

SAN FRANCISCO PUBLIC UTILITIES COMMISSION
WATER RESOURCES DIVISION
ANNUAL REPORT
Fiscal Year 2018-19



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

Dear Partners, Customers and Stakeholders:

Water is our most essential resource. We depend upon it every day, and our community depends upon the San Francisco Public Utilities Commission (SFPUC) to reliably deliver high-quality water, 24/7. While extended periods of drought, population growth and regulatory challenges increasingly impact water utilities, they also present exciting opportunities to build resilience by harnessing the power of innovation and technology. The Water Resources Division’s mission is to conserve and reuse water and diversify our water supply using both tried-and-true methods, as well as exploring innovative new ways to build the resilience of our water supply.

The SFPUC will continue to provide high-quality, reliable water service to 2.7 million residents in the Bay Area, rain or shine, as the result of decades of proactive planning. The SFPUC prepares for the risks and challenges posed by climate change by investing in our infrastructure while also implementing crucial projects to diversify our water supply, including groundwater, recycled water and onsite water reuse. We are leading the way with innovative research projects, such as the Purified Water Program, which is exploring the feasibility of treating wastewater to drinking water standards.

Abundant rain and snow have provided the SFPUC with plenty of water this year. Our overall system storage is nearly at capacity. And still, San Franciscans have some of the lowest per capita water usage in California. That success is due, in part, to our extensive and innovative customer engagement. One example is how we leverage our network of automated water meters to communicate timely water use data through our online customer portal, My Account. Our Leak Alert program also uses that data to notify customers with continuous water usage and prompt them to fix leaks before they see a spike in their bill. Customers have responded enthusiastically and amplified our outreach efforts on social media. Our leak alert program has helped save 49 million gallons of water this fiscal year.

The SFPUC is proud to set the standard for excellence in operations, environmental stewardship, community engagement and innovation. Even when abundant rain and snow have provided a robust water supply, the SFPUC will always work to conserve our precious resources and diversify our water sources to ensure water security for our community for generations to come.



Paula Kehoe, Director of Water Resources



Water Resources team at a staff retreat

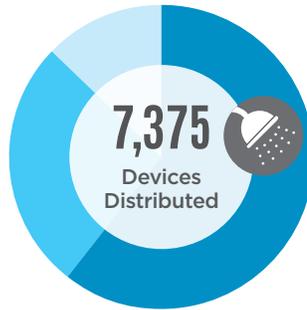


Water Resources Division Accomplishments: FY 2018-19

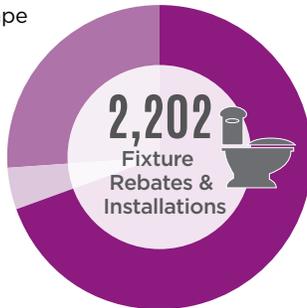
Water Conservation



- 2,121 ■ Multi-Family
- 451 ■ Single-Family
- 69 ■ Non-Residential
- 56 ■ Landscape



- 4,373 ■ Aerators
- 1,816 ■ Showerheads
- 1,186 ■ Spray nozzles, flappers, fill valves, etc.



- 1,542 ■ Toilets
- 532 ■ Washers
- 128 ■ Urinals

OUTREACH & EDUCATION

- 16,023** Leak Alert Notifications
- 2,556** Conservation Phone Calls
- 124** Water Waste Reports
- 37** Field Trips
- 25** Class Presentations

LANDSCAPE PROGRAMS

- 413** Rain Barrels
- 20** Cisterns
- 4** Graywater Kits
- 3** Community Garden Grants

Local Water Projects



Contents

- 2** Water Portfolio, Customers and Water Use
- 4** Local Water Supplies
- 9** Water Conservation Program
- 14** Community Outreach and Education
- 17** Regional Partnerships
- 19** Forward Thinking
- 21** Awards and Recognition

RESULTING IN

514
MILLION GALLONS*
SAVED

* Estimated lifetime active and passive water savings over a 30-year period

Water Portfolio, Customers and Water Use

The SFPUC Regional Water System is a public asset that delivers high-quality drinking water to 2.7 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 on the Peninsula. The SFPUC delivers water to 27 wholesale customers in Alameda, Santa Clara and San Mateo counties and provides direct retail water service to customers in San Francisco and some customers outside of San Francisco. The Bay Area Water Supply & Conservation Agency (BAWSCA) represents 26 of the 27 wholesale customers and coordinates their water conservation, supply and recycling activities.

During FY 2018-19, the SFPUC delivered approximately 192 million gallons per day (mgd) on average to its wholesale and retail customers. Wholesale customers received 125 mgd, San Francisco retail customers received approximately 63 mgd and retail customers outside of San Francisco received 4 mgd, totaling 67 mgd across the retail service area.

San Francisco retail customers' water conservation efforts, supported in part by incentives and assistance from the SFPUC, have helped San Francisco reduce total water demand over the last two decades despite population growth. In 1998, San Francisco had about 754,000 residents and used 82 mgd. Today, with almost

884,000 residents, San Francisco uses 63 mgd. In FY 2018-19, San Francisco retail customers' gross per capita use was approximately 73 gallons per day and the residential per capita water use was about 41 gallons per day. While this water use was among the lowest in the state, the SFPUC remains committed to comprehensive water conservation efforts.

OneWaterSF

OneWaterSF is a framework for how the SFPUC does business; it provides a vision for how we can better adapt to future challenges. It is an integrated planning and implementation approach to managing finite resources for long-term resiliency and reliability. With OneWaterSF, the SFPUC recognizes the potential of all the resources within our system. OneWaterSF allows us to look more holistically at our system for efficiencies, to project synergies and opportunities to harness clean energy and to match the right water to the right use.

Since formalizing OneWaterSF with a Vision and Guiding Principles in 2016, the intra-agency Working Group has continued to advance and report on initiatives that have multiple benefits for the utility. This year, with a new effort to expand OneWater in the field, we will reach other parts of the organization and broaden its impact. Visit sfwater.org/onewatersf.



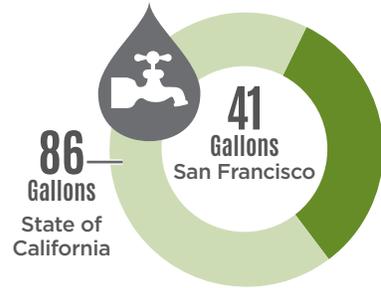
FY 2018-19 Average Residential Water Use (Per Person / Per Day)



San Francisco Population



Water Delivered to San Francisco Residential Customers

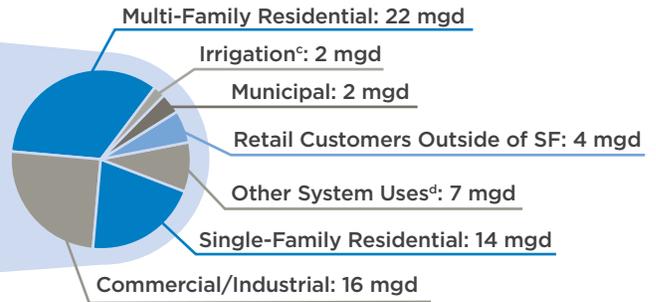


Residential Water Use Per person, Per day

FY 2018-19 Regional Water System Deliveries and Retail Water Use

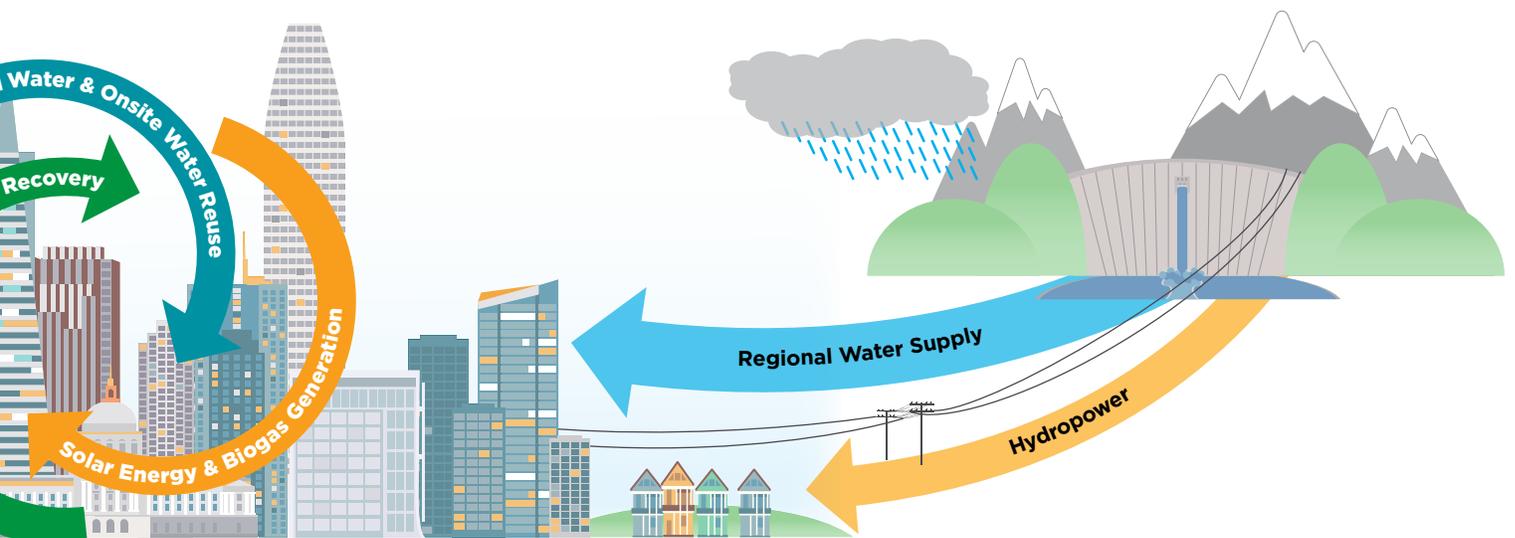


Regional Water System Deliveries



Retail Water Use

- a Deliveries exclude 5.3 mgd delivered in lieu of groundwater to customers participating in the Regional Groundwater Storage and Recovery Project.
- b Retail Customers outside of San Francisco (also called suburban retail customers) account for 3 mgd of this total.
- c These data are from dedicated irrigation accounts only, and do not include irrigation use from water accounts that jointly serve both indoor and outdoor demands.
- d Other system uses include pipe flushing, firefighting, street cleaning and water system losses from leaks and main breaks.



Local Water Supplies

Innovations Program

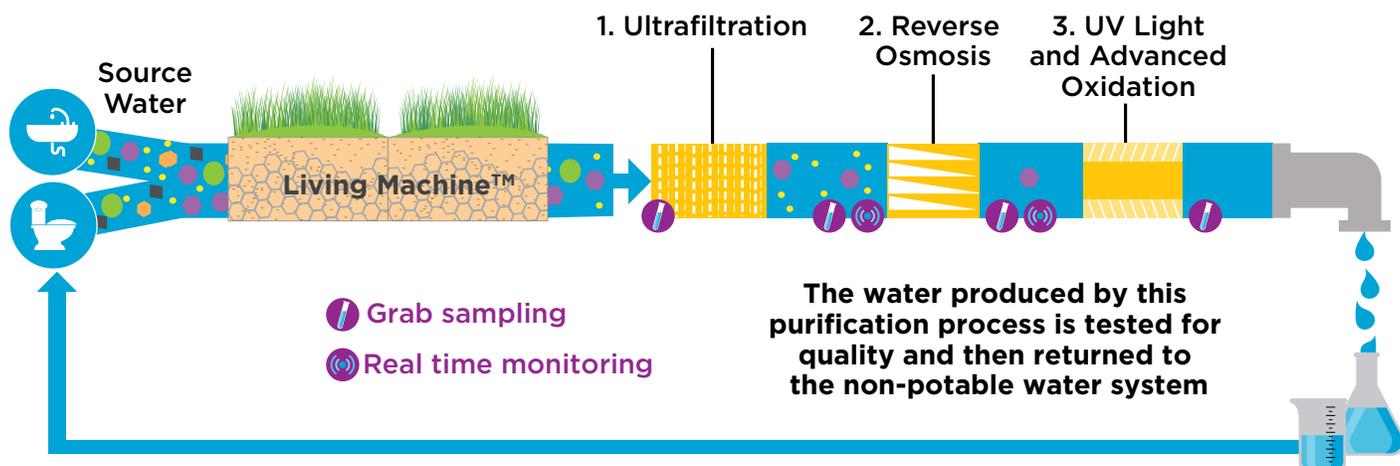
The SFPUC is committed to diversifying our supply portfolio through the development of local water. Our newest addition to the list of pioneering programs, the Innovations Program, will continue to build upon our efforts to develop local water, while also furthering our goal of developing projects that provide multiple benefits. The Innovations Program promotes exploration of new ways in which we can conserve and reuse water, recover resources, and diversify our water supply. The Program is implementing and exploring several innovative efforts, including brewery process water reuse, PureWaterSF, expanded leak detection, heat recovery for onsite water reuse, and atmospheric water generation.

BREWERY PROCESS WATER REUSE GRANT PROGRAM

The SFPUC is building partnerships with local breweries who are interested in reusing water onsite to offset their potable water use. A typical brewery can use up to 7 gallons of water to make 1 gallon of beer. Much of the water used in brewing is for rinsing bottles and cleaning equipment. This type of water, also known as process water, can be collected and reused onsite at the brewery, thereby helping breweries significantly reduce their water footprint. The SFPUC recognized this opportunity and modified its Onsite Water Reuse Grant Program to incentivize breweries to collect, treat, and reuse process water generated onsite. Our grant program requires brewery process water treatment systems to comply with source characterization, source control, treatment, and ongoing monitoring requirements.

PURIFIED WATER PROGRAM

The SFPUC is continuing to partner with various experts to explore the feasibility of treating wastewater with ultrafiltration, reverse osmosis and ultraviolet light to provide purified water that can meet drinking water standards. With scientific and regulatory advances in this field, and through highly advanced treatment and monitoring, recycled water is already being treated to drinking water standards in some parts of the country. As we look to the future, the SFPUC is keen to understand what role purified water can play in our water supply portfolio to better adapt to future water supply needs. In partnership with the Water Research Foundation and the U.S. Bureau of Reclamation, the SFPUC is completing a research project in our headquarters. We are treating approximately 80% of the effluent currently produced by our constructed wetland treatment system (also known as the Living Machine™) and bringing it to drinking water standards. All the water we produce is recombined for toilet flushing in the building once it is tested.



Local Water Supplies

For the past decade, the SFPUC has been implementing a Local Water Program. This Program provides conservation assistance, promotes recycled water to meet the City's most significant irrigation needs, mandates non-potable supplies for toilet flushing and irrigation in new developments and develops local groundwater to enhance the City's drinking water supply sustainably now and into the future.

Groundwater Management Program

The SFPUC's groundwater supply comes from the 45-square-mile Westside Basin, an aquifer extending from Golden Gate Park in San Francisco southward through San Bruno. Well depths range from 270 to 700 feet below ground. Since groundwater is stored deep underground, it has the dual benefits of being less vulnerable than surface waters to direct contamination and being naturally filtered through layers of sand and other soils.

The groundwater basin is a vital local drinking water resource for San Francisco and neighboring communities in San Mateo County. To make sure the SFPUC responsibly and sustainably manages and protects the Westside Basin, monitoring of the groundwater quality and its water levels is one of our top priorities. A series of monitoring wells was installed in 2004. We collect data from these wells to assess how the groundwater basin responds to our operations. This allows us to adapt our groundwater pumping, if necessary, in response to changes in the aquifer.

Groundwater is an essential part of the state and nationwide drinking water supply. Eighty percent of Californians depend on groundwater for all or part of their drinking water supply and have been doing so for generations. Our Groundwater Program includes two projects: the San Francisco Groundwater Supply Project and the Regional Groundwater Storage and Recovery Project.

SAN FRANCISCO GROUNDWATER SUPPLY PROJECT

The San Francisco Groundwater Supply Project is a forward-looking project that allows us to supplement our drinking water sources by blending a small amount of groundwater with water from the Regional Water System. The SFPUC has begun ramping up to blend an average of up to 1 mgd of groundwater to our water supply. Over the next several years, we will incrementally build up to an average of 4 mgd of groundwater in San Francisco. For more information about groundwater, or to view our water quality reports, visit sfwater.org/sfgroundwater.

REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT

The Regional Groundwater Storage and Recovery Project is a partnership between the SFPUC, the California Water Service Company (serving South San Francisco and Colma), the City of Daly City and the City of San Bruno. This project is a sustainable, conjunctive use project that has storage and recovery components. During years of normal or heavy rainfall, the SFPUC provides additional surface water from the Regional Water System to the partner agencies to reduce the amount of groundwater pumped from the South Westside Groundwater Basin. Over time, the reduced groundwater pumping will result in natural recharge and increased storage of up to 20 billion gallons. The stored water will serve as an additional water supply during a drought. Construction of Phase 1 of the project consists of the installation of 13 production wells, 10 of which will be completed in 2020. The project has been in a storage phase since May 2016, and during this phase the groundwater levels have increased by over 20 feet.

Local Water Supplies (continued)

Recycled Water Program

Water is too precious a resource to use just once. Using recycled water for non-drinking purposes such as landscape irrigation, toilet flushing, street cleaning and cooling helps preserve drinking water supplies from the Regional Water System. We continued to work with our partners at Harding Park, Fleming and Sharp Park Golf Courses so that we can provide recycled water for irrigation.

On the west side of San Francisco, the SFPUC plans to use recycled water to save approximately 2 mgd of water currently used for non-drinking purposes such as irrigation and lake-fill. The Westside Enhanced Water Recycling Project includes construction of a new recycled water treatment facility, along with storage reservoirs, pump stations and pipelines, to deliver recycled water. The water produced by this project will be used primarily to irrigate Golden Gate Park, Lincoln Park Golf Course and the Presidio. Potential future use could include the San Francisco Zoo and additional landscaped areas.

Construction has been completed on approximately 8 miles of recycled water pipelines. Construction is under way on the new recycled water treatment facility that will be located at the Oceanside Water Pollution Control Plant, with the storage reservoirs and pump stations to follow over the next few years. Preliminary design of recycled water retrofits for Golden Gate Park and Lincoln Park Golf Course was completed in spring 2018. Recycled water deliveries to customers are expected in 2021. This project will receive loan and grant funds totaling \$186 million from the State Water Resources Control Board's Clean Water State Revolving Fund, which will save \$123 million for our ratepayers by reducing our debt finance costs. For more information about the Recycled Water Program, visit sfwater.org/recycledwater.

Harding Park Golf Course



Onsite Water Reuse Program

In 2012, San Francisco established the Onsite Water Reuse for Commercial, Multi-Family and Mixed-Use Development Ordinance. Commonly known as the Non-potable Water Ordinance, it added Article 12C to the San Francisco Health Code, allowing for the collection, treatment and use of alternate water sources for non-potable uses in buildings. Since 2012, the Non-potable Water Ordinance has been amended to allow for district-scale projects, where two or more parcels can share alternate water sources. In 2015, Article 12C became mandatory and now requires new development projects of 250,000 square feet or more of gross floor area to install and operate an onsite non-potable water system.

The SFPUC received 8 water budget applications to install onsite water systems in FY 2018-19. By 2040, it is expected that the total potable water offset for the Onsite Water Reuse Program will be approximately 2 mgd.

Over the past year, the SFPUC developed a new onsite reuse design and implementation fact sheet compiling lessons learned through the SFPUC's work administering the program. Additionally, the SFPUC updated the Onsite Water Reuse Grant Program to allow grant funding for breweries to collect, treat and use brewery process water for applications such as tank rinses, bottles rinses and production. Embracing new ways to conserve water through opportunities such as brewery process water reuse builds upon our existing efforts to develop local water and conserve drinking water.

The SFPUC has been collaborating with a nation-wide group of utilities and public health agencies since 2014, advancing policies and contributing significant research related to onsite water reuse. In 2016, the SFPUC and the U.S. Water Alliance formalized the partnership and established the National Blue-Ribbon Commission for Onsite Non-potable Water Systems. Today, the group is comprised of more than 30 members representing 14 states and the District of Columbia. Leveraging funding from the Water Research Foundation, the group is developing a guidance manual and training modules for designing and permitting onsite water systems. It targets system designers, regulators, program administrators, owners and operators to help with capacity building. For more information about the Onsite Water Reuse Program, visit sfwater.org/np.

India Basin (image courtesy of Build Inc and Steelblue)



Local Water Supplies (continued)

LOCAL ONSITE WATER REUSE PROJECTS

SFPUC HEADQUARTERS

SFPUC headquarters was one of the first buildings in the nation – and the first in California – with onsite treatment of blackwater to be recycled for toilet and urinal flushing. Reducing water use by about 60% each year, the SFPUC’s Living Machine™ system recycles about 5,000 gallons of water per day. This system helps avoid using high-quality drinking water for non-drinking purposes, saving about 800,000 gallons of water each year.

ECSF-BART FOUNDATION DRAINAGE PROJECT

In early 2019, Energy Center San Francisco (ECSF), formerly known as NRG, celebrated the launch of San Francisco’s largest onsite water reuse project. The project diverts foundation drainage at the Powell Street BART station and redirects it to ECSF’s District Energy Plant for use in their district steam loop, resulting in 30 million gallons of drinking water saved annually. Supported in part by a grant from the SFPUC’s Onsite Water Reuse Grant Program, ECSF installed an onsite water treatment system to treat foundation drainage to a quality suitable for use in their district steam loop that provides heating, hot water and process steam to hotels and buildings in downtown San Francisco. With this system, ECSF will reduce its overall potable water consumption by 30%.

MOSCONE CONVENTION CENTER

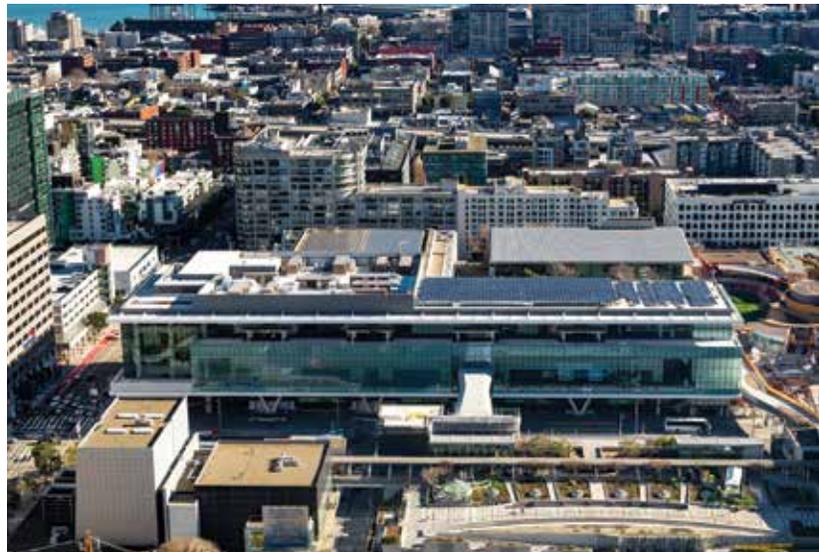
The Moscone Convention Center is one of the most efficient and sustainable convention centers in the nation, as it operates an innovative onsite water system that collects and treats foundation drainage, rainwater and condensate. Flushing over 200 toilets and providing water for landscape irrigation and a truck fill station for San Francisco Public Works street cleaning trucks, the onsite water system is estimated to save over 11 million gallons of drinking water annually.



SFPUC Headquarters Living Machine™



Photo: Pi.1415926535 @ Wikimedia Commons



Moscone Center

Water Conservation Program

The SFPUC continues to provide a comprehensive water conservation program open to all residents and businesses in San Francisco, as well as our retail service area outside of San Francisco. Core services include indoor and outdoor Water-Wise Evaluations, incentives for replacement of old plumbing fixtures, free water-efficient plumbing devices, landscape efficiency programs, tools to monitor water use and public outreach such as gardening classes and presentations. The SFPUC also supports planning and implementing conservation legislation as an effective way to institutionalize water conservation.

Replacing old, water-wasting plumbing fixtures with new efficient models is one of the most significant ways to reduce water use in homes, apartment buildings and non-residential buildings. This helps stretch the SFPUC's water supplies. For more information, visit sfwater.org/conservation.

Water-Wise Evaluations

In FY 2018-19, the SFPUC conducted 2,697 site-specific surveys for residential and commercial buildings, providing water efficiency recommendations for indoor and outdoor uses, irrigation system assessments and leak identification. Water conservation technicians also helped customers identify old plumbing fixtures that qualify for financial replacement incentives and provided free water-efficient plumbing devices including showerheads, aerators and toilet leak repair parts. Customers who received Water-Wise Evaluations were also provided comprehensive reports including estimated water and cost savings from recommended improvements.

Free High-Efficiency Plumbing Devices

In FY 2018-19, the SFPUC provided 7,375 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. Residents of single-family homes and multi-family properties under 10 units can also pick up select devices from the SFPUC's headquarters located at 525 Golden Gate Avenue.



Water Conservation Inspector conducting a Water-Wise Evaluation

Water Conservation Program (continued)

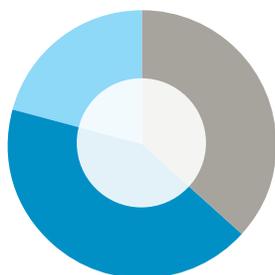
FY 2018-19 San Francisco Retail Water Conservation Program Performance & Savings

FY 2018-19 activities implemented through the SFPUC water conservation program are estimated to have a potential active and passive lifetime water savings of 514 million gallons¹.

Water Conservation Savings Achieved by Sector

Millions of Gallons

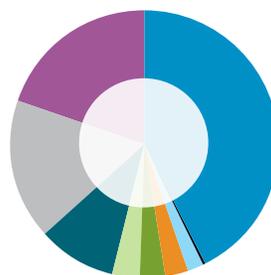
- 219 Non-Residential
- 189 Multi-Family
- 106 Single-Family



Water Conservation Savings Achieved by Activity

Millions of Gallons

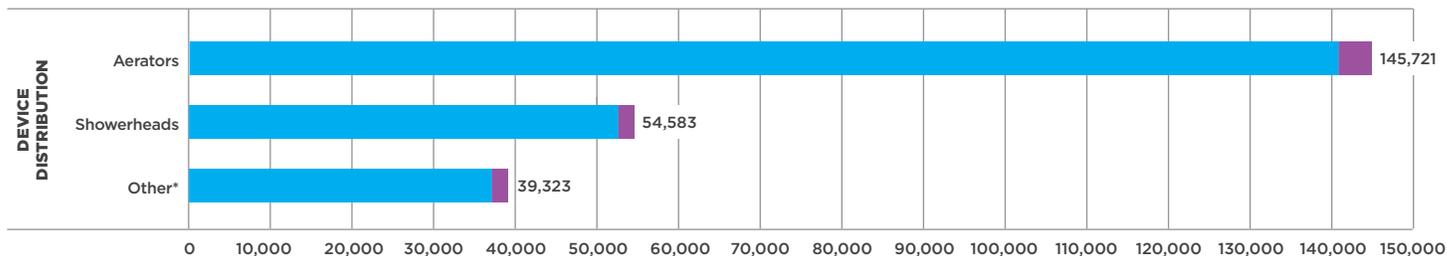
- 219 Toilets
- 101 Surveys
- 87 Washers
- 49 Leak Alerts
- 17 Urinals
- 15 Devices
- 15 Showerheads
- 9 Commercial Equipment
- 2 Rainwater Harvesting



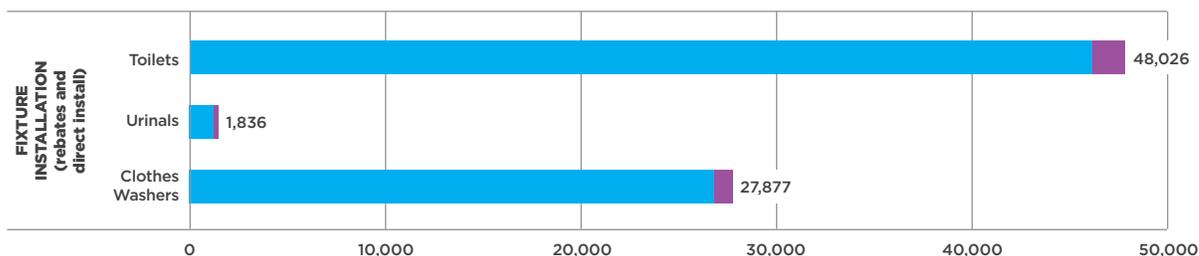
514
MILLION
GALLONS

Water Conservation Program Activity Summary

■ FY 2009-10 through FY 2017-18 ■ FY 2018-19



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



¹ Water conservation savings are estimated using the SFPUC Water Conservation Tracking Model. Savings are estimated lifetime active and passive cumulative water savings up to 30 years. 514 million gallons roughly equals 1,577 acre-feet of water. An acre-foot is the standard metric used by many water agencies to report lifetime water savings. One acre-foot is roughly equivalent to a football field covered by one foot of water.

Water Conservation Program (continued)

Plumbing Fixture Replacement Program (PREP)

To help accelerate the replacement of old, water-wasting fixtures, the SFPUC launched the Plumbing Fixture Replacement Program (PREP), a toilet and urinal replacement program to help residences and businesses retrofit some of the last inefficient fixtures in our retail service area. During this fiscal year, nearly 1,600 efficient toilets and urinals were installed through the PREP program.

Water-Efficient Fixture Improvement Program (WeFix)

The SFPUC continued to partner with San Francisco Public Works and replaced 68 inefficient toilets and 6 inefficient urinals in 7 City department facilities during this fiscal year. To date, over 700 fixtures in 56 municipal buildings have been replaced since the program started.

Clothes Washer Rebates

The SFPUC provided rebates of \$100 per washer for the purchase and installation of qualifying residential ENERGYSTAR efficient clothes washers in our retail service areas, and rebates of \$500 per washer to customers installing qualifying coin-operated, high-efficiency, commercial-style clothes washers. In FY 2018-19, 532 rebates were processed.

Rainwater Harvesting Program

Rainwater harvesting is the practice of collecting and using rainwater for landscape irrigation or toilet flushing. Capturing rainwater at your home or business reduces drinking water otherwise needed for irrigation and reduces the runoff entering our combined sewer system during storm events. The SFPUC's Rainwater Harvesting Program provided residents and businesses with 413 discounted rain barrels and 20 discounted cisterns.

Laundry-To-Landscape Program

The SFPUC continued its Laundry-to-Landscape (L2L) Program, which offers residents a \$125 discount off the purchase of a graywater kit to direct water from the clothes washing machine into the garden for irrigation. This year, 4 discounted graywater kits were provided to residential customers. Program participants also received training, access to a free installation tool kit and onsite technical assistance to help design, install and maintain their graywater systems. The SFPUC also updated its comprehensive guide to graywater systems. Visit sfwater.org/landscape to download a copy.

Rain barrels at Garden for the Environment



Water Conservation Program (continued)

Commercial Equipment Retrofit Grant Program

The Commercial Equipment Retrofit Grant Program continued to provide funding for businesses to implement onsite equipment efficiency upgrades. In FY 2018-19, the program provided incentives for the replacement of 19 water-cooled ice machines at the Hotel Nikko San Francisco. This project is estimated to conserve 900,000 gallons per year.



Air-cooled ice machine



Jefferson Square Park

Landscape Assessments

FY 2018-19 saw an increase in overall landscape and irrigation system assessments performed by the SFPUC for single-family, multi-family and commercial properties. These evaluations help identify irrigation efficiency improvements and plant recommendations for customers looking to reduce irrigation runoff and increase their overall water efficiency. Additionally, a custom report is provided to identify ways each customer can tune up their irrigation system and irrigation timer schedule to increase water savings. During evaluations, field inspection staff manually run the irrigation to observe system operation, flagging areas needing repairs, reconnecting loose drip irrigation fittings and guiding customers through their sprinkler timer programming features. Visit sfwater.org/landscape for more information.

LANDSCAPE CASE STUDY: JOHN O' CONNELL HIGH SCHOOL

John O' Connell High School requested an outdoor Water-Wise Evaluation to look for ways to reduce water use in their school garden while trying to identify the source of a leak in the irrigation system. Adjustments were made to reduce the scheduled run time of the irrigation system while continuing to support the health of the garden along with identifying minor irrigation system repairs. This helped the school identify the source of the leak. The adjustments and repairs made by the school reduced the irrigation usage by 64%, a 16,000-gallon water savings. The school continues supporting students in garden-based learning through the Center for Urban Education about Sustainable Agriculture (CUESA) program.

Water Conservation Program (continued)

Large Landscape Grant Program

The Large Landscape Grant Program provides grant assistance to customers with landscapes over a half-acre and who implement irrigation and planting improvement projects that reduce potable water use. In FY 2018-19, the SFPUC continued to provide financial support to the following 4 projects.

WASHINGTON SQUARE PARK

In the heart of North Beach, this 2-acre public park will reduce water use by an estimated 60% by redesigning the irrigation system and replacing perimeter areas of lawn with climate-appropriate plantings. Construction is scheduled to be completed in FY 2019-20.

FOREST HILL MUNI STATION

This project will replace a 40-year-old irrigation system and install new drought-tolerant and native plantings to reduce water use by 40%. This will also improve overall site conditions for public transit riders and the neighborhood. Design is underway and construction is slated to begin in early 2020.

SUNOL GLEN ELEMENTARY SCHOOL

Sunol Glen Elementary is a SFPUC retail water customer and will implement irrigation and planting improvements to the athletic field, courtyard and front entrance to achieve a 45% reduction in landscape water use. Construction began in FY 2017-18 and was completed June 2019.

MOSCONE PARK PLAYGROUND

This project has an estimated water savings of 2.7 million gallons per year and was completed in April 2019. The baseball field and perimeter landscaping along Bay Street received irrigation system upgrades and landscape renovations, including replacement of control valves, installation of new rotor sprinklers to increase distribution uniformity and low water use plantings.

Community Garden Grants

Our Community Garden Grant Program provides irrigation meters to help customers better monitor and efficiently manage water use. During FY 2018-19, the SFPUC awarded grant funding to install dedicated irrigation water meters at 3 community gardens, including Glen Park Greenway Project, Friends of the Urban Forest Tree Nursery and the Ridge Lane Walkway.



Washington Square Park



Alamo Square Park



Vegetable harvest from community garden

Community Outreach & Education

The SFPUC values the long-standing partnerships that we have established with the diverse communities we serve. We also value transparent communication and strive to address inquiries and concerns in a timely fashion. We continue to educate the public about local water supply issues and promote water conservation in our community through:

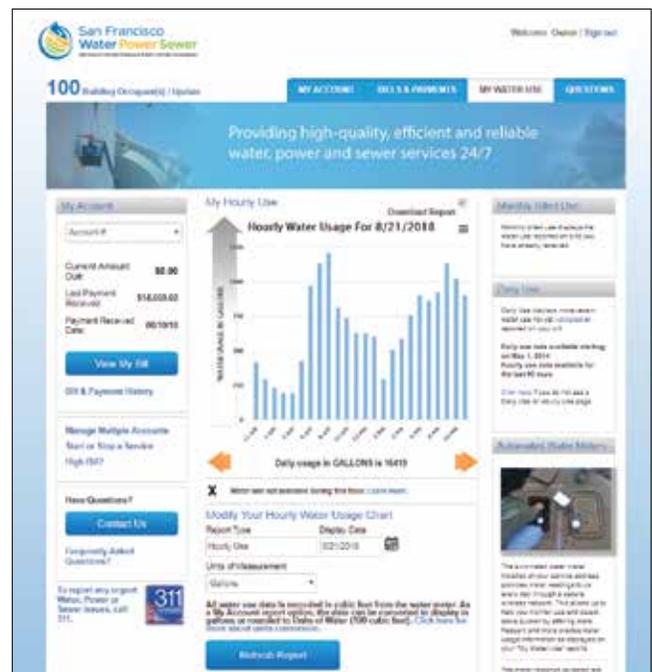
- Innovative educational campaigns
- Media communications
- Informative print and digital publications in multiple languages
- Engaging social media content
- Public hearings, community events and educational presentations

My Account Customer Portal

SFPUC's My Account web portal allows customers to easily pay and view their water bills online and to see their hourly, daily, weekly and monthly water use, which can help identify water use patterns and unusual spikes. Since its launch in 2014, registration for My Account has steadily increased to almost 76,000 users, or about 44% of the retail customer base. Residential My Account users can also track how their water use aligns with a conservation target of daily use under 50 gallons per person per day. Account holders can register at myaccount.sfwater.org.



Staff at Sunday Streets



My Account customer portal



Staff at Water Conservation Showcase



Garden workshop at Garden for the Environment

Community Outreach & Education

Leak Alert Program

Since 2014, the Leak Alert Program has helped many customers fix leaks promptly by notifying them of continuous water consumption at their property, saving them significant amounts of wasted water and money. Utilizing SFPUC's automated water meter infrastructure, the SFPUC Leak Alert Program continued to alert customers with three days of constant water use by phone, text message, email and letter. This year, we added a door hanger message delivered to the property as an additional outreach effort for sites with long-term constant use. In FY 2018-19, 16,023 rounds of leak alert notifications were sent to single-family, small multi-family with two to five dwelling units and irrigation customers.

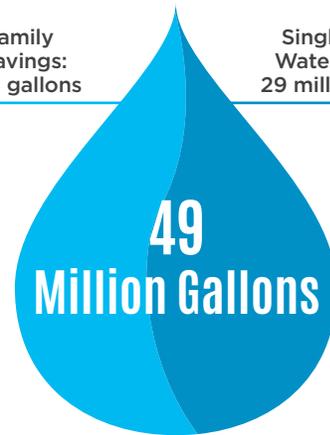


Water Conservation Inspector checking for leaks

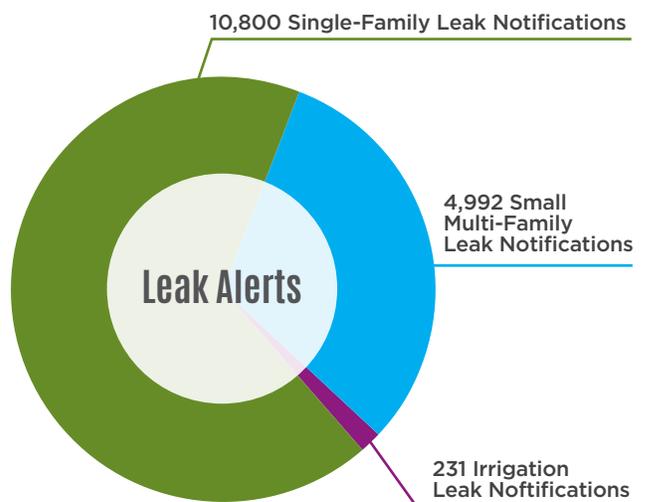
Estimated Leak Alert Program Water Savings in FY 2018-19

Multi-Family Water Savings: 20 million gallons

Single-Family Water Savings: 29 million gallons



Leak Alerts Issued in FY 2018-19



Community Outreach & Education (continued)

Water Conservation in Schools

The SFPUC is committed to fostering the next generation of environmental stewards by providing the communities we serve with educational resources. In FY 2018-19, we continued to offer free teacher resources, including curriculum designed to teach 3rd to 5th grade students how they can help protect our natural resources and prevent pollution. In total, there were 25 classroom presentations and 37 field trips to water-wise demonstration gardens.



Students at Garden for the Environment



Students at College Hill Learning Garden



"Our Water" presentation

Regional Partnerships

The Regional Water System has served the San Francisco Bay Area for almost 100 years and will continue to be the cornerstone of our water supply. But due to climate variability, earthquakes, regulatory changes and population growth, our ability to deliver water reliably is at risk if we don't proactively plan for our community's water future. The SFPUC continues to work with other Bay Area water agencies to explore regional water supply opportunities such as water transfers and purified water projects that can be developed jointly.

It takes years, if not decades, to evaluate, fund and develop new water supply projects. The SFPUC has a responsibility to plan and implement projects now to be ready in advance of the need so we can reliably maintain a high-quality water supply. Diversifying our water sources is one of the most important steps we are taking to prepare for the risks we face and ensure a sustainable water supply for generations to come.

Bay Area Regional Reliability Partnership

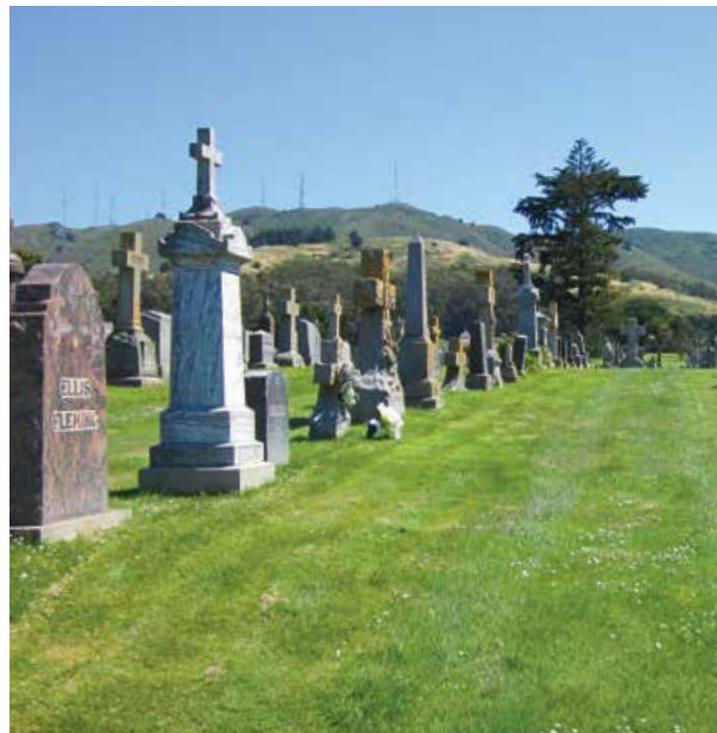
The SFPUC is part of the Bay Area Regional Reliability (BARR) Partnership. Through BARR, the SFPUC is working with Alameda County Water District, Bay Area Water Supply and Conservation Agency, Contra Costa Water District, East Bay Municipal Utility District, Marin Municipal Water District, Santa Clara Valley Water District and Zone 7 Water Agency to identify and develop opportunities for collaboration to improve water supply reliability throughout the region. In 2018, the BARR partners received a U.S. Bureau of Reclamation grant to develop a water market, through which the agencies can test water sharing and considerations for moving water within the region.



Aerial photo of the San Francisco Bay Area

Daly City Recycled Water Expansion Project

Daly City operates a recycled water treatment facility which serves Harding and Fleming Golf Courses and other neighboring golf courses. The SFPUC is working with Daly City to assess the feasibility of building a new facility that would provide an additional 1.25 mgd of average annual treatment capacity. New pipelines, pump stations and offsite storage would be constructed to complete the recycled water distribution system and deliver water to new customers for irrigation purposes. The purpose of the project is to reduce irrigation reliance on the groundwater basin; provide local, sustainable and drought resistant water supply; and to preserve available groundwater supplies for drinking water. The SFPUC is continuing to work with Daly City and others to develop the project structure and continue project design.



Holy Cross Cemetery, Colma
Photo: BrokenSphere @ Wikimedia Commons

Regional Partnerships (continued)

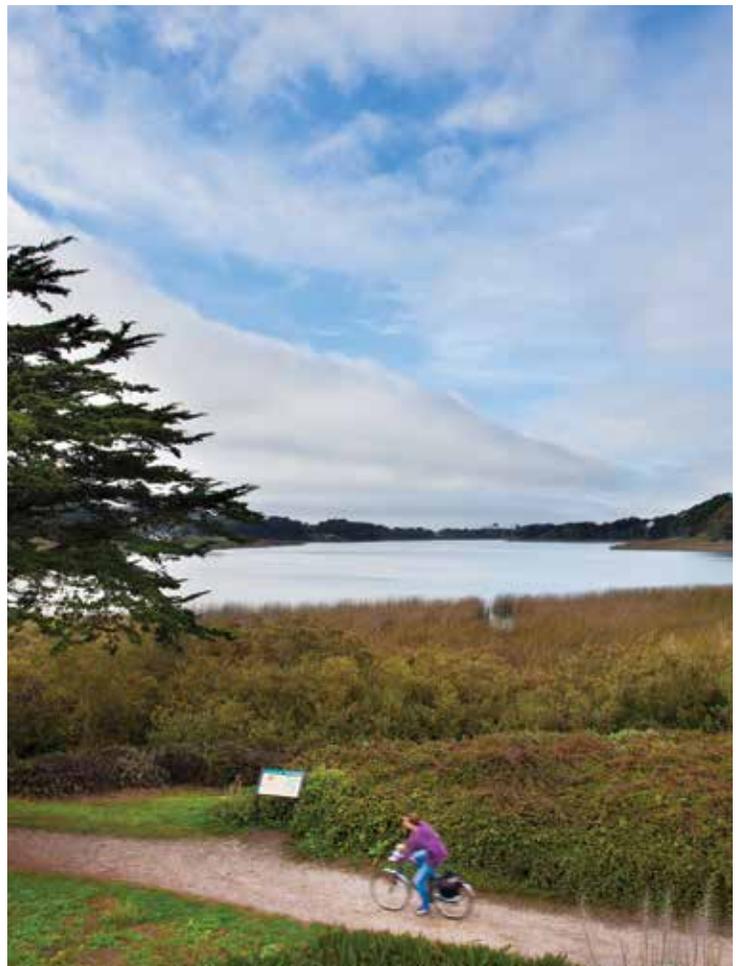
Purified Water Program

Purified water is recycled water that is put through a multi-stage purification process that meets all drinking water standards. Preliminary feasibility studies for purified water projects are under way. The SFPUC is working with Silicon Valley Clean Water, Contra Costa Water District, the Alameda County Water District, Union Sanitary District and others across various efforts to determine the feasibility of producing purified water to meet the future needs of our customers.

Resource Management at Lake Merced

Lake Merced is made up of four interconnected lakes and provides a vital link for wildlife, particularly for migrating birds. The lake also provides a regional recreational venue offering fishing, boating, bicycling and wildlife viewing. In an emergency, Lake Merced water can also be used for firefighting or sanitation purposes if no other sources of water are available. SFPUC aims to maintain water levels in the lake to provide a reliable emergency non-potable water supply. 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. Project goals include improving stormwater drainage, minimizing flooding risk and providing a sustainable water source for Lake Merced. Daly City completed the project environmental review in 2018. Daly City has also completed 90% design and is currently preparing the 100% design documents. Daly City is now working to acquire needed project funding with Bid and Award currently scheduled for summer 2020.

The SFPUC completed implementation of a Demonstration Aeration Mixing Project to determine if water quality could be improved in the southern portion of Lake Merced's South Lake. The project installed 1,500 feet of PVC tubing, connected to three air compressors located at the Lake Merced Pump Station. Compressed air is pumped through these pipes connected to diffusers located along the bottom of the lake. The compressed air released at the bottom of the lake assists in mixing various lake layers, potentially minimizing periods of very low dissolved oxygen concentrations that fall below the water quality objective of 5 mg/l. Results indicated improvement in dissolved oxygen levels in various portions of the lake as a result of the aeration mixing demonstration. The SFPUC is currently evaluating the resulting data to determine whether implementation of a larger scale aeration mixing project is needed.



Lake Merced in San Francisco

SFPUC Prepares for New Water Efficiency Requirements

The SFPUC continues to actively participate in the California Department of Water Resources and State Water Resources Control Board's development of new urban water use requirements, which are slated to become effective by 2022. To help prepare for the next drought and ensure that water conservation is truly a way of life in California, on May 31, 2018, former Governor Jerry Brown signed into law two new bills that created a comprehensive framework for water use efficiency in the state. The requirements set new water use targets for urban water providers, which go beyond the state's current goal of 20% reduction in per capita urban water use by 2020 per Senate Bill X7-7.

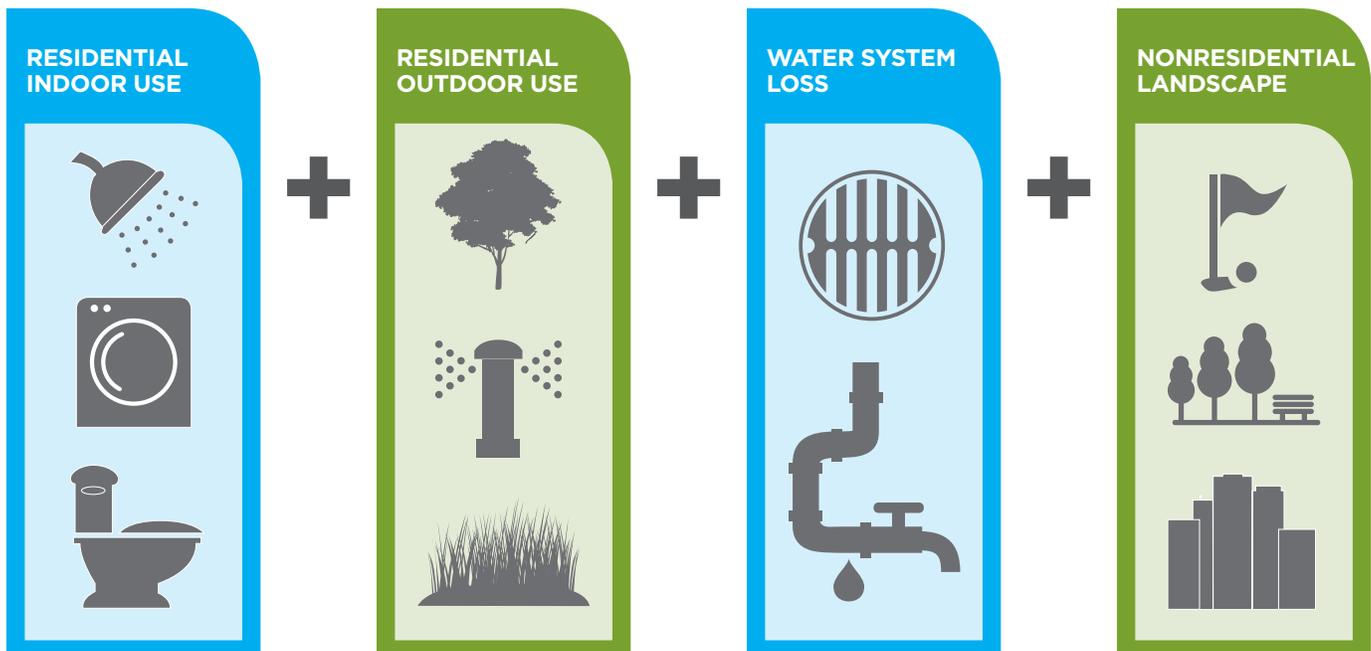
Broadly, the new framework will set a water use target for each urban supplier made up of three components:

- A standard for indoor residential water use of 55 gallons per person per day, dropping incrementally to 50 gallons by 2030.
- A standard for outdoor water use based upon and the amount of irrigable landscaped area for residential and dedicated irrigation commercial accounts and the community's climate.
- A standard for water loss due to leaks in a water utility's pipe infrastructure.

Stakeholders and staff from water agencies throughout California, including SFPUC, have been selected by the State to participate in workgroups related to water loss, landscape efficiency and indoor water use and will continue to engage in the stakeholder process to develop the specific rules for how the new water use requirements are met. The SFPUC already exceeds current state per capita reduction targets and is committed to meeting the new efficiency requirements.

Calculations to Create Each Urban Water Supplier's Unique Target

To create each water supplier's unique target, the following standards will be calculated and added together.



Forward Thinking (continued)



Staff maintaining a rain garden

2020 Urban Water Management Plan (UWMP)

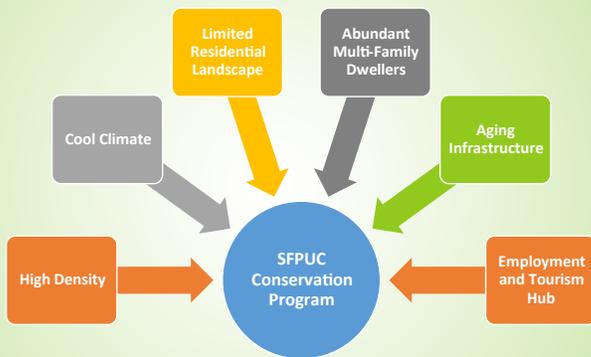
The SFPUC prepares a comprehensive UWMP every five years to provide the California Department of Water Resources and our stakeholders with a detailed assessment of our efforts to ensure long-term water reliability and efficient use of supplies. The UWMP provides information on our retail and wholesale water systems, our current and future water supplies and customer demands, our compliance with state water conservation requirements and our procedures for handling potential water shortages during drought. The 2020 UWMP will also describe how the SFPUC will address new statewide water efficiency requirements and include an updated Water Shortage Contingency Plan.

2020 Retail Water Conservation Plan

The SFPUC voluntarily prepares a Conservation Plan every five years that describes our retail water conservation program, including what measures we undertake and why; estimated water savings; how these savings effect customer demand; and where we anticipate continued and future water savings. The Conservation Plan will also reflect a comprehensive evaluation of conservation measures potentially suitable for our retail service area.

Advisor on Automated Metering Infrastructure (AMI)

The SFPUC was selected to participate as an advisor in a working group to help guide water utilities to effectively plan for and implement new AMI systems. Funding for the working group is provided in part by the California Department of Water Resources. The SFPUC coordinated with the Alliance for Water Efficiency and a renowned AMI consultant to provide input on a guidance manual for planning, procuring and maintaining AMI systems.



Factors influencing the Water Conservation Plan



Automated Water Meter

Awards and Recognition

Water Research Foundation (WRF) Outstanding Subscriber Award

The SFPUC received WRF's Outstanding Subscriber Award for our significant contributions to innovative research on direct potable reuse, including safety, blending requirements, building-scale treatment and real-time performance monitoring. This award celebrates the SFPUC's accomplishments in applied research and showcases the importance of our projects and the value they add to the total knowledge base.

Recycled Water Advocate of the Year Award from WateReuse California

Paula Kehoe and Taylor Chang were recognized for their advocacy and leadership efforts with the WateReuse California's annual Awards of Excellence. They were honored for their active support to promote in the advancement of water recycling at the local and state level.



Paula Kehoe (left) and Taylor Chang (right)

Water Champion Award from Bay Area Water Reuse & Conservation Awards

Paula Kehoe was recognized for her leadership in advancing water conservation and reuse in the Bay Area. Recognizing the primacy of water to the health and economic vitality of the Bay Area and to the environment, the Water Champion Award recognizes those who advance water conservation and reuse in the Bay Area through best practices, efficiency and innovation.

Resource Efficiency and Community Service Award from California Municipal Utilities Association (CMUA)

The SFPUC was honored to receive a CMUA award in the water programs category for implementing practices designed to use water efficiently through the agency's Onsite Water Reuse Program. The Onsite Water Reuse Program was recognized as an innovative and effective approach to sustainable water resources management.



From left to right: Joe Ujcic, Albert Ujcic and Al Ujcic

60 Years of Service - in One Family!

Al Ujcic started at the SFPUC as a meter reader with the Customer Service Bureau in 1989. He also worked as a field services inspector before he joined the Water Conservation team in 2010. Now, he puts his knowledge of water efficiency strategies to use helping hundreds of customers save water and money by conducting Water-Wise Evaluations. He is pictured with his father, Al, who worked for the Water Department for more than 20 years as a meter reader and field inspector, and his brother, Joe, who is currently a water service inspector with more than 10 years of service.

Water Resources Division
525 Golden Gate Avenue, 10th Floor
San Francisco, CA 94102

sfwater.org/localwater

November 2019



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

