

# **2018 Monterey Peninsula Water Conservation Program Annual Report**



**PREPARED BY**

**CALIFORNIA AMERICAN WATER, COASTAL DIVISION**



**CALIFORNIA  
AMERICAN WATER**

## EXECUTIVE SUMMARY

This report documents conservation efforts undertaken by California American Water's Monterey County District during 2018, 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 in California Public Utilities Commission (CPUC) A.13-07-002 (July 1, 2013).

California American Water, has prepared this report to provide a record of the Coastal Division's water conservation programs and activities implemented in 2018, as well as projected efforts for 2019. Reports for previous years are available by contacting California American Water's Monterey District.

California American Water's Monterey district continued to offer one of the most comprehensive water conservation programs in the state during 2018. The Monterey conservation rebate program remained unchanged providing some of the most generous incentives for indoor and outdoor water efficiency upgrades for both residential and non-residential customers. Monterey's innovative and extensive conservation program offerings are a significant and effective element in managing the water supply limitations present in the area. California American Water's professionally trained conservation staff provided 437 residential water wise house calls in 2018, helping Monterey customers detect indoor and outdoor leaks utilizing state of the art data logging capabilities that determine hourly usage over a 120 day period, address inefficient water use, assist with landscape appropriate irrigation scheduling, and assure Best Management Practice compliance for non-residential customers. All these efforts have significantly contributed and continue to contribute to Monterey's unique conservation culture with one of the lowest per capita residential water usage in the State.

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## TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
<b>Summary of Reporting Requirements</b>	5
<b>Abbreviations Used Throughout the Report</b>	6
<b>California American Water, Coastal Division– 2018 Programs Funded by the Conservation Surcharge</b>	7
<b>Summary of California American Water Programs</b>	7
Table 1. California American Water 2018 Programs	7
Residential Audits (Water Wise House Calls)	8
<b>Leak Detection</b>	11
Table 2. Coastal Division: Residential Plumbing Retrofit Detail	14
<b>Rain Sensor Installation Program</b>	15
Table 3. Monterey Peninsula Monthly Rainfall 2014 – 2018	16
<b>School Education and Outreach</b>	18
Table 4. School Education Program – Zun Zun Performance	19
<b>Conservation Events</b>	20
<b>Low Income Water/Energy Joint Direct Install Program</b>	21
<b>In House Landscape Irrigation Training Class</b>	26
<b>2018 WaterSmart Innovations Conference</b>	27
<b>Water Awareness Committee Activities</b>	28
<b>Weather Adjusted Consumption in the Coastal Division</b>	29
Table 5. Monterey Peninsula Rainfall 2009 – 2018	29
<b>Monterey Water Conservation Facebook Page</b>	30
<b>Social Media</b>	30
<b>Mailers/Bill Inserts</b>	31

Table 6. California American Water Coastal Division: Summary of 2018 Program Goals	33
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<b>Residential Water Wise House Calls</b>	34
<b>Residential Plumbing Retrofit</b>	34
<b>Large Landscape Upgrade Grant Program</b>	34
<b>Rain Sensor Installation Program</b>	35
<b>CII Audits</b>	35
<b>Rate Best Management Practice Survey Inspections</b>	35

## 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 during 2018. The report breaks out conservation activities that California American Water 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 where quantifiable, savings in units of water and dollars, etc.).
- A summary of the conservation plan for the following year with timelines and implementation plans by California American Water with budgeted amounts for each type of activity.
- Electronic spreadsheets that include usage history for each customer receiving a residential audit, a rebate, or the installation of a rain sensor for years 2017 & 2018.
- Estimated water savings for each device offered through California American Water conservation programs funded through 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.

## **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<sub>o</sub> – 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– 2018 Programs Funded by the Conservation Surcharge

### Summary of California American Water Programs

The programs funded by the conservation surcharge during 2018 are summarized and described in the following table.

TABLE 1. CALIFORNIA AMERICAN WATER 2018 PROGRAMS

Program	Cost	Need For Program	Nature of Activity	Measurable Goal	Result of Achievements	Estimated Savings (AF)
<b>Water Wise House Calls</b>	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	437 audits completed	<b>2018 Estimated Savings 15.71 AF</b>
<b>Residential Plumbing Retrofit</b>	\$40,847	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	<b>44.59 AF</b>
<b>Rebates</b>	\$482,087.59	Provide rebates to customers to encourage water reductions	Provide incentives to customers for upgrading to high efficiency/water saving fixtures and appliances		1,148 Rebates Issued by MPWMD1	<b>16.26 AF</b>
<b>Public Outreach and Education</b>	\$44,494	Promote Water Conservation , SWRCB Cease and Desist Order	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	<b>Not quantifiable</b>
<b>Low Income Retrofit Program</b>	\$27,994	Promote Water Conservation, SWRCB Cease and Desist Order	Partner with Pacific Gas and Electric to retrofit residential homes	Reduce inefficient high flow water fixtures	<b>69 homes served</b>	<b>Not quantifiable</b>

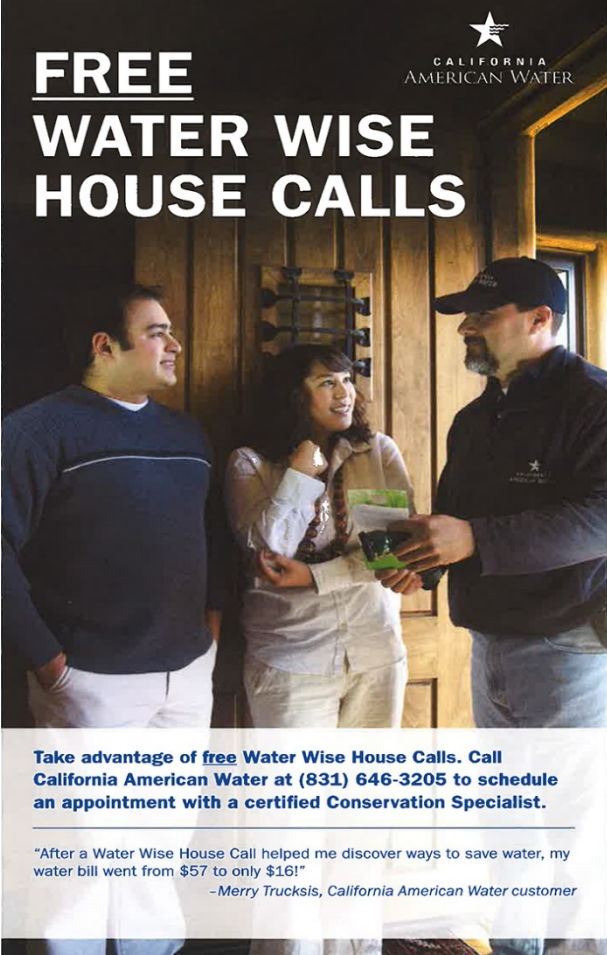


## RESIDENTIAL AUDITS (WATER WISE HOUSE CALLS)

California American Water continued its Water Wise House Call Program (residential audits) in 2018 utilizing in house trained certified audit staff at no cost to the conservation budget. The program has been in effect since 2008 and consists of offering free residential audits for single and multi-family properties to identify ways the customer can save water indoors and out and detect leaks.

California American Water's conservation staff completed 437 Water Wise House Calls in 2018. In addition, conservation staff completed 273 high bill investigations and 79 irrigation sprinkler checks at the beginning of the spring season. Customer irrigation systems were evaluated to ensure there were no leaks and to identify root causes of possible high water use. Outdoor tips and recommendations were also provided to customers, as well as the offering of free rain sensors installed by California American Water Company's contractors.

California American Water promoted the Water Wise House Call program through bill inserts, rebate brochures, offer 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 California American Water's five-tiered rate design.



**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

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

- Toilet and faucet leaks
- Irrigation controllers set to run too long resulting in water waste
- Water softener issues
- 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 properly convert cubic feet units to gallons so that customers can better monitor 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. Conservation staff also provided free water conserving devices to customers. The audit reports also include recommendations on utilizing the rebate program for the replacement of high water-use fixtures and appliances at customers' homes.



**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.




The effectiveness of the Water Wise House Call program was measured through the evaluation of water savings, as well as an evaluation survey form provided along with a pre-stamped envelope in the customer report package. 135 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:


- "Ray was very knowledgeable and informative"
- "Harriet is great, Easy to talk to and she is great at explaining. Thank you Harriet!"
- "Melissa was awesome and helpful, very knowledgeable."
- "Ray, wish we had taken advantage of this service much sooner."
- "Harriet – thank you for all the help and support"
- "Melissa was very helpful on what needs to be watered and what does not."
- "Ray was great"
- "Melissa is a great asset for your company"

## Water Leak Detection Kits

California American Water provided customers in 2018 with a guide on how to detect the most common and not so common leaks indoors and outdoors. Not so common leaks typically are found with water heaters, boilers, dishwashers, water softeners, and more. The guide was mailed to customers and also provided at conservation events and water wise house calls. Included in the packet were leak detection tablets for detecting toilet leaks.




AMERICAN WATER



# WATER LEAK DETECTION KIT

A helpful guide for locating indoor and outdoor water leaks



At American Water, we are committed to environmental stewardship and the responsible management of our precious natural resources. By using this leak detection kit to identify and repair water leaks, you can help make a difference in your monthly bill while conserving water.

### COMMON INDOOR LEAKS

#### THE LEAKY TOILET

Accounting for more than 95 percent of all water waste, toilet leaks are caused by worn or damaged parts in the toilet flush tank. (Toilet flushes account for about 100 gallons of the water use in your house each day. That's about 40 percent of the average household use.)

Some of these leaks will empty directly into the sewer line without leaving any clues. Even so, you can check for these leaks. Common causes include:

##### Float arm problems

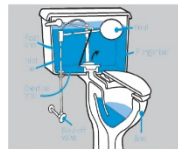
Remove the lid from the top of the flush tank. See if the overflow pipe and the plunger ball are working properly. Do this by flushing the toilet, watching the tank mechanism and listening. You should hear the water flow shut off.

If the water does not shut off, check the water level. If it has risen above the overflow pipe, gently bend the float arm down and flush again.

You may need to replace the plunger ball if the water level is about one inch below the top of the overflow pipe and you still hear water flowing.

##### A tiny pinhole

A pinhole opening below the overflow pipe's water line could produce an



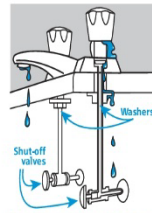
Water in the overflow pipe could also be caused by a pinhole in the float or a worn washer on the inlet line.

invisible leak. Check for this by shining a flashlight down into the overflow pipe. If you see running water, you have a leak that should be repaired.

##### Defective plunger ball (flapper valve)

This is often a silent leak which causes the tank to continually drain and refill. Check for a worn or improperly seated plunger ball (flapper valve) by dropping one of the dye-tracing tablets (included with this kit), or a few drops of food coloring, into the toilet tank. Do not flush. If a leak exists, the dye-colored water will seep into the bowl in about five minutes. If it does, the plunger ball (flapper valve) may need to be replaced or realigned.

#### THE LEAKY FAUCET



A slow drip can waste as much as 20 gallons of water each day.

##### A dripping faucet

A slow drip can waste as much as 20 gallons of water each day. A mere 1/16-inch leak wastes 100 gallons of water each day. With that much water — and money — going down the drain, it's important to get leaky faucets fixed as soon as possible.

If you notice that a faucet is dripping, first try closing it tightly. If it continues to drip, the most likely cause is a worn or wrong-size seat washer (also

### COMMON INDOOR LEAKS CONTINUED

called a stem washer). With just a little effort, you may be able to replace the washer yourself. You may need an adjustable wrench, a standard-blade screwdriver, and a Phillips screwdriver for older plumbing fixtures. It may be more economical to rebuild or replace the faucet if it is washerless.

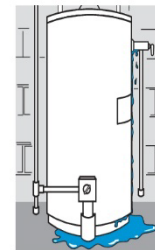
##### Changing a washer

Before you start, turn off the water supply to the faucet by closing the fixture's shut-off valve. Most kitchen

and bathroom faucets have shut-off valves under the sink. Turn the valve clockwise until it's tight. This shuts off the water to the sink only, and does not affect the water service for any other part of the house.

Be certain that the replacement washer is the same size as the worn one (if the worn washer was the correct size). If you need help, bring the worn washer to your plumbing supply or hardware store, and the store representative can help you match it with a new one.

### NOT-SO-COMMON INDOOR LEAKS



Water dripping down the side of the tank could mean the pressure release valve is stuck.

##### Water heater tank

The pressure valve release could be stuck. This valve is most often found near the top of the tank, and is usually a large brass fitting threaded into the tank. If it's not working properly, water will be leaking from it, dripping down the side of the tank and accumulating on the floor.

##### Boiler

Listen for the sound of running water. If it is continuous and does not stop and start periodically, your boiler system may have a leak.

##### Water softener

If you have a water softener, it could be wasting water if it is not recycling properly. The cycling

process, regulated by a timer, often occurs between 2 a.m. and 4 a.m. You're likely to have a problem in this unit if you constantly hear the sound of running water.

##### Washing machine

If you see water on the floor near the machine, it could mean a leak. You may want to call your washing machine repair service.

##### Humidifier

Water accumulated beneath the unit could be a sign of a leak. If the overflow discharge is piped into a sewer or drainage line, you may not find any visual signs of a leak. Listen for running water. If it's continuous, the float valve could be stuck.

##### Fire suppression systems

Many newer homes and businesses have fire suppression systems. If so, check to make sure that the sprinkler heads are tight and not leaking.

##### Dishwasher

Water accumulated on the floor near the unit could be a sign of a leak. You may want to call your dishwasher repair service.



## Leak Detection



California American Water offers a great customer program where Conservation staff was able to identify leaks and difficult-to-diagnose high water bills by utilizing meter reading data logging software and downloading up to 180 days of historical usage, hour by hour, from the company's electronic meters (representing approximately 65% of the meters currently installed).

The Company's billing system has a trigger in place to identify high usage bills before they are processed and mailed to the customers. During the initial visit to verify the reading, the Field Service Representative will notify the customer of the high usage and also download 180 days of hour to hour usage. The data collected is then given to the conservation department to evaluate. If the customer does not know why the consumption is higher than normal, the Water Conservation Specialist will make an appointment and evaluate the customer's indoor fixtures as well as their irrigation system, and also provide a copy of the hourly usage history to the customer.

By evaluating hourly usage patterns, instances of high water use can be pinpointed to, for example, improperly programmed irrigation controllers, leaks in the irrigation system, toilet leaks, service line leaks, and hoses left running. This new technology assisted in determining the root cause of high water bills for 473 customers in 2017. The report also allows for identification of potential backflow issues which could compromise the quality of the water system and pose potential health risks to our customers.

The example on the following page is the downloaded usage of a customer who experienced a high water bill and did not know the cause. When the conservation staff arrived on the property and did a thorough investigation, the data logs identified that the customer had his controller set to irrigate 5 days a week, which resulted in the high water bill.

DATA LOG REPORT FOR RESIDENTIAL CUSTOMERS

Data Log Report for Residential Customers	Date	Time	Interval Read	Gallon Consumption	Intermittent leak	Continuous leak
1548842382	Saturday, August 18, 2018	5:35:52	37150.9	0	0	0
1548842382	Saturday, August 18, 2018	6:35:52	37150.9	87	0	0
1548842382	Saturday, August 18, 2018	7:35:52	37237.7	240	0	0
1548842382	Saturday, August 18, 2018	8:35:52	37478	159	0	0
1548842382	Saturday, August 18, 2018	9:35:52	37637.4	47	0	0
1548842382	Saturday, August 18, 2018	10:35:52	37684.3	0	0	0
1548842382	Sunday, August 19, 2018	5:35:52	37763	2	0	0
1548842382	Sunday, August 19, 2018	6:35:52	37765.3	83	0	0
1548842382	Sunday, August 19, 2018	7:35:52	37848.7	211	0	0
1548842382	Sunday, August 19, 2018	8:35:52	38059.9	159	0	0
1548842382	Sunday, August 19, 2018	9:35:52	38218.9	52	0	0
1548842382	Sunday, August 19, 2018	10:35:52	38270.6	5	0	0
1548842382	Tuesday, August 21, 2018	5:35:52	38429.5	0	0	0
1548842382	Tuesday, August 21, 2018	6:35:52	38429.5	100	0	0
1548842382	Tuesday, August 21, 2018	7:35:52	38529.1	232	0	0
1548842382	Tuesday, August 21, 2018	8:35:52	38760.9	159	0	0
1548842382	Tuesday, August 21, 2018	9:35:52	38919.8	44	0	0
1548842382	Tuesday, August 21, 2018	10:35:52	38963.8	0	0	0
1548842382	Wednesday, August 22, 2018	5:35:52	39004	1	0	0
1548842382	Wednesday, August 22, 2018	6:35:52	39004.6	85	0	0
1548842382	Wednesday, August 22, 2018	7:35:52	39089.4	184	0	0
1548842382	Wednesday, August 22, 2018	8:35:52	39273.6	14	0	0
1548842382	Wednesday, August 22, 2018	9:35:52	39287.9	0	0	0
1548842382	Thursday, August 23, 2018	5:35:52	39340.9	0	0	0
1548842382	Thursday, August 23, 2018	6:35:52	39340.9	84	0	0
1548842382	Thursday, August 23, 2018	7:35:52	39424.8	230	0	0
1548842382	Thursday, August 23, 2018	8:35:52	39655.2	159	0	0
1548842382	Thursday, August 23, 2018	9:35:52	39813.9	44	0	0
1548842382	Thursday, August 23, 2018	10:35:52	39857.7	1	0	0
1548842382	Friday, August 24, 2018	5:35:52	39904.6	1	0	0
1548842382	Friday, August 24, 2018	6:35:52	39905.2	99	0	0
1548842382	Friday, August 24, 2018	7:35:52	40004.3	230	0	0
1548842382	Friday, August 24, 2018	8:35:52	40234.4	157	0	0
1548842382	Friday, August 24, 2018	9:35:52	40391.6	44	0	0

## 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.

In 2018, California American Water tracked the distribution of the various water saving devices 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:

- 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 items listed above, California American Water also offered a variety of outdoor devices. The total number of each water saving device distributed in 2018 to California American Water's residential customers in Monterey are listed in Table 2.

**TABLE 2. COASTAL DIVISION: RESIDENTIAL PLUMBING RETROFIT DETAIL**

Water Saving Device	Number of Units	Estimated water Savings per unit per year	Estimated Annual measure savings (AFY)
<b>Showerheads</b>	<b>2,194</b>	<b>0.0062</b>	<b>13.60</b>
<b>Handheld Showerheads</b>	<b>179</b>	<b>0.0062</b>	<b>11.14</b>
<b>Bathroom Faucet Aerators</b>	<b>4,150</b>	<b>0.0017</b>	<b>7.06</b>
<b>Kitchen Faucet Aerators</b>	<b>3,275</b>	<b>0.0017</b>	<b>5.57</b>
<b>Leak Detection tablets</b>	<b>5,900</b>	<b>0.0007</b>	<b>4.13</b>
<b>Leak Detection Kits</b>	<b>2,732</b>	<b>0.0007</b>	<b>1.91</b>
<b>High Efficiency Pre Rinse Spray Valve</b>	<b>3</b>	<b>0.392</b>	<b>1.18</b>
<b>Shower Timers</b>	<b>2,742</b>	<b>unknown</b>	<b>unknown</b>
<b>Dish Squeegees</b>	<b>3,326</b>	<b>unknown</b>	<b>unknown</b>
<b>Hose Shut Off Nozzles</b>	<b>3,339</b>	<b>Varies</b>	<b>Varies</b>
<b>Moisture Meters</b>	<b>2,732</b>	<b>unknown</b>	<b>unknown</b>
<b>Total</b>	<b>32,191</b>		<b>44.59</b>



## Rain Sensor Installation Program

In 2018, California American Water continued its Rain Sensor Installation Program through its contractor WaterWise Consulting. A total of 468 rain sensors have been installed since the program began in 2011 for residential and non-residential customers. In 2018, a total of 28 rain sensors were installed for residential customers. Since 2013, the rain sensor installation program is now only offered to residential customers since the non residential customers are now required to have them installed.



The rain sensor is a device that automatically signals an irrigation controller to stop watering when it rains, and allows watering to resume when needed. Pictured is the actual installation of a receiver being installed that connects to the rain sensor that is typically placed on the eaves of a customer's home.

The advantages to a California American Water customer of having a rain sensor installed on their irrigation controller are the following:

- Saves money on customer water bills by automatically shutting of the irrigation system when it rains
- Prevents overwatering which can lead to diseases that damage turf and plants
- Prolongs the life of the customer's irrigation system because the system only runs when necessary
- Saves money on fertilizer – Overwatered turf and plants wash away nutrients into the drainage system which means the customer needs to add more fertilizer.

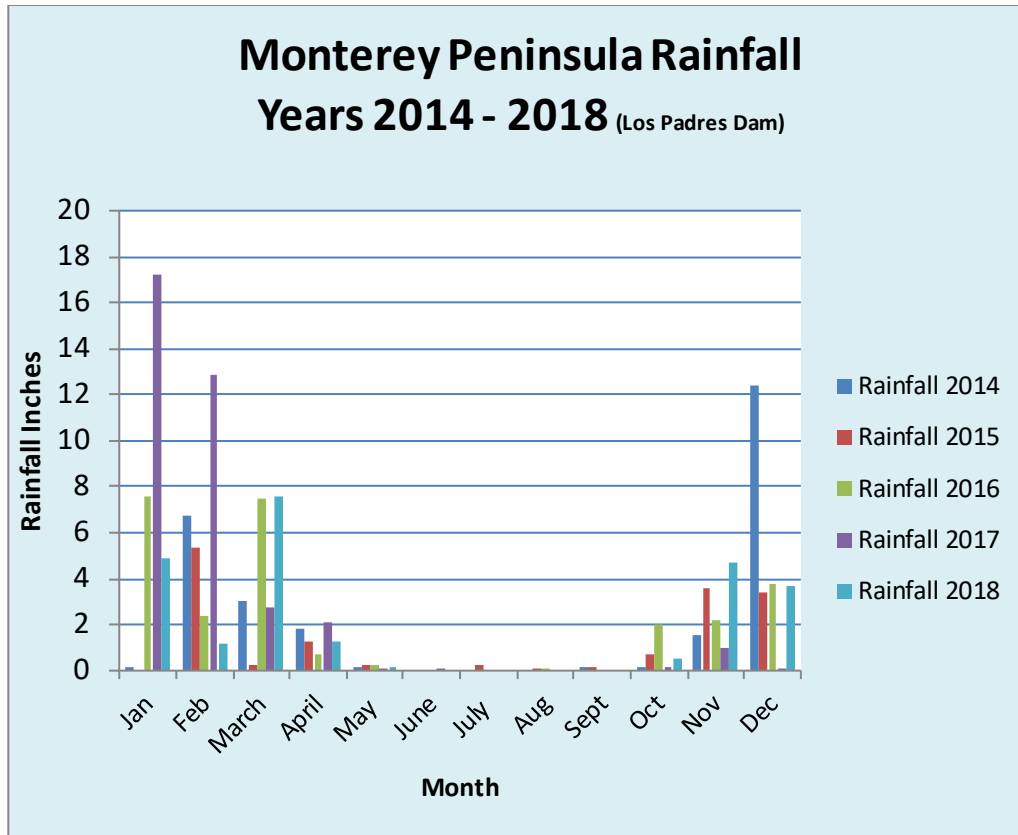
Potential candidates for rain sensors are customers who have second homes and cannot quickly turn off their irrigation systems, and customers who have been billed in the higher tiers of California American Water's five tiered residential rate structure. The rain sensor savings are most realized during 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 irrigated during period of rains and possibly reached into the higher rate tiers.



Sample Rain Sensor for  
Residential Customers



**TABLE 3. MONTEREY PENINSULA MONTHLY RAINFALL 2014 – 2018  
(LOS PADRES DAM WEATHER STATION)**



Monthly Rain Fall for Years 2014 through 2018 (Los Padres Dam)												
Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Rainfall 2014	0.16	6.7	3.03	1.85	0.15	0	0	0	0.19	0.13	1.53	12.4
Rainfall 2015	0	5.39	0.28	1.29	0.29	0	0.26	0	0.19	0.72	3.54	3.38
Rainfall 2016	7.6	2.37	7.49	0.68	0.24	0	0	0	0	2	2.21	3.76
Rainfall 2017	17.18	12.89	2.74	2.12	0.04	0.08	0	0	0	0.16	0.98	0.08
Rainfall 2018	4.92	1.21	7.61	1.25	0.15	0	0	0	0	0.5	4.68	3.64

## Rate Best Management Practice Survey Inspections

In 2018, California American Water continued to inspect non-residential customers to ensure compliancy with indoor and outdoor best management practices also known as Rate BMP's. The current rate structure places customers in one of four rate divisions based on compliance. Non-residential customers are required to complete a survey to determine their appropriate rate category when signing up for a new account.

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

MPWMD Conservation staff inspects all indoor fixtures and identifies customers that have outdoor irrigation and reports its findings to California American Water's Conservation Department. California American Water conservation staff inspects customers that have been identified to have landscaping and also utilize MPWMD's findings to ensure customers are in compliance with the Rate BMP's and placed in the appropriate rate division. Non-compliant customers have 30 days to make necessary corrections to avoid a potential change in rate classification.

In 2018, 56 inspections were completed by California American Water and MPWMD. One customer was found non-compliant with California American Water's rate BMP's, and made corrections within the 30 day time frame to avoid paying the higher rate. In addition, there were 28 low usage customers that were in rate division 4 for failing to return a survey to place them in the correct rate division after several attempts were made to contact them. These customers were inspected and moved out of the highest rate, division 4, to a lower division.

California American Water and the MPWMD have completed a total of 1,289 inspections over the period of 2016 through 2018. All 473 dedicated irrigation metered customers were inspected by California American Water conservation staff in 2017.

### Rate BMP Survey Inspection Summary

Date	Total Completed Indoor and/or Outdoors by CAW & MPWMD	Indoor Audits Completed MPMWD	Mixed Use: Indoors completed MPWMD/ Outdoors by CAW	Mixed Use (Indoor and outdoor) by CAW	Dedicated Irrigation Meters Completed by CAW
2018 Totals	56	37	16	2	1

California American Water's Conservation Specialist Melissa inspecting a commercial property to ensure the customer is Rate BMP compliant. Melissa is checking the sprinkler types to confirm the turf grass is

irrigated with either gear driven rotor sprinklers, multi stream, multi trajectory rotating sprinklers, and/or high efficiency fixed spray nozzles. In addition, all landscape customers are required to have an irrigation controller with a water budget feature and a rain sensor.



## School Education and Outreach

In 2018, 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 Water Awareness Committee of Monterey County, offered school presentations by the Zun Zun performance group. In 2018, Zun Zun provided twelve 45-minute performances within California American Water's service territory. The performances reached a total of 1,977 students and covered topics such as the water cycle, watershed, indoor conservation and conservation tips, including information about fixing leaks.

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 4. SCHOOL EDUCATION PROGRAM – ZUN ZUN PERFORMANCE**

Date	School	Performances	Number of Students	City
1-09-18	San Carlos School	2	210	Monterey
1-24-18	Chualar School	2	330	Chualar
2-12-18	Monte Vista School	2	370	Monterey
7-12-18	Seaside Childhood Center	1	125	Seaside
9-24-18	Bayview Academy	2	252	Monterey
10-5-18	Junipero Serra School	1	190	Carmel
10-5-18	Ord Terrace School	2	500	Seaside



## Conservation Events

California American Water held many conservation events throughout 2018, participating in several events with the Monterey Peninsula Water Management District. Events included the Good Old Days in Pacific Grove, a mulch and drought tolerant plant give away at City of Monterey's Yearly Cutting Day, earth days, and landscape irrigation classes with the MPWMD.

### 2018 Good Old Days

California American Water sponsored and participated in the annual Good Old Days for two days by holding a conservation booth and providing water saving devices, handouts and tips on how to conserve water, offering water wise house calls and discussing the generous rebate program. The Monterey Peninsula Water Management District conservation staff also participated with California American Water on both days. California American Water and the MPWMD partnering on conservation programs and events gives customers an opportunity to ask various questions from both agencies.



Pictured: California American Water's Mary, Harriet, Ray and Melissa, as well as MPWMD's Kyle





## Free Mulch Giveaway Event

California American Water in March of 2018 partnered with the City of Monterey, and held a free mulch giveaway event during the City's Annual Cutting Day. Participating agencies were the Monterey Peninsula Water Management District and the Monterey Regional Storm water & Education Alliance of Monterey. (MRSWMP) The event was located at the City's Friendly Plaza at Colton Hall.

The event was promoted through the mailing of over 8,000 postcards to select customers in California American Water's service area that could best benefit from the potential water savings for their landscapes. Additional promotion included California American Water's and the MPWMD's Facebook pages. The event was implemented on a first come first served basis where customers would first register and provide proof of residing in California American Water's service area. Customers were required to complete an application and confirm the mulch would be used at their place of residence.



Once the customer was registered and confirmed, they would enter with their vehicles and/or trucks to the loading area where a tractor skip loader and operator would fill their vehicle with the mulch. Some



customers came with large bags and large buckets and containers to load their mulch. The mulch used was of high quality which consisted of eucalyptus and oak trimmings.

In addition, California American Water, and the MRSWMP agencies held a conservation booth and were given informational handouts which included gardening and water conservation tips for the landscape. Water conserving devices were also provided to customers.

Pictured: Joe DiMaggio – Conservation Supervisor with customer as mulch is loaded on his trailer.



## Free Water Wise Workshops

California American Water, in partnership with the Monterey Peninsula Water Management District, held Free Water Wise Workshops during the spring of 2018 with the theme of “Spring is Right Around the Corner, just as customers start planning their gardens and setting their irrigation controllers. The classes were held in California American Water’s training room and at the Martin Luther King Jr. School.

A postcard describing the four landscape classes was mailed to all residential customers. Customers were encouraged to register on line through CAW’s and MPWMD’s joint conservation website [www.montereywaterinfo.org](http://www.montereywaterinfo.org)



Join the Monterey Peninsula Water Management District and California American Water for **FREE** water-wise workshops.

✱ **Hands-on Workshop: Replacing Lawn with Water-Wise Plants**

April 7, 2018 | 9 a.m. to 12 p.m. | Martin Luther King School | Instructor: Peigi Duvall

✱ **Do's and Don'ts of Drip Irrigation and Getting to Know Your Irrigation Controller**

April 21, 2018 | 10 a.m. to 12 p.m. | California American Water Office |  
Instructor: Jose Ballesteros from Ewing Irrigation

✱ **Hands-on Workshop: Community Garden Volunteer Day – Help Us as We Transform a Hillside into a Beautiful Garden**

May 5, 2018 | 9 a.m. to 12 p.m. | Martin Luther King School | With Return of the Natives from CSUMB

✱ **DIY – Designing Your Own Water-Wise Native Plant Garden**

May 19, 2018 | 10 a.m. to 12 p.m. | California American Water Office | Instructor: Peigi Duvall

For the hands-on events at Martin Luther King School, bring gloves, hats, sunscreen and enthusiasm!

### Location Information

**Martin Luther King, Jr. School:** 1713 Broadway Ave. in Seaside

**California American Water Office:** 511 Forest Lodge Road, Suite 100 in Pacific Grove  
(behind the Rite Aid at the Country Club Gate Shopping Center)

### Register to Attend

Workshops are free and open to the public. Registration is required to ensure everyone has a seat.

**Register online:** [www.montereywaterinfo.org](http://www.montereywaterinfo.org) | **Call:** 831-658-5601



## Free Water Wise Landscape Workshops – Photos



Local Community at work preparing the landscape for new planting at Martin Luther King Jr. School



Peigi Duvall from Indig/Design teaches customers on Replacing Lawn with Water-Wise Plants

## Free Multi Residential Water Wise Workshop

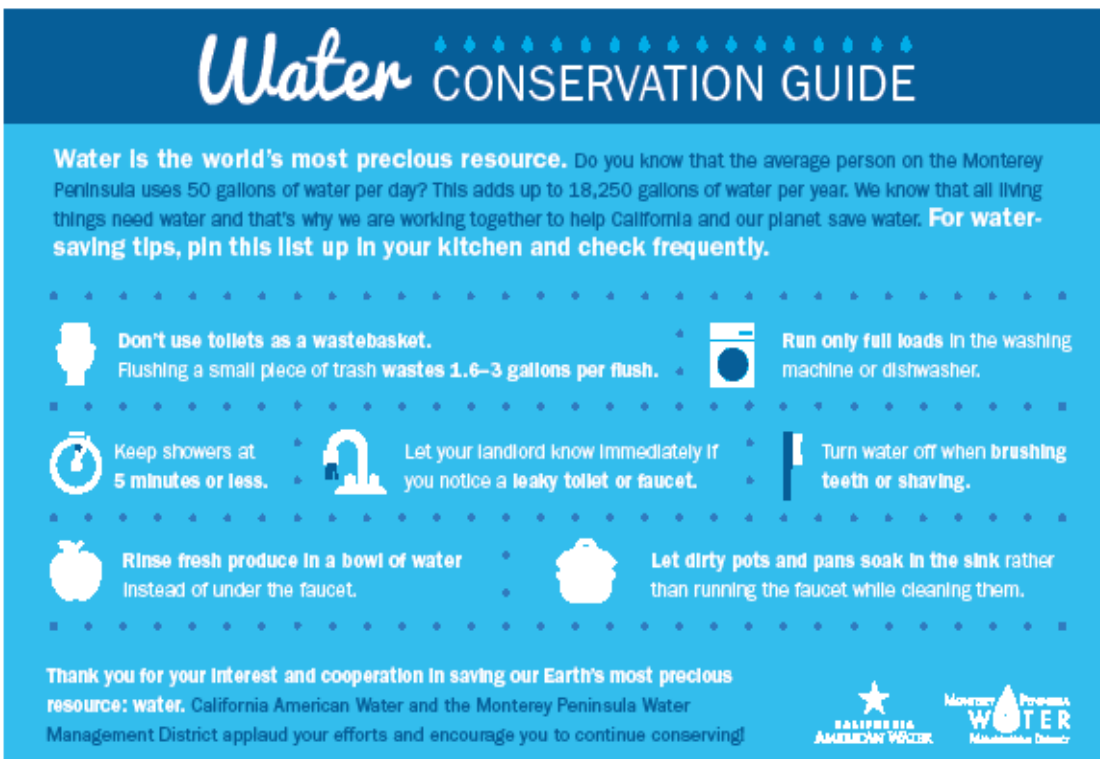
The Monterey Peninsula Water Management District invited California American Water to participate in informing Multi-Residential customers (4 or more units per connection) of the District new water efficiency requirements, rule 142, which require the installation and maintenance of water efficient toilets, faucet aerators, showerheads, common laundry room clothes washers, irrigation system controllers and water pressure regulators by December 31, 2018. The event took place on November 9, 2018 at the Monterey Public Library and approximately 40 customers attended the workshop.

MPWMD's Conservation analyst presented the District's new requirements, prohibited water uses, along with the offering of generous rebates. Joe DiMaggio's, Customer Service and Conservation Supervisor for California American Water, presented the multi-family rate structure and the potential water savings by retrofitting with water efficient fixtures and appliances. A sample analysis was given using a fourplex apartment and comparing the water bill between a retrofitted and non-retrofitted apartment building. The difference in monthly cost between the two was \$407.81.

In addition, Joe also discussed CAW's conservation programs which include a Water Wise House Call program where CAW conservation staff visit multi residential properties to discuss potential water savings inside and out, and also the Company's free Rain Sensor Installation Program.

A water conservation guide (pictured below) was also given to landlords and property managers to distribute to all their tenants

Water Conservation Guide  
For Landlords and Property Managers to  
Provide to Tenants





## In House Landscape Irrigation Training Class

California American Water held an in house landscape irrigation training class “Landscape Water Management for Conservation Specialists” on December 12, 2018 for its conservation staff and invited the conservation staff of the Monterey Peninsula Water Management District to participate. The class was taught by Bob Costa, a Monterey County landscape irrigation expert who also holds a Bachelor of Science Degree in Ornamental Horticulture as well as many other landscape certifications.

The principles that were taught in the class were:

- Landscape water use challenges
- Irrigation system efficiency
- Soil, plant, and weather relationships
- Water efficient products
- Irrigation system management
- Landscape water use evaluations



In addition, Bob Costa (pictured below) gave the staff hands on demonstration by comparing various types of efficient and non-efficient sprinkler types. This gave the class an opportunity to discuss the importance of irrigation efficiency and uniformity. The discussion included the importance of converting fixed spray nozzles to rotary nozzles in small turf and shrub zones which increase system uniformity and reduce run off, and recognizing and correcting factors that promote inefficiencies. The class greatly assists our conservation specialists when performing Water Wise House Calls and inspecting a customer's landscape and irrigation systems.

Pictured: Bob Costa from Pacific Water Management comparing the efficiency of rotary nozzles vs the non-efficient fixed spray nozzles by adding the various sprinkler types to a make-shift sprinkler system. Water was then distributed to each of the various sprinkler heads measuring distribution uniformity. Also pictured: Ray from CAW and Chris from the MPWMD.

## 2018 WaterSmart Innovations Conference

California American Water's statewide conservation team including MPWMD's water conservation specialist, attended the 2018 WaterSmart Innovations Conference in Las Vegas during the month of October. The 3-day event provided team member's opportunities to hear from speakers from around the globe and across the country, each willing to share their fresh unique points based on their first-hand experience in water efficient programs, policies and practices. The exhibit hall provided attendees with the opportunity to meet and talk with vendors and see new products and innovations. It was truly a rewarding experience for all attendees.





## Water Awareness Committee Activities

California American Water coordinated with the Water Awareness Committee (WAC) to offer school education opportunities and outreach in 2018. 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 1, 2018. This family friendly event featured booths including California American Water, the MPWMD, and the Marina Coast Water District.

California American Water in partnership with the Monterey Peninsula Water Management District also joined WAC by participating in the City of Monterey's cutting day held in March.

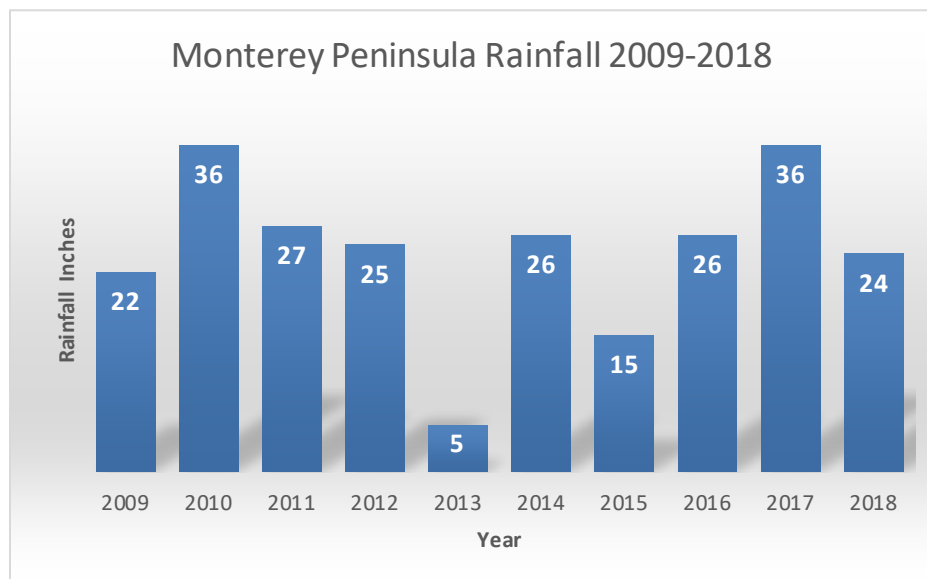


WAC Members participating in the annual Monterey County Fair in August of 2018. Customers who visited the booth were given water conservation devices and tips on how to save water outdoors and were encouraged to take advantage of the rebate programs.

## 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 2009 through 2018, consumption was highest when rainfall was lowest (2013) and conversely, consumption was lowest when rainfall was highest (2010 & 2017).

**TABLE 5. MONTEREY PENINSULA RAINFALL 2009 – 2018  
LOS PADRES DAM WEATHER STATION**





## **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.

Facebook cost: \$0

### **Website Articles and Email Blasts**

The drought officially ended with the close of April 2017, so continued email blasts were unneeded. However, California American Water continued to encourage customers to maintain high levels of conservation and provided an educational email on what conservation regulations would be staying in place.

During the rest of the year, California American Water shared articles focusing on the recovery of the Carmel River and local steelhead populations due to the San Clemente Dam removal.

Notable stories, like the rebounding of the steelhead populations, are useful for convincing people to conserve water, as they enjoy knowing how their efforts benefit the local environment.

### **Social Media**

California American Water continued its social media support of conservation outreach by complimenting and echoing the same messaging produced in its newspaper advertisements 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 new items, including conservation tips and offers for rebates.

### Mailers/Bill Inserts

Throughout the year, the company utilized inserts/mailers/postcards on various subjects, including: different methods for paying (i.e. switching to paperless); reminders to follow the outdoor watering schedule; free workshops for a mixture of different water-users; and offers to receive a free water conservation consultation with an expert.

#### PRINT ADVERTISEMENT FOR BEST OF MONTEREY



Monterey Specific mailer cost     \$33,145.00

California American Water provided brochures/other items for water wise house calls; promoted meetings with California American employees; created fact sheets on wastewater, how to read a meter, and desalination; and provided water conservation guides to be used by homeowners, landlords, and non-residential areas. Associated with these Water Wise brochures, were at home water audits by a specific expert.

## EACH DROP ADDS UP

When you see a faucet dripping water, you don't think about the thousands of gallons that little leak can one day become. Over time, these wasted drops can do damage to your water bill. Here are some fast facts and quick tips to help you learn more about household leakage and how to prevent it from pouring on unnecessary costs.



THE AVERAGE HOUSE WASTES ENOUGH WATER FROM LEAKS PER YEAR TO FILL **1 BACKYARD SWIMMING POOL.**



**10%**  
AVERAGE AMOUNT HOMEOWNERS CAN SAVE ON WATER BILLS BY FIXING LEAKS.



**13,000**  
AVERAGE GALLONS OF WATER SAVED PER HOUSEHOLD PER YEAR AFTER UPGRADING OLD TOILETS.



**5+**

LAUNDRY LOADS OF WATER LOST TO LEAKAGE EACH WEEK PER HOUSEHOLD.



**1 IN 10** HOMES HAS LEAKS THAT WASTE 90+ GALLONS PER DAY.

## MORE THAN 1 TRILLION GALLONS OF WATER WASTED ANNUALLY NATIONWIDE FROM HOUSEHOLD LEAKS.

### WHEN TO FIX A LEAK AND WHEN TO CALL FOR HELP

#### DO IT YOURSELF

##### Toilets

If your toilet keeps draining and refilling, the plunger ball or flapper valve may need to be replaced.

##### Sinks

When a faucet keeps dripping, the problem is most likely a worn or improperly fitted washer.

##### Outside faucets

If faucets around your house haven't drained or shut properly, cold weather might be the culprit. Frigid winter temperatures can cause freeze-ups. You can check for leaks when it gets warmer.



#### THE TWO-HOUR TEST

While not using any water, check your water meter before and after a two-hour period. If the meter registers any changes during this time, you most likely have a leak.

#### CALL A PROFESSIONAL

##### Refrigerators

If you notice excessive ice accumulation in the freezer and small puddles under your refrigerator, the ice-making machine could be broken.

##### Dishwashers

Water on the floor around your machine could indicate a leak.

##### Hot-water tanks

Water dripping down the side of the tank and accumulating on the floor is often a sign that the pressure-valve release isn't working properly.

##### Washing machines

Same as the dishwasher, water on the floor around your washing machine could indicate a leak.

##### Outside service line

If you notice a soft, wet spot on your lawn or hear water running outside the house, the service line to your house may be leaking.

##### Sprinkler systems

Look for soft spots on your lawn. This can be an indication of a leak flowing into the ground.



AMERICAN WATER

WE KEEP LIFE FLOWING™

Download our leak-detection kit at [amwater.com](http://amwater.com).

SOURCE: United States Environmental Protection Agency



## California American Water, Coastal Division - 2019 Program Goals

The 2019 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 6. CALIFORNIA AMERICAN WATER COASTAL DIVISION: SUMMARY OF 2019 PROGRAM GOALS**

Program	Budget	Implementation Plan	Timeline
Residential Audits	Budget	Complete 200 SF and 10 MF audits	Offer audits throughout 2019
Residential Plumbing Retrofit	\$8,200	Continue providing devices to residential and non-residential customers, walk-in's, and events	Residential Water Wise House Calls and efforts throughout the year at events, walk-ins, etc.
Rain Sensor Installation Program	\$8,000	Install 40 Residential Rain sensors and offer to all customers through a postcard mailing in the fall of 2019	Jan through Dec 2019
Large Landscape Upgrade Grant Program	\$30,000 2018 - 2020	Provide grants for expenses for equipment, materials, and/or installation to upgrade to conservation friendly landscapes	Jan through Dec 2019
Public Outreach and Marketing Campaign	\$100,00	Continue to support public awareness and participation in the organizations joint-conservation programs	Ongoing throughout 2019
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 2019
Zun Zun Performances and WAC Activities	\$5,000	Market to schools in Summer of 2019 with events in the fall.	Performances in 2019 WAC ongoing.
CII Rate BMP Survey Inspections	\$1,000	Inspect 150 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 2019
CII Audits	\$20,000	Offer CII Audits to customers with a focus on landscaping– greatest potential need & to comply with the new BMP Compliance Rate Structure	Ongoing 2019

## **Residential Water Wise House Calls**

California American Water will continue to provide Residential Water Wise House Calls to its customers in 2019. 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 225 single family audits to be completed in 2019 and actually surpassed its goal and completed 437 house calls in 2018. The expectation is to complete 225 Residential Water Wise House Calls in 2019.

## **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. 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 amount of devices distributed to all customers.

## **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.

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 2019, California American Water's objective is to fund one landscape grant project at a cost of \$30,000 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 and multi residential properties through its contractor, Water Wise. The focus will continue to be on customers who have the greatest potential to reduce their water usage especially during the winter season.

Focus will continue to be on customers who are billed in the higher tiers of California American Water's five tier residential rate structure during the three consecutive winter months of December, January and February. In addition, California American Water will send a postcard to all residential customers in the fall of 2019 to continue to promote the program.

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 2019 to provide commercial, institutional and industrial audits to non-residential customers 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, will continue inspecting non-residential properties. MPWMD inspects all indoor fixtures and then reports to CAW all outdoor irrigation. All irrigation is inspected by CAW staff.

Customers who are confirmed to be out of 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 contacted by CAW conservation staff 30 days after the inspection to verify compliance. If the customer is not compliant, the classification is changed to Rate Division 4, which is the non-compliant rate, until necessary corrections have been made. Customers are required to provide proof of corrections by providing a receipt to CAW and/or verification for indoor compliancy by the MPWMD.