

2015 Monterey Peninsula

Water Conservation Program Annual Report



PREPARED BY

CALIFORNIA AMERICAN WATER, COASTAL DIVISION

IN PARTNERSHIP WITH

THE MONTEREY PENINSULA WATER MANAGEMENT DISTRICT



EXECUTIVE SUMMARY

This report documents conservation efforts undertaken by California American Water's Coastal Division and the Monterey Peninsula Water Management District (MPWMD) during 2015 pursuant to the Partial Settlement Agreement between the Office of Ratepayer Advocates, the Utility Reform Network, and California American Water Company on Revenue Requirement as to the Conservation Budget for the Monterey District under the California Public Utilities Commission (CPUC) A.13-07-002 (July 1, 2013).

California American Water, in collaboration with MPWMD, has prepared this report to provide a record of the Coastal Division water conservation programs and activities implemented in 2015, as well as projected efforts for 2016. Reports for previous years are available by contacting either California American Water or the MPWMD.

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SUMMARY OF REPORTING REQUIREMENTS

The following are the mandatory Coastal Division reporting requirements. Additional information has been provided in this report to document other conservation efforts undertaken by California American Water and MPWMD during 2015. The report breaks out (1) conservation activities California American Water undertakes on its own, (2) conservation activities MPWMD undertakes from its own budget, (3) programs MPWMD undertakes that are funded through the California American Water conservation surcharge. The report includes:

- A brief explanation of the need for each activity, the nature of the activity, measurable goals, and the results and achievements for each program (including information such as number of units distributed or installed, estimated water—and energy if quantifiable – savings in water and dollars, etc.).
 - A Summary of the conservation plan for the following year with timelines, implementation plans, whether to be implemented by California American Water or MPWMD and budgeted amounts for each type of activity.
 - Electronic spreadsheets that include estimated water savings for each customer receiving an audit, a rebate or a retrofit for years 2014 & 2015.
 - Estimated water savings for each device offered through California American Water and MPWMD's conservation programs funded through the California American Water's conservation surcharge. *This information is confidential and is therefore provided under separate cover.*
 - An Evaluation of the effectiveness of the Outreach Program.
 - An annual analysis of the weather-adjusted consumption in the Coastal Division.
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ABBREVIATIONS USED THROUGHOUT THE REPORT

The following abbreviations are found throughout this report.

CAW – California American Water

MPWMD – Monterey Peninsula Water Management District

AFA – Acre-feet annually

BMP – Best Management Practice

CHECW – Commercial High Efficiency Clothes Washer

CIMIS – California Irrigation Management Information System

CLIA – Certified Landscape Irrigation Auditor

CPUC – California Public Utilities Commission

CUWCC – California Urban Water Conservation Council

ORA – Office of Ratepayer Advocates

Et_0 – Evapotranspiration

GPF – Gallons per Flush

GPM – Gallons per Minute

GRC – General Rate Case

HECW – High Efficiency Clothes Washer

HET – High Efficiency Toilet (1.28 GPF)

IAHWS – Instant-Access Hot Water System

MCBC – Monterey County Business Council

RSOD – Rain Sensor Shut Off Device

SMS – Soil Moisture Sensor

UHET – Ultra High Efficiency Toilet (0.8 GPF)

ULFT – Ultra Low Flush Toilet (1.6 GPF)

WBIC – Weather based (or “Smart”) irrigation system controller

CALIFORNIA AMERICAN WATER, COASTAL DIVISION— 2015 PROGRAMS FUNDED BY THE CONSERVATION SURCHARGE

SUMMARY OF CALIFORNIA AMERICAN WATER PROGRAMS

The programs funded by the conservation surcharge during 2015 are summarized in [Table 2](#) and described following the table.

Table 1. California American Water 2015 Programs Funded by Conservation Surcharge

Program	Cost	Need For Program	Nature of Activity	Measurable Goal	Result of Achievements	Estimated Savings (AF)
Water Wise House Calls	None (funded by Labor budget)	Residential conservation including high use evaluations	Customers given assessment of indoor & outdoor water usage, recommended irrigation schedule, water saving devices including hourly usage data collection utilizing AMI meter reading system	Audits upon request and immediate investigation of high use	350 audits completed	2015 Estimated Savings 12.67 AF (Actual Savings for 2014 based on usage records for 345 Audits: 17.98 AF)
Residential Plumbing Retrofit	\$29,975	Provide conservation devices to customers to reduce consumption	Distribution of water saving devices at events, and walk ins.	Reduce waste water from high flow water fixtures	See Conservation Devices Section	40.40 AF
Rebates	\$522,388	Provide rebates to customers to encourage water reductions	Provide incentives to customers for upgrading to high efficiency/water saving fixtures and appliances	See MPWMD Section.	1,902 SF rebates; 104 MF rebates; 39 CII rebates.	32.07 AF
Public Outreach and Education	\$146,914	Promote Water Conservation , SWRCB Cease and Desist Order & California Drought	Promote quantifiable BMP programs, educate customers and communicate water issues and efforts needed for Monterey Peninsula	Support BMP programs, attend events, and reduce spring water usage.	Multimedia conservation campaign with community involvement	Not quantifiable

CII Audits	\$30,552	CII Audits by Water Wise Consulting	Water use survey includes: audit of water fixtures, water & behavior use patterns, report includes findings, recommended actions, and payback periods for retrofits and/or replacement of fixtures	Goal is 35 CII Audits	Completed 7 CII Audits	1 AF Estimate Savings Total 25 Audits for 2014 Based on usage records: saved 12 AF)
Rain Sensor Installation Program	\$7,715	Program for Residential Customers with high usage during spring and winter months	CAW (through contractor) installs free rain sensors for qualified customers	Goal is 50 Rain Sensors	Completed installation of 46 Rain Sensors	Not Quantifiable
Landscape Grant Program	\$30,000	Provide incentives for cities schools and parks to upgrade irrigation systems to encourage conservation	Grant funding for replacement of turf, upgrading of irrigation systems, installation of water saving technology.	Goal is 1 project	Completed the replacement of inefficient sprinkler heads to the efficient rotary nozzles for 9 schools of the Monterey Peninsula Unified School District	MPUSD Grant 3.06 AF per year Estimated Savings 2014 City of Monterey Landscape Grant – Actual Savings 1.53 AF

RESIDENTIAL AUDITS (WATER WISE HOUSE CALLS)

California American Water has been providing free Water Wise House Calls to its customers since 2008 and utilizes in-house trained audit staff at no cost to the Conservation Budget. The program is available to residents of single and multi-family properties and to owners and managers of apartments and condominiums, offering free residential audits to identify ways by which the customer can save water indoors and outdoors.

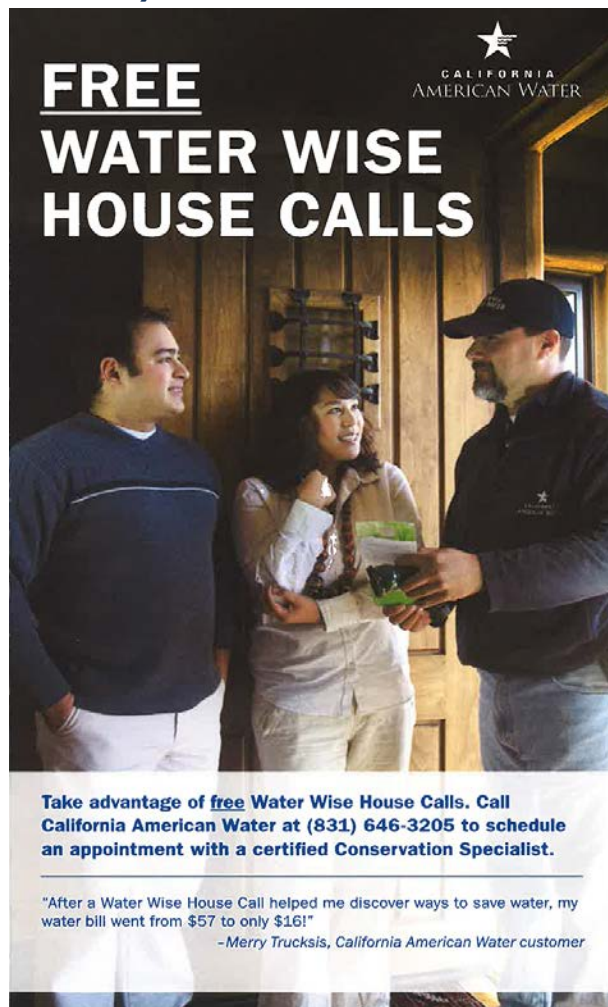
California American Water's conservation staff completed 350 Water Wise House Calls in 2015. In addition, conservation staff completed 790 high bill investigations where customers were assisted in identifying root causes of high water use

California American Water promoted the Water Wise House Call program specifically through bill inserts, rebate brochures, offering the service to customers who visited the office to make payments and by targeting customers who had received high water bills and had been billed in the higher tiers of CAW's inclining five-tiered rate design.

During the Water Wise House Calls (audits) & high bill investigations, California American Water identified common inefficiencies and water waste in some of the Monterey residences. The most common such occurrences were:

- Toilet and faucet leaks
- Irrigation controllers set to run too long resulting in water waste
- Misaligned and broken sprinkler heads
- Customer service line leaks

California American Water's conservation staff assisted customers by showing them how to read their water meters and convert cubic feet to gallons so that customers can better identify their daily usage and also compare the meter readings to the billing units identified on their water bills. In addition, conservation staff also assisted customers by properly adjusting their irrigation controllers to meet the plant water needs and to irrigate in compliance with MPWMD's two day a week watering schedule.



**FREE
WATER WISE
HOUSE CALLS**

CALIFORNIA
AMERICAN WATER

Take advantage of **free** Water Wise House Calls. Call
California American Water at (831) 646-3205 to schedule
an appointment with a certified Conservation Specialist.

"After a Water Wise House Call helped me discover ways to save water, my
water bill went from \$57 to only \$16!"
-Merry Trucksis, California American Water customer

California American Water offers free Water Wise House Calls. A certified Conservation Specialist will visit your home, check for leaks, and identify ways you can save water both indoors and out. Our experts will teach you how to read your meter and help you develop an irrigation schedule based on your landscaping. We would like to help you save water and money by offering you a free Water Wise House Call. In addition to helping lower your water bill, you will also be helping to preserve our most precious resource: water.

A WATER WISE HOUSE CALL PROVIDES:

- ◆ **Leak Detection:** We will help you identify leaks inside and out. Leaks are not only big water wasters, they can also be very costly.
- ◆ **Read Your Water Meter:** We will show you how to read your water meter to find possible leaks. By monitoring your meter regularly, you can catch and fix leaks more efficiently.
- ◆ **Free Plumbing Retrofit Materials:** We will check your showerhead and faucet flow rates as well as toilet flush volumes. Free low-flow showerheads and faucet aerators for the bathroom(s) and kitchen will be provided where needed.
- ◆ **Schedules and Tips:** We will help you create appropriate landscape irrigation schedules and show you water saving tips. Resources on planting native and drought tolerant plants will also be provided.

WHO'S ELIGIBLE?

All residents in the California American Water Monterey District are eligible for a free Water Wise House Call. Residents of single-family homes, condominiums, town houses, apartments, and mobile homes are all welcome to participate.

MAKE WISE WATER USE PART OF YOUR DAILY ROUTINE

Inside

- ◆ Run dishwashers and clothes washers only when they are full. If you have a water-saver cycle, use it.
- ◆ Check for leaks in your toilet. Place a few drops of food coloring in the tank. If, after 10 minutes, color appears in the bowl, you have a leak.
- ◆ Turn off the tap while brushing your teeth or washing dishes in the sink.

Outside

- ◆ Make the most of your water by watering in the early morning. As much as 30 percent of water can be lost to evaporation by watering during midday.
- ◆ Use drip irrigation to water plants.
- ◆ Plant appropriately for your local climate. Check with local nurseries for non-invasive, drought-tolerant plants.



California American's Water Wise House Call program showed a 12-month water savings of 17.98 acre feet of water for participating customers in 2014 (year 2014 was used to provide a complete year of post-retrofit consumption). There were 340 audits and of those, 290 accounts showed water savings in the 12 months after the audit.

The audit reports also included recommendations on utilizing the rebate program for the replacement of specific appliances at customers' homes.

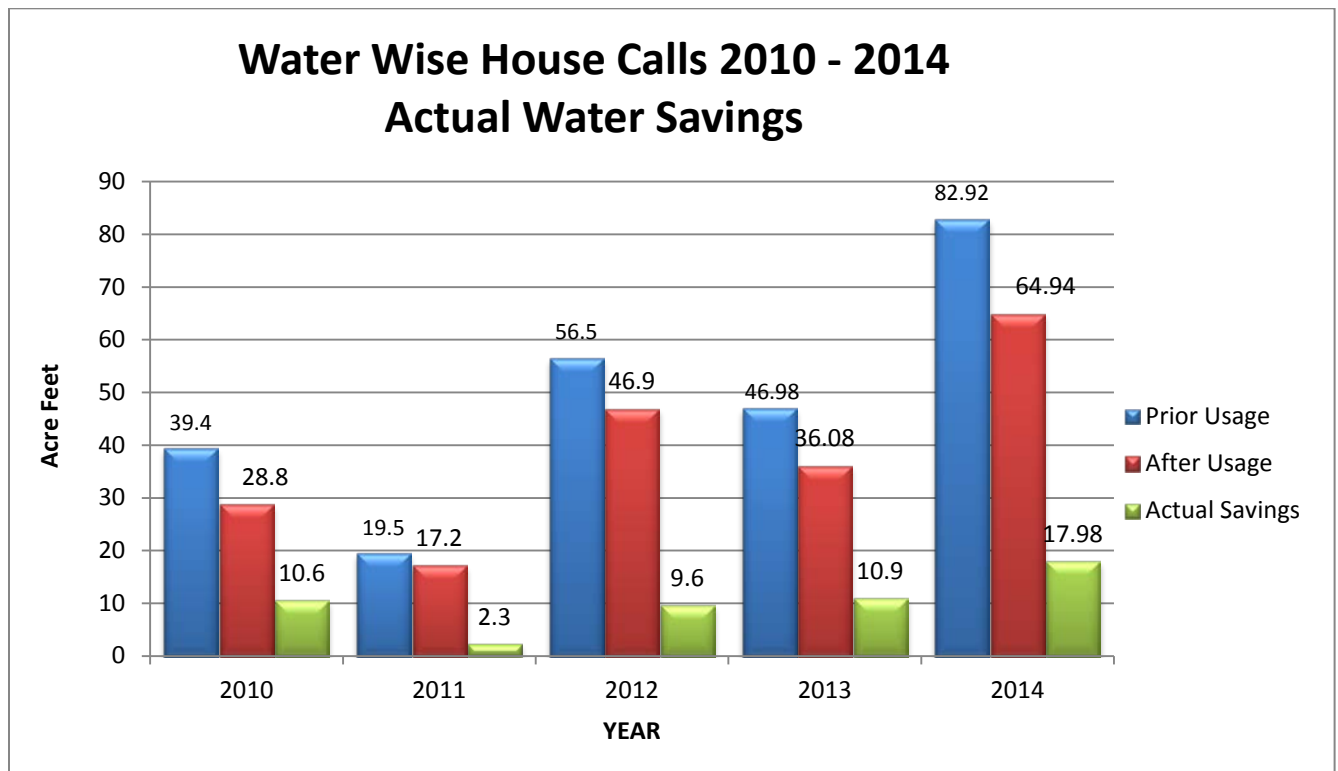
The effectiveness of the Water Wise House Call program was evaluated by inclusion of an evaluation survey form along with a pre-stamped envelope in the customer report package. 129 surveys were returned. The customer evaluation surveys received from the Water Wise House Call service showed high customer appreciation.

Comments included on the evaluation form acknowledged that the staff was courteous, helpful and knowledgeable:

- “Our CAW person was Ray and he did a fantastic job. Fantastic Job!!”
- “Thank you Kelly, I learned a lot and really appreciated the devices you provided.”
- “Harriet helped and explained everything concerning water problem which put us at ease.”
- “Melissa, I loved not only her knowledge, but her passion and enthusiasm for what she does. She is truly a star performer”
- “Ray was so professional and helpful. His follow up report and phone conversations were excellent”
- “Kelly was great! Spent enough time explaining everything clearly – very.”
- “My auditor Harriet was beyond wonderful and helpful!!!!”
- “This is an amazing service and I was very impressed by Melissa’s expertise.

The Water Wise House Call program has been very successful in conserving water. Providing customers with an irrigation schedule, low flow devices, and recommendations for retrofits has been instrumental in saving 51.7 acre feet over a 5 year period, 2009 through 2014 and institute long lasting behavioral changes for participating customers. The savings are based on actual usage records, collected 12 months prior to the audit and 12 months after the audit. Table 2 summarizes these findings.

TABLE 2. 2010 THROUGH 2014 WATER WISE HOUSE CALLS PROGRAM



2010 - 2014 Residential Water Wise House Calls

Year	Prior Usage	After Usage	Actual Savings	Usage Reduction %	Number of Audits	Number Residents Using Less Water	Number Residents Using More Water	Residents Using Less Water %	Residents Using More Water %
2010	39.4	28.8	-10.6	26.9%	118	83	35	70.3%	29.7%
2011	19.5	17.2	-2.3	11.8%	75	35	40	46.7%	53.3%
2012	56.5	46.9	-9.6	17.0%	169	116	53	68.6%	31.4%
2013	46.98	36.08	-10.9	23.2%	206	163	43	79.1%	20.9%
2014	82.92	64.94	-17.98	21.7%	345	290	50	85.5%	15.9%

LEAK DETECTION

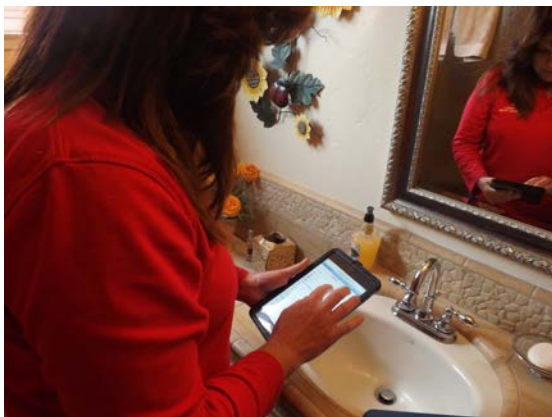


In addition, California American Water Conservation staff was able to identify root causes for leaks and difficult to diagnose high water bills by utilizing meter reading data logging software and downloading up to 180 days of usage, hour by hour from the company's AMI meters. The data allows for the evaluation of hourly usage patterns that have aided in identifying the date range in which high usage occurred, and resulted in the identification of issues including improperly programmed irrigation controllers, leaks in the irrigation system, toilet leaks, service line leaks, and hoses left running.

WATER WISE HOUSE CALLS PILOT PROGRAM UTILIZING IPAD TECHNOLOGY

California American Water's conservation staff in 2015 continued to use its new Water Use Efficiency Evaluation program for its Residential Water Wise House Call program utilizing tablet technology by Droplet Technologies. The program was piloted at the Monterey District in October of 2014 and due to its success was rolled out for all the California American Water Districts in 2015.

The new program has allowed us to increase our efficiency in how we conduct our on-site audits and also generate informative conservation reports to the customers. Working together with Droplet Technologies development staff and also the conservation staff from our other districts, we were able to add new functionalities, field test the program and make suggestions to enhance the program to fully meet our specific needs. These suggestions were well received and many were implemented by the Droplet staff, helping to increase functionality and enhance the overall program value.



California American Water's auditor conducting a Water Wise House Call

Prior to the change, conservation staff would record customer information in an excel template and then print the worksheets to be used in the field. Once the on-site evaluation was completed, the conservation specialist would return to the office and enter all recorded data in a spreadsheet template, provide recommendations for fixture replacement and outdoor water savings, suggest a watering schedule, and then print and mail the report to the customer. This process was very time and labor intensive.

This evaluation application increases efficiency, saves time and energy, and improves customer communication. With the use of iPads by the field staff, field data such as fixture flow rates, irrigation controller settings, photographs and details of identified issues is inputted during the audit. A water use/leak calculator is included in the program to aid the Conservation Specialist in obtaining needed information quickly and accurately. Data is analyzed and presented in an individualized, detailed and attractive report which helps to engage the customer with suggestions to improve water efficiency, thereby saving water and money.

Due to the success of utilizing this new technology, the program has now been rolled out statewide, and is providing a valuable tool in our effort to serve our customers' water usage and conservation needs.

This new program includes many new features which allow us to spend more time educating the customer and conducting more residential water wise house calls. Some of the highlights of this new technology include:

- Data is uploaded via wireless connection to a secured back-end database. Evaluation data is stored in a normalized data set that is used for reports, usage analysis and comparisons for future evaluations.
 - Indoor components include washing machines, dishwashers, faucets, showers and toilets all with pre-configured and easy to select flow rates. Items can be marked as inefficient and customer will be prompted to upgrade and given applicable rebate information as well as general highlight information.
 - Outdoor components include meters, irrigation controllers, landscape details, and current controller schedule documentation
 - Creates custom controller schedules based on premise ET, plant type, soil, and microclimate
 - Shows customers potential savings in gallons per year for all recommended indoor and outdoor upgrades and repairs
 - Provides customer with a detailed list of issues and upgrades that can be provided to potential contractors for bid purposes
 - Automatically promotes programs, rebates or specific messages to customers based on
-

actual site issues and recommendations

- Application is pre-populated with many standard issues and solutions including default highlight pages to educate the customer on recommendations and the benefits of compliance
- Quickly delivers detailed, accurate and easy to understand information to the customer while their interest is still high

RESIDENTIAL & COMMERCIAL PLUMBING RETROFIT

California American Water has been offering various free water savings devices for its residential and commercial customers including showerheads and kitchen faucet aerators with a flow rate of 1.5 gallons per minute, bathroom faucet aerators with a flow rate of 0.5 gallons per minute, leak detection tablets/kits and outdoor water saving tools such as soil moisture meters and hose nozzles that automatically shut off when not in use.

As per prior practice, California American Water tracked the distribution of the various water savings devices in 2015 to identify the total number of each device distributed. The various devices were distributed to California American Water customers in a variety of means including but not limited to:

- Community events (at Company booth/display)
- California American Water front desk (walk-in customers)
- Residential Water Wise House Calls
- Commercial audits
- New customer welcome packets
- Upon customer request
- Special giveaway offer advertised in the residential customer's monthly water bills

In addition to the standard devices listed under the CUWCC's former BMP 2 requirements, California American Water also offered a variety of outdoor devices. The total number of each type of water saving device distributed in 2015 to California American Water's residential customers in Monterey are listed in Table 3. Water saving device distribution by MPWMD is discussed in the MPWMD section of this report.

TABLE 3. COASTAL DIVISION: RESIDENTIAL PLUMBING RETROFIT DETAIL

Water Saving Device	# of units/ activities	Estimated water savings per unit per year	Estimated Annual measure savings (AFY)
Showerheads	2,850	0.0062	17.67
Handheld Showerheads	166	0.0062	1.02
Bathroom Faucet Aerators	4,600	0.0017	7.82
Kitchen Faucet Aerators	2,625	0.0017	4.46
Leak Detection tablets	1,900	0.0007	1.33
Leak Detection Kits	2,620	0.0007	1.83
High Efficiency Pre Rinse Spray Valve	16	0.392	6.27
Shower Timers	2,568	unknown	unknown
Dish Squeegees	1,784	unknown	unknown
Hose Shut Off Nozzles	2,712	Varies	Varies
Moisture Meters	3,340	unknown	unknown
Total	25,181		39.38

LARGE LANDSCAPE AUDITS AND WATER BUDGETS

Landscape water audits and budgets are required by MPWMD's Regulation XV, Rule 172 and California American Water's Conservation Plan Rule 14.1.1 for the main system including Ryan Ranch, Hidden Hills and the Bishop systems.

Each year, California American Water identifies new customers who require landscape water audits and budgets. Customers who require landscape water audits and budgets include large residential customers whose water usage averages 320 units (23,936 gallons) per month, dedicated irrigation meters, irrigation of areas greater than three acres, and irrigated open space. These select customers are required to adhere to their budgets during Stage 2 (and higher) Water Conservation under Rule 14.1.1.

California American Water's usage records indicate that the majority of customers who have established water budgets are well below the irrigation budgets that were established during the time the audits were completed which is mainly attributed to CAW's 5 tiered rate structure, turf removal, improvement and upgrading of irrigation systems, the installation of rain sensors, and customers taking advantage of the rebate program.

Since California American Water and the Monterey Peninsula Water Management are in the process of adopting a revised Conservation and Rationing Plan which does not mandate the requirement of landscape audits and budgets, it was decided to conduct landscape audits only as deemed necessary or by customer request.

Details of the large landscape audit program are described in MPWMD's Conservation Activities section.

LANDSCAPE GRANT PROGRAM

California American Water's successful landscape grant program, implemented in 2011, continued in 2015 to reduce the water demand of municipal properties by changing landscaping and upgrading irrigation systems. California American Water's large landscape grant program focuses on replacing turf on city properties and schools with low water use plants, and/or installation of water saving irrigation technology. The grant award is intended to provide funding for a demonstration project with high visibility, significant water savings, exemplary landscaping, and/or use of water-saving irrigation technology.

In the winter of 2014, California American Water awarded the Monterey Peninsula Unified School District \$30,000 to replace all high use sprinkler heads with the efficient rotary nozzles for nine of the school's athletic fields and turf areas. Rotary Nozzles deliver larger droplet streams of water at a lower application rate reducing wind deflection and increasing irrigation efficiency.. Because the water is applied more slowly, more water is able to soak into the soil. In addition, rotary nozzles' highly efficient water delivery reduces soil erosion and run off, saving water and money. The potential estimated annual water savings for this project amount to 1,000,000 gallons. The project began in December of 2014 and was completed in March of 2015.

Monterey Peninsula Unified School District

1,000,000 Gallons Estimated Water Savings for Nine Schools

Replacement of 1,100 High Use Inefficient Sprinklers to the High efficiency Rotary Nozzles



High Use Inefficient Fixed Spray Sprinklers



Low Water Use Efficient Rotary Nozzle Sprinklers

LANDSCAPE GRANT PROGRAM – WATER USE ANALYSIS

In 2014, California American Water awarded the City of Monterey \$50,000 to assist in the removal of approximately 20,000 square feet of turf at Monterey's Laguna Grande Park on Virgin Avenue in partnership with the city's Neighborhood Improvement Program and the Monterey Regional Park District, who provided further funding. The total estimated cost of the project was \$265,000 with estimated water savings of 500,000 gallons per year. Historically, over a five year period for years 2008 through 2012, a total of 7.2 acre feet of water were used to irrigate the athletic field. Starting in 2015, no irrigation was needed anymore, thus saving millions of gallons in future years.

City of Monterey – Landscape Grant Program

Before (Natural Turf)



After (Artificial Turf)



RAIN SENSOR & SOIL MOISTURE SENSOR INSTALLATION PROGRAM

California American Water continued its Rain Sensor & Soil Moisture Sensor Installation Program through its contractor EcoTech and has installed 401 rain sensors since the program began in 2011 for residential and non-residential customers. In addition, soil moisture sensors were offered to select customers in 2015 that have landscapes which would benefit from this add-on to the Sensor Program. In 2015, there were a total of 46 rain sensors and 10 soil moisture sensors installed.

The rain sensor has a shut off device which automatically signals the irrigation controller to curtail irrigation when it rains, and allows watering to resume when needed. The rain sensor can be programmed to halt irrigation for up to 72 hours after a rainfall event. The soil moisture sensor can be used throughout the year to assist customers in monitoring their usage and eliminate overwatering their landscapes.

Potential candidates for rain and soil moisture sensor are customers who have been billed in the 4th and 5th tier of California American Water's five tiered residential rate structure during the months of January through April and during the months of November and December indicating possible over-irrigation occurring during those particular months. These customers would have exceeded their allotments during these particular months.

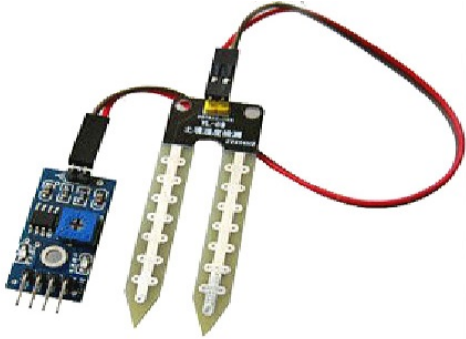
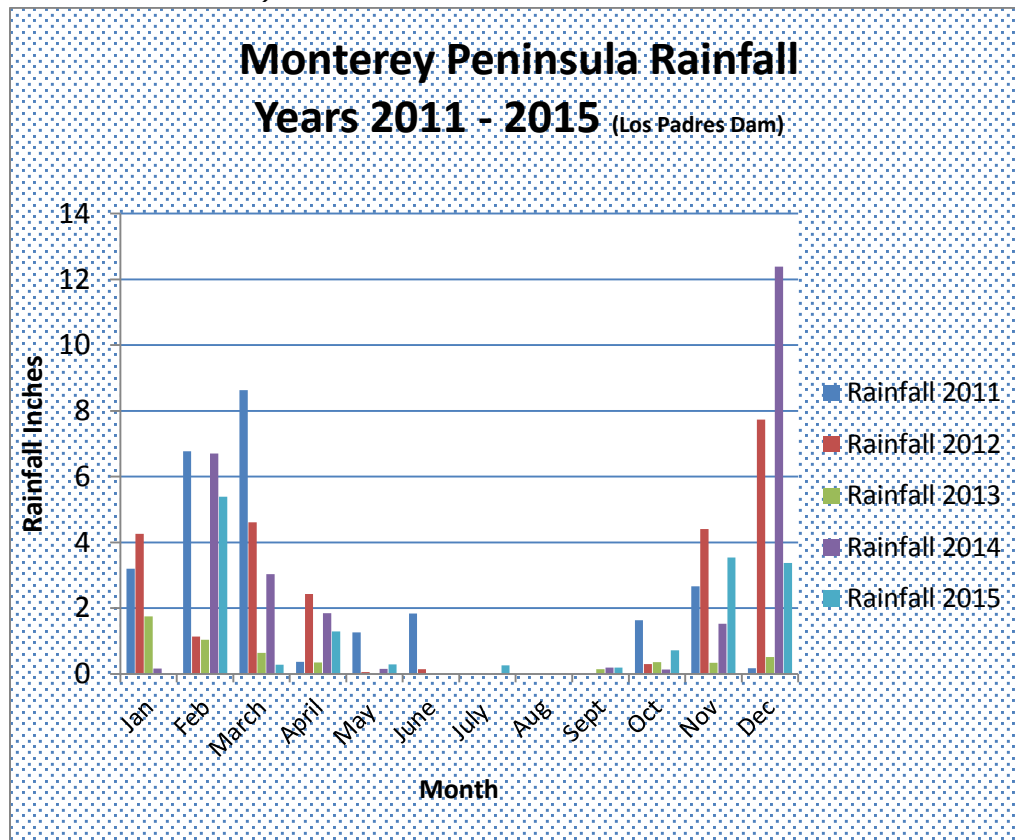
Rain Sensor	Soil Moisture Sensor
	

TABLE 4. MONTEREY PENINSULA MONTHLY RAINFALL 2011 – 2015 (LOS PADRES DAM WEATHER STATION)



Monthly Rain Fall for Years 2011 through 2015 (Los Padres Dam)													
Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Totals
Rainfall 2011	3.2	6.77	8.63	0.37	1.26	1.84	0	0	0	1.63	2.66	0.17	26.53
Rainfall 2012	4.26	1.14	4.61	2.43	0.06	0.14	0	0	0	0.3	4.41	7.74	25.09
Rainfall 2013	1.75	1.04	0.64	0.35	0	0	0	0	0.14	0.36	0.34	0.51	5.13
Rainfall 2014	0.16	6.7	3.03	1.85	0.15	0	0	0	0.19	0.13	1.53	12.4	26.13
Rainfall 2015	0	5.39	0.28	1.29	0.29	0	0.26	0	0.19	0.72	3.54	3.38	15.35

COMMERCIAL, INDUSTRIAL, INSTITUTIONAL (CII) AUDITS

California American Water continued its commercial audit program established in 2009 along with its contract with Water Wise Consulting to conduct commercial, institutional, and industrial audits during 2015. Water Wise Consulting completed 25 audits with an estimated potential savings of 60.99 acre feet following the implementation of the audit recommendations. Since the program began in 2009, over 257 commercial customers have participated in such survey and implemented significant water savings as a result.

California American Water's conservation staff followed up with the customers on site and in person to review the audit reports and provide free devices, such as faucet aerators and pre-rinse spray valves. Customers were also requested to sign a statement confirming their receipt of the report and their consent for MPWMD to receive a report copy.

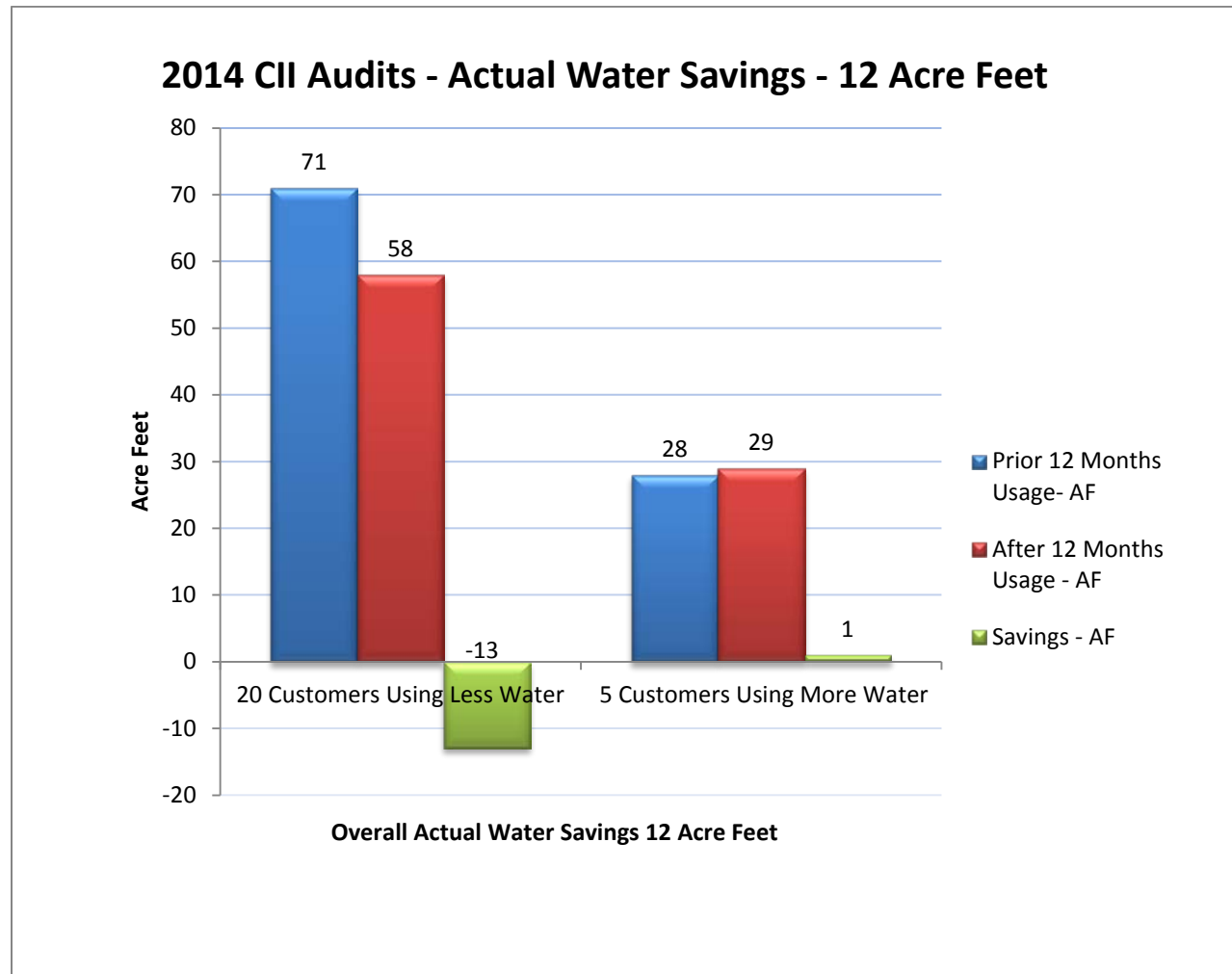


Conservation Specialist Harriet Fox reviews commercial audit report with the Asilomar Conference Grounds

Customers were given audit reports that focused on applicable water-saving devices, and estimated water and cost savings together with expected payback periods for such upgrades. The payback period calculations included the rebate incentives available to CII customers through the California American Water and MPWMD Rebate Program.

The actual water savings for the audits shown here reflect year 2014 audit activity in order to show a full 12 months of post audit water usage as required. Comparing pre-audit and post-audit usage, there were a total of 12 acre feet of water savings, however, 20 of the 25 audits showed a savings of 13 acre feet, whereas 5 customers increased their usage by 1 acre foot during 2014. Many of these customers have water meters that serve not only indoor plumbing fixtures but also outdoor irrigation. Due to the continued drought, some customers had an increase in summer outdoor water usage to maintain their landscape which is a potential reason for the increase in consumption seen for these 5 customers.

TABLE 5. COMMERCIAL, INDUSTRIAL, & INSTITUTIONAL AUDITS – WATER SAVINGS



	20 Customers Using Less Water (AF)	5 Customers Using More Water (AF)
Prior 12 Months Usage - AF	71	28
After 12 Months Usage - AF	58	29
Savings- AF	-13	1
Number of Audits	20	5
Increase or Decrease In Usage	-18%	4%

SCHOOL EDUCATION AND OUTREACH

In 2015, California American Water continued reaching its key objectives for ongoing school education and outreach in water conservation.

The key goals included:

- Ongoing relationship building with the Water Awareness Committee (WAC);
- Outreach to students at community events offering free educational materials;
- Outreach to students in-class and at afterschool activities to offer education regarding water conservation.



Zun Zun School Performances

California American Water, through the WAC, offered school presentations by the Zun Zun performance group. In 2015, Zun Zun provided fourteen 45-minute performances within California American Water's service territory. The performances reached a total of 1,489 students and covered topics such as the water cycle, watershed, indoor conservation and conservation tips, including information about fixing leaks.

Zun Zun Foothill Elementary School Performance – November 2, 2015



Eric Sabolsice, California American Water Director of Operations, and Stephanie Locke, Monterey Peninsula Water Management District's Water Demand Manager, spoke to students regarding the drought and the importance of practicing water conservation on a daily basis.

Students were encouraged to participate during the event through a song and dance presentation of the water cycle. Conservation tips were also presented to the students such as taking shorter showers, not letting the faucet run when brushing teeth, using a positive shut off nozzle at the end of a hose when watering the plants, and to notify their parents when they see leaks at home or their school teacher when they see leaks at school.

TABLE 6. SCHOOL EDUCATION PROGRAM – ZUN ZUN PERFORMANCES

Date	School	Performances	Number of Students	City
1-9-15	Walter Colton School	1	275	Monterey
2-4-15	San Carlos School	2	296	Monterey
9-8-15	Highland Elementary School	2	398	Seaside
11-2-15	Foothill Elementary School	1	520	Monterey

In addition to the Zun Zun performances, California American Water gave conservation presentations for summer students attending the YMCA in Monterey and the Boys and Girls Club in Seaside during the summer months. The attendees consisted of elementary and up to the 5th grade students and totaled approximately 200 students for both events. There were four 30 minutes presentations for each event where CAW conservation staff first presented a short video on the water cycle and then discussed how the students can save water at home and how to report leaks to their parents. Each student was given educational materials on conservation and water saving devices to take home to their parents.

Joe DiMaggio & Melissa Ward teach the water cycle to students at the Boys and Girls Club



Conservation Specialist Melissa Ward presents the uses of water and how to conserve at home



WATER AWARENESS COMMITTEE ACTIVITIES



California American Water, MPWMD and Marina Coast Water District.

California American Water coordinated with the Water Awareness Committee (WAC) to offer school education opportunities and outreach. Activities included class presentations, as well as interactive school assemblies. Both California American Water and the MPWMD are founding members of WAC.

In addition to school education programs, WAC sponsored a Water Awareness Day Celebration at the Monterey County Fair in September. The event was held on Saturday, September 2, 2015. This family-friendly event featured booths including



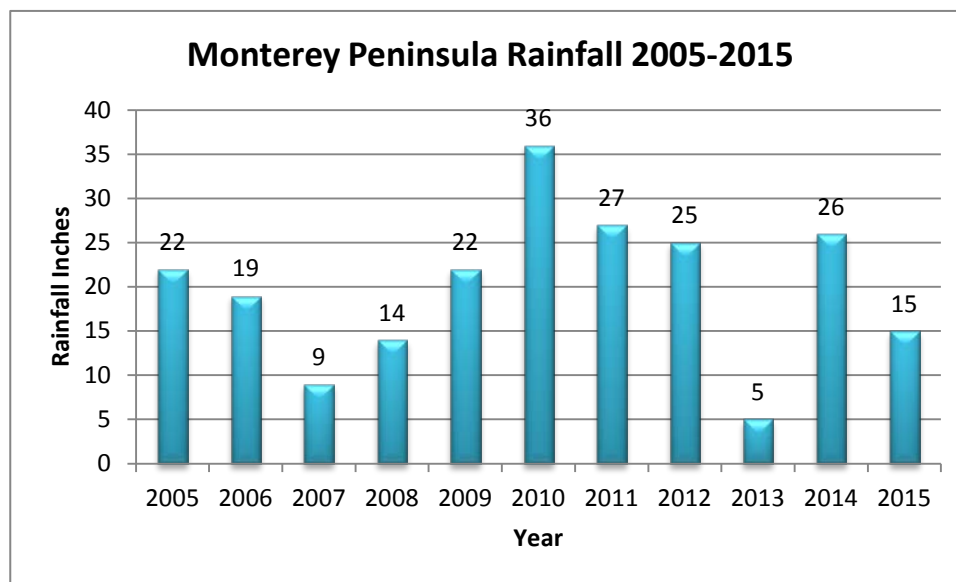
In addition, California American Water in partnership with Monterey Peninsula Water Management District also joined with WAC by participating in the City of Monterey's Cutting Day held in March and the annual Master Gardener Event held each April in Carmel.

Customers who visited the booth were given water conservation devices and tips on how to save water outdoors and encouraged to take advantage of the rebate programs.

WEATHER ADJUSTED CONSUMPTION IN THE COASTAL DIVISION

California American Water staff produced an analysis of weather-adjusted consumption in the Coastal Division by calculating the acre-feet consumed per rainfall inch. (This information is provided under separate cover.) As expected, overall consumption is highest during the summer months and lower during the winter months. Consumption also rises as rainfall decreases: from 2005 through 2015, consumption was highest when rainfall was lowest (2013) and conversely, consumption was lowest when rainfall was highest (2010).

TABLE 7. MONTEREY PENINSULA RAINFALL – 2005 – 2015 LOS PADRES DAM WEATHER



RESIDENTIAL FIVE-TIERED RATE DESIGN

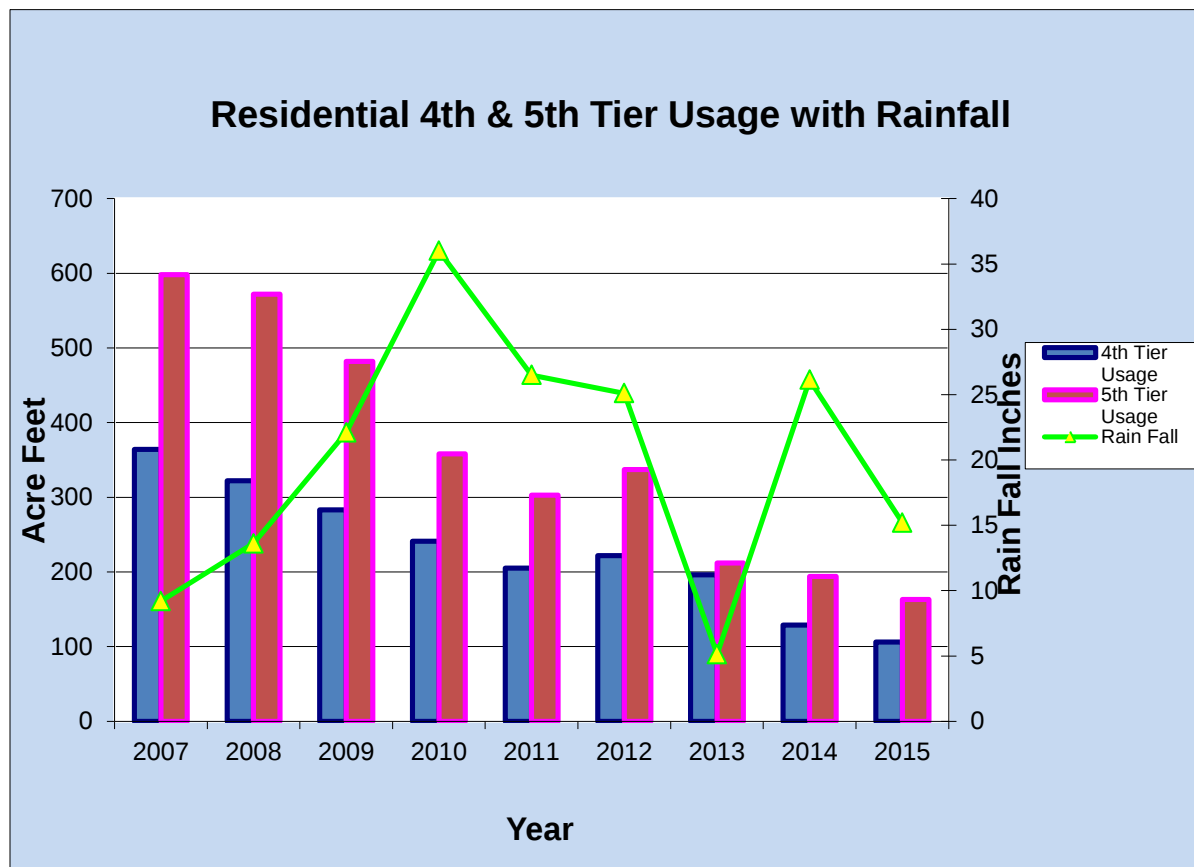
California American Water's five-tiered residential allotment rate structure has also been instrumental in reducing overall outdoor water usage in addition to the aggressive conservation programs administered by CAW and the MPWMD. Each residential customer is allotted 1,122 gallons per tier each month for indoor and outdoor usage plus, during the summer months, May through October, an additional allotment at tiers 3 through 5 based on lot size. Current tiered rates are: \$0.6142, \$1.3229, \$3.4104, \$6.9296, and \$8.9870. Normally, the base allotment is enough to cover indoor usage and limited outdoor usage, which is billed at the first, second, and third tiers. The majority of outdoor usage for large residential water users is billed at the 4th and 5th tier.

There has been a significant reduction in fifth tier usage, dropping from 598 acre feet in 2007 to 163 acre feet in 2015, a percentage reduction of 73%. In order to monitor the effectiveness of programs offered by CAW and the MPWMD, since 2009, California American Water tracks actual usage of customers who receive residential and commercial audits, rebates, rain

sensors, or participate in other conservation programs. Customer usage records indicate a significant savings as explained in this report.

Rainfall during the winter and summer months also affects outdoor usage. Comparing rainfall records from 2007 to 2015; 4th and 5th tier usage normally decreased during years of high rain fall and increased during years of low rain fall.

TABLE 8. RESIDENTIAL 4TH AND 5TH TIER USAGE & 2015 RAINFALL - YEARS 2007 TO 2015



Residential 4th & 5th Usage Acre Feet with Rainfall

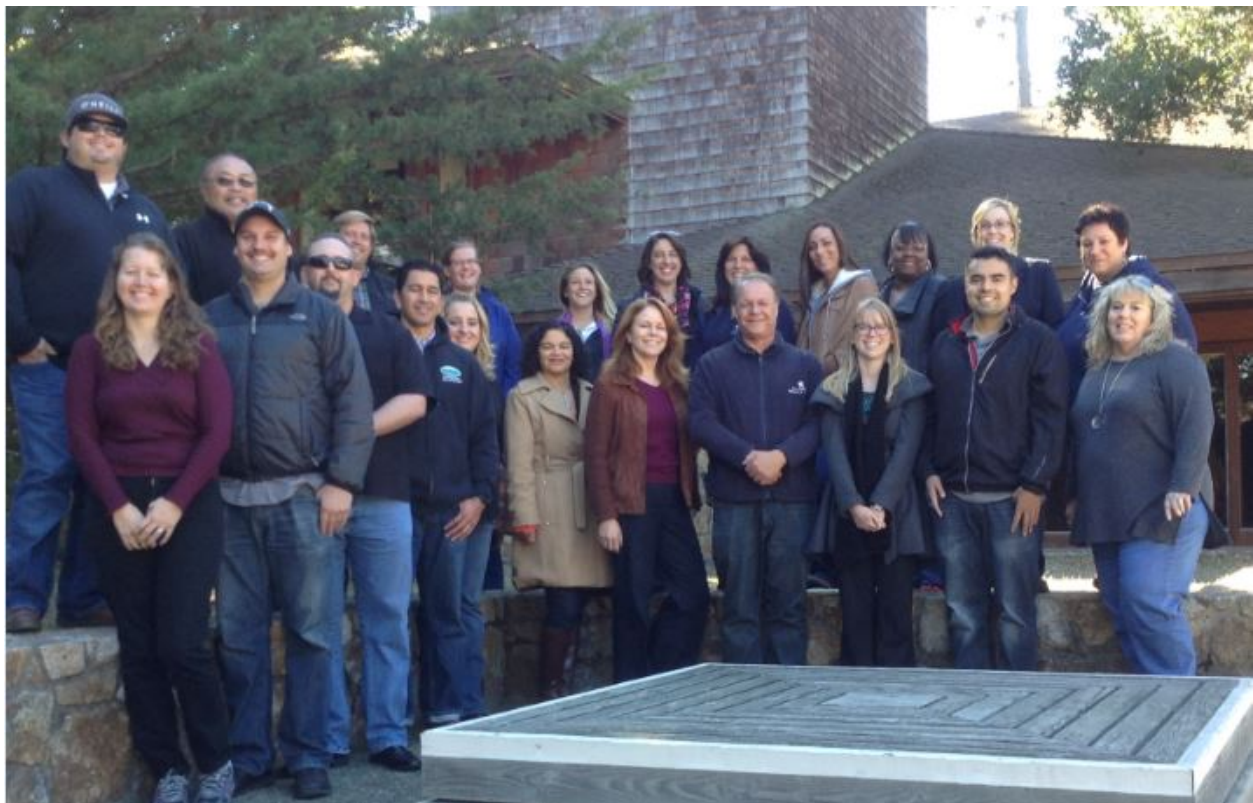
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
4th Tier Usage	364	322	283	241	205	222	196	129	106
5th Tier Usage	598	572	482	358	303	337	212	194	163
Rain Fall inches	9.2	13.6	22.1	36	26.5	25.1	5.13	26.13	15.2

COMMERCIAL AUDIT TRAINING CLASS

California American Water and the Monterey Peninsula Water Management District joined together to offer a free CII Water-Wise Workshop for Water Conservation professionals. The workshop was held at the Asilomar Conference Center, and was attended by staff members from California American Water statewide, Monterey Peninsula Water Management District, Marina Coast Water District, Santa Cruz Water and San Jose Water.

This two-day class was facilitated by Maddaus Water Management, Inc., and focused on how to identify areas of potential water conservation in commercial, industrial and institutional properties. The workshop was designed to provide a comprehensive overview of the most common and key CII water uses and demonstrated both electronic and manual data collection techniques. The presentation included classroom training and hands-on facility tours, covering toilets, urinals, showers, faucets, cooling towers, thermodynamics, pools, wash down facilities, kitchens, laundry, recycling, greywater, water features, leak checks and site staff training. Attendees learned how to identify the types of appliances, efficiency ratings, and potential water and dollar savings and payback periods using technology developed by Maddaus Water Management, Inc.

This new training will greatly assist both California American Water and the Monterey Peninsula Water Management District with conducting CII audits in-house and with verifying compliance of non-residential customers with CAW's Rate Best Management Practices ("Rate BMPs") as well as MPWMD's water efficiency requirements. Compliance with these Rate BMPs places non-residential customers in one of four rate divisions that determine the customers' billed water



rates. .

WATER WASTE PREVENTION

Emergency drought restrictions from the State Water Resources Control Board ("SWRCB") continued in 2015 and on April 1, additional measures were implemented including a mandated 8% reduction in water use for California American Water customers in the Monterey Service area. As a result, California American Water updated its Water Conservation Plan Rule 14.1.1 for its main system including Ryan Ranch, Hidden Hills and Bishop, and also updated Rule 14.1 Water Conservation for Chualar, Toro, Ambler Park, Ralph Lane, and Garrapata. The updated plans include:

- Irrigation is limited to Wednesday and Saturday before 9 am and after 5 pm
- Sprinkler irrigation overseen by a professional gardener or landscaper who is available on site may occur between 9 a.m. and 5 p.m. but shall not exceed two watering days per week
- Irrigating of any lawn, landscape or other vegetated area with potable water using a device that is not continuously attended is limited to no more than 15 minutes per watering day per station.
- Watering during and for 48 hours after measurable precipitation: Water or irrigating of any lawn, landscape, or other vegetated area with potable water during and for 48 hours following measureable precipitation is prohibited.

CAV-03

VIOLATION OF DROUGHT RULES

Dear Customer:
The State of California has banned wasteful uses of water. California American Water has instituted mandatory conservation rules. Repeated violations of these rules may result in penalties or discontinuance of water service.

Please contact our local conservation staff at (831) 646-3205 if you have questions or concerns about the violation. California American Water may follow up with you to ensure problems have been corrected.

DATE: _____ TIME: _____

SERVICE ADDRESS: _____

WAS CUSTOMER NOTIFIED IN PERSON? Y / N

VIOLATION OF RULE: ☐ 1st ☐ 2nd
(Additional violations will result in penalties of \$100 or more)

EMPLOYEE INITIALS: _____

Description of Violation

☐ Overspray on hardscape
☐ Watering within 48 hours of rain
☐ Washing hardscapes with water
☐ Washing vehicle without hose nozzle
☐ Non-recirculating fountain in use
☐ Violation of watering day schedule
☐ Violation of time of day restrictions
☐ Restaurant serving water without request
☐ Leak observed on customer property
(Leak must be fixed within 72 hours of receipt of this notice)

NOTES: _____


CALIFORNIA
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CAV-03

In addition, a new water waste reporting and enforcement procedure was instituted at California American Water in August of 2015, in response to the SWRCB's Drought Restriction regulations. This procedure utilizes a new Violation of Drought Rules hang tag used by field service workers to notify residents of leaks and violations, with follow-up by Conservation staff and the Monterey Peninsula Water Management District in order to ensure that water waste is addressed within 72 hours of notification whenever possible.

Customers who received the 72 hour notification were those identified as having leaks through our meter reading billing edit system, customer initiated high bill investigations or violation of drought rules identified by customers and field staff. A total of 109 door tags were left with customers to inform them of the

violation. Customers identified with leaks were then monitored to ensure timely repair.

CALIFORNIA AMERICAN WATER'S PILOT PROGRAM PROVIDES CUSTOMERS WITH OPPORTUNITIES FOR WATER SAVINGS

In February, California American Water launched a web-based pilot program aimed at conserving water and energy and helping customers detect leaks promptly. The online application monitors water use through a water meter fitted with a radio transmitter that collects water data. The data is sent to a web portal, U2You, where customers can monitor their daily water consumption using a computer or smartphone.

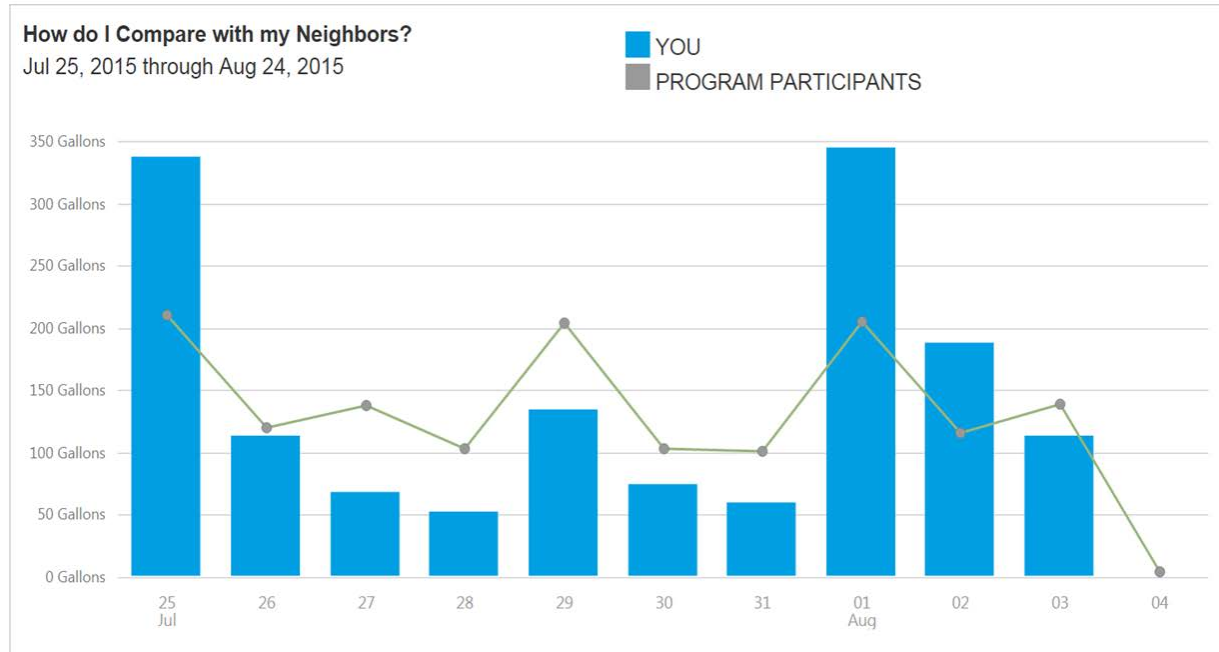


Most excessive water use is traced to leaky toilets or irrigation systems. To catch leaks early, participants in CAW's pilot program are able to identify abnormally high water consumption and compare their water use to the average water usage in their area. The U2You website also allows participants to set up alerts that notify them by email or text messages if a leak is detected or their water use exceeds a specified amount. As a result,

they are able to avoid water waste while saving money on their bills.

Approximately 200 Monterey Peninsula business and residential customers were recruited to voluntarily participate in the pilot program, which will run for about one year. CAW's goal is to collect enough data to assess the application's feasibility and costs and identify features customers find most useful. If successful, the program may be rolled out to all CAW customers, pending the approval of the CPUC.

DATE	TIME	ALERT TYPE	ALERT DESCRIPTION
06/16/2015	06:56 PM	ALARM	Leak detected on 2015/06/05 and cleared on 2015/06/15
08/01/2015	04:52 PM	THRESHOLD	Projected consumption (5334) to exceed threshold (5000)



A sample of how customers can monitor their individual water use on a daily basis via a website which allows them to compare their water use to the average water user in the area. Consumption for all program participants is shown in a bar chart. As a customer hovers over the chart bars, a popup message displays the usage in gallons. Customers can also click on a bar in the chart to drill down into smaller time increments and also increase or decrease the time range.

MONTEREY COUNTY FAIR LANDSCAPE CONTEST

California American Water Conservation Staff was awarded Best of Show for their Gardens of Monterey County: Featuring Native Plants entry for the 2015 Monterey County Fair. The entry



also was awarded First Place in the Water-Wise Landscape Design contest hosted by the Water Awareness Committee of Monterey County. This competition was developed to promote water conservation awareness in Monterey County. The campaign “encouraged the replacement of thirsty lawns with attractive, low maintenance, drought tolerant landscaping that reduces water use and protects water quality from harmful fertilizer and pesticide runoff.” Garden displays were judged on the use of native and drought tolerant plants, water-wise irrigation technology, use of soil

conditioners, ease of garden maintenance, and overall design. Our entry featured native and drought tolerant plants and incorporated the use of mulch with a rain barrel and drip irrigation to maintain a healthy and attractive garden with minimal water usage. Conservation staff donated their \$800 winnings to the American Red Cross to support local recovery efforts after the Tassajara Wildfire.



Award for Best of Show Featuring Native Plants, Rain to Water Catchment to Landscape



CAW Conservation Staff donating \$800 Winnings to the American Red Cross Tassajara Fire Relief Fund

PUBLIC OUTREACH

All public outreach and educational efforts are managed by California American Water's local external affairs and conservation departments in cooperation with MPWMD's conservation department.

California American Water utilizes professional marketing and design services to develop professional and effective educational brochures, direct mailers, print media advertisements, and other marketing items. The company continued its proactive outreach campaign to help keep water consumption within production limits on the Seaside Basin and Carmel River.

This year's efforts were largely centered on drought mitigation and ensuring the district complied with the Governor's statewide cutback order. Due to its historic conservation efforts, the Monterey District was ordered to reduce its consumption only by 8 percent compared to 2013 levels – the lowest amount allowable under the order. Other areas in the state were ordered to cut back their consumption by more than 30 percent by comparison.

Numerous mailers were sent to customers reminding them of the drought restrictions and the Rule 14.1 and Rule 14.1.1 stages and rules. Radio and print ads were also leveraged for this campaign with similar messages. This included mailers about rebates, water schedules and specific watering restrictions.

The campaign was highly successful as Monterey cutback its water use by more than 18 percent in an area that already had some of the lowest per-capita water consumption in the state.

PUBLIC RADIO ANNOUNCEMENTS

California American Water sponsors the Monterey Peninsula's local public radio station and is featured on regular radio spots. This year the company made a major push for conservation by offering specific water saving tips for residents, which included information on rebates and recommended outdoor watering schedules. Themes included: promotion of general conservation tips and the company's Savings are in Season campaign. KAZU FM has a strong listenership within California American Water's Monterey Peninsula service territory. Informal customer feedback to the announcements has been overwhelmingly positive. Advertisement was also conducted in the Carmel Pine Cone, The Monterey Herald, and various other radio stations some of which included Spanish speaking audiences.

Annual conservation outreach radio underwriting expense: \$9,568

TELEVISION ADVERTISING

California American Water was unable to conduct any television advertisement regarding conservation.

Television advertising cost: \$0

PRINT ADVERTISING CAMPAIGN

California American Water, leveraging its discount, long-term print advertising contracts with local newspapers, managed to put out a robust print campaign of multiple and repeated messages of various conservation themes. This year the company's focus was the drought and the statewide water consumption cutback order. Ads were run in the Carmel Pine Cone and Monterey County Weekly all promoting conservation, Rule 14.1 and Rule 14.1.1 awareness and other drought related concepts. In addition, advertisements were purchased in both publications to run through the rest of 2015 in the Pine Cone and intermittently with the Herald. Each of these publications boasts a circulation of 30,000 to 35,000 on the Monterey Peninsula--which roughly equates to the number of California American Water residential service connections within the MPWMD boundaries. Ad themes centered on rebates and basic residential water conservation and drought messages.

Print advertising campaign cost: \$9,041

WEBSITE: MONTEREY WATER FACTS

California American Water and MPWMD continued supporting the shared website for the Monterey area, which was established in 2009. The site serves as a one-stop, user-friendly resource for local water users to access information on rebate programs, home water audits, regulated restrictions on the area's water supply and tips for saving water indoors and out.

The website has information for commercial and residential users and provides in-depth information on water wise landscaping. The web address is publicized through direct mail and print advertising efforts and periodically listed on California American Water customers' bills. The site additionally contains links to the Alliance for Water Efficiency, Water Sense and the American Council for a Water Efficient Economy. In addition, California American Water and the MPWMD continued to support their joint Facebook and Twitter pages. These pages are updated bi-weekly with quick tips about conservation and other important news happening in water on the Monterey Peninsula.

MONTEREY WATER CONSERVATION FACEBOOK PAGE

California American Water in partnership with MPWMD continued its Monterey Water Conservation Facebook page to keep local contacts informed about conservation efforts. The page provides timely conservation tips and news about upcoming events and local water issues.

MAILERS/BILL INSERTS

Throughout the year, the company included inserts on various subjects including water quality information, payment arrangements, rates and its low-income program. In 2013, California American Water customers received individual mailers and bill inserts about mandatory drought restrictions and Rule 14.1 and Rule 14.1.1 compliance as well as how residents can do their part to help meet these goals. Total Mailer cost: \$128,305



Example of "Drought Alert" customer mailer sent in 2015

SOCIAL MEDIA

California American Water continued its social media support of conservation outreach by complimenting and echoing the same messaging produced in its print, radio and mailer campaigns. This includes routine updates to both the company's own Facebook page and the one it shares with MPWMD, which focuses on conservation.

California American Water also maintains a Twitter account, which it uses to inform its followers of various news items, including conservation tips and rebate offerings.

EARNED MEDIA CAMPAIGN

California American Water also worked with local media to promote participation in events as well as national programs such as the Environmental Protection Agency's Fix a Leak Week, National Drinking Water Week and National Water Awareness Month, during which California American Water authored Opinion Editorials on water conservation for the Monterey County Herald. Press releases were distributed to local media including the Monterey County Herald, Carmel Pine Cone, Monterey County Weekly, KAZU FM, KSBW TV, KION TV, KCBA TV, KSMS TV.



MONTEREY DISTRICT:
Help Reduce Water Use by **8%**

MANDATORY TWO DAY PER WEEK WATERING SCHEDULE

New rules from the State of California require an **8% reduction in water use** for California American Water customers in the Monterey District. Reducing your outdoor water use is one area where small changes can result in big water savings! Please do your part by adhering to the mandatory watering schedule.

	SUN	MON	TUES	WED	THURS	FRI	SAT
ALL ADDRESSES							

- Water **before 9 a.m. or after 5 p.m.**
- Water for **no more than 15 minutes** per irrigation station per allowed day.
- Use a **positive-action shut off nozzle** when hand-watering with a hose.
- Use a **bucket in the shower** to catch cool water for plants.
- Mulch liberally** to keep soil moist.

Example of "Water Schedule" customer mailer sent in 2015

COMMUNITY AND OUTREACH EVENTS

Each year, California American Water and MPWMD participate in various community fairs and events, staffing a conservation booth where California American Water customers can interact with water conservation experts, take advantage of free water saving devices and obtain information about indoor and outdoor water saving appliances and techniques. In 2014, California American Water and MPWMD participated in the following events: Pacific Grove Good Old Days, Earth Day, and through membership in the Water Awareness Committee of Monterey County, the Monterey County Fair.

Costs associated with attending such events included sponsorship fees and booth costs, marketing of event, materials and giveaways for customers visiting the booth, and booth displays pieces.



CAW maintains a consistent conservation platform on their Facebook page and other social media channels



CAW Director of Operations Eric Sabolsice interacting with a customer at the company's conservation booth that was present for the duration of the 2015 Monterey County Fair

CALIFORNIA AMERICAN WATER, COASTAL DIVISION - 2016 PROGRAM GOALS

The 2016 California American Water programs funded by the Conservation Surcharge are summarized in the following table and described in detail in the narrative that follows.

Table 9. California American Water Coastal Division: Summary of 2016 Program Goals

Program	Budget	Implementation Plan	Timeline
Residential Audits	Budget	Complete 200 SF and 10 MF audits	Offer audits throughout 2016
Residential Plumbing Retrofit	\$8,200	Continue providing devices to residential and non-residential customers, walk-in, and events.	Residential Water Wise House Calls and efforts throughout the year at events, walk-ins, etc.
Rain Sensor Installation Program	\$8,000	Install 25 Residential Rain sensors and/or Soil Moisture Sensors	Jan through Dec 2016
Large Landscape Upgrade Grant Program	\$25,000 2015 - 2017	Provide grants for expenses for equipment, materials, and/or installation to upgrade to conservation friendly landscapes	Jan through Dec 2016
Public Outreach and Marketing Campaign	\$123,333	Continue to support public awareness and participation in the organizations' joint-conservation programs	Ongoing throughout 2016
Outreach and Education Seminars & Programs	\$10,000	Continue to partner with Water Awareness Committee, continue to offer Landscape Irrigation Workshops, create conservation booklet, offer in-class presentations	Ongoing throughout 2016

Zun Zun Performances and WAC Activities	\$5,000	Market to schools in Summer of 2016 with events in the fall.	Performances in 2016 WAC ongoing.
CII Rate BMP Survey Inspections	\$1,000	Inspect 500 non-residential properties for compliance with Rate Best Management Practices to determine rate category and collaborate with the MPWMD to complete indoor inspections & CAW complete outdoor inspections	Ongoing 2016
CII Audits	\$60,000	Offer CII Audits to 20 customers – greatest potential need & to comply with the new BMP Compliance Rate Structure	Ongoing 2016

RESIDENTIAL WATER WISE HOUSE CALLS

California American Water will continue to provide Residential Water Wise House Calls to its customers in 2016. With the continued drought and Governor Brown's Executive Order B-29-15, it is expected that the number of customer requests for this service will increase especially during the summer months when usage is highest as customers irrigate their landscapes. Additional efforts to promote customer participation will include offering Water Wise House Calls for customers with high water bills and promoting the program at events and through California American Water ads. California American Water's conservation staff set a target goal of 200 single family audits and 10 multi-residential audits to be completed in 2015 and actually surpassed its goal and completed 350 house calls in 2015. The expectation is to complete 200 Residential Water Wise House Calls in 2016.

RESIDENTIAL PLUMBING RETROFIT

California American Water will continue to provide low flow conservation devices and conservation kits to residential customers in the Monterey service area, and also require customers to sign up to receive devices at events, front desk, etc. so the company can log the information and identify how devices are distributed. The focus will be on the hospitality industry such as hotels and motels to convert hundreds of bathroom aerators from 1.5 GPM aerators to 0.5 GPM aerators. California American Water will also look for upgraded low flow devices and new technologies that provide greater water savings. Current devices include 1.5 GPM showerheads, 1.5 GPM kitchen faucet aerators, and 0.5 GPM bathroom aerators. In addition, California American Water will promote 1.5 GPM showerheads for customers who have retrofitted in past years with the 2.5 GPM. The company will continue to track the devices specifically given to single and multi-family residents.

LARGE LANDSCAPE UPGRADE GRANT PROGRAM

California American Water will continue its successful Large Landscape Grant Program developed and implemented in the fall of 2010 for large landscape customers including cities, schools and parks. In 2015, a total of \$30,000 was awarded to the Monterey Peninsula Unified School District to upgrade its sprinklers systems for 9 schools at annual estimated savings of 1,000,000 gallons per year.

The funding is to offer assistance to upgrade current landscape and irrigation systems to increase water efficiency, and to help cover the expenses for equipment, materials, and/or installation. Sites are specifically chosen for high visibility and visitor traffic in order to maximize educational value and promote similar retrofits at customer sites.

In 2016, California American Water's objective is to fund one landscape grant project at a cost of \$25,000 to a school district in the company's service area. The proposed sites will be selected based on projected potential water savings, cost to retrofit, educational value of site, project participation and engagement from the program partner and other criteria.

Each year, the sites will be reviewed identifying their actual usage compared to their expected usage and the actual water savings will be calculated. This information will be reported to the CPUC annually to monitor the success of the program.

RAIN SENSOR INSTALLATION PROGRAM

California American Water will continue the rain sensor installation program that began in November of 2011 which provides free direct installation of rain sensors to residential, commercial and public authority customers and will also start the installation of soil moisture sensors through its contract EcoTech. The focus will continue to be on customers who have the greatest potential need to reduce their water usage especially during the winter season.

Focus will continue to be on customers who are billed in the 4th and 5th tier of California American Water's five tier residential rate structure during the three consecutive winter months of December, January and February.

The estimated cost is \$150 per customer, which includes \$40/hour labor for 2.5 hours plus the cost of each rain sensor estimated at \$50.

CII AUDITS

California American Water will continue in 2016 to provide commercial, institutional and industrial audits, and plans to complete up to 25 CII audits in 2016 utilizing experienced contracted consultants.

The focus will continue to be on auditing customers who have the greatest need and potential to achieve significant water savings. California American Water will continue to meet with each customer who receives a CII audit and also offer rebates and any programs that may assist in reducing overall water usage.

RATE BEST MANAGEMENT PRACTICE SURVEY INSPECTIONS

California American Water in 2013 changed its non-residential rate structure that now places customers in one of four rate divisions based on compliancy with indoor and outdoor BMP's. Non-residential customers were required to complete a survey to determine their appropriate rate category.

In order to ensure that customers are complying with the BMPs that placed them in one of the four rate divisions, California American Water in partnership with the Monterey Peninsula Water Management District is inspecting non-residential properties.

Customers that are determined not to be in compliance with the indoor and/or outdoor requirements will have 30 days to make necessary corrections to avoid a potential change in rate classification. These customers are called by CAW conservation staff 30 days after the inspection to verify compliancy. If the customer is not compliant, the classification is changed to Rate Division 4, which is the non-compliant rate, until necessary corrections are being made. Customers are required to provide proof of corrections by providing a receipt to CAW and/or verification for indoor compliancy by the MPWMD.

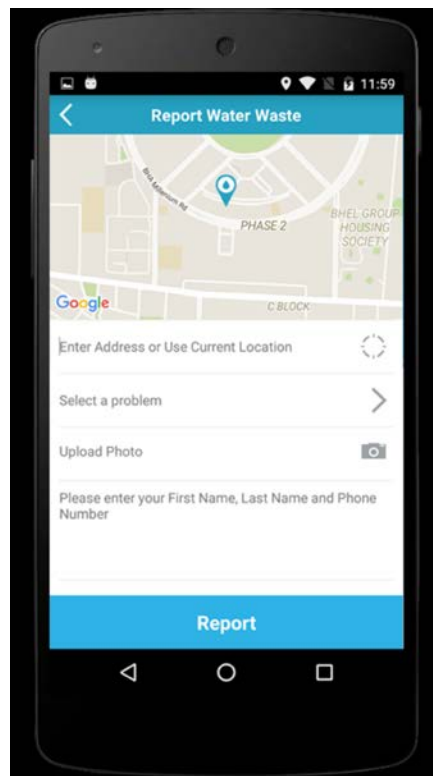
WATER WASTE APP

California American Water has introduced a new app in 2016, available for download in the Apple and Android app stores, which allows customers and other concerned residents to report water waste when they see it. Photos will be geo-tagged and uploaded directly so that California American Water can investigate the leak or waste.

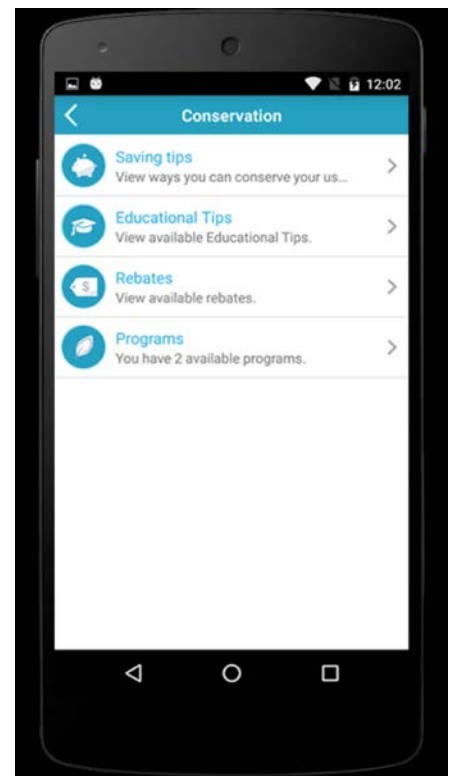
Through the app, California American Water customers will also learn about the conservation programs offered in each of our districts across the state. Raising awareness of our Water Wise House Calls rebates for water saving home appliances and free water smart devices will help customers control water use.



Home Screen



Report Water Waste Screen



Conservation Tips Screen

Monterey Peninsula Water Management District – 2015 Programs Funded by the Conservation Surcharge

The 2015 MPWMD programs funded by the Conservation Surcharge are summarized in the following table and described in detail in the narrative that follows.

Table 11. Monterey Peninsula Water Management District: Summary of 2015 Programs

Program	Program Costs	Need For Program	Nature of Activity	Measurable Goal	Results	Estimate Savings
Water Conservation Representative	\$95,902 at actual cost	One staff position with focus on water waste enforcement and water efficiency.	Water waste enforcement and follow-up, public outreach events, property inspections, audits, etc.	Immediate response to water waste and 100% compliance within 1-30 days	4 fines issued for repeat failure to correct water waste within 72 hours. All water waste violations were corrected	Not quantifiable
Water Conservation Seminars	\$26,781	Provide education and hands-on learning. Focus is on reducing outdoor and CII water use.	Laundry to Landscape Workshops and CII efficiency requirements	Attendance by at least ten persons per event	Exceeded expectations	Not quantifiable
Water Wise Gardening for Monterey County	\$9,000, including upgrades to product	MPWMD has licensed product for web use, rather than reprinting CDs. Licenses for MPWMD and WACMC	Monterey area-specific interactive gardening software designed to assist customers with water efficient plant choices.	Provide notice of software availability at all events, on websites, social media, and through televised Board meetings	5,006 unique hits on software in 2015	Not quantifiable

Program	Program Costs	Need For Program	Nature of Activity	Measurable Goal	Results	Estimate Savings
Water Audits & Budgets	\$8,600	Required by MPWMD Regulation VX, although Regulation VX was revised in 2016 to change this requirement	Outdoor irrigation that meets certain specifications is required to obtain a landscape water audit and budget and to adhere to the budget during Stages 2-4.	Water use stays within budgeted amount	3 audits were conducted in 2015	N/A
Linen/Towel Reuse Program	\$0	Supports hotel room notification of linen and towel reuse program.	Customers encouraged to reuse towels and linens. Drinking water is to be provided only upon request.	Reduction in laundry, and water and energy consumption	Ongoing program	Up to 101 AFA @ 60% occupancy
CIMIS Station Maintenance	\$1,369	CIMIS data is used by weather-based irrigation controllers to schedule irrigation times.	MPWMD sponsors three CIMIS stations in Zone 2/3 and Zone 3. MPWMD maintains the stations.	Reduced outdoor water use during low ETo	Data is available on CIMIS website	Not quantifiable

Conservation Devices	\$42,044	Provide conservation devices to customers to reduce consumption	Provided showerheads, shower-savers, faucet aerators, hose nozzles, and other items	Reduce wasted water	See Conservation Devices Section	> 2 AFA
Conservation Printed Material	\$0	The printed material program acquires updates and distributes water conservation materials to the public via local retailers, organizations, and other means of notification.	Printed and distributed post cards to CII users promoting water efficiency requirements	Support BMP programs, provide at 3+ events, and reduce water usage.	MPWMD distributed conservation materials, including conservation program handouts at community events and meetings	Not quantifiable
Water Waste Prohibitions	N/A	Eliminate water running to waste and other forms of water waste.	Notification to property occupant and follow up to ensure corrections as needed.	Achieve compliance within reasonable time period	104 instances of Water Waste were compliant within reasonable time	Not quantifiable

Water Conservation Representative

The Conservation Representative position was included in MPWMD's budget request with the full support of California American Water and is an ongoing position. Funding for the position was included in the MPWMD portion of the conservation surcharge in the 2005 General Rate Case (D.06-11-050), the 2007 General Rate Case (D.09-05-029), the 2010 General Rate Case (D.12-06-016), the 2013 General Rate Case (D.12-06-016). The position is primarily responsible for water waste enforcement, including responding to reports of water waste and completing site investigations. The position also conducts conservation inspections and community outreach, provides information and educates the public on the need for water conservation and water demand management, assists other agencies and the general public in understanding MPWMD requirements and rules, performs inspections on properties to ensure compliance with water

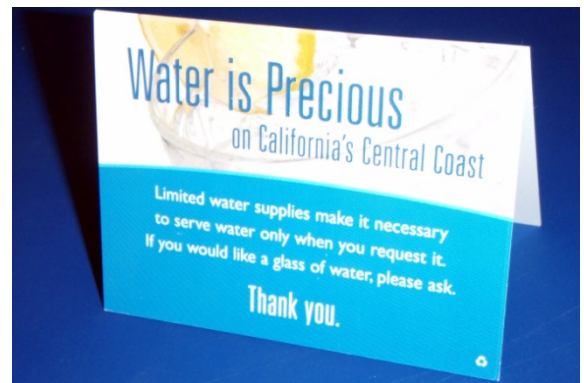
efficiency standards, rules and regulations, organizes and oversees water efficiency training and seminars, and assists in research, analysis, and reporting on water demand management and conservation programs.

Linen/Towel Reuse Program

The linen/towel reuse program provides cards giving guests the option of reusing or obtaining new linens and towels in hotel rooms, for restaurant “drinking water served only on request” tent cards, and for conservation message mirror clings. These programs are mandatory within the MPWMD. In September 2015, MPWMD began systematically verifying that all non-residential uses met the requirements. Non-compliant businesses were given 30 days to make corrections.

During 2015, MPWMD distributed the following:

- Towel Cards – 1,400 pieces
- Water Service on Request Cards (see photo on right) – 2,100 pieces
- Linen Reuse Pillow Cards – 2,000 pieces
- Conservation Message Mirror Clings – 2,300 pieces



The California Irrigation Management Information System (CIMIS)



During 2015, MPWMD staff continued its coordination with the California Department of Water Resources staff and local golf course operators, including Laguna Seca Golf Ranch and the City of Pacific Grove to maintain locations for CIMIS stations in ETo Zones 2 and 3. The locations provide full coverage ETo data for the Monterey Peninsula. MPWMD staff maintains the stations by cleaning the devices periodically.

Water Conservation Seminars/Workshops

MPWMD has focused its training agenda on helping provide the tools necessary for gardeners, landscapers, builders, homeowners, plumbers and others to maximize water efficiencies. During 2015, 19 educational workshops were held. Graywater Laundry to Landscape Systems and rainwater harvesting continued to be very popular. Graywater installation kits containing a three-way diverter valve, PVC connections, irrigation tubing, and other components were provided to participants that committed to installing a system in their homes the weekend following the class. During 2015, MPWMD hosted five



Rainwater Harvesting workshops included samples of various types of cisterns

greywater installation trainings and one live demonstration installation reaching 290 people. Four rainwater harvesting trainings and three live demonstration installations were conducted, reaching 288 people. MPWMD held one irrigation controller class with 15 attendees. One Commercial, Industrial and Institutional Water Efficiency class was held and reached 37 people. A deep root irrigation class was attended by 13 people. In total, 643 people attended a water efficiency training with MPMWD in 2015. The cost for all classes was \$26,781.



Graywater workshops were well attended.

Water Wise Gardening for Monterey County



Water Wise Gardening for Monterey County is a highly desirable landscape planning software that was designed specifically for Monterey County. The GardenSoft software was developed with sponsorships from California American Water and MPWMD through the WAC. It provides photos of various types of local gardens examples, including front and back yards, hillsides, raised planters, shrub and perennial borders, walkways, parking strips, patio areas, theme gardens, native gardens, decks, fences, gates, surfaces,

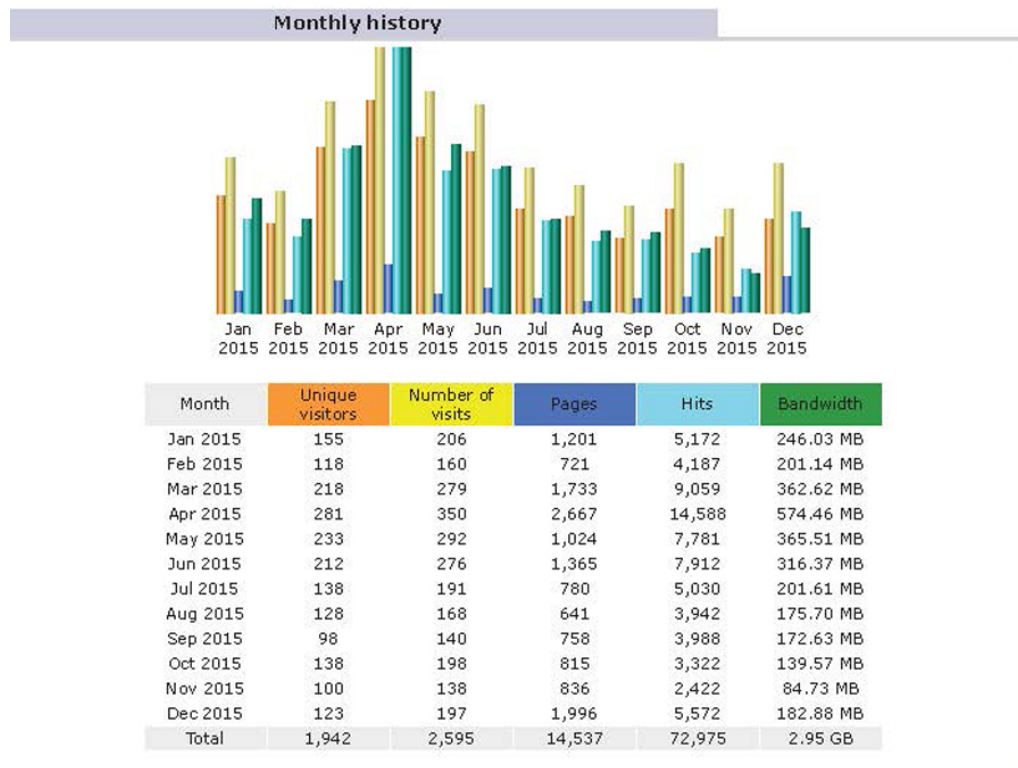
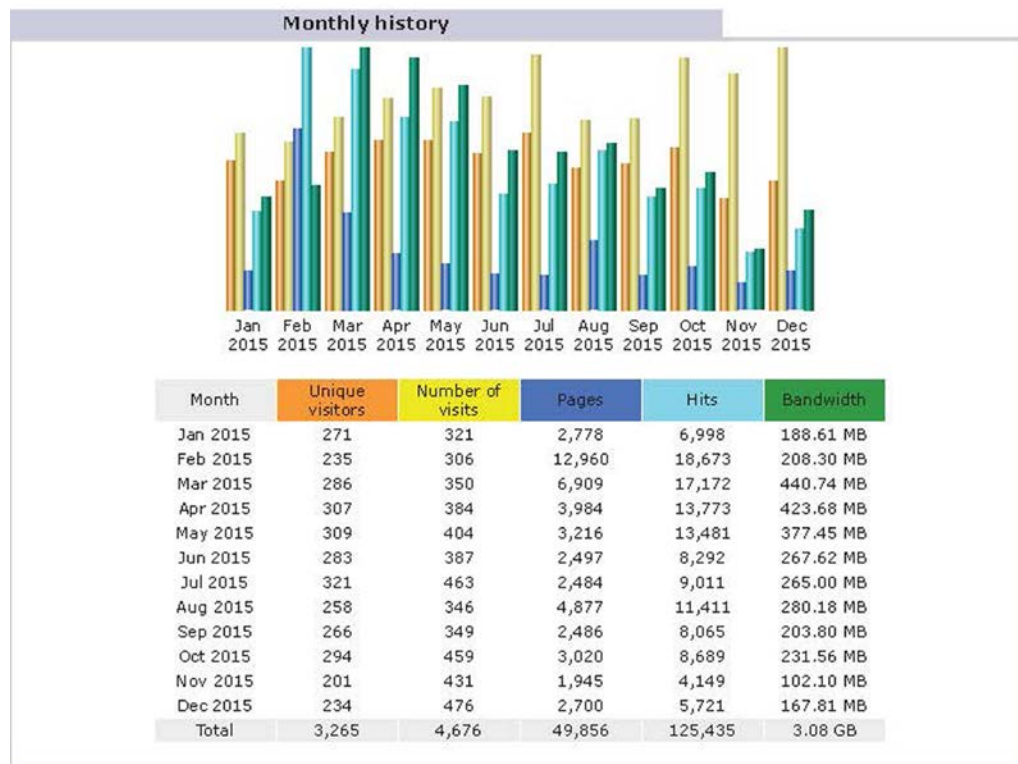
benches, trellises, low-maintenance gardens, and Mediterranean style gardens. There are hotlinks embedded within the garden images of plants which link to photography, plant or material identification, and related information. Users are able to search for plants relevant to specific Monterey County areas by botanical name or common name, by look or color, by general variety, and much more. A brief questionnaire leads the user to the appropriate plants to solve their gardening wants or needs. A series of information pages are provided that list watering tips on a month-by-month basis and general lawn and planting area instructions for each month of the year.

The software is available as a web application for an annual subscription of \$5,000 for unlimited access and that can be reached via links from the California American Water/MPWMD conservation website (www.montereywaterinfo.org) and from the WAC website (<http://www.monterey.watersavingplants.com/monterey.php>). During 2015, the web application had 4,207 unique hits on the websites. A breakdown of site hits by month is shown on Table 12.

Upgrades to the Water-Wise Gardening program were made in 2015. These upgrades added features such as a landscape watering schedule calculator and streamlined the site navigation for an improved user experience. The Water Calculator allows home owners to plug in their location, plant type, sprinkler type, slope, exposure and local watering restrictions to create an accurate watering schedule for their landscape. For a cost of \$4,000 the following changes were made:

- Rebuilt the cascading menu across all pages
- Built a Water Calculator based on local ETo Zones
- Reconstructed the message panel
- Added hotlink toggle switches
- Backgrounds were switched

TABLE 12. WATER WISE GARDENING FOR MONTEREY COUNTY, WEBSITE HITS BY MONTH, 2015



Water Audits/Budgets

The Landscape Water Audits and Landscape Water Budgets program involves an on-site analysis of existing plant types and locations, soil types, existing irrigation and watering practices and equipment. The auditor determines a watering budget based on those factors and efficient water use. Stage 2 Water Conservation (and higher stages) implements enforcement of Landscape Water Budgets to maintain regulatory compliance. During Stage 2 (and higher stages), all water users required to have a landscape water budget must manage outdoor irrigation within their budget. Use in excess of the landscape water budget is considered water waste and is subject to water waste fees and enforcement. Every October (i.e., beginning of a new Water Year), California American Water reviews their customer consumption database to determine which customers are subject to the audit/budget requirement.

In 2015, WaterWise Consulting completed 3 landscape audits/budgets. The total cost of these audits was \$8,600. Each report has suggestions regarding retrofits or changes in controller settings to save water. The most common irrigation recommendations are replacing the irrigation controllers with weather based controllers, retrofitting spray heads with rotary nozzles, and fixing general problems with the irrigation system.

A minimum number of audits were conducted in 2015 as MPWMD was revising its Expanded Conservation and Water Rationing Plan. Revisions adopted in 2016 eliminated the requirement, as it had diminishing returns. Instead, audits are only being conducted for specific projects as needed.

Conservation Devices and Materials

MPWMD provided customers with various free water savings devices including 1.5 GPM showerheads and 0.5 GPM faucet aerators for the bathroom, 1.5 GPM aerators for the kitchen, leak detection tablets/kits and outdoor water saving tools. In 2015, MPWMD tracked the distribution of the various water savings devices to identify the total number of devices distributed and where or how they were distributed to customers. For all conservation related events, customers who received water conserving devices were verified as California American Water customers.

The various devices are distributed at a number of events, including but not limited to:

- Community events, including presentations
 - MPWMD Front Desk (walk-in customers) and upon customer request
 - On-site inspections
 - During water waste enforcement visits
-

In addition to the standard devices listed under the CUWCC's BMP 2 requirements, MPWMD also offered a variety of devices to help improve water use efficiency. Items included in this list were funded by both the conservation budget and by MPWMD.

Table 13 provides information for each type of water saving device (and estimated water savings when available) was distributed by MPWMD during 2013.

TABLE 13. MPWMD CONSERVATION DEVICE DISTRIBUTION

2015 MPWMD Conservation Device Distribution			
	Savings	Number	Savings
Showerheads	0.00616	2600	16.016
Hand Held Showerheads	0.00616	508	3.12928
Pistol Grip nozzles		320	
Moisture Meters		472	
Faucet aerators 0.5	0.0017	720	1.224
Faucet aerators 1.5	0.0017	225	0.3825
PRSV	0.3921	3	1.1763
Kitchen Squeegees		315	
Shower timer		400	
Rain Gauge		12	
Leak detector tablets	0.0007	650	0.455
Total Annual Estimated Savings			22.383

Lawn Rebate Program

The Lawn Removal Rebate Program has been very effective since its redesign in 2012. The application process is straightforward and easy for applicants to understand. Very few applications are denied compared to before the program redesign because ineligible applicants weed themselves out. Because photos of the lawn and two years of water records are necessary to apply people with dead lawns or previously removed lawns no longer seek the rebate. The program could be better advertised possibly by targeted mailings. Many people find out about the program from a landscaper after hiring them to remove the lawn. Synthetic turf installers all encourage their clients to apply for the rebate. In summary, the program often reaches people who already planned to remove their lawn rather than helping people pay for the cost that might otherwise not remove it.

2013 – Nineteen properties removed some or all of their lawn in 2013. A total of 31,008 square-feet of lawn was removed.

2014 – 43 properties removed 58,781 square feet of lawn in 2014. The average removal was 1,277 square feet per site. Lawn removal ranged from 380 to 4,200 square-feet.

2015 – 38 properties removed 56,805 square feet of lawn. The lawn rebate program paid out \$52,247 in 2015. The average size residential lawn removal project was 1,450 square feet.



Monterey Peninsula Water Management District – 2015 Programs Funded by MPWMD

The following projects and activities were funded during 2015 by MPWMD.

Mandatory Water Efficiency Requirements

A primary MPWMD responsibility is enforcement of its conservation and efficiency requirements for new construction, remodels/additions, change of ownership/use, expansion of use, visitor serving facilities, existing non-residential uses and water waste. MPWMD sends two to three inspectors into the field daily to conduct site inspections. Non-compliance is followed up with enforcement procedures until compliance is achieved.

MPWMD conducted 1,838 inspections of properties in 2015, 695 of which were inspected for change of title compliance (some properties required more than one inspection) and 539 were able to verify compliance through other methods. During 2015, 1,508 properties transferred ownership in the MPWMD.

Water Permit inspections were also conducted to verify that required retrofits were completed, although most Water Permits issued at this time do not result in significant water savings and are usually the result of offsets (credits) whereby the applicant has installed highly water efficient fixtures to offset new water fixtures. MPWMD staff conducted 820 inspections to verify either compliance with Water Permit conditions or to pre-inspect a property to document existing conditions prior to issuing a Water Permit.

Water savings associated with the MPWMD's retrofit requirements that were verified by inspection in 2015 were estimated to add 22.3 AFA to annual conservation savings.

Water Permits have numerous water efficiency requirements attached as conditions of approval. MPWMD enforces these restrictions through recordation of deed restrictions that specify the requirements. Of the 682 Water Permits issued in 2015, all properties had a requirement for a deed restriction prior to issuance of the final permit. A portion of those properties had deed restrictions from a previous Water Permit that had to be updated. MPWMD's deed restrictions on the property title alert new owners to the MPWMD's regulations, making it easier to remove contingencies. Although deed restrictions do not guarantee that a property will exist continually in a state of compliance with the Water Permit, a deed restriction increases the probability that current and future property owners will be informed of the permit conditions.

Non-Residential Water Efficiency Requirements

In 2009, MPWMD adopted strict retrofit requirements for existing non-residential water users. The requirements included mandatory retrofitting of toilets, showerheads and faucet aerators, as well as other required actions. By the end of 2013, all non-residential customers were required to install High Efficiency Toilets (if the toilet was not already 1.6 gallons per flush), High Efficiency Urinals and other aggressive retrofits.

MPWMD staff began systematically canvassing neighborhoods during 2015 to verify compliance with the non-residential water efficiency requirements. The effort will continue through 2016. The process involves interior inspections, and properties with exterior use are referred to California American Water for their verification of compliance with the Rate Best Management Practices. A summary of the requirements are shown below on a postcard delivered to all non-residential customers and property owners:

2013 Water Efficiency Requirements

*ALL non-residential water users must install:**

High efficiency toilets (1.28 gallons per flush (gpf)) unless already ultra low flush (1.6 gpf)	High efficiency clothes washers (water factor <5.0)
High efficiency urinals (0.5 gpf)	Water efficient ice machines
Showerheads: 2.0 gallons per minute (gpm)	Water efficient pre-rinse spray valves (1.6 gpm)
Public Washbasins: 0.5 gpm or 0.25 gpm for automatic shutoff	Placards or decals promoting water conservation in restrooms, kitchens and dining areas
Private washbasins (e.g., hotel or motel guest rooms and hospital patient rooms): 1.5 gpm max.	Drinking water (tap) provided only upon request. Notification is required at each table or on the menu
All other sinks: 2.2 gpm max.	Towel and linen reuse programs

**As applicable*

MONTEREY PENINSULA
WATER
MANAGEMENT DISTRICT

www.montereywaterinfo.org



Conservation Program Staffing

The Water Demand Division of the MPWMD employs a staff of seven (including one and one-half positions funded by the conservation surcharge). MPWMD expended approximately \$628,000 in regular full-time labor costs for the conservation staff in 2015. Additional costs are associated with overhead costs (including staff time from other divisions of the MPWMD, including the General Manager's office and Support Services), transportation/vehicle expenses, office supplies, training, and travel.

MPWMD partially funds the administration costs of the Rebate Program, including an accountant who processes and issues the rebate checks, and an office specialist who opens mail, and who prepares the checks for mailing and delivers them to the postal service. During 2015, MPWMD continued employment of a temporary full-time employee at an additional cost of \$40,000 to assist with data migration from paper to electronic format. The MPWMD's direct involvement in the administration of the program ensures that program savings are tracked and are not double-counted in another MPWMD program or in any program administered by California American Water.

Water Conservation Website

The water conservation partnership website, www.montereywaterinfo.org is hosted on MPWMD's server, with full editing capabilities by both California American Water and MPWMD staff. As a quality control measure, there are a limited number of employees authorized to make changes to the website. The website is designed to provide factual information with a focus on the Monterey Peninsula's water conservation and efficiency programs. During 2015, MPWMD staff regularly provided time to update and maintain the information on the joint website.

Rebate Program

The Monterey Peninsula's Rebate Program continued through 2015. During 2015, 2,090 applications were received, of which 1,644 were approved. This is in keeping with the approval level of rebates from previous years. Between one-quarter to one-third of the applications are denied because of MPWMD permit or conservation requirements for the device(s) or because the device does not meet the standards for a rebate. During 2015, \$522,388 was refunded for purchase and installation of the many items covered by the Rebate Program.

TABLE 14. 2015 REBATE PROGRAM SUMMARY

Calendar 2015	Rebate Paid	Number of devices	Estimated AF	Gallons Saved (Approximate)
High Efficiency Toilet (HET)	33695.90	252	10.52	3.4 Million
Ultra-Low Flush to HET	37050.20	537	5.37	1.7 Million
Ultra HET	11445.42	84	0.84	374,000
High Efficiency Dishwasher	27750.00	224	0.672	219,000
High Efficiency Clothes Washer	310,934.60	623	10.030	3.3 Million
Instant-Access Hot Water System	5137.09	26	Varies	Varies
On Demand Systems	900	9	Varies	Varies
Zero Use Urinals	300	1	0.02	6,500
Pint Urinals	492.12	2	0.04	13,000
Cisterns	39367.89	70	Varies	Varies
Smart Controllers	1960.00	14	Varies	Varies
Rotating Sprinkler Nozzles	776.00	194	Varies	Varies
Moisture Sensors				
Lawn Removal & Replacement	52247.00	38	4.658	1.5 Million
Graywater	300	3	Varies	Varies
Total	522,356.22	2,077	>32.15	>24,965,158

Monterey Bay-Friendly Landscaping



Monterey Bay-Friendly Landscaping & Gardening programs are a collaborative effort between Ecology Action, MPWMD, CA Landscape Contractors Association (Central Coast Chapter), Ecological Landscaping Association, Monterey Bay Master Gardeners, Surfrider Foundation, Resource Conservation Districts, and more than 20 public agencies representing water utilities, solid waste and recycling, stormwater management. The primary goal of Monterey Bay-Friendly Programs is to encourage behavior changes that lessen the impact of conventional landscape practices on the local environment by providing home gardeners, landscape professionals, and local governments with the necessary skills and resources to create beautiful, healthy, and sustainable gardens, and landscapes.

MPWMD staff certified 15 properties as Monterey Bay-Friendly Landscapes. Monterey Bay-Friendly Rated Landscapes is a rating system that recognizes excellence in sustainable landscape design, construction and maintenance practices in the Monterey Bay Area. This voluntary, third-party verified rating system applies to new construction or renovations of civic, commercial, institutional, single-family residential and multifamily property landscapes. It provides property owners and landscape professionals with a regionally consistent framework for creating healthy, environmentally sound landscapes. Property owners and landscape industry professionals that design and maintain a landscape to Monterey Bay Friendly standards are provided public recognition, educational signage and incentives.

Best Management Practices (BMPs)

By approving MPWMD Resolution 2012-12, the Board of Directors adopted three highly respected resources for information on water efficiency Best Management Practices or BMPs. BMP's include mandated retrofits of the District, as well as water efficiency retrofits and devices that go beyond the District's requirements. Adoption of these specific informational resources¹ allows the Non-Residential sector to have a consistent source of information that can be used to budget for and implement proven retrofit technology and programs to save water and money.

A Best Management Practice (BMP) is a conservation measure or device that results in proven, cost-effective water savings. BMPs normally result in significant water savings and are generally accepted among water efficiency experts. Examples include High Efficiency Toilets (HET) and High Efficiency Urinals (HEU). Industries such as food service, laundromats, medical and health care systems, and hotels and motels have BMPs specific to their end uses of water. In many cases, BMP implementation requires an initial expenditure with a reasonable return on investment.

The Rebate Program offers significant financial support to achieve BMPs. In addition, MPWMD and California American Water can assist with auditing businesses to identify potential retrofits and to document completed BMPs. Both the District and California American Water have other programs that can provide assistance to achieve BMP compliance for large irrigated areas and for local schools.

¹ East Bay Municipal Utilities District's WaterSmart Guidebook (<http://www.ebmud.com/sites/default/files/pdfs/WaterSmart-Guidebook.pdf>), Alliance for Water Efficiency's Resource Library (<http://www.allianceforwaterefficiency.org/resource-library/default.aspx>) and CUWCC's Resource Center Product Information (<http://cuwcc.org/docDetail.aspx?id=230>)

Save Water Go Blue!



SAVE WATER GO BLUE! MPWMD sponsored this 2014-2015 outreach program with its own funds. In August 2014, the Board of Directors dedicated \$65,000 of its drought reserve to fund the program in response to the State Water Board's conservation regulations implemented in August 2014. The campaign included radio, television and print ads, free public workshops, "Drive Thru Drought Days" conservation equipment distributions, rebate program outreach, and other activities.

MPWMD staff also attended numerous community events to promote water efficiency. As part of its drought response, MPWMD provided \$50 rain barrel "vouchers" to participants in is rainwater harvesting classes that could be redeemed at local retailers.

Other Conservation/Water Efficiency Activities

MPWMD participated with the State Water Board's informal workgroup on next steps for water conservation regulations. MPWMD staff also participated in the Association of California Water Agencies discussions on statewide drought response, and served on the Monterey County Drought Task Force. Presentations were made at the American Water Works Association conference and at WaterSmart Innovations, both in Las Vegas. MPWMD presented to the local Drought Task Force on the local conservation actions, as well as its SAVE WATER GO BLUE conservation outreach campaign.

MPWMD staff presented to conservation-related presentations to the hospitality industry and business coalition representatives, local service organizations, Monterey County Association of Realtors and individual realtor offices, homeowner's associations, local jurisdictions, and other groups. Specific training for hospitality industry managers and operators was help to acquaint them with cost-effective ways to reduce water and energy use in their businesses.



MPWMD General Manager Dave Stoldt and Water Demand Manager Stephanie Locke speak to the Monterey County Hospitality Association

MPWMD hosted several workshops on its new 2016 Monterey Peninsula Water Conservation and Rationing Plan prior to adoption. The “2016 Monterey Peninsula Water Conservation and Rationing Plan” replaced the former “Expanded Water Conservation and Standby Rationing Plan” in MPWMD Regulation XV on March 18, 2016. The Monterey Peninsula Water Conservation and Rationing Plan includes of four stages: The first stage focuses on water waste prohibitions and conservation. The second stage is a “call for action” or voluntary rationing whereby a target percentage reduction is determined and the community is asked to do their share to reduce use to meet the target. The third stage implements “conservation rates” in the California American Water system. Stage 4 rations households and implements mandatory restrictions on non-essential water use as the first water rationing measures (residential use is approximately 70 percent of total consumption). If household rationing does not work, non-residential rationing would be implemented along with additional restrictions on non-essential water uses. There are variances available for hardship situations and for large households. A copy of the 2016 Monterey Peninsula Water Conservation and Rationing Plan is provided as Appendix 1.

Monterey Peninsula Water Management District – 2016 Program Goals

In 2016, MPWMD will continue to focus its efforts to develop and implement regulations and strategies to reduce non-residential and outdoor consumption. The current efforts of MPWMD and California American Water have been quite successful in reducing upper tier (i.e., Tier 4 and Tier 5) and non-residential water use. Outdoor water use continues to receive recognition as the most likely place to achieve significant water savings on the Monterey Peninsula. MPWMD will continue enforcing water efficiency requirements for all non-residential users, and educating these customers about other potential and cost-effective retrofits. Finally, MPWMD will implement a water pressure education program and campaign to replace failed pressure reducing valves.

TABLE 15. 2016 MPWMD CONSERVATION PROGRAMS

Program	Funding	Budget	Implementation Plan	Timeline
Pressure Reducer Pilot Program	CAW	\$35,000	Offer installation of pressure reducing valves at high pressure single family homes that have water efficient appliances to determine water savings	Summer 2016
In-Line Meter Pilot Program	CAW	\$35,000	Purchase in-line meters and allow them to be “checked out” for CII monitoring of water using equipment	Fall 2016
Rebate Program	CAW	N/A	Rebate program for cost-effective retrofits. MPWMD provides administration—Rebate fund by California American Water	Ongoing
Water efficiency training and education	CAW and MPWMD	\$25,000	Sponsor workshops, trainers, speakers and other community and industry-specific events	Through Dec 2016
CII water efficiency requirement verification	MPWMD		Site inspect CII sites to verify compliance with water efficiency requirements	Ongoing
Sponsor and/or participate in community	MPWMD	\$5,000	Provide sponsorship and staff outreach at local water efficiency-related events and conferences	Annually

Program	Funding	Budget	Implementation Plan	Timeline
water efficiency events				
Linen and Towel Program	CAW	\$5,000	Continue supporting program with existing inventory and outreach	As needed
Water Wise Gardening for Monterey County (Garden Soft)	CAW	\$5,000	Annual license for web-based software	Annually
Conservation devices	CAW and MPWMD	\$50,000	Purchase water conservation and efficiency devices to provide to customers free or at reduced charge	As needed
CIMIS stations	CAW	\$2,400	Maintain three CIMIS stations on the Monterey Peninsula.	Ongoing
Enforcement of MPWMD regulations	MPWMD	N/A	Implementation and enforcement of MPWMD policies and regulations	Ongoing

Pressure Reducer Pilot Program

This program would provide information and reimbursements for pressure regulator valve replacements/installations on the customer's side of the meter at Residential and Non-Residential Sites throughout the California American Water Service Area. The impetus for this program involves pressure data collected during 140+ home inspections conducted by Peninsula Home Inspections LLC in the California American Water system between 2012 and 2015. The testing identified a high percentage of homes that had water pressure levels that



exceeded 60 pounds per square inch ("psi"), and there was also a high incidence of non-functioning pressure reducing valves. MPWMD staff conducted its own pressure testing at homes in an area of Monterey (Alta Mesa Circle) and determined that pressure in that Residential neighborhood exceeded 145 psi: Approximately half of the homes tested had failed pressure reducing valves. In one case, the homeowner said her freezer's ice maker broke due to pressure. In another, an Irrigation System was not functioning properly, with emitters popping off

as the result of the high pressure and no pressure reducer on the Irrigation System.

Private pressure reducing valves have a lifetime of approximately ten years. Most customers know little about the device's function or that it must be periodically checked to be sure it is operational. Low Water Use Plumbing Fixtures are designed to achieve specific flow rates at a set water pressure, usually 60-80 psi. Higher water pressure results in higher than designed flow rates and in leaks and other problems. Pressure Regulator Program participant's water use will be tracked to measure the reduction in water use achieved by installation of a pressure regulator valve. A similar successful program is in place Austin, Texas. A budget for this project is \$35,000.

In-Line Metering Pilot Program

This program involves water use on the CII customer's side of the meter. It will provide in-line meters at no cost for application on water lines serving high use appliances or other uses. For example, an in-line meter could be installed on the water service to a cooling tower. By metering the use, the customer is able to identify inefficiencies or leaks in the system and is able to determine appropriate retrofits to significantly reduce water use. A similar concept applies to commercial kitchen appliances (i.e., wok stoves, dishwashers, steam ovens, etc.), medical equipment (i.e., sterilizers) and to high use facilities such as laundromats, commercial laundry rooms, health clubs, etc. The pilot program would involve the installation of approximately 50 in-line meters per year, and would include tracking of water use before and after retrofits. Depending on the circumstances (e.g., if outdoor water use has not been stopped), in-line metering would also prove useful in identifying irrigation system leaks and inefficiencies. The budget for this project is \$35,000.

Rebate Program

MPWMD will continue to promote and administer the Rebate Program. MPWMD will provide information about rebate opportunities via industry newsletters and email blasts, through District newsletters and speaking engagements, and through the local media.

Water Efficiency Training and Education

MPWMD will work with California American Water and other interested agencies to sponsor training and workshops that benefit California American Water's customers. The goal of any training conducted on the Monterey Peninsula is to attract local professionals and gardeners who do business on the Peninsula. In addition, other workshops and courses will be targeted to the homeowner or business owner to help them with water efficiencies on their own properties.

Currently planned workshops/classes include:

- May 14: Rainwater Class (repeated in the Fall)
- May 14: Garden Tour @ Jewell Park
- May 21: Graywater Class (repeated in the Fall)
- June 4: Irrigation Efficiency Class (repeated in the Fall)
- June 4: Get to Know Your Irrigation Controller (repeated in the Fall)
- June 12: Rainwater Harvesting System Demo Install at Garland Ranch
- June 25: Convert Thirsty lawn to a Drought Tolerant Garden
- June/July: MWELO is Here to Stay
- TBD: Certified Landscape Irrigation Auditor Training
- TBD: Mini-workshops at the Monterey County Fair

CII Water Efficiency Requirement Verification

MPWMD will continue to prioritize its inspection efforts to verify installation of mandated water efficiency equipment in non-residential properties. MPWMD will support the efforts to achieve BMPs for the various businesses and industries on the Peninsula.

Sponsor and/or Participate in Community Water Efficiency Events

MPWMD frequently participates in community events, most of which are summarized under California American Water's Outreach section of this report. MPWMD will provide staff to educate the public about its programs and will offer free water saving devices. A key reason for both MPWMD and California American Water's participation in these events is that each has expertise in their area and can respond to different questions from the public. For example, questions about rates are referred to California American Water staff and questions about regulations are referred to MPWMD staff.

In addition to outreach events, MPWMD water efficiency staff will be making presentations to area business groups to promote water efficiency practices during the drought. These presentations will take place throughout 2016. Along with speaking, MPWMD will be providing mailing information to owners/tenants of non-residential properties through direct mail pieces.

Linen and Towel Program



MPWMD will continue to support distribution of mirror clings and other visitor-serving commercial signage that promotes water conservation during 2016.

Water Wise Gardening for Monterey County (GardenSoft)

MPWMD will renew the web license annually during this rate cycle and will promote the availability of the software through social media, televised board meetings and other outreach opportunities.



Conservation Devices and Publications

During 2016, MPWMD will coordinate with California American Water to acquire and distribute devices and publications to help customers reduce water consumption. Brochures will be updated and reprinted. In addition, MPWMD staff will be preparing a comprehensive brochure to inform the public about the conservation and water efficiency requirements of the MPWMD.

CIMIS Stations



MPWMD will continue to maintain three CIMIS stations on the Monterey Peninsula during 2016. The Carmel Station (at Rancho Canada) will need to be moved, and MPWMD will work with DWR to find a suitable location, ideally in the vicinity of the Quail Lodge. MPWMD staff will continue performing periodic maintenance at the stations to clean the equipment for optimal performance. Costs associated with the CIMIS stations are only for cellular lines to transmit data to the Department of Water Resources.

Michael Boles demonstrates the CIMIS station maintenance procedure for new MPWMD Conservation Representative Maryan Gonnerman (2015)

Enforcement of MPWMD Regulations

MPWMD will continue its inspection and enforcement procedures to achieve compliance with its water efficiency rules and will help the public achieve compliance with the various rules. MPWMD will also be focusing on documenting compliance with commercial BMPs, including enforcement of requirements that will eliminate Division 4 customers under the current BMP rates. Inspectors will continue enforcement of water waste rules.

MPWMD Rules and Regulations can be found on the District's website: www.mpwmd.net.
