

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

WATER RESOURCES DIVISION ANNUAL REPORT

Fiscal Year 2023-2024



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

Dear Partners and Customers:

This has been a busy year for the SFPUC's Water Resources Division as we work to refine and expand our existing programs, while also developing new ones. Building on our long history of implementing an extensive portfolio of policies and programs, we continue to explore additional water efficiency and alternative water supplies. Water use in San Francisco has declined for decades and, while per capita use in San Francisco is some of the lowest in the state, we never stop working to ensure that water is there when you turn on the tap.

Recognizing that we are stronger when we work together, we partnered with the Pacific Institute, a global water think tank, to help assess our existing water efficiency programs and identify potential opportunities for additional water savings. In response to the study's suggestions, the Water Conservation team significantly increased our commercial equipment rebate and updated eligibility requirements to remove barriers to participation. We also expanded eligibility for our direct toilet install program and will launch a new irrigation timer rebate program in 2025. Our 2025 Water Conservation Plan will include these recommendations and more as we continue to seek new ways to conserve water.

In addition to evaluating our current programs, we must also engage and mobilize our community. The SFPUC has been at the forefront of enabling buildings in San Francisco to install onsite water systems that collect and treat diverse water sources for reuse within buildings. This year, the Salesforce Tower began operating its blackwater treatment system, which is meeting the building's non-potable demands for toilet flushing and cooling tower make-up. The system will reduce the building's drinkable water consumption by 76%, saving up to 30,000 gallons of fresh water every day – equivalent to the yearly water consumption of 16,000 San Francisco residents.



Services of the San Francisco Public Utilities Commission



Regulations are another important aspect of sustaining our water supply. In December 2023, the State Water Resources Control Board adopted regulations for direct potable reuse, ushering in an exciting new era for water supply. These regulations established water recycling criteria for the introduction of treated recycled water either directly into a public water system or into raw water supply immediately upstream of a water treatment plant. The criteria will protect public health, which is of paramount importance as the SFPUC and other utilities explore these alternate water supplies.

As we look to the future, we know that we will need to evaluate all potential sources of water and continue the hard work of bringing some of those sources online so they are available when we need them. This is the goal of the SFPUC's Alternative Water Supply Planning Program. The Alternative Water Supply Plan, published in February 2024, is a critical roadmap laying out the opportunities for the future of water supply in San Francisco, with a particular focus on new dry year water supply projects.

We know that to keep providing high-quality water for generations to come, we all must work together. We each play an important role in protecting and conserving our supplies while understanding and supporting the need for new water supplies. Individuals, communities, and our regional partners are critical to our collective success, and we are thankful for their support.

Thank you,



Paula Kehoe,
Director of Water Resources



Water Resources Team

CONTENTS

Our Water Sources
2

Water Conservation Program
6

Recycled Water Program
17

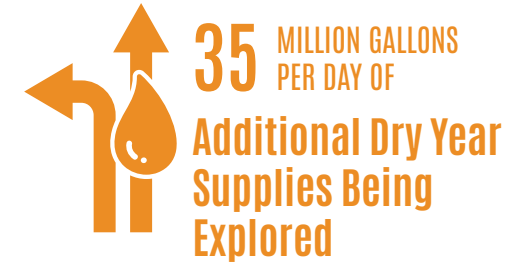
Onsite Water Reuse Program
18

Alternative Water Supply Program
21

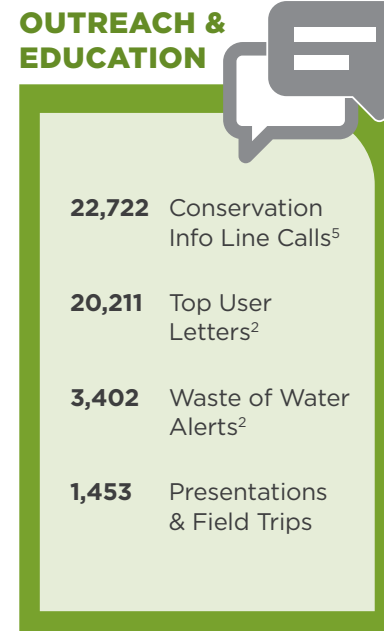
From Ideas to Implementation
26

Looking Ahead
27

WATER RESOURCES DIVISION HIGHLIGHTS



Water Conservation Program Activity Since 2009



- 1 Aerators, toilet flappers, fill valves, pre-rinse spray valves, nozzles, soil moisture meters
- 2 Tracking of participation in measure started later than 2009
- 3 Includes Water Efficient Irrigation Ordinance projects, landscape audits, community irrigation grants and rebates
- 4 Includes ice machines, industrial dishwashers, sterilization equipment
- 5 Does not include calls to the SFPUC's General Call Center regarding conservation

OUR WATER SOURCES

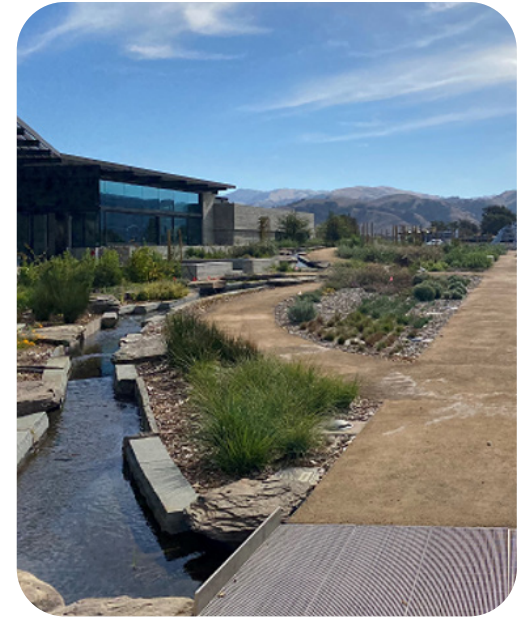
The lands on which the SFPUC water system reside are the ancestral homelands of Indigenous peoples who have been stewards of the region's natural resources for millennia.

In the upcountry region of Tuolumne County, the SFPUC plans to collaborate with Indigenous groups on the stewardship of watershed lands.

Scheduled to open in 2025, the Alameda Creek Watershed Center in Sunol will educate the public about the watershed, the Regional Water System, and the history and heritage of the Muwekma Ohlone people through interpretive and interactive exhibits. Walter Kitundu's multimedia art exhibit titled Ruupaywa, after the Ohlone Chochenyo word for "the eagle," will pay tribute to the history of the Muwekma Ohlone people while recognizing their continued presence and power.



Walter Kitundu's "Ruupaya"



Alameda Creek Watershed Center

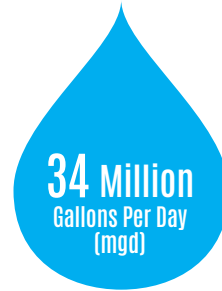


Alameda Creek Watershed

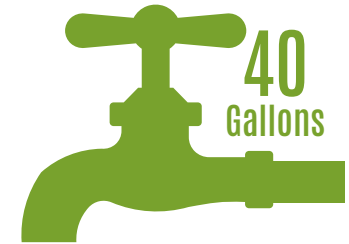
FY 2023-2024 San Francisco Residential Water Use



**SAN FRANCISCO
POPULATION**



**WATER USED BY SAN FRANCISCO
RESIDENTIAL CUSTOMERS**

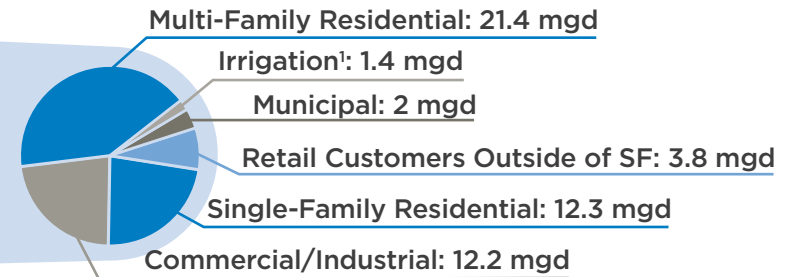


**RESIDENTIAL WATER USE
PER PERSON, PER DAY**

FY 2023-2024 Regional Water System Deliveries and Retail Water Use



**REGIONAL WATER
SYSTEM DELIVERIES²**



RETAIL WATER USE²

1 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.
 2 The Retail Water Use chart does not reflect water used for pipe flushing, firefighting, street cleaning, and water loss from supply-side main and pipe breaks.

OUR WATER SOURCES

Groundwater Program

The SFPUC's groundwater supply comes from the 40-square-mile Westside Basin, an aquifer extending from Golden Gate Park in San Francisco southward through Millbrae. The depths of production wells installed by the SFPUC range from 270 to 750 feet below ground. Our customers benefit from the storage, reliable yield, and consistent quality of water provided by this local resource.

The Westside Basin is a vital local drinking water resource for San Francisco and neighboring communities in San Mateo County. To support the responsible and sustainable management and protection of the groundwater basin, the SFPUC is committed to groundwater level and quality monitoring as one of its top priorities. Our monitoring network has expanded to 101 wells since the first wells were installed in 1989. We collect data from these wells to assess the quality of the water and how the groundwater basin responds to our operations. This allows us to adapt our groundwater pumping in response to changes in the aquifer so we can sustain this important resource.

SAN FRANCISCO GROUNDWATER SUPPLY PROJECT

The San Francisco Groundwater Supply Project has allowed us to supplement our drinking water sources by blending a small amount of groundwater with water from the Regional Water System since 2017. Over the next several years, we will incrementally build up to an average of 4 mgd of groundwater production in San Francisco.



Golden Gate Park



Groundwater Pump

OUR WATER SOURCES

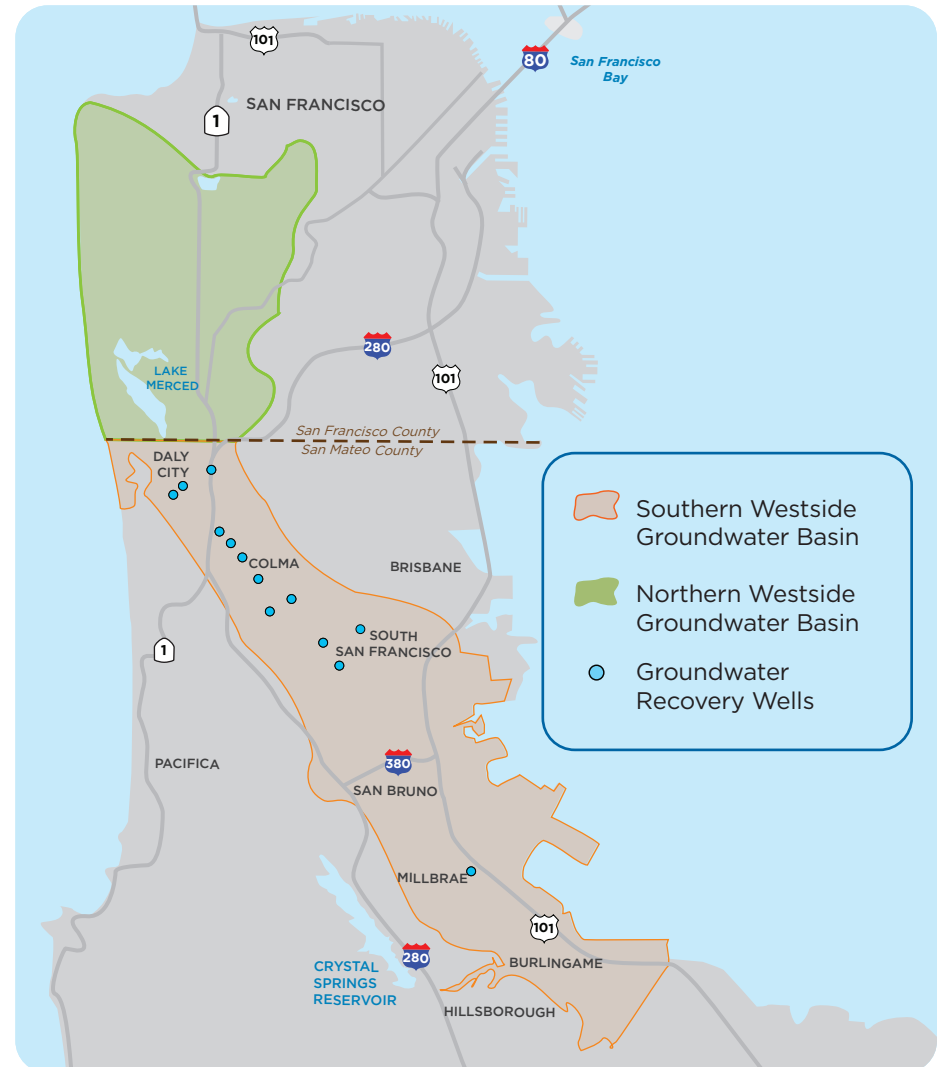
Groundwater Program

REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT

The Regional Groundwater Storage and Recovery Project is a partnership among 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 storage periods of normal to above-average annual 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 southern Westside Groundwater Basin.

Over time, the reduced pumping results in increased groundwater storage of up to 20 billion gallons from ongoing groundwater recharge. The stored groundwater serves as an additional water supply during drought. After the first year of a drought, the project may begin a recovery period by withdrawing the stored groundwater using up to 10 of the 13 production wells, 12 of which were completed as of 2020. As of October 1, 2024, the SFPUC had accumulated approximately 13.4 billion gallons of groundwater storage credits (about 36,700 acre-feet).

For more than 100 years, the Westside Groundwater Basin, a 40-square-mile underground reservoir that extends from Golden Gate Park in San Francisco to Millbrae, has been a critical source of drinking water for Daly City, South San Francisco, and San Bruno.



WATER CONSERVATION PROGRAM

Rain or shine, we provide a comprehensive water conservation program for residents and businesses in San Francisco and our retail service area outside of the City. Our program offers a variety of incentives, services, and tools to improve water efficiency and reduce water waste. In addition, the SFPUC has helped develop and implement local requirements that mandate water efficiency.

We have expanded the SFPUC's role as a leader among water agencies, particularly in the use of automated meter data to detect and notify customers about potential leaks and problems. This year, we engaged as a utility partner in important national and state-level research studies with the Water Research Foundation to update understanding of residential water use trends and expand uses of Automated Metering Infrastructure (AMI) data. In addition, the SFPUC continued to share information for the 2023 Alliance for Water Efficiency evaluation of AMI-enabled leak notification programs.



We continued to prepare for meeting new state water efficiency requirements, effective January 2025. "Making Conservation a Way of Life" sets standards for efficient indoor and outdoor water use that urban water suppliers must meet and requires suppliers to provide and report on measures to help large landscape and commercial properties meet their water efficiency goals.

WATER CONSERVATION PROGRAM

FY 2023-2024 HIGHLIGHTS

Conservation

1,220
Water-Wise
Evaluations/
Phone Consults



106 Single-Family
1,033 Multi-Family



77
Non-Residential



4
Landscape

2,333
Devices
Distributed



1,350
Aerators



652
Showerheads



331
Spray nozzles, flappers,
fill valves, etc.

1,778
Fixture Rebates
& Installations



1,495
Toilets
& Urinals



272
Clothes
Washers



11
Hot
Water
Pumps

Outreach & Education



14,955
Leak Alert
Notifications



1,708
Conservation
Phone Calls



115
Water Waste
Investigations
and Reports



78
Class
Presentations
and Field Trips

Graywater Programs



9
Rain
Barrels

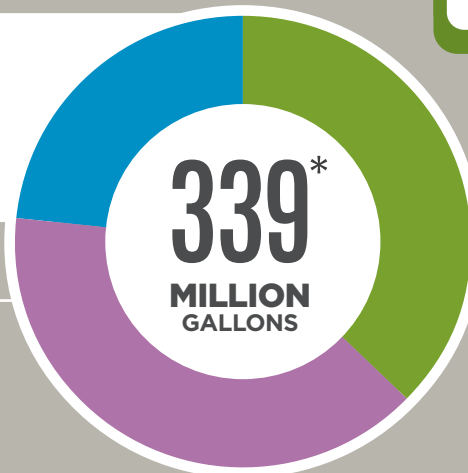


1
Cistern

FY 2023-2024 water conservation program activities are estimated to have a potential 30-year water savings of 339 million gallons.

Millions of Gallons

- 127* ■ Single-Family
- 133* ■ Multi-Family
- 79* ■ Non-Residential



* Estimated water savings for replacement of 1.6 gallons-per-flush toilets are provisional and will be finalized as part of the SFPUC's 2025 Water Conservation Plan. The final savings estimate for these toilets may cause a slight change in the total estimated conservation program savings for FY 2023-2024.

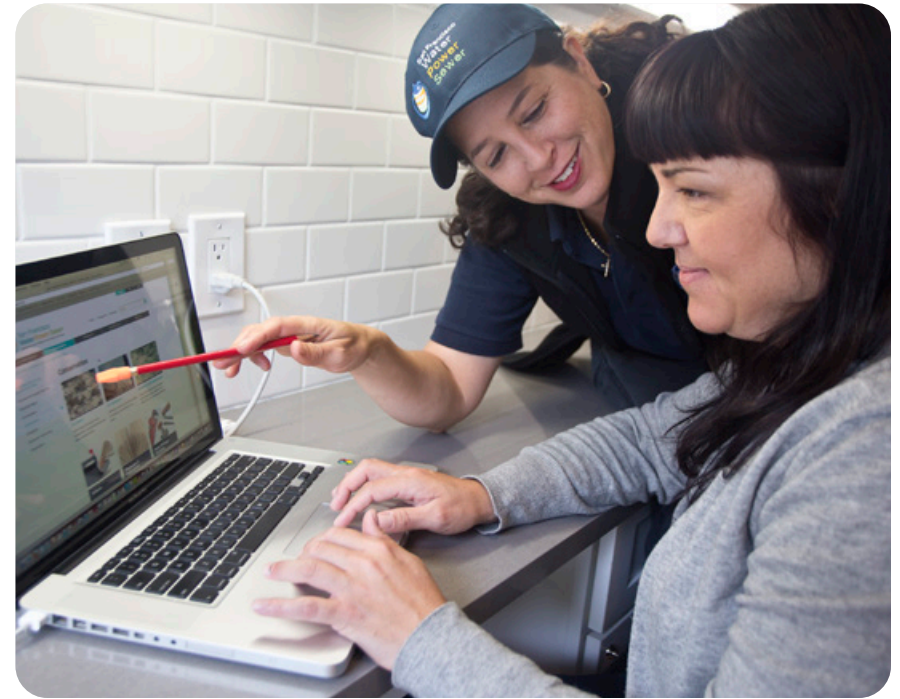
WATER CONSERVATION PROGRAM

Virtual and Onsite Water-Wise Evaluations

We conducted 1,220 water-wise evaluations for residential and commercial properties. Some of our participating commercial properties included restaurants, office buildings, hotels, laundromats, museums, schools, and colleges. Our outdoor evaluations consist of identifying irrigation efficiency improvements and plant recommendations for customers looking to improve water efficiency and reduce irrigation runoff. Field inspection staff manually ran irrigation systems, observed system operations, flagged areas needing repairs, reconnected loose drip irrigation fittings, and showed customers their sprinkler timer programming features. These outdoor landscapes included residential yards, multi-family buildings with perimeter and rooftop gardens, and homeowner association common areas. Our water-wise evaluations 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.

Free High-Efficiency Plumbing Devices

We provided 2,333 water-efficient showerheads, faucet aerators, garden spray hose nozzles, soil moisture meters, 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 after they complete a free phone consultation to determine their eligibility.



Water-Wise Evaluation



Soil Moisture Meter

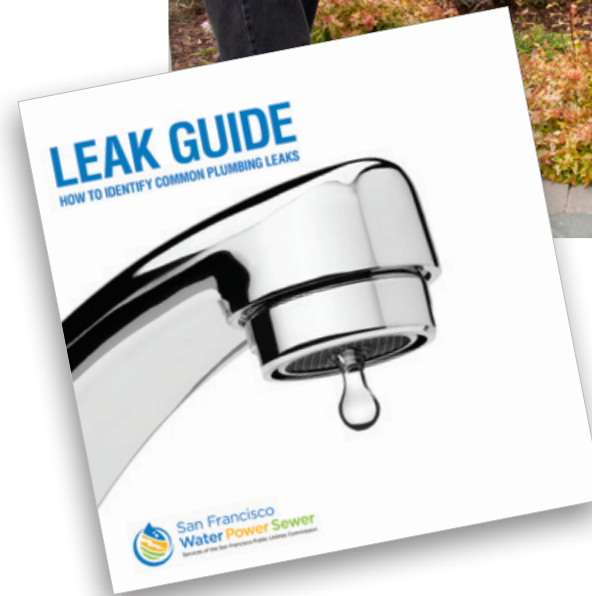
WATER CONSERVATION PROGRAM

Hot Water Recirculation Pump Rebate

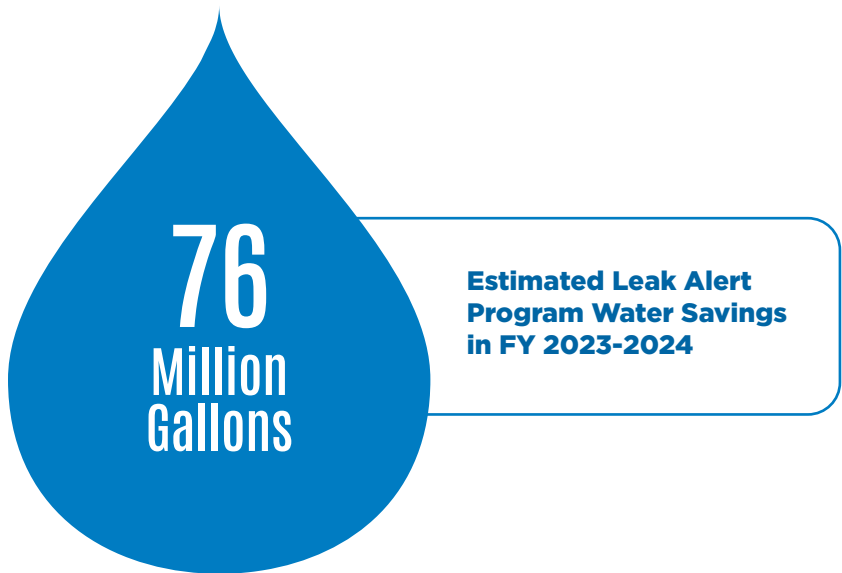
The SFPUC continued to promote the use of hot water recirculation pumps to reduce wait times for hot water to arrive at showerheads and taps, saving water and money. The pumps pull hot water from a water heater, while simultaneously sending cool water from the hot water lines back to the water heater to be reheated and reused. Pumps are either installed at water heaters or under kitchen or bathroom sinks that have electrical outlets.

Leak Alert Program

Using hourly automated meter data, we provide alert notifications to single family, multi-family, irrigation, commercial, and municipal customers when our data detected constant and unusual water use at their property that could indicate a leak. We sent alerts by phone, text message, email, letter, and door hangers. In FY 2023-2024, we continued to improve the program by updating the alert thresholds for large multi-family and non-residential customers.



Water-Wise Evaluations are free for SFPUC customers.



WATER CONSERVATION PROGRAM

Plumbing Fixture Replacement Program

The SFPUC's decades of toilet replacement incentives have removed the majority of high-flow toilets in our service area. To help accelerate the replacement of any remaining old, water-wasting toilets and urinals, we launched the Plumbing Fixture Replacement Program (PREP) in 2016. In the continued pursuit of more water savings, the program now includes replacement of 1.6-gallon flush toilets with even more efficient models, opening a much bigger market for water savings in San Francisco.

This year, 1,495 ultra-efficient toilets were installed through the PREP program, bringing the current program total since 2016 to over 6,500 efficient toilets and urinals. Ultra-efficient toilets use a gallon or less per flush and are more efficient than California code.

Clothes Washer Rebates

We provide rebates of \$100 per washer for the purchase and installation of qualifying residential ENERGY STAR® efficient clothes washers in our retail service areas. To support access to public laundry facilities for San Francisco neighborhoods that rely on them, the SFPUC worked with the Board of Supervisors on a city initiative to support local laundromats and increased its commercial washer rebate to up to \$5,000 per washer for customers installing qualifying high-efficiency, commercial-style clothes washers in laundromats, large multi-family common area laundry rooms, and other commercial facilities. In FY 2023-2024, 219 residential washer and 53 commercial washer rebates were processed.

Commercial Equipment Retrofit Rebate Program

The Commercial Equipment Retrofit Rebate Program provides funding for businesses to replace inefficient water using equipment with efficient upgrades. This program was updated in FY 2023-2024 to include metered and unmetered projects, increased the rebate amounts, and lowered the minimum annual water savings qualification requirement from 149,600 gallons to 74,800 gallons. Now, businesses can receive rebates for medical equipment, restaurant equipment, commercial laundry retrofits, and custom site-specific equipment retrofits or custom projects.

Program outreach was increased this year to include a press release detailing the program updates, presentations to business groups including the SF Hotel Council and the Building Owners and Managers Association, as well as articles in Green Business Program and Currents newsletters. This has helped reach new customers for the expanded program.



WATER CONSERVATION PROGRAM

Rainwater Harvesting Program

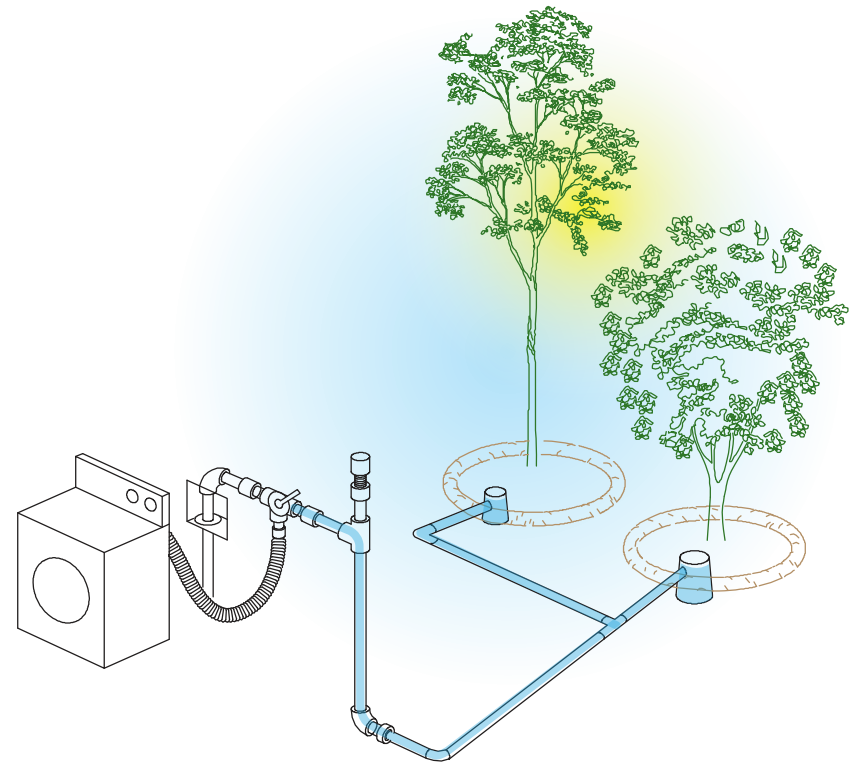
Capturing rainwater at homes and businesses can reduce potable water used for irrigation and reduce flows to the SFPUC's combined sewer system during storm events. Our Rainwater Harvesting Program provides rebates for rain barrels and cisterns, whereby eligible customers can receive a \$100 rebate for up to two rain barrels or a \$350 rebate for one cistern. The SFPUC's Rainwater Harvesting Program provided residents and businesses with 9 rain barrels and 1 cistern this year.



photo by Krystal Zamora

Residential Graywater Assistance

Our Laundry-to-Landscape Rebate Program offers single-family and small multi-family properties a \$100 rebate on essential laundry-to-landscape components for installing simple systems that use graywater to provide sub-surface irrigation. Program participants receive virtual webinar trainings, access to a free installation tool kit, and virtual technical assistance to help design, install, and maintain their graywater systems. The SFPUC continues to provide an extensive “do it yourself” guide to planning, installing, and maintaining simple graywater systems, [available on our website.](#)



WATER CONSERVATION PROGRAM

Large Landscape Grant Program and Community Garden Assistance

The Large Landscape Grant Program helps customers with irrigated landscapes over 10,000 square feet implement irrigation and planting improvements that reduce water use. To date, 13 completed projects have received funding through this program, representing about 63 acres of land, and an estimated water savings of 31 million gallons per year.

The SFPUC also administers San Francisco's Water Efficient Irrigation Ordinance, which requires that landscapes meet water-efficient standards. New landscape projects calculate their annual total water use and ensure it remains below the water budget established by state law. In FY 2023-2024, plans for 32 projects representing close to 9 acres of landscape were submitted for review. Since the ordinance passed in 2009, 335 projects representing over 250 acres have been reviewed and approved for compliance.

The Community Garden Grant Program waives the cost of irrigation meters to help customers better monitor and efficiently manage water use. In FY 2023-2024, we received three applications for new gardens in the City. We continued to issue monthly informational water use reports to all sites that received irrigation meters through our program.



WATER CONSERVATION PROGRAM

Garden for the Environment

The SFPUC owns the land that is home to Garden for the Environment, San Francisco's demonstration garden. We provide funds for educational programs that promote water-efficient, organic gardening. Located in a dense urban environment at 7th Avenue and Lawton, the garden provides a unique opportunity for San Franciscans to learn through hands-on, skills-based workshops and interpretive learning. The demonstration garden helps residents reduce water use with water-wise gardening, improve water quality through pollution prevention, and reduce toxins through organic gardening and composting. Thousands of people visit the garden every year to attend workshops, volunteer, or simply enjoy the beautiful setting.

We are also committed to fostering the next generation of environmental stewards through class presentations and field trips. In FY 2023-2024, we sponsored 30 field trips to the Garden for the Environment and 48 presentations for San Francisco students, all designed to teach students how they can help protect our natural resources and prevent pollution.



WATER CONSERVATION PROGRAM

Community Engagement, Outreach, and Affordability

The SFPUC's efforts to advance affordability reflect our commitment to ensuring that all residents have access to essential utility services. The SFPUC has several programs and policies to ensure that residents with low incomes have continued access to services, most notably the Customer Assistance Program (CAP). In response to historic arrearages accrued during COVID, we leveraged state and federal resources to obtain relief payments for our customers. We also streamlined enrollment processes to help more customers access discounts and piloted an arrearage management program to offer steep discounts for low-income residents from the most cost-burdened areas.

The Water Conservation team routinely engages in outreach to promote all our services, with a focus on our underserved communities. Using a variety of methods to reach the diverse people in our community, including bill inserts, newsletter articles, direct mailers, social media ads, and community events, we ensure that our program ads are multilingual. This year, we worked with our Customer Service Bureau to send welcome emails to all our new account holders detailing our services. We also partner with key stakeholders, like the San Francisco Apartment Association, to amplify our reach.

We continued to send monthly reports that help the City's Municipal Departments track and compare their indoor and irrigation use by month and year. We also provide customized hourly and daily use reports for large customers to supplement what they can obtain from My Account.



WATER CONSERVATION PROGRAM



Waste of Water Program

The SFPUC enacts and administers restrictions against wasteful outdoor water use practices such as irrigating during a rain event, irrigation that causes runoff, irrigation of non-functional turf on City and commercial properties, and other wasteful activities. Residents can report water waste through San Francisco's 311 system. We work with reported properties to provide guidance, resources, and best practices to improve their water efficiency and reduce water waste. This year, in addition to investigating and responding to 115 waste of water reports, our staff visited sites and helped residents and businesses identify irrigation leaks that can waste thousands of gallons per day.



My Account Customer Portal

The SFPUC's My Account web portal helps customers easily pay and view their water bills online and see their hourly, daily, weekly, and monthly water use, which can help identify water use patterns and unusual spikes in water use. Since its launch in 2014, registration for My Account has steadily increased.

This year, we lowered the SFPUC's aggregate residential per capita goal from 50 gallons per person per day to 45 gallons per person per day. Residential My Account users can track how their water use aligns with this conservation target. Account holders can register at myaccount.sfwater.org.

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, especially during droughts. 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.

In San Francisco, construction is almost complete for the Westside Enhanced Water Recycling Project. The project includes a new recycled water treatment facility, storage reservoirs, and pump stations to deliver recycled water. Construction has been completed on approximately 8 miles of recycled water pipelines. The irrigation system retrofits are complete at Golden Gate Park, the Panhandle, and Lincoln Park Golf Course with recycled water deliveries expected in late 2026. This project will save approximately 2 million gallons of potable water every day. Water produced by this project will be used primarily to irrigate Golden Gate Park, the Panhandle, and Lincoln Park Golf Course.

The SFPUC is getting ready to construct a new recycled water pipeline from the Westside Recycled Water Treatment Facility to the San Francisco Zoo for future non-potable uses such as irrigation, animal exhibit washdown, and animal pool filling at the Zoo and irrigation of the Lower Great Highway.

For more information about our Recycled Water Program, visit sfpuc.gov/recycledwater.



Recycled water is used for irrigation at Harding Park Golf Course.



Inside the Westside Recycled Water Treatment Facility

ONSITE WATER REUSE PROGRAM

Led by the efforts of the SFPUC, San Francisco became the first municipality in the country to adopt a groundbreaking program in 2012 that encourages buildings to collect, treat, and reuse water onsite to meet non-potable demands such as toilet flushing and irrigation. San Francisco's Onsite Water Reuse Program established a streamlined process for allowing alternate water sources, such as rainwater, stormwater, foundation drainage, graywater, and blackwater, to be reused in commercial, mixed-use, and residential buildings. In 2015, the Non-potable Water Ordinance began requiring onsite water systems in buildings to treat water for non-potable end uses. Now it is mandatory for new development projects of 100,000 square feet or more to install and operate an onsite non-potable water system.

To date, the SFPUC has received a total of 119 water budget applications, 40 of which are now operating onsite water systems. By 2045, the total potable water offset associated with the Onsite Water Reuse Program will be approximately 1.5 million gallons per day. For more information, visit sfpuc.gov/npo.



ONSITE WATER REUSE PROGRAM

We are at the forefront of innovation by advancing onsite water reuse in North America. As chair of the National Blue Ribbon Commission for Onsite Water Systems, we are leading a national collaborative of municipalities, water utilities, and public health agencies from 15 states, the District of Columbia, the city of Vancouver, the city of Toronto, US EPA, and US Army Engineers Research and Development Center. The National Blue Ribbon Commission is focused on addressing key institutional and regulatory barriers to widespread adoption of onsite non-potable water systems. Efforts have included developing a risk-based water quality framework for onsite water reuse and establishing model policies for municipalities that support local implementation of onsite water reuse.

The National Blue Ribbon Commission co-hosted a summit this spring exploring the integration of science, policy, and operation for the safe and effective implementation of onsite water reuse systems. The summit brought together different parts of the water sector to share experiences, research, goals, and success stories.

For more information about the National Blue Ribbon Commission, visit [their website](#).

In June 2024, the SFPUC received an award for its outstanding leadership in water reuse from the Utility of the Future Today Recognition Program. This program seeks to motivate water utilities engaged in advancing resource efficiency and recovery, developing proactive relationships with stakeholders, and establishing resilient, sustainable, and livable communities. The SFPUC was recognized for our work on our Onsite Water Reuse Program, Recycled Water Program, and Alternative Water Supply Program.



Onsite Water Reuse Summit

ONSITE WATER REUSE PROGRAM

photo by Andrew Pogue



CHORUS at 30 Otis Street

30 Otis is a 27-story mixed-use building consisting of 416 residential units, the City Ballet School, Chorus Hall (Theater), public retail, and a 2-level underground parking garage. Rainwater and graywater are collected from the building, treated, and delivered to toilets, urinals, and for irrigation. The system is expected to save 1.6 million gallons annually.

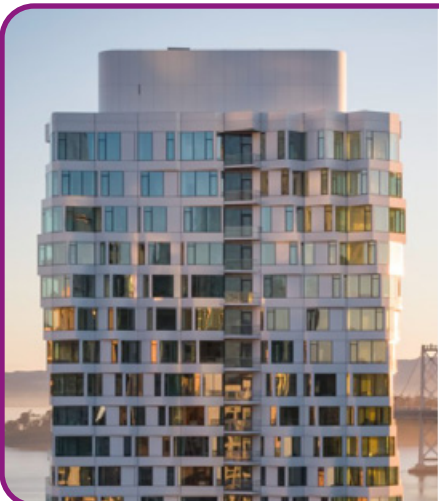
photo by Bruce Damonte



MISSION STREET FAMILY HOUSING at 1036 Mission Street

This affordable housing residential building in the heart of San Francisco's SOMA neighborhood collects rainwater from the building's roof to flush residential toilets. Prior to entering the cistern, harvested rainwater goes through a prescreen, disc filtration, granular activated carbon filtration, bag filtration, UV disinfection, and chlorination. The system is expected to save approximately 90,000 gallons annually.

image courtesy of Aquacell by PHOENIX



MIRA at 160 Folsom Street

This 400-foot mixed-use high-rise tower, containing 392 residential units and 5 ground level retailers, was designed to be a vertical neighborhood in the transbay area of San Francisco. To comply with the Non-potable Water Ordinance, the building installed an onsite water reuse system. The onsite water system captures roof and terrace level rainwater along with graywater from sinks, showers, and washing machines, which is then treated and reused for toilet/urinal flushing within the building and irrigation of site landscaping, both within the parcel and in the surrounding right-of-way. The system is expected to save approximately 2 million gallons annually.

ALTERNATIVE WATER SUPPLY PROGRAM

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 for San Francisco as well as our suburban retail and wholesale customers in the region. But issues such as climate variability, droughts, earthquakes, and regulatory changes require that we consider new water supplies and creative solutions to plan for our future needs. These new water supply options — such as expanding storage, groundwater banking, water transfers, purified water, and desalination — are being evaluated as part of the Alternative Water Supply Program. In February 2024, the SFPUC published the Alternative Water Supply Plan which is a roadmap to guide water supply planning to help address projected water supply shortfalls through 2045. This plan represents the current thinking that guides the development of alternative water supplies for the SFPUC and is expected to be updated in FY 2026-2027 as more information on planning drivers and projects becomes available. Some of the projects that are included in the Alternative Water Supply Plan are discussed in more detail below.

Daly City Recycled Water Expansion

This project has been designed to produce approximately 1 million gallons per day, on average, of tertiary-treated recycled water. The project is envisioned to provide recycled water to cemeteries and other smaller irrigation customers, offsetting existing groundwater pumping from the southern Westside Groundwater Basin, thereby increasing groundwater storage by 0.7 million gallons per day. The project is a regional partnership among the SFPUC, the City of Daly City, and the California Water Service Company. SFPUC customers will benefit from the increased reliability of the southern Westside Basin for additional drinking water supply during future droughts. This project supports the Regional Groundwater Storage & Recovery Project.



Recycled water is used for irrigation in cemeteries in Daly City.

ALTERNATIVE WATER SUPPLY PROGRAM

ACWD-USD Purified Water Partnership

This project could provide a new purified water supply utilizing Union Sanitary District's (USD) treated effluent, which is currently discharged to the Bay. Purified water produced by advanced water treatment at USD in the East Bay could be transmitted to the Quarry Lakes Groundwater Recharge Area to supplement recharge into the Niles Cone Groundwater Basin as part of an indirect potable reuse project. Alternatively, purified water could be delivered to the Regional Water System through a new intertie with Alameda County Water District (ACWD). A feasibility study for this project was completed this year and the project will seek federal funding support as planning continues. This project could produce up to 5.4 million gallons per day of drinking water with the potential to be expanded further in the future.



Google Earth Image of Quarry Lakes, Fremont, CA

PureWater Peninsula

This project is a purified water project that could provide up to 12 million gallons of water supply per day either through reservoir augmentation at Crystal Springs Reservoir, direct distribution through the SFPUC and neighboring transmission systems, or both. Treated effluent from Silicon Valley Clean Water and the City of San Mateo would flow through an advanced water treatment plant to produce purified water that meets state and federal drinking water quality standards. The purified water would then be blended with regional surface water supplies.



Water Resources Staff at PureWater Soquel

ALTERNATIVE WATER SUPPLY PROGRAM



Silicon Valley Advanced Water Purification Center, San Jose, CA

South Bay Purified Water

This project is another purified water project that could provide up to 10 million gallons of water supply per day, of which 6.5 million gallons per day would be served directly to customers in the cities of San Jose and Santa Clara in all years and 3.5 million gallons per day would be delivered to the Regional Water System in dry years. Treated effluent from the San Jose-Santa Clara Regional Wastewater Facility would flow through an advanced water treatment plant to produce purified water that meets state and federal drinking water quality standards. The project concept and partnership involvement continue to evolve. Regardless, this project is linked to the policy decision before the SFPUC of whether to make San Jose and Santa Clara permanent customers (they are currently interruptible customers without guaranteed supply beyond ten years). The regional benefit of this project would likely be realized only if San Jose and Santa Clara are made permanent customers of the SFPUC, a decision which the SFPUC must make by 2028.

Los Vaqueros Reservoir Expansion

The Los Vaqueros Reservoir Expansion (LVE) Project is a multi-agency storage and conveyance project that would enlarge an existing Contra Costa Water District (CCWD) reservoir from 160,000 acre-feet to 275,000 acre-feet. The expanded reservoir would offer regional benefits for water agencies and their customers in the Bay Area and Central Valley. The SFPUC is a member of the project's Joint Powers Authority and is represented on its Board of Directors. Because the SFPUC's system is not hydraulically connected to the Los Vaqueros Reservoir, the SFPUC's participation in this project would require implementation of two companion projects: Water Supply Alternatives and Conveyance Alternatives. Given the high institutional complexity of this project, the SFPUC along with the partner agencies continue to adapt to changing conditions to ensure benefits to all partners. *(Continued on next page.)*



Los Vaqueros Reservoir, Contra Costa County, CA

ALTERNATIVE WATER SUPPLY PROGRAM

Los Vaqueros Reservoir Expansion (continued)

STORAGE

While the allocation of storage to project partners has not been finalized, this project is envisioned to provide up to 20,000 acre-feet of additional storage for the SFPUC in a strategic location west of the Sacramento–San Joaquin River Delta. Environmental review and design of the dam for the storage project are complete, while inter-agency agreements have not yet been completed.

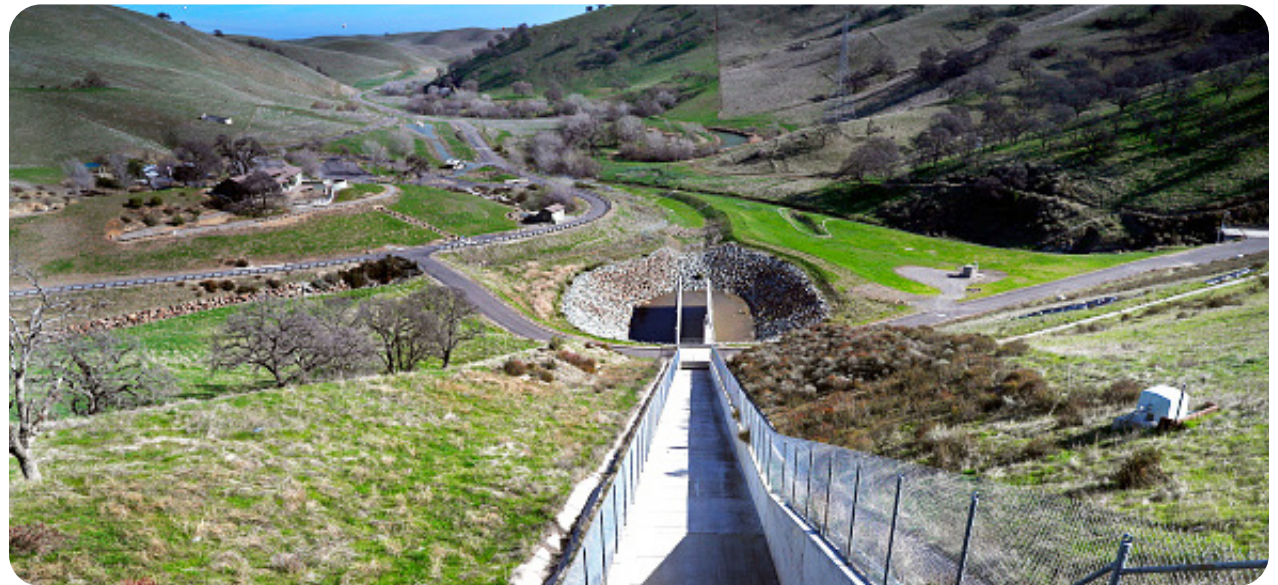
In September 2024, after previously requesting updates on the partner agencies' business cases for participation, the CCWD Board of Directors asked CCWD staff to develop an approach to exit the LVE Project. Although the CCWD Board of Directors has not yet issued formal notice of withdrawal from the LVE Project, this development calls into question next steps for the LVE Project as it is currently envisioned. SFPUC staff continue to have constructive discussions with CCWD and other Joint Powers Authority member agencies and are collaborating with all partners to respond to current conditions.

WATER SUPPLY ALTERNATIVES

Regardless of the immediate next steps for the LVE Project, Water Resources staff continue to advance related water supply projects to expand the SFPUC's portfolio of dry-year supplies. Water Resources staff are pursuing water transfer opportunities and assessing opportunities to develop new water supplies, such as water reuse, groundwater demineralization, or desalination.

CONVEYANCE ALTERNATIVES

Water could be conveyed from Los Vaqueros to the Regional Water System either directly to San Antonio Reservoir or indirectly via exchange with partner agencies. SFPUC staff continue to evaluate the necessary institutional relationships, capital requirements, and capacity to receive deliveries. These opportunities continue to offer benefits to the SFPUC regardless of the outcome of storage through the LVE Project.



Spillway at Los Vaqueros Reservoir

ALTERNATIVE WATER SUPPLY PROGRAM

Calaveras Reservoir Expansion

This storage project envisions the expansion of the existing Calaveras Reservoir to create up to 289,000 acre-feet of additional capacity to store excess supplies from the Regional Water System or another source water in wet and normal years. In addition to reservoir enlargement, the project would involve infrastructure to pump water to the reservoir, such as pump stations and transmission facilities. Unlike the other regional projects under review in the Alternative Water Supply Program, no external partners are anticipated for this project. We have conducted a preliminary analysis reviewing potential dam raise scenarios, which indicated that an expansion of the dam at various elevations is technically feasible. Conveyance was also found to be technically feasible but would be challenging and costly to build. Funding for continued project planning is currently on hold while other projects are being evaluated.



Calaveras Reservoir and Dam, Santa Clara County, CA

Bay Area Regional Reliability Partnership

The SFPUC remains actively engaged in the Bay Area Regional Reliability (BARR) Partnership which is looking for ways to collaborate to secure regional reliability especially during droughts. Through BARR, we are working with ACWD, BAWSCA, CCWD, East Bay Municipal Utility District, Marin Municipal Water District, Valley Water, and Zone 7 Water Agency to identify and develop opportunities for collaboration to improve water supply reliability throughout the region. With grant support from the US Bureau of Reclamation, the BARR partners have completed a Drought Contingency Plan and a subsequent pilot study called the Shared Water Access Program to evaluate opportunities to share and convey water supplies among partners to better prepare for sharing water during a future drought or emergency. All participating agencies recognize the importance of continued collaboration to ensure regional resilience in an uncertain water future.

FROM IDEAS TO IMPLEMENTATION

In 2016, OneWaterSF formalized a new way of thinking at the SFPUC, adopting a truly innovative approach to making the most of our limited resources. The term “one water” is an integrated planning and implementation approach to managing finite water resources for long-term resiliency and reliability, meeting both community and ecosystem needs.

The OneWaterSF approach encourages working across traditional silos to create additional benefits and efficiencies. We define resources broadly to include water, energy, financial, human, community partnerships, and natural resources. Our focus has been on a cultural shift in our approach to resource management that embraces collaboration, innovation, and technology.

For the Water Resources Division, adopting this holistic OneWaterSF approach is at the heart of how we view water resources management for the future. Onsite Water Reuse and Alternative Water Supply are examples of how the Division is addressing some of the regulatory and climate uncertainty effects on water demands and supplies. Examples of other challenges we face are related to resource availability and affordability. Through the Ideation to Implementation Program (I2I Program), the Water Resources Division is encouraging a culture of creativity and collaboration toward implementation of our programs such as piloting atmospheric water generation technology, providing grants for heat recovery in non-potable systems, and developing guidance for breweries treating process water for reuse.

The Water Resources I2I Program promotes exploration of new ways we can conserve and reuse water, recover resources, and diversify our water supply. We continue to explore several cutting-edge ideas such as treating water onsite at the single-family scale. We are evaluating emergent technologies such as single-family graywater systems, recirculating clothes washers, and recirculating showers as additional opportunities for water savings. The Program facilitates testing of forward-thinking ideas, technologies, and research to help meet San Francisco’s long-term potable and non-potable water needs and ensuring that there is a path toward successful implementation. It is also an opportunity to develop partnerships with the community, industry, developers, technology vendors, and others to ensure long-term water resources sustainability in San Francisco.



Atmospheric Water Generation at Golden Gate Park

LOOKING AHEAD

Lake Merced is made up of four interconnected lakes and provides a vital link for wildlife, particularly 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. The SFPUC aims to maintain water levels in the lake to support various recreational activities and provide a reliable non-potable water supply for emergencies.

From 1934 to 2015, the Pacific Rod and Gun Club operated skeet and trap shooting facilities at Lake Merced. This resulted in lead shotgun pellets and other debris falling onto the site and into the lake. The SFPUC conducted an initial site remediation to address elevated levels of lead and polyaromatic hydrocarbons in the soil because of historical club activities. San Francisco's Recreation and Parks Department prepared and published the Draft Environmental Impact Report (EIR) in December 2021 to facilitate recreational redevelopment of the site and the Final EIR was certified in February 2023.

The SFPUC completed design for demolition and final remediation onsite and went out to bid in summer 2024. The work began in September 2024 and will conclude in early 2025. Once the final site cleanup is completed, the Recreation and Parks Department will implement an open bid solicitation to facilitate site redevelopment which is currently envisioned to include a recreational facility and a wide variety of outdoor recreational activities, such as picnic areas, playgrounds, boat docks, a ropes course, a skateboarding park, birdwatching benches, basketball, and multipurpose sports courts.

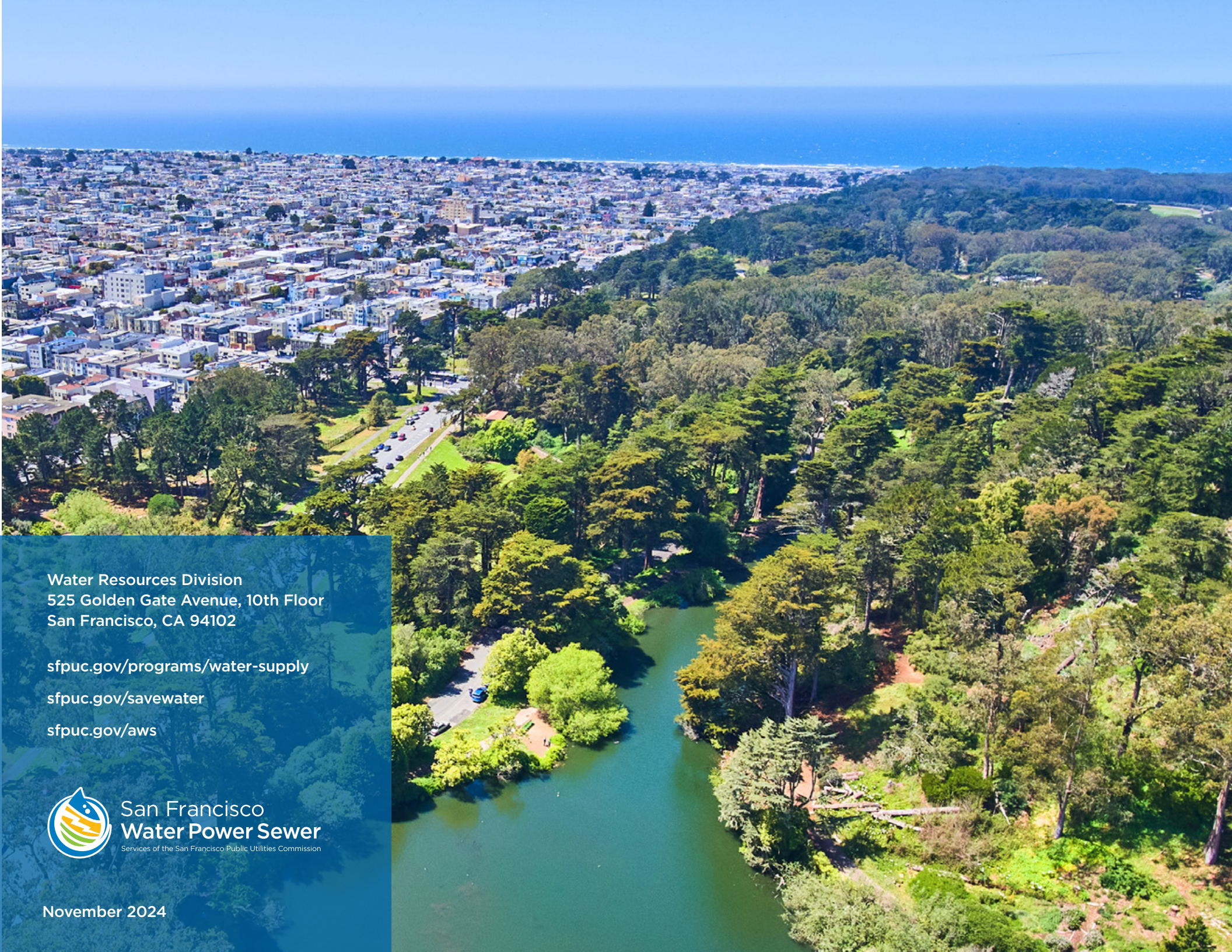


The four interconnected lakes at Lake Merced offer ample opportunity for regional recreation.

LOOKING AHEAD

LAKE MERCED CONCEPTUAL SITE PLAN





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

sfpuc.gov/programs/water-supply

sfpuc.gov/savewater

sfpuc.gov/aws



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

November 2024