

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

WATER RESOURCES DIVISION

ANNUAL REPORT

Fiscal Year 2013-14



San Francisco
Water
Power
Sewer

Services of the San Francisco Public Utilities Commission

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Water Resources Division

Visit: sfwater.org/localwater





The Tuolumne River is an important source of water for the SFPUC Regional Water System.



Water Resources Division Staff at Pulgas Water Temple.



An SFPUC inspector identifies potential water efficiency improvements during a scheduled Water-Wise Evaluation.

Introduction

The San Francisco Public Utilities Commission (SFPUC) is pleased to issue this annual report on water conservation and local water supply program achievements for Fiscal Year 2013-2014 (FY 2013-14). For nearly a century, SFPUC customers have enjoyed some of the nation's highest quality drinking water from Hetch Hetchy, Alameda, and Peninsula watersheds, which collectively supply the SFPUC's Regional Water System.

Today, the SFPUC is working harder than ever to ensure a resilient and reliable water supply for future generations. While the water use of San Francisco residents and businesses is already among the lowest in the State, the SFPUC remains committed to protecting its watersheds and to using water wisely.

The SFPUC's Water Resources Division is responsible for the implementation of a robust water conservation program, as well as the development of local water supplies such as groundwater, recycled water, and non-potable water. Together, these programs supplement and diversify the SFPUC's portfolio of water resources, and can assist in the event that regional water deliveries are disrupted due to an emergency, natural disaster, or drought. These efforts continue to be guided by the goal established by the SFPUC's \$4.6 billion Water System Improvement Program (WSIP) to reduce demand on the Regional Water System by 10 million gallons per day (mgd) by 2018 through water conservation and the expansion of local water supplies.

Additionally, in FY 2013-14, the SFPUC actively responded to unprecedented dry conditions and a statewide drought emergency declaration by launching new water conservation public information programs and bolstering the suite of comprehensive services that were already in place.

Water Resources Division Accomplishments: FY 2013-14

AVERAGE RESIDENTIAL WATER USE
Per Person / Per Day

CALIFORNIA
100 gallons

SAN FRANCISCO
49 gallons

836,620
San Francisco Population

41 million
gallons per day

Water Delivered to San Francisco Residential Retail Customers

WATER CONSERVATION

- 4,902** Toilets Installed
- 3,097** Washers Installed
- 201** Urinals Installed
- 27,911** Devices Distributed
- 4,151** Water-Wise Evaluations Conducted

Estimated Lifetime Water Savings
1.1 billion gallons

OR

Annual water supply for 11,000 San Francisco Homes

Free High Efficiency Devices Provided by the SFPUC Customer Service Desk

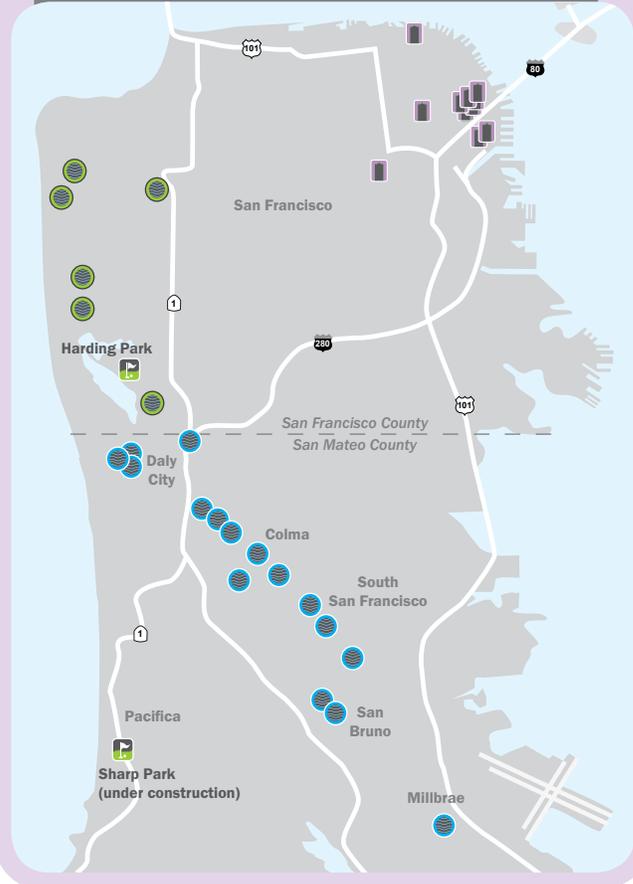
2013 **Increased 10x** **2014**

LOCAL WATER SUPPLY

- 12** New Non-potable Projects Proposed
- 2** Large Groundwater Projects Approved for Construction
- 200,000** gallons of recycled water delivered per day to San Francisco golf courses

LOCATIONS OF WATER SUPPLY PROJECTS

- Proposed Non-potable Project
- Groundwater Well Site: San Francisco Groundwater Supply Project
- Golf Course Irrigated with Recycled Water
- Groundwater Well Site: Regional Groundwater Storage and Recovery Project



AWARDS

EPA WaterSense 2014 EXCELLENCE AWARD
EPA Award for Excellence in Outreach and Education

WaterReuse Association Customer of the Year Award for the installation of the Living Machine at SFPUC headquarters

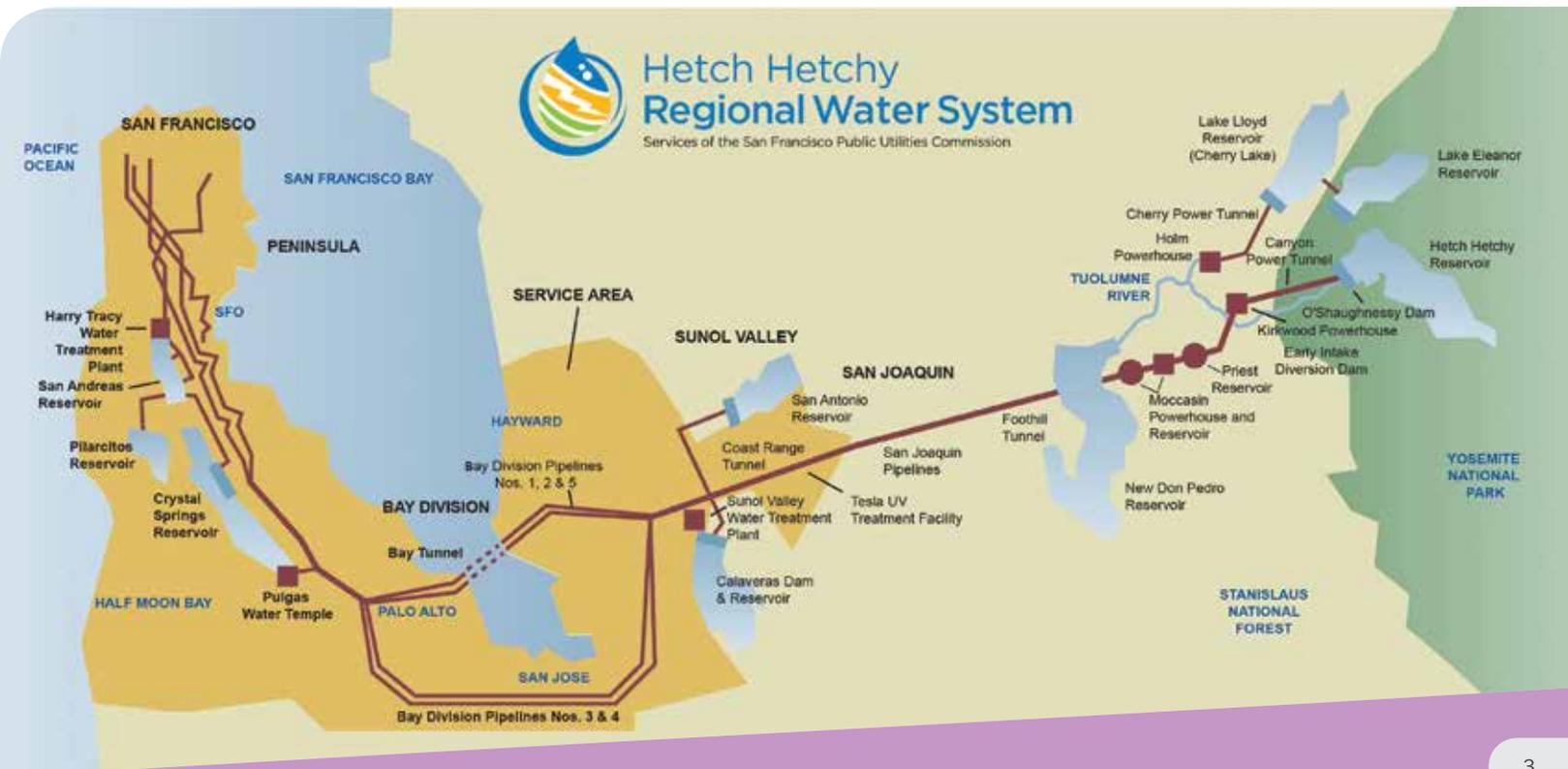
Water Sources and Customers

The Regional Water System is a public asset that plays a key role in delivering high-quality drinking water to 2.6 million residents and businesses in the Bay Area. The system collects water from the Tuolumne River in the Sierra Nevada and from protected local watersheds in the East Bay and Peninsula. With the Regional Water System, the SFPUC delivers water to 27 wholesale customers in Alameda, Santa Clara, and San Mateo counties (wholesale customers) and provides direct retail water service to customers in San Francisco and a small number of customers outside of San Francisco who are located along the Regional Water System (retail customers). The Bay Area Water Supply & Conservation Agency (BAWSCA) represents the interests of the wholesale customers and also coordinates their water conservation programming, while the SFPUC provides conservation assistance and meets the water needs of its retail customers through projects and programs planned by the Water Resources Division of the SFPUC.

The current drought underscores the need to continue developing local water supplies and water conservation programs, both in the wholesale and retail service areas. While local supplies such as recycled water, groundwater, and non-potable water often require a significant amount of time to plan and implement, the SFPUC is more committed than ever to developing a comprehensive water portfolio that balances future needs. Additionally, the SFPUC continues to work with other Bay Area water agencies to explore regional water supply opportunities such as transfers and desalination that can be jointly developed.



Hetch Hetchy Reservoir is an integral component of the SFPUC Regional Water System.



Drought Response

DROUGHT DECLARATION AND SFPUC ACTIONS

October 1, 2011 to September 30, 2014 was the driest three-year period on hydrologic record in California and as a result, reservoir storage, snowpack, and reservoir inflows were significantly lower than normal throughout the State. The unprecedented dry weather conditions prompted Governor Jerry Brown to declare a drought emergency for the State of California in January 2014. This action spurred the SFPUC to request that all customers of the Regional Water System voluntarily reduce water use by at least 10%.

SFPUC retail and wholesale customers are on track to exceed the systemwide voluntary reduction target of 10% by the end of 2014. This is equivalent to more than 8 billion gallons of water savings.

Soon after, the San Francisco Mayor's Office issued a formal executive directive requiring that all City departments develop individual water conservation plans and take immediate steps to achieve a mandatory 10% reduction in their water consumption. Moreover, in July 2014, new emergency regulations issued by the State Water Resources Control Board prompted the SFPUC to implement outdoor water waste restrictions and require a mandatory 10% reduction in outdoor water use.

To help customers further reduce water use, the SFPUC bolstered a number of existing water conservation programs. The SFPUC increased rebates for select plumbing fixtures to up to \$500, applied for additional State grant funding for plumbing fixture retrofit programs, developed new informational materials for retail and wholesale customers, and launched a multi-media drought outreach campaign.

San Francisco Water Power Sewer
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Home Water Conservation Checklist

Complete our Water-Wise questionnaire to identify ways to improve the water efficiency of your home.

Inside the Home

Was your home constructed after 1994?

- Yes—Homes built after 1994 were constructed after federal water efficiency requirements were enacted for water using fixtures including toilets and showerheads. It is likely the fixtures in your home were manufactured to be water efficient.
- No—Homes built before 1994 were constructed prior to federal water efficiency requirements for water using fixtures and tend to have greater opportunity for inefficient fixture replacement.

Are any of the toilets in your home 20 years old or older (pre-1994)?

- Yes—It's likely that these toilets are inefficient and replacing them with WaterSense labeled high efficiency models could save over 2 gallons per flush when replacing a 3.5 gallon per flush toilet.
- No—Your fixtures are designed to flush efficiently at 1.6 gallons per flush or less.
- Not Sure—You may benefit from having a Water-Wise evaluation to help determine if they are efficient.

Tip: High-efficiency toilets (HET) use 20% less water than the federal required 3.6 gallons per flush. You may qualify for a rebate when replacing 3.5 gallons per flush with a qualifying HET.

Does your toilet run during the day or in the middle of the night?

- Yes—It sounds like you may have a leaking toilet that could use a flapper change. For more information on how to fix your toilet, please see the Home Water Works 'how to' toilet repair videos.
- No—The toilet doesn't have a leak that can be heard, however, it's important maintain your toilet and periodically check for leaks. To check for a leaking toilet flapper valve, remove the toilet tank lid and add a few drops of food coloring to the water. Wait 5 minutes, lift the toilet lid, colored water in the bowl indicates a flapper leak. Visit water.org/homewisesense for toilet maintenance tips.

Tip: A leaking toilet flapper valve is one of the most common leaks inside the home. We offer a limited variety replacement flapper valves at no cost to SFPUC customers.

Have your showerheads been replaced in the past 7 years?

- Yes—Your showerheads are likely water efficient.
- No—We recommend replacing your current model with an efficient WaterSense labeled showerhead. The SFPUC provides free WaterSense showerheads during a Water-Wise Evaluation or pick up at our Customer Services office.
- Not Sure—Your showerheads may be ready for replacement with an efficient model. Look for the WaterSense label when shopping.

Tip: Reduce the length of your shower by 3 minutes and save 8 gallons per shower.

Are your kitchen and bathroom faucets equipped with faucet aerators?

- Yes—Your faucets should be flowing at an efficient rate.
- No—Request free WaterSense labeled faucet aerators from the SFPUC during a Water-Wise Evaluation or pick up at our Customer Services office.

Tip: Bathroom faucets with aerators generally use about 2 gallons per minute, turn off the faucet when lathering hands, brushing teeth, and shaving to save.

San Francisco Water Power Sewer
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Water-Wise Tips For the Drought

California is experiencing extreme drought conditions. Your renewed commitment to conserve water is urgently needed to help stretch our limited supplies.

Please take the following actions immediately:

- Minimize indoor water use – Take shorter showers. Don't let the tap run.
- Run only full loads in the dishwasher and clothes washer
- Limit landscape watering to no more than twice per week
- Avoid using water to clean sidewalks and driveways – Unless required for public health purposes.
- Repair leaks or report to property management

Hetch Hetchy Tap Water Too Good to Waste

sfwater.org

The SFPUC developed a number of new materials and tools to educate customers about the drought and responsible water conservation practices. Materials included posters, checklists, signage, stickers, and fact sheets.

Available online at sfwater.org/conservation

DROUGHT EDUCATION CAMPAIGN

In June 2014, the SFPUC launched a multilingual “Water Conservation is Smart and Sexy” Citywide public education campaign. The advertisements were designed to capture public attention and present everyday water conservation tips and information about the drought. A combination of television, newspaper, billboard, bus, commuter transit station, and social media advertisements encouraged individuals to adjust their water use practices and pursue water-efficient plumbing fixture upgrades. The campaign also advised individuals to visit SFPUC water conservation web content and learn about the suite of services that are offered. As a result of the campaign, SFPUC water conservation web traffic increased by more than fourfold when comparing June-October of 2013 to June-October of 2014.

Campaign advertisements were translated into Cantonese and Spanish to help meet the language needs of San Francisco's diverse population.



OUTDOOR WATER USE RESTRICTIONS

As a result of the emergency conservation regulations passed by the State Water Resources Control Board in July 2014, the SFPUC required that customers with a dedicated irrigation account reduce outdoor water use by 10%. The SFPUC also implemented an education and notification program about wasteful outdoor water use activities, which include spraying or washing down outdoor hardscapes unless required for health and safety purposes; watering landscape in a manner that causes runoff to the sidewalk; and operating a hose without the use of an automatic shut-off spray nozzle. One of the key actions included targeted messaging to top water-using residential accounts, individuals demonstrating outdoor water waste, and commercial properties performing maintenance of outdoor hardscapes. The SFPUC also established a public water waste reporting and tracking system through the City of San Francisco's centralized 3-1-1 online and telephone response center. [For more information, visit: sfwater.org/waterwaste](http://sfwater.org/waterwaste)

The development and distribution of an informational postcard was one way the SFPUC spread awareness about the outdoor water use restrictions. Additionally, the SFPUC received approximately 150 reports of water waste between January and July of 2014, and responded by sending letters, making phone calls, and conducting site visits at these locations.



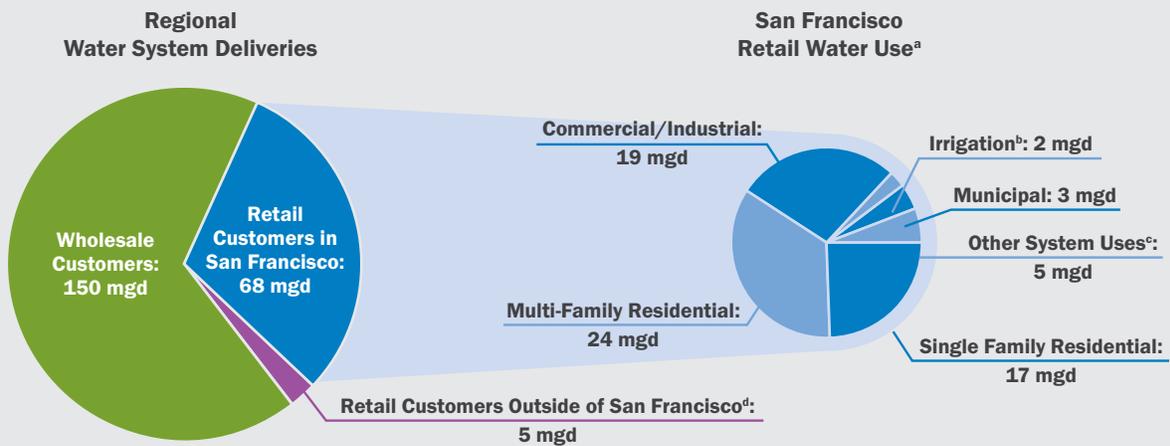
Water Use

During FY 2013-14, the SFPUC delivered approximately 220 million gallons per day (mgd) on average to its wholesale and retail customers. Wholesale customers received 150 mgd, San Francisco retail customers received approximately 68 mgd, and retail customers outside of San Francisco received 5 mgd.

San Francisco retail customers' water conservation efforts – supported in part by incentives and assistance from the

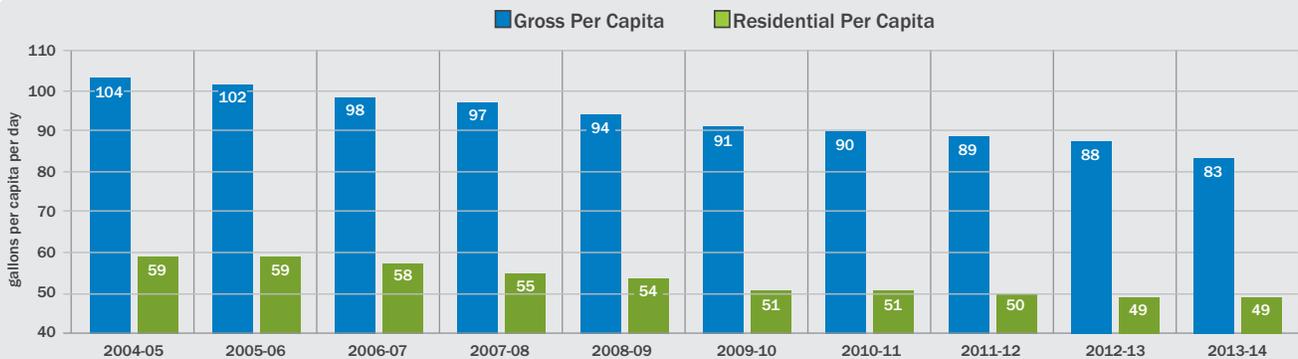
SFPUC – has helped San Francisco reduce total water demand over the last 15 years despite population growth. In FY 2013-14, San Francisco retail customers' gross per capita use was approximately 83 gallons per day and the residential per capita water use was about 49 gallons per day. While this water use was among the lowest in the state, the SFPUC remains committed to comprehensive water efficiency efforts that will help sustain a continued reduction in water use.

FY 2013-14 Regional Water System Deliveries and San Francisco Retail Water Use



- a The retail water uses do not sum to 68 mgd due to rounding.
- b This data is from dedicated irrigation accounts only, and does not include irrigation use from water accounts that jointly serve both indoor and outdoor demands.
- c Other system uses include pipe flushing, firefighting, street cleaning, and water system losses from leaks and main breaks.
- d These customers are also referred to as suburban retail customers.

San Francisco Retail Per Capita Demands¹



1 Following the 2010 Census, population data between 2000 and 2010 were re-calibrated by the U.S. Census Bureau. Consequently, the per capita demands in this report may not be consistent with those reported in the SFPUC 2010 Urban Water Management Plan.

Water Conservation Programs

During FY 2013-14, the SFPUC continued to provide a comprehensive water conservation program for residential homeowners, municipal facilities, parks, hotels, universities, and many other retail customers. Core services included indoor and outdoor Water-Wise Evaluations, incentives for replacement of old plumbing fixtures, free water-efficient plumbing devices, landscape efficiency programs, and public outreach such as free gardening classes and presentations to schools and stakeholder organizations.

For more information, visit: sfwater.org/conservation

WATER-WISE EVALUATIONS

Free Water-Wise Evaluations provided 4,151 site-specific surveys of indoor and outdoor water use for residential and commercial buildings, including water efficiency recommendations, irrigation system assessment, and leak identification. SFPUC conservation technicians also identified old plumbing fixtures that qualify for financial replacement incentives and provided free water-efficient plumbing devices including showerheads, aerators, and toilet leak repair parts.

HET DIRECT INSTALL PROGRAM

The High-Efficiency Toilet (HET) Direct Install Program provided Water-Wise Evaluations and free replacement of 582 inefficient toilets with new high-efficiency models to non-profit multi-family affordable housing providers and households participating in the SFPUC's low-income rate discount program. The HET Direct Install Program is intended to help reduce water usage and utility costs for customers that may be unable to participate in traditional rebate programs due to a lack of financial resources, and is made possible in part by more than \$1.2 million in state and federal grant funds. Additionally, an EPA grant for sustainable improvements to the San Francisco Civic Center allowed for the direct installation of 231 HETs and 130 high-efficiency urinals.

COMMERCIAL EQUIPMENT RETROFIT GRANT PROGRAM

The Commercial Equipment Retrofit Grant program provides businesses funding to implement onsite equipment efficiency upgrades. In FY 2013-14, the University of California San Francisco received the first grant for the installation of on demand quenching systems to improve the efficiency of eight steam sterilizers at their Mission Bay campus. This project is anticipated to save approximately 6 million gallons per year.

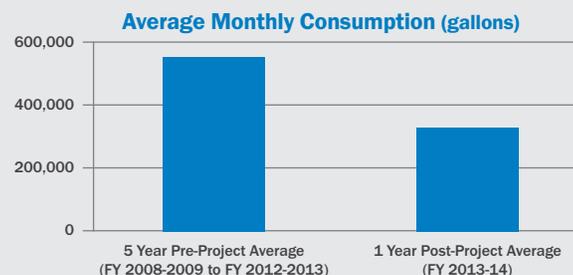
Water Savings Spotlight: City and County of San Francisco

The SFPUC installed 43 HETs in coordination with the Department of Public Works in 2013 at the Department of Public Health office building at 101 Grove Street. The high-efficiency fixture retrofits were made possible by a grant from the Environmental Protection Agency (EPA) to develop a long-term Civic Center Sustainable District Plan. **The building's monthly water consumption decreased by 52% after the improvements were completed when compared to the five prior years.** This puts the building on track to reduce water consumption by more than 850,000 gallons every year.



Water Savings Spotlight: Multi-Family Affordable Housing

Royal Adah Arms Apartments provide affordable rental housing to low income senior citizens and individuals with permanent disabilities in the Western Addition neighborhood. Under the Direct Install Program, the SFPUC installed 108 HETs, in addition to 32 high efficiency showerheads, and 41 faucet aerators in 2013. **As a result, the property benefitted from a 40% post-project water savings when compared to the five prior years.** This puts the building on track to reduce water consumption by nearly 2.5 million gallons year after year.



Water Conservation Programs (continued)

TOILET AND URINAL REBATES

4,089 rebates were provided to customers who replaced old, inefficient toilets that used 3.5 gallons per flush (gpf) or more with new HETs that have a maximum flush volume of 1.28 gpf. Toilet rebates ranged from \$125 for tank toilet models to up to \$300 for flushometer toilet models. 71 urinal rebates provided customers up to \$300 for the replacement of 1.5 or more gpf urinals with qualifying high-efficiency urinals that use 0.5 gpf or less.

Starting in July 2014, the SFPUC increased rebates to up to \$500 for flushometer toilets, urinals, and commercial-style clothes washers.

CLOTHES WASHER REBATES

The SFPUC partnered with Bay Area water agencies and Pacific Gas and Electric Company (PG&E) to provide 3,042 combined water and energy rebates of \$200 for Energy Star Most Efficient high-efficiency clothes washers. 52 rebates of up to \$200 were also provided to customers installing qualifying coin-operated, high-efficiency, common area, commercial-style clothes washers.

FREE HIGH-EFFICIENCY PLUMBING DEVICES

The SFPUC provided a total of 27,911 water-efficient showerheads, faucet aerators, garden spray hose nozzles, and toilet leak repair parts to help residential and commercial properties achieve immediate water savings. All retail customers are eligible to receive free plumbing devices during a Water-Wise Evaluation or can pick up select devices at the Customer Service Desk located at SFPUC headquarters.

The SFPUC saw a tenfold increase in device distribution from the Customer Service Desk between calendar years 2013 and 2014.



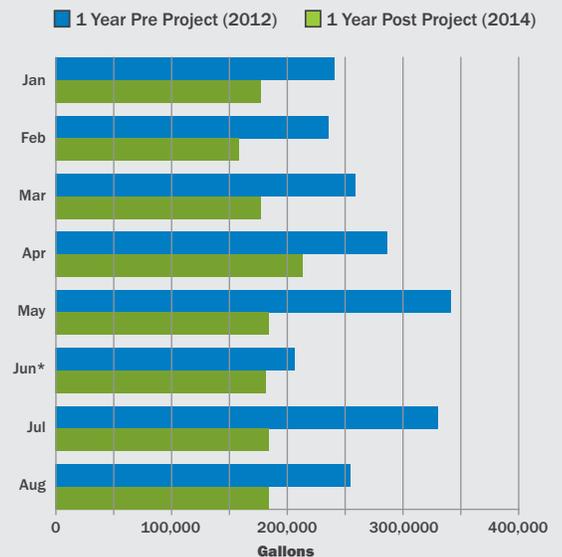
All SFPUC retail customers are eligible to receive free EPA WaterSense® labeled devices. WaterSense® devices are tested for quality performance and have lower flow rates than the federal standards.

Water Savings Spotlight: Commercial Office Building



In FY 2013-14, staff continued to work with non-residential customers to achieve water savings. The SFPUC partnered with 123 Mission LLC and Pacific Eagle Holdings to provide rebates for the replacement of 92 flushometer toilets and 36 urinals. Property management replaced the inefficient fixtures with high efficiency models and **water use has since declined by an estimated 32%**. The property is on target to reduce water consumption by approximately 1.2 million gallons annually.

123 Mission LLC and Pacific Eagle Holdings Consumption Summary



* June 2012 data represents average June consumption for building.

“123 Mission LLC and Pacific Eagle Holdings are pleased with the results of this project; we’ve saved valuable natural resources and received the added benefit of reducing operating expenses for our tenants.”

– Jeff Brueckner, General Manager,
Pacific Eagle Holdings

LANDSCAPE AUDITS

The Landscape Technical Assistance Program (LTAP) provided surveys for more than 35 acres of landscape and identified irrigation improvements for six of the SFPUC's largest San Francisco retail customers. The LTAP services are available to customers with over a half-acre of landscape.



The University of San Francisco received an LTAP evaluation to identify irrigation efficiency improvements at both their Lone Mountain and Main Campus.

LARGE LANDSCAPE GRANT AWARDS

The Large Landscape Grant Program provided grant assistance to customers with over 2.5 acres of landscape that replaced inefficient irrigation systems and installed climate-appropriate plantings. In FY 2013-14, the SFPUC awarded nearly \$1 million to two projects at the Moscone Recreation Center and the north side of Alta Plaza Park.

LAUNDRY-TO-LANDSCAPE PROGRAM

The Laundry-to-Landscape Program provided 23 discounted graywater kits, workshops, and onsite technical assistance to residents who were designing, installing, and maintaining graywater systems that direct water from clothes washing machines into gardens.

Garden for the Environment is located at 7th Avenue and Lawton Street in San Francisco and offers free or low-cost public workshops nearly every weekend of the year.

To register for a workshop, visit www.gardenfortheenvironment.org

COMMUNITY GARDEN GRANTS

During FY 2013-14, the SFPUC awarded five new community and urban agriculture gardens with funding to install dedicated irrigation water meters. Irrigation meters help garden sites monitor and efficiently manage water use.



Representative Nancy Pelosi attended the groundbreaking event for the new 1-acre Florence Fang Asian Community Garden that will produce fresh fruit and vegetables while showcasing native, water-efficient landscaping.

DEMONSTRATION GARDENS AND GARDENING CLASSES

The SFPUC is an ongoing sponsor of the Water-Wise and Natural Plant Care demonstration garden in partnership with Garden for the Environment. Open to the public year-round, this site showcases small-scale urban organic food production, climate-appropriate landscaping, and water-efficient irrigation systems. The SFPUC also hosted 20 free workshops at the garden to help San Francisco residents create and maintain beautiful, water-efficient landscapes, and learn about non-potable water supply alternatives, such as graywater and rainwater harvesting.



FY 2013-14 activities implemented through the SFPUC water conservation program are estimated to have a potential lifetime water savings of 1.1 billion gallons².

FY 2013-14 San Francisco Retail Water Conservation Program Performance and Savings

4,151 WATER-WISE EVALUATIONS

Single Family **577** Multi-Family **3,310** Non-Residential **264**

1.1 Billion Gallons

TOTAL ESTIMATED LIFETIME WATER SAVINGS

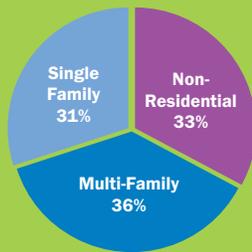
8,200 FIXTURE REBATES & DIRECT INSTALL

Toilets **4,902** Urinals **201** Washers **3,097**

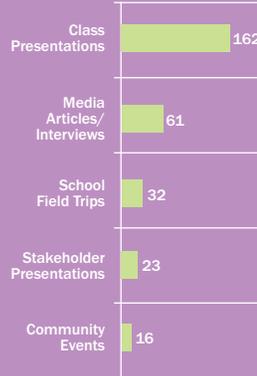
27,911 DEVICE DISTRIBUTION

Aerators **14,796** Showerheads **7,259** Other **5,856**

LIFETIME WATER SAVINGS BY CUSTOMER SECTOR



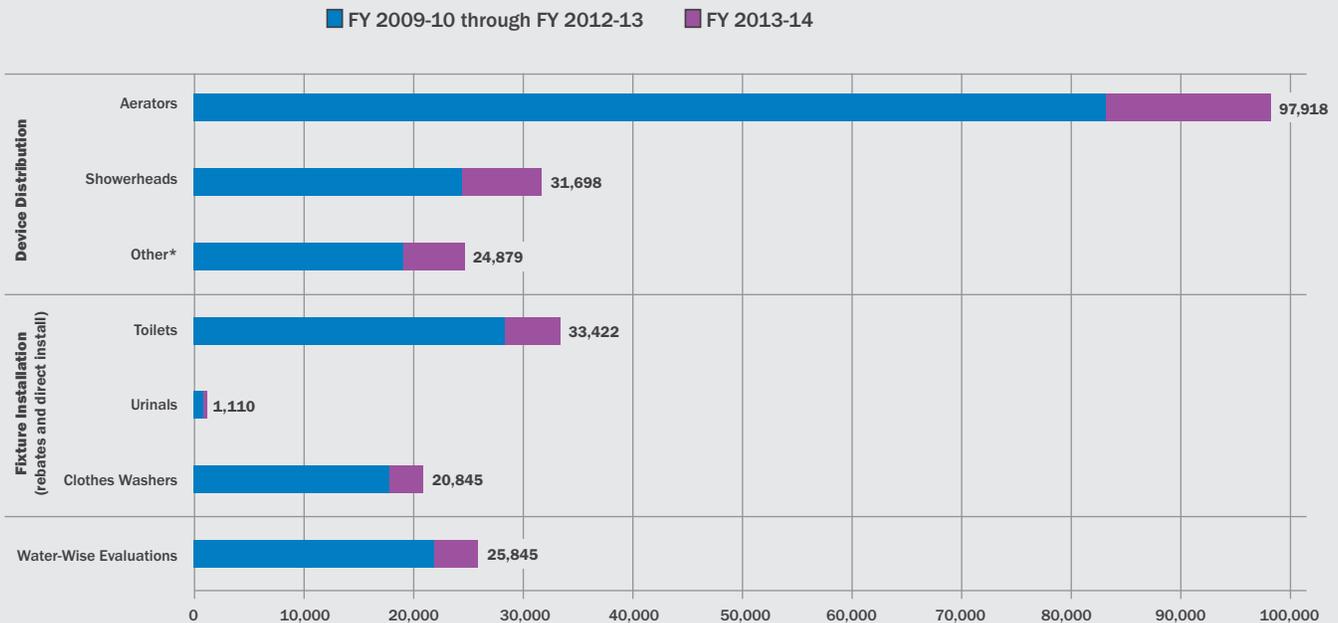
OUTREACH & EDUCATION



LANDSCAPE PROGRAMS



Five-Year Summary: Water Conservation Program Activity



* Other devices include toilet leak repair flappers and fill valves, garden spray hose nozzles, and restaurant pre-rinse spray hose nozzles.

² Water conservation savings estimated using the Retail Water Demands and Conservation Potential Model for the City and County of San Francisco Version 2.0. Savings are estimated lifetime cumulative water savings, up to 30 years. 1.1 billion gallons roughly equals 3,420 acre feet of water. Acre feet is the standard metric used by many water agencies to report lifetime water savings. One acre foot is roughly equivalent to a football field filled with one foot of water.

Local Water Supplies

In addition to its robust conservation efforts, the SFPUC continues to develop an array of projects to meet its policy goal of developing 10 mgd of locally-available water resources by 2018. In FY 2013-14, the SFPUC made significant advancements toward this goal, including an increase in recycled water use and planning, the certification of the Environmental Impact Report and award of construction contracts for the San Francisco Groundwater Supply Project, and the expansion of the Non-potable Water Program. Together, these programs supplement San Francisco's existing water supplies from the Regional Water System and help ensure water supply reliability and resiliency. As these supply projects typically have a long lead time for planning and construction, the SFPUC takes a long-term view to prepare for the future.

RECYCLED WATER PROGRAM

Water is too precious a resource to use just once. Using recycled water for non-drinking uses such as landscape irrigation, toilet flushing, street cleaning, and cooling, helps preserve drinking water from the Regional Water System.

HARDING PARK RECYCLED WATER PROJECT

The Harding Park Recycled Water Project was completed in October 2012 and continues to provide recycled water produced by Daly City to irrigate the 163 acres of public greens at Harding Park and Fleming Golf Courses. Recycled water has allowed the San Francisco Recreation and Parks Department to dramatically reduce the amount of fertilizers used at the facility. In addition, the drought-resistant supply has allowed the greens to thrive during the ongoing drought, drawing additional PGA tournaments to the course. Recycled water at Harding Park saved approximately 200,000 gallons per day of drinking water in FY 2013-14.

RECYCLED WATER TRUCK-FILL STATION

An automated recycled water truck-fill station is operated by the SFPUC at the Southeast Water Pollution Control Plant (SEP). Permitted trucks may use this water for irrigation of roadway and freeway landscaping, soil compaction, dust control, street cleaning, and sewer flushing. In FY 2013-14, over 300,000 gallons of recycled water were distributed from the SEP truck-fill station, including 63,000 gallons that were used for municipal street cleaning and sewer flushing operations.

Recycled water is used by SFPUC Wastewater Enterprise Vector Trucks for sewer flushing purposes.



PACIFICA RECYCLED WATER PROJECT

The Pacifica Recycled Water Project is a partnership between the North Coast County Water District and the SFPUC to replace drinking water with recycled water to meet the irrigation needs of Sharp Park Golf Course and other landscaped areas in the City of Pacifica. When completed, approximately 38 million gallons of recycled water will be delivered annually, of which, 30 million gallons per year will be delivered to Sharp Park Golf Course, a retail customer of the SFPUC that is managed by the San Francisco Recreation and Parks Department. To date, the SFPUC has completed construction of a new pump station, approximately 17,000 feet of distribution pipelines, and a 400,000 gallon above-ground recycled water storage tank. In the summer of 2014, the design for a new automated irrigation system was completed. Construction began in August 2014, and recycled water delivery to the east side of the golf course began in October 2014.



Construction of a recycled water irrigation system at Sharp Park began in the summer of 2014.

Local Water Supplies (continued)

GROUNDWATER PROGRAM

SAN FRANCISCO GROUNDWATER SUPPLY PROJECT

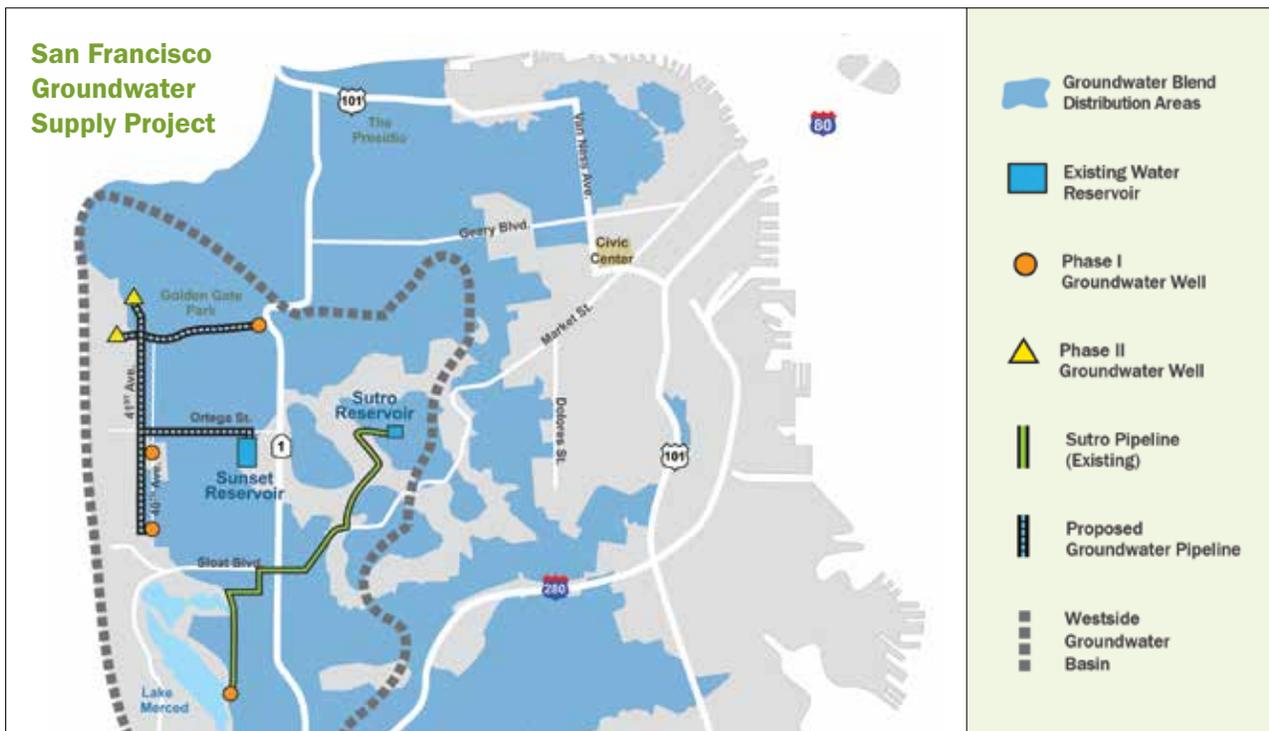
The San Francisco Groundwater Supply Project is being developed in San Francisco by the SFPUC to provide up to 4 mgd of drinking water. The local groundwater supply will supplement and diversify the portfolio of water supplies for San Francisco residents and can also be used in emergencies. The SFPUC is building six deep well pumping stations to extract water from the Westside Groundwater Basin, as well as over five miles of pipelines to distribute the groundwater to local reservoirs for blending. Two wells will also serve as emergency water supplies following an earthquake or other natural disaster, and will include a distribution system to fill emergency water tankers.

The Final Environmental Impact Report (EIR) for the project was certified in December 2013, followed by project approval by the SFPUC and the Board of Supervisors in January 2014 and April 2014, respectively. Construction of the project began in August 2014 and construction of the first phase of the project (four wells and pipelines) is expected to be completed in 2016.

REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT

The Regional Groundwater Storage and Recovery Project is a strategic partnership between SFPUC and three San Mateo County entities: the California Water Service Company (serving South San Francisco and Colma), the City of Daly City, and the City of San Bruno. During years of normal or heavy rainfall, the project will provide additional surface water from the Regional Water System to the partner agencies in San Mateo County, allowing them to reduce the amount of groundwater that they pump from the South Westside Groundwater Basin. Over time, the reduced pumping will allow the aquifer to recharge and result in increased groundwater storage of up to 20 billion gallons.

In October 2012, the SFPUC constructed six regional groundwater test wells to provide information on the quality and quantity of water in this aquifer, and to identify and resolve potential environmental and design issues. In April 2013, the San Francisco Planning Department published the Draft EIR, and the certification of the Final EIR and Commission approval were accomplished in August 2014. Construction is anticipated to begin in early 2015 and end in 2018.



In San Francisco, groundwater will be blended with water from the Regional Water System at Sunset and Sutro reservoirs, and then distributed throughout the areas of the City shown in blue. In a drought, the groundwater blend will be distributed throughout the entire City.

NON-POTABLE WATER PROGRAM

The capture and reuse of non-potable water generated onsite is a key strategy for expanding water savings and diversifying water supplies in dense, urban areas. Onsite water reuse can help reduce potable water consumption by up to 50% in new multi-family residential developments and up to 95% in new commercial developments. Primary sources of non-potable water include graywater, rainwater, stormwater, blackwater, and foundation drainage. The Non-potable Water Program has developed water quality rules, regulations, and a streamlined process for new commercial, multi-family, and mixed-use developments in San Francisco to collect, treat, and reuse alternate water sources.

NON-POTABLE WATER ORDINANCE AMENDMENT

San Francisco's Non-potable Water Ordinance established the Non-potable Water Program and was amended in October 2013. The amendment allows for district-scale non-potable water systems, permitting two or more buildings to share or sell treated alternate water sources for non-potable applications.

NON-POTABLE PROJECT APPLICATIONS

Twelve water budget applications were received by the Non-potable Water Program in FY 2013-14 from projects planning to install onsite water systems. While all twelve projects are building-scale, the SFPUC has also received interest from developers that are working on district-scale projects. Together, the twelve new projects are proposing to offset approximately 2.9 million gallons per year of potable water. When combined with the eight projects from FY 2012-13, the twenty projects in the Non-potable Water Program will offset approximately 7.9 million gallons of potable water per year.



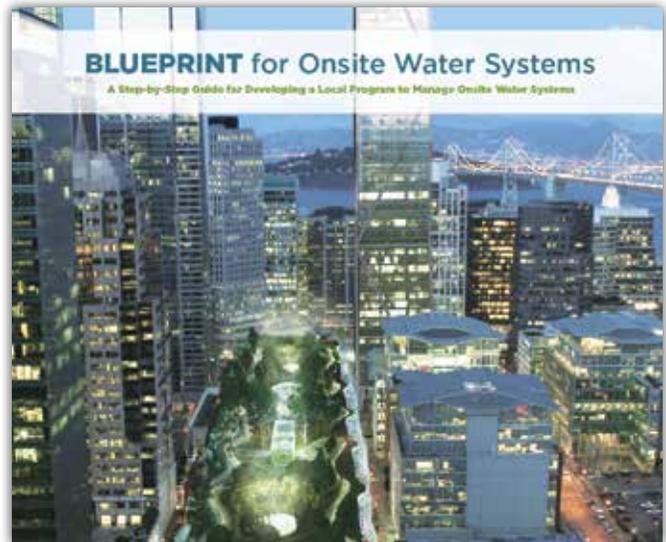
In September 2013, the SFPUC received the WaterReuse Customer of the Year Award for the installation of the Living Machine at its headquarters. The Living Machine treats and reuses all of the building's wastewater to satisfy 100% of the water demand for the building's high-efficiency toilets and urinals. The system has been a huge success and staff have provided over 100 guided tours of the system since its installation in 2012.

NON-POTABLE WATER GRANT PROGRAM

The Non-potable Water Grant Program offers up to \$250,000 for building-scale projects and up to \$500,000 for district-scale projects that meet SFPUC eligibility requirements. The first grant application was received in June 2014 for a single-building project proposing to use graywater and rainwater for toilet flushing and irrigation. The project will offset approximately 1.4 million gallons of potable water per year.

INNOVATION IN URBAN WATER SYSTEMS

In May 2014, the SFPUC convened a meeting with research institutions and state and municipal government agencies from across North America to discuss the barriers, opportunities, and research needs for onsite water systems with non-potable applications. The group discussed targeted achievable solutions that will provide a path forward toward widespread application of onsite water systems.



As a result of the Innovation in Urban Water Systems meeting, the SFPUC released the Blueprint for Onsite Water Systems – a how-to guide for municipalities developing programs to manage onsite water systems.

WaterReuse Association Customer of the Year Award

Public Information Programs

COMMUNITY OUTREACH AND MEDIA RELATIONS

Each year, the Water Resources Division prioritizes educating SFPUC customers and the community as a whole on the environmental benefits and potential cost savings that can be achieved through participating in water conservation programs. Water conservation messaging is regularly featured in customer bill inserts, social media outlets, and local media and trade publications. The SFPUC also partners with local stakeholder organizations, such as the San Francisco Apartment Association and Hotel Council, to bring water conservation awareness to their members.

March 23, 2014 marked the third consecutive year of participation in the EPA's national 'Fix a Leak' week to promote awareness of wasteful household and irrigation system leaks. The SFPUC recognized this national effort through participation in community events, and by airing a local cable television public service announcement encouraging San Francisco residents to identify and repair wasteful household plumbing leaks. This effort was closely followed by the "Water Conservation is Smart and Sexy" campaign advertisements in response to the drought (see *full campaign description in the Drought Update section of this report, page 5*).

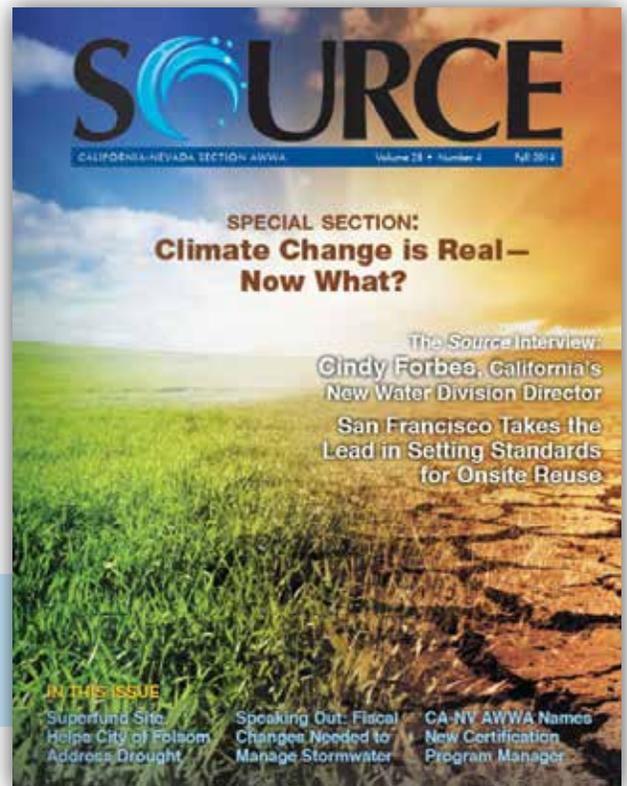
The onset of the drought also brought a renewed interest in water conservation from both the local media, as well as many of San Francisco's most popular community organizers. In FY 2013-14, the SFPUC hosted three press conferences to provide media outlets with updates on Regional Water System supplies and customer response to water conservation requests. SFPUC media relations experts participated in more than 60 television, radio, and newspaper media stories, helping to keep water conservation at the forefront of breaking news. Water conservation specialists at the SFPUC also participated in nearly 40 local community events and stakeholder membership meetings to raise awareness about the drought and conservation programs.

Water Resources Division staff collaborated on a front page article in Source Magazine titled "San Francisco takes the lead in setting standards for onsite reuse" to showcase the success of the San Francisco Non-potable Program.



EPA WaterSense® Excellence Award

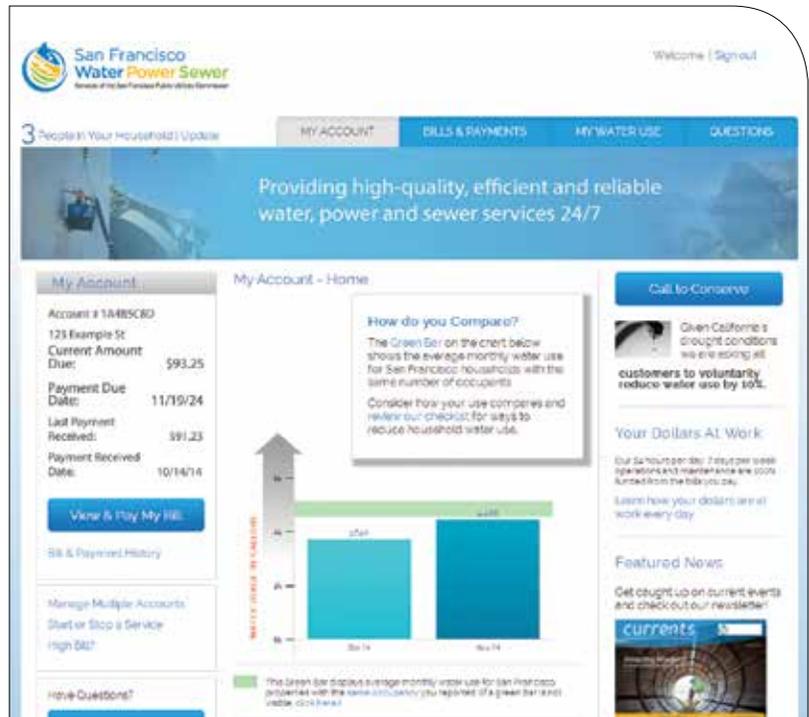
The SFPUC was honored with a national 2014 Excellence Award by the EPA for its innovative outreach and education programs. The award recognized 2013 program efforts, including multilingual television public service announcements, and efforts to educate San Franciscans on plumbing leak repairs during national 'Fix a Leak' week.



MY ACCOUNT CUSTOMER WEB PORTAL

New automated water meters are now in place for nearly all of San Francisco's 178,000 water accounts. This technology wirelessly transmits hourly water consumption to a data collection system, and the SFPUC is the first major water utility in California to fully deploy a system of this scale. This reliable and frequent water usage data collection allows the SFPUC to monitor water use and detect leaks faster than with manually-read meters. A new web portal, My Account, was launched in May 2014 to provide customers access to monthly billed and daily water usage information. For residential customers, it also compares their consumption to other San Francisco households or buildings with similar occupancy.

To register, visit: myaccount.sfwater.org



The My Account portal provides an informative interface that can assist customers with monitoring conservation progress, helping to save water and money.

WATER CONSERVATION IN SAN FRANCISCO SCHOOLS

The SFPUC's water conservation education programs focus on providing San Francisco schools with a comprehensive framework of free environmental education initiatives to promote a culture of water conservation for the next generation of environmental stewards.

In FY 2013-14, the SFPUC offered a variety of free teacher resources through a comprehensive mix of curriculum, illustration contests, classroom presentations, field trips to local watersheds, and Water-Wise demonstration gardens. Water conservation instructional materials developed by the SFPUC focused on teaching students about the source of San Francisco's tap water, the history of the Regional Water System, and water conservation practices. Through formal partnerships with the San Francisco Unified School District (SFUSD) and non-profit educational providers, the SFPUC offered instructional curriculum workshops for teachers, and sponsored trips to bring students out of the classroom on exciting excursions to local gardens and SFPUC watersheds.

Additionally, the SFPUC helped raise awareness about the drought by participating in the SFUSD's 'backpack mail' program, sending more than 60,000 multilingual drought awareness fact sheets home to SFUSD families. The SFPUC also provided nearly 200 campus presentations and field trip opportunities to local public and private elementary and middle schools.



Winners of the 2014 "Using Water Wisely" illustration contest from St. Thomas More School learned sustainable gardening practices at Garden for the Environment.

Looking Forward

Developing local water supplies and reducing customer water use remain a high priority with dry conditions likely to continue through 2015. On the supply side, this coming year will bring significant progress in the development of major recycled water and groundwater projects. In addition, a residential rainwater harvesting program will be reinstated. On the conservation front, the SFPUC will be launching several new programs and updating its comprehensive water conservation plan to guide programs over the next five years and beyond. The SFPUC will be expanding efforts to encourage customers to replace inefficient toilets and urinals, and will also be using automated meter data to help customers manage their water use.

PROPOSED WESTSIDE RECYCLED WATER PROJECT

The SFPUC is in the preliminary design phase for a project on the west side of San Francisco that proposes to use recycled water to irrigate Golden Gate Park, Lincoln Park Golf Course, and the Presidio Golf Course. This project would supply and deliver up to 2 mgd of recycled water on average. Design is expected to be completed by the fall of 2015. For the project environmental review work, the Notice of Preparation was released in July 2014, and a public scoping meeting was held in August 2014. The Draft EIR is expected to be released for public comment in early 2015. The project team also initiated a field assessment of the proposed customer irrigation systems to identify necessary modifications to bring the systems into compliance with regulations related to the distribution and application of recycled water.



Architectural rendering of the proposed Westside Recycled Water Treatment Facility, to be located at the Oceanside Wastewater Treatment Plant.

DESALINATION PROGRAM

The SFPUC is working closely with its neighbors in the Bay Area in an effort to maintain a holistic view of water supply and secure alternate drinking water supplies well into the future. The SFPUC is working with a growing number of water providers throughout the Bay Area to consider desalination and other supply sharing opportunities.

DIRECT POTABLE REUSE PROGRAM

The SFPUC is embarking on two Direct Potable Research efforts with the Water Research Foundation to advance the science and regulation around the potential of using recycled water for drinking water purposes. Whereas indirect potable reuse is the process of treating wastewater for drinking water purposes with the aid of an environmental buffer (such as a groundwater aquifer or surface water), direct potable reuse involves distributing highly-treated water into the drinking water supply without an environmental buffer. There are a number of indirect potable reuse projects being implemented throughout the state, and direct potable reuse may not be far behind. The SFPUC is serving on the Project Advisory Committee (PAC) for WRF#4508: *Assessment of Techniques to Evaluate and Demonstrate the Safety of Water from Direct Potable Reuse Treatment Facilities* and WRF#4356: *Blending Requirements for Water from Direct Potable Reuse Treatment Facilities*.

RESOURCE MANAGEMENT AT LAKE MERCED

Located in the southwest corner of San Francisco, Lake Merced is made up of four interconnected lakes and provides a vital link for wildlife, particularly for migrating birds. In an emergency, Lake Merced water can be used for firefighting or sanitation purposes if no other sources of water are available. The SFPUC and the City of Daly City are working together to improve the Vista Grande stormwater system, which drains the northwestern portion of Daly City and an unincorporated portion of San Mateo County – areas originally within the watershed of Lake Merced. Under the proposed project, a portion of the canal would be replaced with several new facilities, including a treatment wetland, to improve stormwater quality and conveyance capacity. The project is currently undergoing environmental review, which is anticipated to be completed next year.



Improving the Vista Grande stormwater system will help Lake Merced continue to serve as an important resource to the community.

RESIDENTIAL RAINWATER HARVESTING PROGRAM

In the spring of 2015, the SFPUC will be expanding the residential non-potable program by offering free rain barrels and cisterns to San Francisco residents. The program will be open to one and two-unit residential homes in San Francisco and will provide qualifying sites with 60-gallon rain barrels (up to two per household) or 205-gallon cisterns (one per household) along with training workshops on how to properly install and maintain a rainwater harvesting system.

EXPANDED DIRECT INSTALL PROGRAM

The SFPUC anticipates expanding the direct install program beyond low-income properties to residential and commercial sites with the greatest number of inefficient toilets and urinals in need of retrofit.

LEAK DETECTION AND NOTIFICATION

The SFPUC will be working on a pilot program that uses data from its automated meters to identify continuous water use and notify property owners of potential leaks or other problems. Timely alerts will enable customers to take action before extensive water waste and associated charges occur.



Free rain barrels will be provided to San Francisco residents in 2015.



San Francisco
Water Power Sewer

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