban runoff, reduce imported water, and increase local water supply reliability.

6.7 Central Basin's Conservation Master Plan

Water Conservation, along with water recycling, will be used to meet a substantial portion of Central Basin's water demands that are gradually increasing. The goal is to minimize Central Basin's need for new imported water sources, and enhance this drought-proof resource that has no environmental impacts and is not subject to weather conditions.

Measures such as tiered water pricing, financial incentives for the installation of ultra-low flush toilets and water efficient washer machines and large landscape irrigation efficiency programs are just some of the ways Central Basin provides leadership and results in the conservation arena. Conservation is a key component of Central Basin's water resource planning activities and will be implemented to the fullest extent practicable over the long-term.

6.7.1 Water Conservation Master Plan

Central Basin is in the process of developing its own specific Conservation Master Plan (Plan) to meet and exceed the goals of the BMPs and MWD's Conservation Strategy Plan. The goal of the Plan is to assess the conservation potential within Central Basin's service area and incorporate local stakeholder input into a group of actions and strategies for achieving long-term targets for conservation. The Plan will be launched and completed within the 2005-06 fiscal year.