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

APPENDIX F

Water Shortage Contingency Plan

2025 URBAN WATER MANAGEMENT PLAN
for the City and County of San Francisco

June 2026

Prepared by: The San Francisco Public Utilities Commission

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2025 WATER SHORTAGE CONTINGENCY PLAN

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ACRONYMS AND ABBREVIATIONS

AF	Acre-feet
BAWSCA	Bay Area Water Supply and Conservation Agency
City	City and County of San Francisco
CSD	Community Services District
CY	Calendar Year
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
EOP	Emergency Operations Plan
FY	Fiscal Year
ISL	Interim Supply Limitation
LOS	Levels of Service
MGD	million gallons per day (flow or usage rate of water)
RWS	San Francisco Regional Water System
RWSAP	Retail Water Shortage Allocation Plan
SAPS	San Antonio Pump Station
SB	Senate Bill
SFPUC	San Francisco Public Utilities Commission
State	State of California
SVCF	Sunol Valley Chloramination Facility
SVWTP	Sunol Valley Water Treatment Plant
SWRCB	State Water Resources Control Board
UWMP	Urban Water Management Plan
Valley Water or VW	Santa Clara Valley Water District
WSA	Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County
WSAP	Water Shortage Allocation Plan
WSCP or Plan	Water Shortage Contingency Plan
WSDA	Water Supply and Demand Assessment
WSIP	Water System Improvement Program

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SECTION 1 INTRODUCTION

The San Francisco Public Utilities Commission (SFPUC) presents this Water Shortage Contingency Plan (WSCP or Plan) on behalf of the City and County of San Francisco (City). This WSCP complies with California Water Code Section 10632, which requires that every urban water supplier prepare and adopt a WSCP as part of its urban water management plan (UWMP). This WSCP presents the latest information about the SFPUC's annual water supply and demand assessment (WSDA) procedures and describes the SFPUC's water shortage contingency planning. The WSCP describes the SFPUC's water shortage levels and associated response actions to be implemented during a water shortage condition.

1.1 BACKGROUND AND APPLICATION

Over 2.7 million people and businesses in the San Francisco Bay Area rely on water supplied by the SFPUC, a City department, to meet their daily water needs. The San Francisco Regional Water System (RWS) is municipally owned infrastructure operated by the SFPUC that serves both retail and wholesale customers. The RWS supplies high-quality drinking water from the Tuolumne River watershed and from the local Alameda and Peninsula watersheds. The RWS draws an average of 85% of its supply from the Tuolumne River watershed, collected in Hetch Hetchy Reservoir in Yosemite National Park. This water feeds into an aqueduct system delivering water 167 miles by gravity to Bay Area reservoirs and customers. The remaining 15% of the RWS supply is drawn from local surface waters in the Alameda and Peninsula watersheds. The percentage split between these water sources varies from year to year depending on the water year hydrology and operational circumstances.

The SFPUC provides retail water service to customers both inside and outside of San Francisco (collectively referred to as the retail customers). The majority of the retail customers are located inside of San Francisco and are referred to as "in-City" retail customers. The small number of retail customers outside of San Francisco are located along the RWS transmission system and are referred to as "suburban" retail customers. The in-City distribution system serves a residential population of nearly 844,000 in addition to San Francisco-based businesses. The suburban retail customers include a residential population of approximately 2,000, as well as businesses and institutions, in San Mateo, Santa Clara, Alameda, Tuolumne, and San Joaquin Counties. In-City retail customers are primarily served with RWS supply, but some customers also receive groundwater and recycled water from the SFPUC or other providers. Similarly, the suburban retail customers are primarily served with RWS supply, although one customer also receives groundwater from the SFPUC.

Traditional surface water supplies from the SFPUC's Upper Tuolumne, Alameda, and Peninsula watersheds are the backbone of the RWS's water supply. The SFPUC extends and protects those supplies in many ways, including, but not limited to, the following actions within its retail service area: (1) encouraging its retail customers to help save water through robust conservation programs; (2) reducing the need for additional water to serve new developments in San Francisco through an onsite water reuse program; (3) recycling wastewater resources in San Francisco to deliver water for large non-potable uses; (4) utilizing local groundwater supplies to supplement or offset surface water supplies; (5) investigating new, alternative dry-year water supply options such as purified water; and (6) investing in innovations that allow for creative solutions to meet diverse needs. These efforts help the SFPUC conserve water and diversify supplies to reduce the likelihood of a water shortage.

The contents of this WSCP are applicable to all retail customers as identified in Table 1-1 and shown on the map in Figure 1-1.

Table 1-1. Retail Public Water Systems

Public Water System ID	Public Water System Name	Water Supply Type	Description
CA3810001	SAN FRANCISCO REGIONAL WATER SYSTEM	Treated surface water, groundwater, and raw water	Regional Water System (RWS) that serves the SFPUC's suburban retail customers that are not described in the rows below (in addition to the SFPUC's wholesale customers).
CA3810011	SAN FRANCISCO WATER SYSTEM	Treated surface water and groundwater	The City and County of San Francisco's water distribution system that delivers water to in-City retail customers.
CA3810702	TREASURE ISLAND WATER SYSTEM	Treated surface water	An island and neighborhood in the City and County of San Francisco. Water demand from Treasure Island is part of in-City retail demands.
CA0110012	TOWN OF SUNOL WATER SYSTEM	Treated surface water	Domestic water system for the Town of Sunol in unincorporated Alameda County, which typically serves less than 0.1 MGD.
CA3810008	THOMAS SHAFT WHOLESALE WATER SYSTEM	Treated surface water	Water facilities are located at the Lawrence Livermore National Laboratory Site 300 at Thomas Shaft of the Coast Range Tunnel.
CA3810003	MOCCASIN COMPOUND WATER SYSTEM	Treated surface water	Raw water from Hetch Hetchy Reservoir that serves suburban retail customers in the Town of Moccasin in unincorporated Tuolumne County.
CA0110018	PLEASANTON WELL FIELD WATER SYSTEM	Groundwater	Referred to as the Castlewood Well System where approximately 0.3 MGD of treated (potable) groundwater is provided to the Castlewood County Service Area in unincorporated Alameda County.
CA3810005	O'SHAUGHNESSY DAM COMPOUND WATER SYSTEM	Raw water	Raw water from Hetch Hetchy Reservoir.
CA3810006	EARLY INTAKE COMPOUND WATER SYSTEM	Raw water	Raw water from Hetch Hetchy Reservoir.

Note: This list includes all public water systems owned and operated by the SFPUC. Pleasanton Well Field is not part of the RWS. The State does not require that the SFPUC report all public water systems on this list in the UWMP.

The SFPUC also delivers water to wholesale customers in the Bay Area that purchase RWS water for retail customers in their individual service areas. The Bay Area Water Supply and Conservation Agency (BAWSCA) represents the interests of 26 wholesale customers of the SFPUC that are in Alameda, Santa Clara, and San Mateo Counties (collectively, Wholesale Customers) and coordinates water conservation programming on their behalf. One SFPUC wholesale customer not represented by BAWSCA is the Cordilleras Mutual Water Company, a small

water association serving 18 single-family homes located in Redwood City in San Mateo County. Another SFPUC customer, the Groveland Community Services District (CSD), located in Tuolumne County, is considered a wholesale customer for the purposes of the SFPUC's UWMP and WSCP because it produces its own UWMP and WSCP, but the SFPUC considers it among its retail customers in the context of allocating RWS supplies between retail and Wholesale Customers. Collectively, the wholesale customers on average receive over two thirds of the RWS's annual deliveries, with the remaining approximately one third provided to the retail customers. See Figure 1-2 for a map showing the wholesale service area encompassing all of the SFPUC's wholesale customers.

Parts of this WSCP are relevant for the SFPUC's wholesale customers, particularly when the RWS is experiencing a system-wide water shortage condition. However, these wholesale customers are also urban water suppliers that are required to prepare their own WSCPs for the retail customers that they serve. Table 1-2 indicates which sections of this Plan, following this introduction section, are applicable to SFPUC's wholesale customers.

This introduction section provides background and application of this Plan. A summary of the SFPUC's response to past water shortages is found in the following sections:

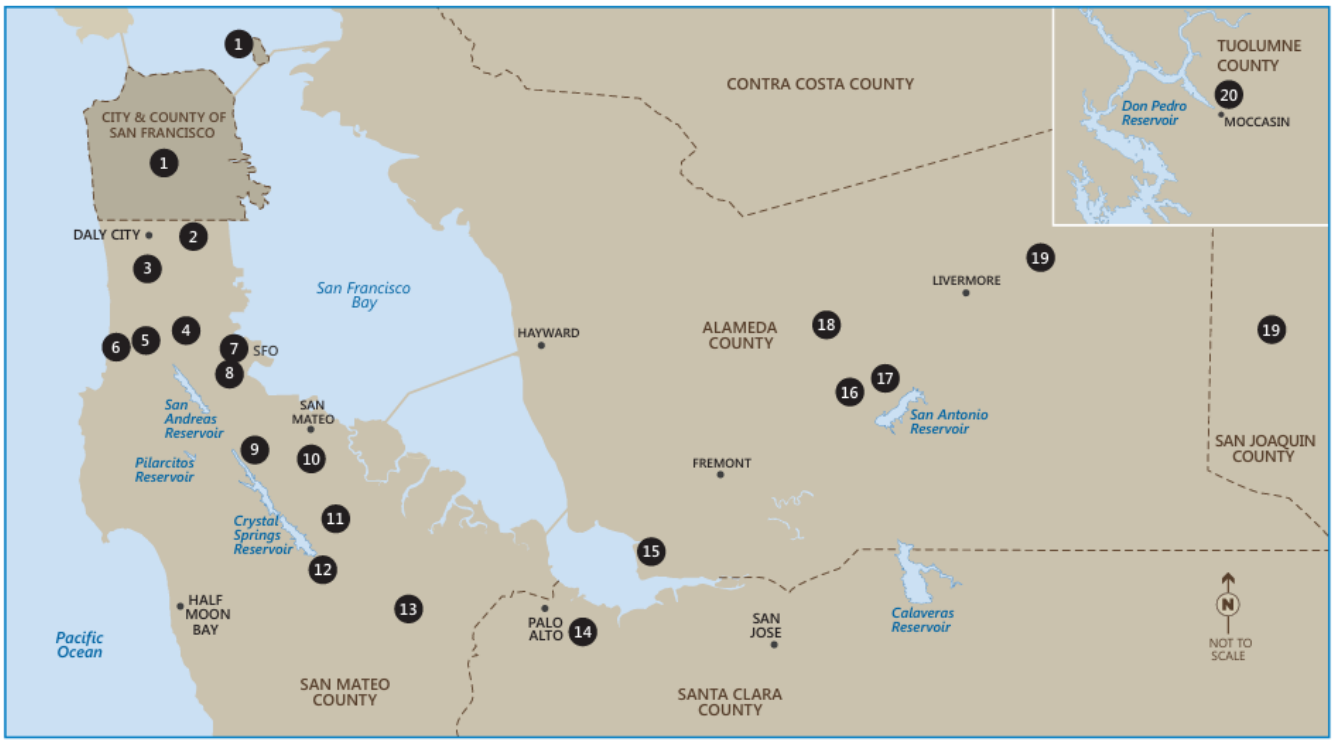
- Pre-2010 water shortages: see Section 1.2, described in more detail in Appendix A
- 2012-2016 drought: see Section 1.3, described in more detail in Appendix B
- 2020-2023 drought: see Section 1.4, described in more detail in Appendix C

Table 1-2. Application of Water Shortage Contingency Plan for Retail vs. Wholesale Customers

Section	Retail	Wholesale
2. Annual Water Supply and Demand Assessment Procedures	✓	✓
3. Water Shortage Levels	✓	✓
4. Retail Water Shortage Response Actions	✓	
5. Communication Protocols	✓	✓*
6. Compliance and Enforcement	✓	
7. Legal Authorities	✓	✓*
8. Financial Consequences of the WSCP	✓	✓*
9. Monitoring and Reporting	✓	
10. Preparation for Catastrophic Supply Interruption	✓	✓
11. WSCP Refinement Procedures	✓	
12. Plan Adoption, Submittal, and Availability	✓	

*Portions of this section are relevant for wholesale customers where noted.

Figure 1-1: Retail Service Customers



IN-CITY RETAIL SERVICE AREA

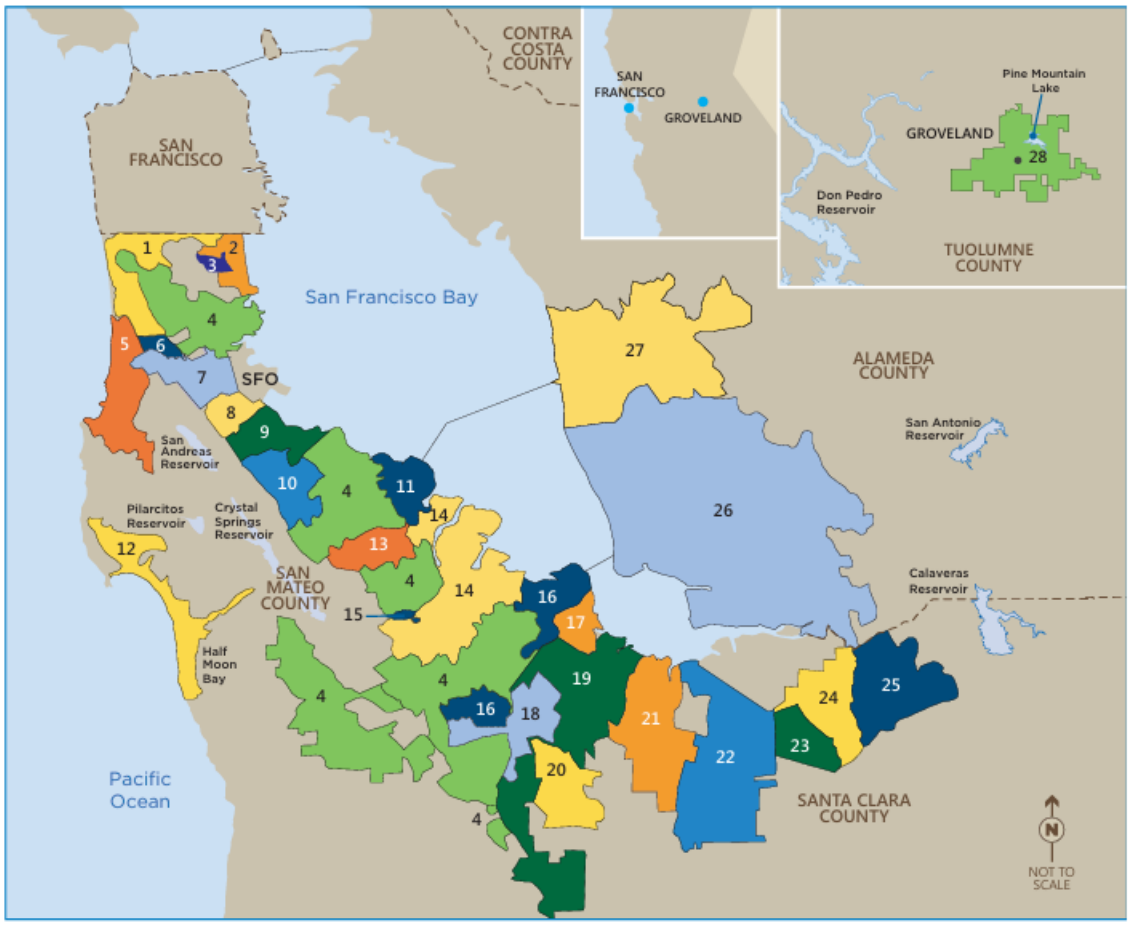
1 City and County of San Francisco

SUBURBAN RETAIL SERVICE AREA

2 Residential and Non-residential Customers in Daly City
3 Cemeteries in Colma
4 Golden Gate National Cemetery
5 San Francisco County Jail #3
6 Sharp Park Golf Course
7 San Francisco International Airport
8 SFPUC Millbrae Headquarters
9 Crystal Springs Golf Course
10 Peninsula Golf and Country Club
11 Residential Customers in Redwood City
12 Filoli Center
13 Menlo Country Club
14 NASA Ames Research Center
15 Cargill Salt
16 Residential and Non-residential Customers in Sunol
17 GE Hitachi Nuclear
18 Castlewood Country Club
19 Lawrence Livermore National Laboratory (Mocho Shaft at Site 200 and Thomas Shaft at Site 300)
20 Residential and non-residential customers in Moccasin

The suburban customers shown above represent the majority of water use in the suburban retail service area, but the list is not comprehensive. Castlewood Country Club receives groundwater from wells that are not connected to the RWS. The SFPUC reports Groveland CSD as a wholesale customer in its UWMP because Groveland CSD is an urban water supplier and prepares its own UWMP and WSCP. Outside of its UWMP and WSCP, the SFPUC considers Groveland CSD as a retail customer in the context of allocating RWS supplies between retail and wholesale customers.

Figure 1-2: Wholesale Service Area



MUNICIPALITIES

2 City of Brisbane	27 City of Hayward	21 City of Mountain View	24 City of San Jose[a]
9 City of Burlingame	16 City of Menlo Park	19 City of Palo Alto	23 City of Santa Clara[a]
1 City of Daly City	8 City of Millbrae	14 City of Redwood City	22 City of Sunnyvale
17 City of East Palo Alto	25 City of Milpitas	7 City of San Bruno	10 Town of Hillsborough

WATER PURVEYING DISTRICTS

26 Alameda County Water District	3 Guadalupe Valley Municipal Improvement District	20 Purissima Hills Water District
12 Coastside County Water District	13 Mid-Peninsula Water District	6 Westborough Water District
11 Estero Municipal Improvement District	5 North Coast County Water District	28 Groveland Community Services District[b]

OTHER ENTITIES

4 California Water Service Company[c]
18 Stanford University
15 Cordilleras Mutual Water Company[d]

Notes: The SFPUC provides water on an interruptible basis to fixed service areas in the northern portions of the Cities of San Jose and Santa Clara. California Water Service Company (Cal Water), an investor-owned utility, provides water service to four separate districts in the SFPUC's wholesale service area, which are consolidated into three operating districts: (1) Bear Gulch (serving Portola Valley, Woodside, Atherton, and portions of Menlo Park, Redwood City, and San Mateo County), (2) Mid-Peninsula (serving San Mateo and San Carlos), and (3) South San Francisco.

1.2 EXPERIENCE WITH WATER SHORTAGES PRE-2010

Every water system has vulnerabilities that could impact its ability to provide a safe and reliable supply of water. Water shortages can occur in several ways. Very localized shortages can occur due to distribution system problems, and system-wide shortages can occur due to major facility failures. System-wide shortages may limit the amount of water that is available over a series of years. Water shortage conditions are also not necessarily caused by physical facility limitations. Within the past 50 years, San Francisco has experienced both localized shortages due to earthquakes and system-wide shortages due to drought.

- The 1976-1977 drought was one of the driest periods in California history, which led to severe water shortages across the state.
- In 1987-1992, San Francisco experienced a serious drought, during which the SFPUC adopted various action levels in response to low water levels at Hetch Hetchy Reservoir, which had been taxed to the point of running out of water.
- Following the October 17, 1989, Loma Prieta earthquake, the SFPUC worked with the Mayor's Office of Emergency Response to reconnect water service for retail customers impacted by the earthquake. Most of the homes that lost water service were reconnected within 72 hours.
- In April 2007, below normal precipitation and snowpack caused the SFPUC to initiate a 10% voluntary reduction in water use in its service area. The call for a voluntary reduction continued through 2009.

The SFPUC's past experiences with water shortages during drought and following major earthquakes shaped its current water shortage preparedness plans and response policies. The longest drought that impacted the SFPUC's ability to maintain full deliveries to its customers was the 1987-1992 drought. During that drought's first few years, as reservoir storage continued to decline, it became evident that the SFPUC could not sustain full deliveries without the risk of running out of water before the drought ended. This circumstance became a reality in early 1991 when Hetch Hetchy Reservoir became so depleted (less than 25,000 AF of storage in a reservoir with over 360,000 AF of capacity) that minimum instream flow releases and anticipated demands required the SFPUC to initiate programs to achieve a 45% reduction in system-wide water deliveries to balance water supplies with deliveries. Fortunately, unexpected runoff in March 1991 relieved the severity of that shortage. The 1987-1992 drought illustrated the deficit between the SFPUC's supplies and its customers' demands. Appendix A provides a more detailed summary of San Francisco's 1987-1992 drought experience and the actions taken at the time.

1.3 EXPERIENCE WITH THE 2012-2016 DROUGHT

In 2012-2016, California experienced a severe drought, which included the driest four consecutive water years based on statewide precipitation (2012-2015) and the lowest April 1 statewide snowpack water equivalent (5% of average in 2015) on record. The unprecedented dry-weather conditions prompted then-Governor Jerry Brown to declare a drought State of Emergency in January 2014, which remained in effect for most of California until 2017. The SFPUC took the following actions in response to the drought:

- **Voluntary call for demand reduction:** Spurred by the Governor's declaration of a State of Emergency in January 2014, the SFPUC requested that all customers of the RWS voluntarily reduce water use by at least 10%. Soon after, the San Francisco Mayor's Office issued a formal executive directive requiring all City departments to develop individual water conservation plans and take immediate steps to achieve a mandatory 10% reduction in water consumption. Ultimately, the SFPUC did not declare a water shortage emergency or impose mandatory system-wide demand reductions and shortage allocations because RWS customers exceeded the 10% voluntary system-wide reduction in conjunction with the statewide mandatory reductions assigned by the State Water Resources Control Board (SWRCB) (see below). The SFPUC lifted the call for a voluntary 10% reduction in April 2017.

- **Statewide mandatory reductions:** In July 2014, new emergency conservation regulations issued by the SWRCB prompted the SFPUC to implement outdoor water waste restrictions and impose a mandatory 10% reduction in outdoor water use only. Additional emergency conservation regulations issued by the SWRCB in the spring of 2015 established more statewide water use restrictions, a mandatory statewide water reduction of 25% compared to 2013 water use, and conservation standards for individual urban water suppliers to meet the statewide 25% reduction. These emergency conservation regulations were the first of their kind, indicative of the State's desire for swift and substantial action to cope with the drought. The State assigned the SFPUC retail service area a conservation standard of 8% in recognition of its already low residential per capita water use. In the SFPUC wholesale service area, Wholesale Customers were assigned a demand reduction standard ranging from 8% to 36%. The conservation standards took effect in June 2015 and remained in effect through April 2017.

- **Mandatory reduction of outdoor water use:** As noted above, the SFPUC imposed a mandatory 10% reduction on outdoor irrigation in response to the State's emergency conservation regulations, along with water use allocations and excess use fines for all retail irrigation customers, starting in August 2014. Following the additional SWRCB regulations in the spring of 2015, the SFPUC increased this mandatory reduction on retail outdoor irrigation from 10% to 25% starting in July 2015. The SFPUC lifted the mandatory reduction on outdoor irrigation in July 2016.

Appendix B provides a more detailed overview of San Francisco's response to the 2012-2016 drought.

1.4 EXPERIENCE WITH THE 2020-2023 DROUGHT

A few years after the 2012-2016 drought, California entered another drought beginning in the winter of 2019-2020. This new drought coincided with the global COVID-19 pandemic, which altered lifestyle and water use patterns in unprecedented ways. In April 2021, after a second consecutive dry winter, Governor Newsom declared a drought State of Emergency Proclamation for Mendocino and Sonoma counties. By the end of October 2021, the proclamation had extended the emergency to all 58 counties, including the City and County of San Francisco.

In November 2021, following the Governor's statewide emergency declaration, the SFPUC declared a Level 1 water shortage emergency under its 2020 WSCP and requested a 10% system-wide water use reduction. In March 2022, the Governor directed the SWRCB to require all urban water suppliers to implement Level 2 actions from their WSCPs. That directive marked the first time the State required uniform implementation of WSCPs across California.

The SFPUC complied by moving from Level 1 (a 10% system-wide reduction request) to Level 2 (an 11% system-wide reduction request), effective July 2022. The SFPUC also implemented a temporary drought surcharge for the first time, beginning in April 2022, to offset operational costs as revenues declined.

A series of atmospheric rivers in the winter of 2022-2023 ended the drought. The Governor gradually lifted emergency orders throughout the spring of 2023, and the SWRCB rescinded its emergency regulations in June 2023. The SFPUC ended its call for an 11% system-wide water use reduction in April 2023 and discontinued the temporary drought surcharge in May 2023.

Appendix C provides a more detailed overview of San Francisco's response to the 2020-2023 drought.

SECTION 2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

The SFPUC has a robust process for assessing its annual water supply and demand. This process involves considering a range of input factors unique to the SFPUC's water supplies and system configuration and provides the SFPUC with flexibility to consider new factors. The SFPUC reports on an assessment of its system's water supply and demand to the State through the following methods:

- On or before July 1 of each year, the SFPUC prepares a Water Supply and Demand Assessment (WSDA), consistent with California Water Code Section 10632.1 requirements, by evaluating the total amount of water it expects to be in storage within the RWS that year and comparing that amount to expected retail and Wholesale Customer demands. The following subsections outline the SFPUC's procedures for preparing the annual WSDA.

- Every month, the SFPUC completes the SWRCB's Drought and Conservation Reporting on the SAFER Clearinghouse online portal.

2.1 DEMAND ASSESSMENT

To calculate unconstrained customer demand on the RWS for the purpose of its annual WSDA, the SFPUC collects information on the demands of both the retail and Wholesale Customers. The SFPUC estimates retail customer demand based on the best available information to date, typically including the previous year's demands as well as consideration of current demand use patterns or other conditions impacting demands, such as weather and growth. For estimated wholesale demands, each February, the SFPUC receives from BAWSCA a report of estimated Wholesale Customer demands on the RWS for the upcoming year. BAWSCA compiles this report based on demand estimates it receives from each of its 26 member agencies. The SFPUC estimates the relatively small demands of Cordilleras Mutual Water Company and Groveland CSD, its other two wholesale customers for UWMP purposes, in the same manner that it estimates retail customer demands. These customers are not parties to the WSA and are not BAWSCA member agencies.

2.2 SUPPLY ASSESSMENT

The RWS collects water from the Upper Tuolumne River watershed in the Sierra Nevada and from the local Alameda and Peninsula watersheds. The RWS draws an average of 85% of its supply from the Tuolumne River watershed. This water feeds into an aqueduct system delivering water 167 miles by gravity to Bay Area reservoirs and customers. The remaining 15% of the RWS supply is drawn from local surface waters in the Alameda and Peninsula watersheds. The percentage split between the Upper Tuolumne River and Bay Area watersheds varies from year to year depending on the water year hydrology and operational circumstances.

To evaluate water supply conditions each year, the SFPUC uses measurements of precipitation and snowpack in the watersheds above Hetch Hetchy, Cherry, and Eleanor Reservoirs. The Cooperative Snow Survey (conducted by the SFPUC in partnership with state and federal agencies) evaluates snowpack conditions every year beginning

in late January. The SFPUC also estimates snowpack conditions using information from the Airborne Snow Observatory, which is a developing technology that uses aerial surveys to quantify snowpack, along with other sources. The SFPUC maintains a hydrologic model of the upcountry watersheds that uses this information to project runoff for the coming year. This process also includes a statistical analysis of additional expected precipitation. In addition to projected runoff, the determination of projected available water supply also considers stored water throughout the RWS, water acquired by the SFPUC from non-SFPUC sources, reservoir losses, and allowances for carryover storage.

Additionally, the SFPUC accounts for groundwater provided by the San Francisco Groundwater Supply Project for the in-City retail system and recycled water provided for irrigation at Harding Park, Fleming, and Sharp Park Golf Courses.

The RWS relies on precipitation and snowmelt captured and stored in its reservoirs. During droughts, water supply deliveries can exceed inflows, requiring the use of water stored in previous years to meet demands. Because of the importance of carry-over storage, the SFPUC constantly monitors and evaluates water supply conditions in the RWS, updating look-ahead forecasts as a year's hydrology and operations change. Generally, in early winter of any year, SFPUC staff can begin providing a forecast of water supply conditions for the upcoming year based on known and anticipated winter and spring precipitation and snowpack. The predictive power of this forecast improves greatly through the spring. The annual precipitation, snowmelt, and carry-over storage together constitute the SFPUC's reservoir storage conditions. Using data for each of these factors, the SFPUC can determine whether the reservoir system will be capable of serving full deliveries to its customers. Section 2.4 describes the system modeling SFPUC conducts.

The SFPUC sells water to 26 wholesale customers (collectively referred to as the Wholesale Customers) under the terms of a 25-year contract known as the Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County (WSA) and associated individual water sales contracts with each Wholesale Customer. Collectively, the Wholesale Customers on average receive over two-thirds of the RWS's annual deliveries, with the remaining approximately one-third provided to the SFPUC's retail customers.

The WSA carries forward many components of its predecessor agreement, including the SFPUC's "Supply Assurance" of 184 million gallons per day (MGD) to the Wholesale Customers. The SFPUC has agreed to deliver water to the Wholesale Customers up to the amount of the Supply Assurance, and this agreement is perpetual and survives the expiration of the WSA. The Supply Assurance is, however, subject to reduction due to water shortage, drought, scheduled RWS maintenance activities, and emergencies. As part of the Phased Water System Improvement Plan (WSIP) in 2008, the SFPUC established a temporary 265 MGD annual average limitation on water deliveries from RWS watersheds, the "Interim Supply Limitation" (ISL). The SFPUC has allocated the ISL as 81 MGD to the retail customers and 184 MGD to the Wholesale Customers.

Table 2-1 shows the availability of RWS supplies for the SFPUC's retail customers and Wholesale Customers in normal years. Table 2-2 shows the current and projected RWS supply needs to meet retail and Wholesale Customer demands based on information and projections presented in the SFPUC's 2025 UWMP.

Table 2-1. Regional Water System Supply Availability in Normal Years (MGD)

RWS Supply	2030	2035	2040	2045	2050
Retail Customers[a, b]	81	81	81	81	81
Wholesale Customers[c, d]	184	184	184	184	184
Total RWS Supplies	**265**	**265**	**265**	**265**	**265**

a Groundwater and recycled water are assumed to be used before RWS supplies to meet retail demand. However, if these alternative supplies are not available, up to 81 MGD of RWS supply could be used in normal years.

b The SFPUC reports Groveland CSD as a wholesale customer in its UWMP, but the SFPUC otherwise considers Groveland CSD a retail customer and includes Groveland CSD's demands (approximately 0.3 MGD) within the retail supply allocation of 81 MGD.

c Projected Wholesale Customer deliveries are limited to 184 MGD, including the demands of the cities of San Jose and Santa Clara, which are supplied on a temporary and interruptible basis.

d Cordilleras Mutual Water Company is a wholesale customer of the SFPUC, but is not a party to the WSA or a BAWSCA member agency, and it is not included in the Wholesale Customer supply allocation of 184 MGD. The demands of Cordilleras Mutual Water Company are minor (projected to be less than 0.01 MGD).

Table 2-2. Regional Water System Supply Utilized in Normal Years (MGD)

RWS Supply	2030	2035	2040	2045	2050
Retail Customers[a, b]	62.7	61.2	61.9	64.0	66.7
Wholesale Customers[c, d]	133.9	136.3	140.6	144.1	148.4
Total RWS Supplies	**196.6**	**197.5**	**202.5**	**208.1**	**215.1**

a Groundwater and recycled water are assumed to be used before RWS supplies to meet retail demand. However, if these alternative supplies are not available, up to 81 MGD of RWS supply could be used in normal years.

b The SFPUC reports Groveland CSD as a wholesale customer in its UWMP, but the SFPUC otherwise considers Groveland CSD a retail customer and includes Groveland CSD's demands (approximately 0.3 MGD) within the retail supply allocation of 81 MGD.

c Projected Wholesale Customer deliveries are limited to 184 MGD, including the demands of the cities of San Jose and Santa Clara, which are supplied on a temporary and interruptible basis.

d Cordilleras Mutual Water Company is a wholesale customer of the SFPUC, but is not a party to the WSA or a BAWSCA member agency, and it is not included in the Wholesale Customer supply allocation of 184 MGD. The demands of Cordilleras Mutual Water Company are minor (projected to be less than 0.01 MGD).

2.3 INFRASTRUCTURE CONSIDERATIONS

On an ongoing basis, three groups within the SFPUC's Water Enterprise – Hetch Hetchy Water and Power, Water Supply and Treatment Division, and Hydrology and Water Systems – conduct analyses of the RWS that incorporate planned facility outages and multiple levels of projected system demands to evaluate operational capabilities and plan for potential water delivery constraints. These three groups meet quarterly to share plans and coordinate how facility outages, changes in service area demand, wet or dry weather, and other variables shape the operating plans each year. Facility outages due to maintenance or upgrades are coordinated in an adaptive manner to respond to changes as they occur. For new water supplies or new capital projects related to supply distribution, impacts on the RWS are evaluated extensively prior to initiation of any changes. Results from these modeling efforts are considered in the annual WSDA.

2.4 SYSTEM MODELING

To proactively plan for conditions that would result in a shortage of water supplies, the SFPUC models conditions using a hypothetical drought that is more severe than what the RWS has historically experienced. This drought sequence is referred to as the "design drought" and serves as the basis for planning and modeling of future scenarios. The design drought consists of an 8.5-year sequence of dry conditions.

In applying its water supply planning methodology, the SFPUC performs an initial model simulation of the system for the design drought sequence and then reviews the ability of the system to deliver water to the service area through the entire design drought sequence. If the projected water supply runs out before the end of the design drought sequence in the initial model run, system-wide water use is reduced by applying water supply reductions and the scenario is re-run. This process continues iteratively until a model simulation of the system is achieved in which the water supply in storage at the end of the design drought sequence is brought to the system "dead pool," where no additional storage is available for delivery (currently simulated as 96,775 acre-feet). Drawing system storage down to the dead pool without going below it indicates that water supply delivery, including the adjusted amount of water use, is maintained through the design drought sequence.

Estimated levels of water supply reduction and corresponding storage threshold values that initiate each level of supply reduction can then be used to simulate the operation of the system through the historical record of hydrology, or to evaluate system water supply conditions during an ongoing drought. While the design drought sequence does not occur in the historical hydrology, the reduced water use and storage threshold values that are adjusted to allow a system configuration to maintain water delivery through the design drought sequence can be used to evaluate system performance in the historical record, or as a basis for comparing with real-time system conditions. Through this planning method, the SFPUC can simulate a response to declining water supply in storage that is appropriate for the system conditions being evaluated.

The SFPUC plans its water deliveries using indicators for demand reduction that are developed through analysis with the design drought sequence. As a result, the SFPUC system operations are designed to provide sufficient carry-over water in SFPUC reservoirs to continue delivering water, although at reduced levels, during multiple-year droughts.

2.5 DECISION-MAKING PROCESS

Regardless of the expectation of shortage conditions, as part of the normal course of business, the SFPUC provides a water supply condition update to its executive team every two weeks throughout the year. Pursuant to the Water Shortage Allocation Plan (WSAP), also known as the Tier 1 Shortage Plan, that is incorporated in the WSA and described further in Section 3 below, the SFPUC also provides an initial estimate of available water supply for the upcoming Supply Year (defined as the period between July 1 and June 30) to its Wholesale Customers on February 1 every year. An annual Wholesale Customer meeting is held in February at which the SFPUC makes a presentation on current water supply conditions and forecasts. The SFPUC issues a revised estimate of available water supply for the upcoming Supply Year on March 1 and uses the snow survey that occurs in the first week of April and an associated runoff forecast to refine an estimated total system storage expected on July 1. By the middle of April,

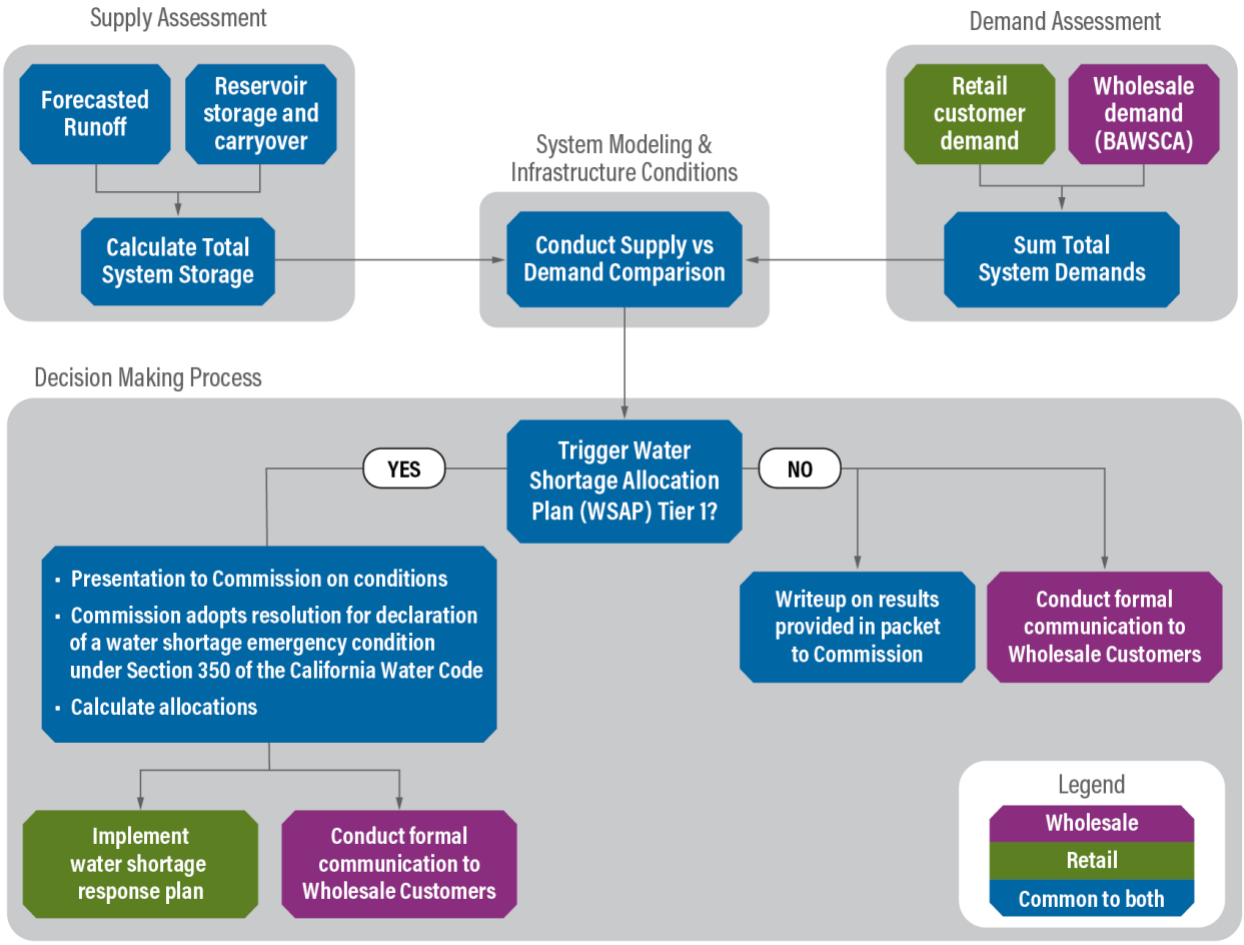
the SFPUC will issue a final estimate of available water supply and determine whether there will be a system-wide shortage for the coming Supply Year.

If the SFPUC determines that a water shortage exists, the SFPUC may call for voluntary demand reductions among its customers or issue a declaration of water shortage emergency pursuant to California Water Code Section 350 et seq. In support of a declaration of water shortage emergency, SFPUC staff will deliver a presentation to the Commission with information that explains the basis for the shortage conditions, such as conditions of precipitation to date, snowpack, and storage levels, with more information as necessary depending on the particulars of the supply forecast. Depending on the level of shortage, the SFPUC may determine that voluntary actions by its retail and Wholesale Customers will be sufficient to accomplish the necessary reduction in water use throughout its service area or that mandatory actions will be required.

Prior to initiating any water delivery reductions to its retail customers, whether it be initial implementation of delivery reductions or implementing a different water shortage level, the SFPUC will outline a water shortage response plan to address the following: the water supply situation; proposed demand reduction objectives; alternatives to demand reductions; methods to calculate water use allocations and adjustments; compliance methodology and enforcement measures; and budget considerations. Details on the expected allocation program are described further in Section 4. SFPUC staff will present this water shortage response plan at a regularly scheduled Commission meeting and advertise it in accordance with the requirements of Section 6066 of the California Government Code. Water demand reductions that are applicable to Wholesale Customers will be formally communicated following the Commission's declaration of a water shortage emergency under Section 350 of the California Water Code.

An example of the general WSDA process for water shortages caused by a drought is presented in Figure 2-1 for illustrative purposes. Other non-drought water shortages may not trigger the WSAP and therefore would not follow the same process shown below. For more information about procedures in response to non-drought water shortages, such as those caused by a catastrophic supply interruption, see Section 10.

Figure 2-1: Water Supply and Demand Assessment Process



SECTION 3 WATER SHORTAGE LEVELS AND WATER SHORTAGE ALLOCATION PLAN (WSAP)

Pursuant to California Water Code Section 10632(a)(3), water suppliers must include as an element within their WSCPs six standard water shortage levels that represent varying shortage conditions from their systems' normal reliability. The State has standardized the six shortage levels to provide a consistent regional and statewide approach for addressing the relative severity of water supply shortage conditions. The six standard water shortage levels correspond to progressively increasing ranges of shortage conditions: up to 10%, 20%, 30%, 40%, and 50% shortages, and greater than 50% shortage compared to the normal reliability condition. This WSCP presents the shortage response actions aligned with each shortage level that the SFPUC would implement to meet the severity of such shortages.

The SFPUC has two plans that determine how to allocate RWS supplies in the event of a water shortage. First, the Water Shortage Allocation Plan (WSAP), also known as the Tier 1 Shortage Plan, which is an attachment to the WSA, defines the method for allocating RWS supplies between the retail customers collectively and the Wholesale Customers collectively. Second, this WSCP defines how supplies available to the retail customers will be allocated among them.

The WSAP identifies the retail customers' and Wholesale Customers' respective shares of the annual water supply available during shortages that require system-wide reductions in water use of 20% or less. These percentage shares, referred to as the retail customers' Tier 1 Allocation and the Wholesale Customers' Tier 1 Allocation, are shown in the first four rows of Table 3-1 (Shortage Levels 1 and 2). For example, when the required level of system-wide reduction in water use is 6 to 10%, the retail customer Tier 1 Allocation is 36% of the annual water supply available, and the Wholesale Customer Tier 1 Allocation is 64% of the annual water supply available. Under the WSAP, if the retail customers' Tier 1 Allocation results in the retail customers having a "positive" allocation (i.e., a supply of additional water rather than a required percentage reduction in water use), then the retail customers' percentage share of the available water supply would be reduced to eliminate any positive allocation to retail customers, with a corresponding increase in the percentage share of the available water supply allocated to the Wholesale Customers. For any level of required reduction in system-wide water use, the SFPUC shall require retail customers to conserve a minimum of 5%, with any resulting reallocated supply credited to storage for inclusion in the calculation of projected available RWS water supply in a subsequent year.

Table 3-1 includes a cross-reference relating to the existing WSAP levels of system-wide water use reduction to the six standard water shortage levels, consistent with California Water Code Section 10632(a)(3). The WSAP does not define Tier 1 Allocations for the retail customers and the Wholesale Customers for system-wide shortages requiring greater than a 20% reduction in water use. For the purposes of this WSCP, the SFPUC assumes that the Tier 1 Allocations for the 16-20% reduction in water use level (37.5% for retail and 62.5% for Wholesale) would apply to all higher shortage levels. In practice, the WSAP defines a process for the SFPUC and the Wholesale Customers to determine whether the application of those Tier 1 Allocations to shortage levels greater than 20% is appropriate or whether a change is required.

The WSAP also implements a method for allocating the Wholesale Customers' Tier 1 Allocation among the respective Wholesale Customers, known as the "Tier 2 Drought Response Implementation Plan," which has separately been adopted by the Wholesale Customers and does not include the SFPUC.

The SFPUC's shortage response actions as they relate to the Wholesale Customers are defined in the WSAP and are included in this WSCP by reference.

Table 3-1. Retail and Wholesale RWS Allocations during System-wide Shortage

Shortage Level	Required Level of System-wide Reduction in Water Use	SFPUC Retail Share of Available RWS Supply[a]	Collective Wholesale Customers' Share of Available RWS Supply
1	5% or less	35.5%	64.5%
1	6 – 10%	36.0%	64.0%
2	11 – 15%	37.0%	63.0%
2	16 – 20%	37.5%	62.5%
3[b]	Up to 30%	37.5%	62.5%
4[b]	Up to 40%	37.5%	62.5%
5[b]	Up to 50%	37.5%	62.5%
6[b]	>50%	37.5%	62.5%

a While Groveland CSD is reported in the UWMP as a wholesale customer, it is not a party to the WSA, and it is considered a retail customer of the SFPUC for the purpose of allocating RWS supplies between retail and Wholesale Customers under the WSAP. Thus, RWS supplies to Groveland CSD are accounted for in the retail supply allocation.

b The WSAP does not define supply allocations for the retail customers and the Wholesale Customers for system-wide shortages requiring greater than a 20% reduction in water use. Instead, the WSAP sets forth a process for the SFPUC and the Wholesale Customers to determine whether the application of the allocations for the 16-20% reduction in water use level to shortage levels greater than 20% is appropriate or whether a change is required.

SECTION 4 RETAIL WATER SHORTAGE RESPONSE ACTIONS

Once the SFPUC determines that a water shortage exists, the SFPUC will allocate available water supplies among its retail customers. The SFPUC also maintains permanent restrictions on retail customer water use, as well as potential prohibitions related to water use that may be enforced during a drought, and implements programs and activities that assist customers with reducing demands. The SFPUC may also, depending on the extent of water shortage, implement operational changes or pursue the development of emergency water supplies.

4.1 RETAIL WATER SHORTAGE ALLOCATION

The SFPUC initially adopted a Retail Water Shortage Allocation Plan (RWSAP) in 2001 to formalize a program of action to be taken in the retail customer service area to reduce water use during a drought. Since then, in response to the severe drought of 2012-2016, new legislation in 2018 created a WSCP mandate replacing the water shortage contingency analysis under the former law. This WSCP updates and replaces the standalone RWSAP and now outlines the actions the SFPUC may take in response to a declaration of a water shortage due to drought and other water shortage conditions. The actions to be taken depend on the applicable retail water shortage level shown in Table 4-1. The retail water shortage level also determines the total level of retail customer demand reduction that the SFPUC may require. Demand reduction begins as a voluntary measure and advances to a mandatory measure in higher retail water shortage levels.

4.1.1 Voluntary and Mandatory Demand Reduction

During a declared water shortage emergency, the SFPUC may implement voluntary and/or mandatory demand reductions, depending on the retail water shortage level. Based on its experience in previous droughts, the SFPUC will likely use voluntary calls for demand reduction if the required level of system-wide reduction is up to 30%. If the required level of system-wide reduction is greater than 30%, the SFPUC will likely implement mandatory demand reductions, which will be applied uniformly to all customers within the customer sector.

4.1.2 Types of Allocation Methods for Mandatory Demand Reduction

In the event of a mandatory demand reduction, the SFPUC will adopt a system for allocating water among its retail customers. During a water shortage emergency, multiple allocation methods may be needed for different customer types. During the 1987-1992 drought, the SFPUC considered four allocation methods: (1) the per-capita allocation method, (2) the inside/outside or seasonal allocation method, (3) the uniform allocation method, and (4) the percentage allocation method. The following provides a description of each method and the potential advantages or disadvantages of applying each method.

- **Per-capita allocation method.** The per capita allocation method, which is only applicable for residential customer types, assigns each residential occupant a fixed daily amount of water. This method requires an accurate count of the number of occupants per metered account. Currently, customers can self-report this information, and the SFPUC has collected self-reported occupancy data for most residential accounts. The method does not consider differences in dwelling type, existing landscaping needs, or special

individual circumstances. Implementing a per capita allocation is not possible with commercial and industrial customers; those customers would require a different method for determining allocations.

- **Inside/Outside allocation method.** The inside/outside method, also referred to as the seasonal method, applies a percentage reduction to both indoor and outdoor water use by customers. To determine an individual customer's allocation, a base year of water use is selected, and reductions are applied to both inside and outside use. Water use during the winter season is identified as reflecting typical "inside use." The SFPUC would use the average water used by a customer during the winter months (November, December, January, February) of the base year as the baseline for determining inside use for all 12 months. Water use more than the baseline during other months of the year is considered "outside use." The monthly inside/outside allocation is a sum of the inside use and the outside use reduced by their respective percentages. This method is used to distribute water equitably and in previous decades was proven effective in achieving system-wide consumption goals. However, San Francisco's residential water use patterns have changed significantly since the early 2000s, showing very little seasonal use, and San Francisco can only achieve limited savings by focusing on outdoor use only. Additionally, because this method reduces water allocations for all customers regardless of their current use, there is concern that the individual water users who are already consuming very low amounts of water could be disproportionately affected compared to individual water users consuming larger amounts of water.

- **Uniform allocation method.** The uniform allocation method applies a fixed daily amount per dwelling unit for all residential customers. This method does not distribute water equitably to all customers, especially because it does not take into consideration the number of individuals living in each dwelling unit. As with the per capita allocation method, this method could not be applied to commercial and industrial customers.

- **Percentage allocation method.** The percentage allocation method requires customers to reduce their water use by a fixed percentage compared to past use. For example, to achieve a specified retail service area-wide reduction goal, all customers would need to reduce their water usage by a specified percentage in each billing period based on an established base year. The method requires a much greater reduction in inside use and could cause hardship on both residential and commercial customers. The base year would need to be carefully selected and should reflect demands in a normal, non-drought year.

During the 1987-1992 drought, the SFPUC implemented the inside/outside allocation method because it found this method to be the most fair and reasonable among the alternatives. At that time, the SFPUC applied a per-capita allocation to the accounts of those customers that appealed their allocations under the inside/outside allocation method. Since then, retail residential water consumption patterns have changed significantly, reflecting less seasonality and less outdoor use overall. The SFPUC has also improved its collection of occupancy data per metered account, allowing use of the per-capita method to become the preferred allocation method for residential accounts. The preferred allocation method for non-residential accounts (i.e., irrigation-only, commercial, industrial, and municipal) is the percentage allocation method. During the 2012-2016 drought, the SFPUC implemented mandatory reductions for irrigation customers and used a percentage allocation method.

4.1.3 Per Capita Residential Water Use Floor

SFPUC retail customers already have one of the lowest residential per capita water use rates in California, with an average water use rate of approximately 43 gallons per capita per day in recent years. If the SFPUC institutes a mandatory demand reduction during a water shortage emergency, the SFPUC will adopt a minimum per-capita residential allocation, or water use "floor," to ensure enough water is available to its customers for basic health and safety needs. The SFPUC will determine an appropriate floor and will specify it in the water shortage response plan, as further described in Section 5.

4.1.4 Water Shortage Allocation Process

The SFPUC will use voluntary calls for demand reduction to the extent possible. If the SFPUC needs to declare a water shortage emergency to implement a mandatory demand reduction, the SFPUC may apply different actions to different customer types to minimize the economic impact of the mandatory demand reductions. All customers within the same customer sector will be treated equally. An example of how the SFPUC may apply different actions to different customer types is as follows:

1. The SFPUC will first apply reductions to *irrigation-only* accounts; different levels of reduction may be required among those accounts depending on whether an irrigation-only account is a residential, commercial, or municipal account type. Customers using recycled water for irrigation will not be required to reduce their use of recycled water.
2. If there is still a shortage remaining, the SFPUC will next apply reductions to *municipal and other* accounts, up to 30%.
3. If there is still a shortage remaining, the SFPUC will next apply reductions to *single-family and multi-family residential* accounts, up to 30% or down to the per capita water use floor, whichever occurs first.
4. If there is still a shortage remaining, the SFPUC will next apply reductions to *commercial and industrial* accounts, up to 30%.
5. If there is still a shortage remaining, the SFPUC will next return to *irrigation-only* accounts and make further reductions, proceeding in the same order with additional reductions from each sector.

The SFPUC will inform its retail customers if it determines that there will be a shortage in the new supply year starting July 1. If the SFPUC implements mandatory demand reductions, the SFPUC will determine water allocations for each retail customer account, subject to reductions, using the allocation method that the SFPUC determines to be the most appropriate at the time based on the nature of the water shortage and water use trends. If the SFPUC chooses an allocation method that requires establishing baseline water use levels, the SFPUC will generally select customer water use levels in the last year prior to the water shortage emergency declaration as the baseline. Ideally, the selected baseline year would also avoid periods of severe economic recession or other anomalous events resulting in abnormal water use patterns. The SFPUC will provide water use allocations to all retail customers by May 31. The water use allocations will become effective July 1. Allocations for residential customers will not go below the per capita water use floor that the SFPUC establishes in the water shortage response plan.

4.1.5 Appeal Process

On or before May 31, the SFPUC will notify retail customers of their reduced water allocations. If the SFPUC applies a per-capita allocation method, each retail customer will have the opportunity to appeal the allocation assigned to its account based on higher actual occupancy than the SFPUC has registered for the property associated with the account, medical exemptions, increased business, or other miscellaneous reasons. The SFPUC will provide retail customers with instructions on how to file appeals at the time the customers are notified of the water use allocations. Customers may be required to submit supplemental information in support of their appeal. The SFPUC will also inform customers of the methodology the SFPUC will use to modify allocations if appeals are granted.

4.2 WATER WASTE PROHIBITIONS

Since the 1990s, the SFPUC has had restrictions against various forms of water waste, starting first as drought response measures and later becoming permanent conservation best management practices. During California's 2012-2016 drought, the SFPUC updated and expanded its water waste restrictions to be consistent with the SWRCB's 2015 emergency drought regulations. At that time, the SFPUC also updated its procedures for tracking and responding to reports of water waste, which included establishing the City's 311 system as the central means for reporting water waste; assigning the SFPUC's Water Conservation Section as the party responsible for investigating and responding to reports of water waste; and confirming the SFPUC's policy of progressive notification and education to help people at sites identified with potential water waste. On June 28, 2016, the SFPUC adopted permanent water waste restrictions identical to the prohibited water uses in the SWRCB's 2015 temporary regulations. In 2022, the State adopted new statewide emergency drought regulations that contain all the water waste restrictions that the SFPUC already implements, plus additional restrictions preventing homeowners' associations from penalizing or threatening individual owners who take measures to reduce irrigation use. The SFPUC amended its permanent water waste restrictions to align with this additional restriction and included a new provision that prohibits any homeowners' associations or community service organizations from taking or threatening action against any property owner for reducing or eliminating irrigation during a drought or requiring any property owner to remove installed water-efficient landscaping measures once a drought ends. Most recently in 2023, the SFPUC added a new permanent restriction for using potable water for backfill consolidation around non-potable piping, soil compaction, or dust control for construction or demolition projects when recycled water, well water, or groundwater are available.

The permanent restrictions on retail customer water use are established in Section E, Rule 12 of the SFPUC Rules and Regulations Governing Water Service to Customers, and are reproduced below:

1. The customer will be in violation of the SFPUC's Water Waste Restrictions if the customer is found to be using water in the following ways:
    a. Application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures
    b. Use of hoses for any purpose without a positive shut-off valve

c. Use of potable water to wash sidewalks, driveways, plazas and other outdoor hardscapes for reasons other than health, safety, or to meet City and County of San Francisco standards for sidewalk cleanliness and in a manner that causes runoff to storm drains and sewer catch basins
d. Use of single pass cooling systems, fountains and decorative water features, and commercial car washes
e. Application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall
f. Irrigation with potable water of ornamental turf on public street medians
g. Use of potable water for backfill consolidation around non-potable piping, soil compaction, or dust control for construction or demolition projects within San Francisco, if recycled water, well water, or groundwater are available. Recycled water must be used in accordance with State Water Resources Control Board, San Francisco Bay Regional Water Quality Control Board, San Francisco Department of Health, and SFPUC standards, regulations and requirements. The SFPUC will review the customer's fire hydrant meter application and allow temporary water supply from fire hydrants, if SFPUC determines that recycled water, well water, or groundwater are not available for the construction or demolition project
h. Serving drinking water other than upon request at eating or drinking establishments, including restaurants, hotels, cafés, cafeterias, bars or other public places where food or drink are served
i. To promote conservation, hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily and display notice of this option in guestrooms

2. Any homeowner's association or community service organization or similar entity is prohibited from:
    a. Taking or threatening to take any action to enforce any provision of the governing documents or architectural or landscaping guidelines or policies of a common interest development where that provision is void or unenforceable under section 4735, subdivisions (a) and (b) of the Civil Code;
    b. Imposing or threatening to impose a fine, assessment, or other monetary penalty against any owner of a separate interest for reducing or eliminating the watering of vegetation or lawns during a declared drought emergency, as described in section 4735, subdivision (c) of the Civil Code; or
    c. Requiring an owner of a separate interest upon which water-efficient landscaping measures have been installed in response to a declared drought emergency, as described in section 4735, subdivisions (c) and (d) of the Civil Code, to reverse or remove the water-efficient landscaping measures upon the conclusion of the state of emergency

The following restriction on the use of non-potable water for irrigation of nonfunctional turf is from Section F, Rule 17 of the SFPUC Rules and Regulations Governing Water Service to Customers, and is summarized below:

1. The Rules and Regulations would prohibit the use of potable water for irrigating nonfunctional turf on the following property types, in accordance with this schedule:

    a. January 1, 2027, for properties owned by the Department of General Services

    b. January 1, 2027, for properties owned by local governments, the state and local governments, local or regional public agencies, and public water systems, but excluding such property located within a disadvantaged community

c. January 1, 2028, for all commercial, industrial, and institutional properties

d. January 1, 2029, for all common areas of properties of homeowners' associations, common interest developments, and community service organizations or similar entities

e. January 1, 2031, for properties owned by local governments, local public agencies, and public water systems in a disadvantaged community or the date upon which a state funding source is made available to fund conversion of nonfunctional turf on these properties to climate-appropriate landscapes, whichever is later

2. In addition, as required by AB 1572, the Rules and Regulations require commercial, industrial, and institutional property owners, homeowners' associations, common interest developments, and community service organizations with more than 5,000 square feet of irrigated area to certify compliance with AB 1572 to the State Water Resources Control Board. Commercial, industrial, and residential property owners must submit certifications beginning June 30, 2030, and every three years thereafter through 2039. Homeowners' associations, common interest developments, and community service organizations must submit certifications beginning June 30, 2031, and every three years thereafter through 2040.

The following are potential temporary prohibitions related to water use that the SFPUC may implement during a water shortage emergency to supplement the permanent water use restrictions:

1. Limit the use of additional water for new or retrofitted landscaping or expansion of existing facilities under all conditions not otherwise subject to San Francisco's Water Efficient Irrigation Ordinance
2. Restrict potable water supplies, other than groundwater or recycled water, for irrigation of golf courses, private median and sidewalk parkway strips, and other turf areas not already covered by the SFPUC's permanent restrictions on use of potable water for turf irrigation
3. Restrict use of potable water on golf courses outside of irrigation of putting greens
4. Restrict use of potable water for street sweepers/washers
5. Restrict the washing of all automobiles, motorcycles, RVs, trucks, transit vehicles, trailers, boats, trains, and airplanes outside of a commercial washing facility, unless required to clean windows on all vehicles and such commercial or safety vehicles for health and safety reasons
6. Restrict the filling of new swimming pools, spas, hot tubs, or the draining and refilling of existing pools, hot tubs, and water features
7. Limit days or times for outdoor irrigation with potable water
8. Activate the SFPUC's regulations regarding excessive residential use during drought (SFPUC Commission Resolution No. 17-0010), which would set an excessive residential household water use threshold and fine single family residential customers who exceed the threshold; customers issued fines for excessive use would be subject to public disclosure
9. Expand water waste patrolling
10. Activate drought surcharge

Appendix A describes the various measures that the SFPUC employed during the 1987-1992 drought to achieve a 25% system-wide reduction in retail customer demands (compared to the pre-drought demand). These measures included absolute limitations on water use based on residential customer classification and a proportion of historical use within the non-residential sectors. Appendix B describes the various measures that the SFPUC employed

during the 2012-2016 drought to achieve a primarily voluntary 10% system-wide reduction in retail customer demands. Appendix C describes the actions the SFPUC took during the 2020-2023 drought, including implementing Level 2 of this WSCP in alignment with the State's directive and increasing system-wide demand reductions to 11%.

The SFPUC's implementation of each of the temporary prohibitions listed above is not directly linked to a particular water shortage level under this WSCP. The only water shortage response action that the SFPUC may implement specifically in response to a particular shortage level is demand reduction (either voluntary or mandatory).

4.2.1 Artificially Supplied Water Features

For the purposes of this WSCP, artificially supplied water features include, but are not limited to decorative ponds, artificial lakes, waterfalls, fountains, and other ornamental or aesthetic water features that rely on a continuous or intermittent supply of potable or non-potable water. These features are evaluated based on their water use characteristics, operational purpose, and potential for reduction in water use. During water shortage conditions, restrictions on these features may include reduced operation, recirculation requirements, or temporary shutdown, depending on the severity of the shortage stage. Additionally, the Water Efficient Irrigation Ordinance requires water features to use recirculating water systems and non-potable water for decorative water features, when available.

Consistent with the definition provided in Health and Safety Code Section 115921(a), swimming pools and spas are treated as a separate category due to their distinct public health, recreational, and operational considerations. Water shortage response actions for pools and spas may include limits on draining and refilling, requirements for covers to reduce evaporation, and other measures appropriate to the shortage level.

4.3 DEMAND REDUCTION ACTIONS

The SFPUC implements many customer assistance programs to help reduce water use in the retail service area. The SFPUC implements all programming methods on an ongoing basis or as needed, regardless of whether there is a water shortage. Many program methods are also demand-management measures that are described in more detail in the SFPUC's UWMP and Water Conservation Plan. Some of these methods will increase in application, participation, or frequency because of a water shortage (e.g., public outreach, rebates, Water Wise Evaluations), but the increase is not necessarily triggered by a specific level of shortage. Some of the core actions that the SFPUC is most likely to increase during water shortages to reduce demand are as follows:

- **Expand Public Information Campaigns:** Through its conservation program, the SFPUC develops media campaigns and extensive informational materials in multiple languages, and staff performs widespread outreach activities to (1) inform the public of water shortage conditions, (2) relay information about demand reductions and prohibitions, and (3) promote conservation and customer use of the SFPUC's conservation services. The SFPUC regularly notifies the highest residential and commercial water users of their consumption and the SFPUC's conservation services to help reduce demands.

- **Enhance Customer Billing and Water Use Information:** Since 2014, in conjunction with the deployment of its Automated Water Meter Program, the SFPUC has used a bill management system, monthly billing at the 0.01 unit level (i.e. 1 cubic foot), and a web portal to provide customers with more detailed information about their water use and efficiency. The online portal allows all in-City retail water service customers to view their

daily and hourly water use data provided by the automated water meter reading system. It also allows residential customers to see how their per capita water use compares to the SFPUC's efficiency goals, and for any customer to see how their water use aligns with any reduction targets that might be in place during a declared water shortage. During a water shortage, the SFPUC may also add specific messages or information to customer bills about the water shortage condition and what voluntary or mandatory measures are in place.

- **Offer Water Use Surveys:** The SFPUC provides free Water-Wise Evaluations for homes and businesses through its conservation program. These Water-Wise Evaluations consist of an onsite or phone-based review of indoor fixtures and appliances as well as an onsite review of irrigation systems. Each assessment includes a summary report outlining recommendations to improve efficiency as well as estimated water savings. Interest and participation in this service tends to increase during times of drought.

- **Provide Rebates and Incentives for Replacement of Inefficient Fixtures, Equipment, and Landscapes; and No-Cost Distribution of Water-Saving Devices:** Through its conservation program, the SFPUC provides rebates for replacement of a wide range of plumbing fixtures and water-using equipment, including irrigation system components. It also provides water-saving devices at no cost to retail customers in and outside of San Francisco and tenants of properties served by a retail water service account. The SFPUC may enhance incentive programs during a water shortage by increasing rebate and grant amounts, expanding the types of fixtures and equipment covered, increasing participation opportunities, and using other means.

- **Increase Water Waste Patrols:** SFPUC field inspectors watch for, report, and respond to potential water waste they may encounter as part of their regular patrol throughout the City. The SFPUC also encourages the public to report potential water waste through the City's 311 service request system, as described in Section 4.2. The SFPUC may expand these efforts during water shortages.

4.4 OPERATIONAL CHANGES

The SFPUC may employ the following operational changes to help reduce potable water use. While the SFPUC does not formally enact these methods in the event of a shortage, it may employ them at any time at the discretion of the SFPUC's San Francisco Water Division.

- **Decrease line flushing:** The SFPUC may decrease pipeline and other system flushing, which it routinely conducts to maintain water quality, remove sediment, and ensure proper system operation. In past droughts, the SFPUC temporarily reduced programmatic flushing of dead ends within the in-City distribution system pipelines from a scheduled program to an as-needed basis to respond to water quality issues. The SFPUC has also temporarily reduced regular system maintenance flushing in the Town of Sunol during previous droughts to an as-needed basis.

- **Reduce system water loss:** The SFPUC conducts pressure management, collects main break data, and administers a Linear Asset Management Program to help control distribution system losses. In addition, to address water loss at the customer level, the SFPUC launched a Leak Alert Program in April 2015 to notify

single-family residential customers about potential plumbing leaks that may be occurring at their homes. Since then, the SFPUC has expanded this program to notify all customer sectors. This program also meets State mandates requiring water suppliers to notify customers when they are aware of leaks that are within the customer's control.

- **Increase recycled water and groundwater supply:** The SFPUC may be able to further reduce reliance on RWS surface water supplies during a water shortage by increasing recycled water supply from the Westside Recycled Water Treatment Facility up to the peak design capacity of 4 MGD. The SFPUC could also potentially increase groundwater production, but this capacity is limited to 4 MGD.

4.5 SUPPLY AUGMENTATION ACTIONS

The SFPUC will seek voluntary or mandatory demand reduction during a declared water shortage emergency. Depending on the severity and duration of the water shortage emergency, the SFPUC may also seek to develop emergency water supplies. This could include actions such as initiating water transfers.

4.6 SUMMARY OF RETAIL SHORTAGE RESPONSE ACTIONS

The SFPUC expects to meet water shortages primarily with voluntary demand reductions, escalating to mandatory reductions if needed, and will allocate water among its retail customers in accordance with Section 4.1 of this WSCP. The SFPUC will also enforce restrictions and prohibitions of certain water uses and implement additional programs to facilitate demand reduction in order to support meeting its demand reduction targets. The SFPUC may also implement operational changes to reduce water use. At this time, the SFPUC has not identified any supply augmentation shortage response actions as a specific response to a shortage, but they would be considered. As described at the beginning of Section 2, the SFPUC already incorporates supply augmentation with dry-year supplies as a part of normal operations and water management planning to reduce the likelihood or severity of water shortage conditions.

This WSCP contains six water shortage levels corresponding to ranges of up to 10%, 20%, 30%, 40%, and 50% shortages and greater than 50% shortage. For each shortage level, there are corresponding retail demand reduction actions to be implemented and an estimated percentage reduction to the water shortage gap. To calculate the estimated percentage reduction to the water shortage gap, the SFPUC first considers the baseline RWS supply availability in a normal year. If the WSAP applies, the SFPUC then follows the WSAP process to determine the retail customers' and Wholesale Customers' respective percentage shares of the annual RWS supply available during the shortage. The SFPUC then calculates the retail customers' projected demands on the RWS (excluding local groundwater and recycled water supplies) and compares that to the retail customers' RWS supply allocation to determine the retail water shortage level.

The retail water shortage level may be different from the system-wide water shortage level under the WSAP. For example, under the WSAP, when the required level of system-wide reduction in water use is 10%, the retail

customers would receive an allocation of 81 MGD.[1] Because retail customer demands are projected to reach 73.4 MGD in 2050, there would not be a retail water shortage under such circumstances within the planning horizon of 2050. However, because the SFPUC has agreed to conserve a minimum of 5% in the event of any declared water shortage under the WSAP, in this scenario, the SFPUC would implement a 5% voluntary demand reduction for its retail customers.

At higher system-wide shortage levels under the WSAP, the retail customer allocation from the RWS results in a retail water shortage level that varies depending on retail customer demands. The demand reduction volumes necessary at a given shortage level will change based on the retail demands at the time of a declared water shortage emergency. The percentage reductions are based on the highest projected unconstrained SFPUC retail customer demands on the RWS in the UWMP planning horizon. The corresponding shortage response actions are intended for estimation purposes and are based on the highest projected retail demand as presented in the SFPUC's 2025 UWMP. As retail demands increase, the associated necessary demand reductions will increase accordingly.

For Shortage Levels 1-3, the SFPUC expects to have enough supply to meet projected unconstrained retail demands. However, the SFPUC has a contractual obligation to require retail customers to conserve a minimum of 5% for any required reduction in system-wide water use during shortages. The SFPUC plans for a 5% reduction in retail demand with a voluntary call for reductions in water use. If the RWS needs to reduce water use by more than 30%, the SFPUC will implement mandatory demand reductions that would begin at Shortage Level 4.

For Shortage Levels 4 through 6, where there is a mandatory demand reduction, the SFPUC would identify the appropriate allocation methods for different customer types. A Shortage Level 6 could require the SFPUC to implement strict demand reduction actions such as requiring reductions of 50% to irrigation-only accounts, 30% reductions in other non-residential accounts, and using a per capita allocation of 25 gallons per day for single-family and multi-family residential accounts.

The Water and Wastewater Drought Surcharge in the SFPUC's Rate Schedules and Fees for Water and Sewer Service is based on Table 4-1, where shortage levels are referred to as shortage "stages." The estimated water usage reduction and drought surcharge on volumetric water rates may change in 2028 when water and sewer rates are updated.

[1] To arrive at this allocation, the baseline RWS supply availability 265 MGD of supply is first reduced by 10%, which results in 238.5 MGD of available RWS supply. Under the WSAP (see Table 3-1), the retail customer share of available RWS supply is 36.0% when the level of system-wide reduction in water use is 10%: 238.5 MGD * 36.0% = 85.9 MGD. Because this calculation results in the retail customers having a positive allocation (i.e., a supply of additional water rather than a required percentage reduction in water use, as 85.9 MGD > 81 MGD), the retail customer percentage share of the available RWS supply is reduced to the normal retail supply allocation of 81 MGD to eliminate any positive allocation to the retail customers.

Table 4-1. Demand Reduction Actions

[Submittal Table 8-3: Demand Reduction Actions]

Standard Shortage Level	Percent Shortage Range	Retail Demand Reduction Action	Estimated Reduction in Shortage Gap	Penalty, Charge, or Other Enforcement?
1	Up to 10%	Voluntary Reduction	5%	No
2	Up to 20%	Voluntary Reduction	5%	No
3	Up to 30%	Voluntary Reduction	5%	No
4	Up to 40%	Mandatory Reduction	18%	Yes
5	Up to 50%	Mandatory Reduction	32%	Yes
6	>50%	Mandatory Reduction	32%	Yes

SECTION 5 COMMUNICATION PROTOCOLS

Regular communication with the SFPUC's customers and the public is essential during a water shortage, especially when mandatory actions or restrictions are in effect. The SFPUC communicates demand reduction schedules and requirements early and often to all customers. The SFPUC will employ multiple methods and means to inform and educate customers and the public on water use restrictions and ways to conserve water.

Prior to initiating any water delivery reductions to its retail customers or increasing the severity of water shortage response measures, the SFPUC will prepare or revise a water shortage response plan that addresses the following: the water supply situation; proposed demand reduction objectives; alternatives to demand reductions; methods to calculate water use allocations and adjustments; minimum per capita allocation (i.e., residential water use "floor"); enforcement measures; and budget considerations.

SFPUC staff will present this water shortage response plan at a regularly scheduled SFPUC Commission meeting advertised in accordance with the requirements of Section 6066 of the California Government Code. The public will be invited to comment on the SFPUC's plan to address reduced water supply.

5.1 COMMUNICATIONS ABOUT VOLUNTARY REDUCTIONS

Customer and public outreach methods that the SFPUC may employ during a call for voluntary reductions include, but are not limited to:

- Press releases and briefings to media
- Social media posts
- Dedicated and regularly updated information about the drought on the SFPUC's website
- Articles in *Currents*, the SFPUC's digital and print customer newsletter
- Bill inserts and messages on customer bills
- Outdoor billboard, transit station, bus, television, radio, and newspaper ads
- Email blasts to interested organizations and groups
- Community presentations
- Letters, emails, phone calls, and mobile text notices directly to customers
- Updates to the SFPUC's customer portal to communicate water reduction goals

5.2 COMMUNICATIONS ABOUT MANDATORY DEMAND REDUCTION

The SFPUC would employ multiple customer and public outreach methods during a call for mandatory demand reduction. Additional notifications to account holders that the SFPUC will disseminate include:

- Notification letter to all customers informing them of the upcoming activation of mandatory demand reduction measures, including potential excess use fines and the imposition of a drought surcharge.

- Notification letter to all customers affected by mandatory reductions that provides their monthly allocations for the fiscal year, including information about the appeals process, availability of daily and hourly consumption data on the customer portal, and other resources for conservation assistance.

- Notification letter to customers with adjustments to their reduced flow factors, including information about the appeals process and resources for conservation assistance.
- Notification letter to all customers informing them that the water shortage emergency has been lifted and the SFPUC is ending the mandatory demand reduction.
- Noticing for public hearings conducted at SFPUC Commission meetings that inform the Commissioners and public about the declaration of a water shortage emergency and any subsequent modifications to the water shortage stage.

5.3 COMMUNICATIONS RELATED TO WHOLESALE CUSTOMERS

As part of the normal course of business, SFPUC staff provides an initial estimate of available water supply for the upcoming Supply Year (defined as the period between July 1 through June 30) to its Wholesale Customers on February 1 every year. An annual Wholesale Customer meeting is held in February at which the SFPUC makes a presentation on current water supply conditions and forecasts. The SFPUC issues a revised estimate of available water supply for the upcoming Supply Year on March 1 and uses the snow survey that occurs in the first week of April and an associated runoff forecast to refine an estimated total system storage expected on July 1. By the middle of April, the SFPUC will issue a final estimate of available water supply and determines whether there will be a system-wide shortage for the coming Supply Year. A flowchart depicting an example annual Water Supply and Demand Assessment process for water shortages caused by a drought, including communication processes, is shown in Figure 2-1.

SECTION 6 COMPLIANCE AND ENFORCEMENT

6.1 ENFORCEMENT OF WATER USE ALLOCATIONS FOR RETAIL CUSTOMERS

The SFPUC's primary methods for enforcing mandatory water shortage actions applicable to retail customers include excess use fines, installation of flow restrictors on customers' service lines, and/or water shut-off. In addition, a state law passed in 2016 (SB 814, adding Chapter 3.3 to Division 1 of the California Water Code) requires public disclosure of customers who are fined for exceeding water use allocations.

During the 1987-1992 drought, the SFPUC applied drought excess use fines as outlined below. The fines only applied to the amount of water used over a customer's allotment.

- If a customer consumed up to 10% over its allotment, the customer was fined 2 times the normal rate;
- If a customer consumed 10.01% to 20% over its allotment, the customer was fined 8 times the normal rate; and
- If a customer consumed 20.01% or more over its allotment, the customer was fined 10 times the normal rate.

During the 2012-2016 drought, the SFPUC called for a 10% voluntary reduction in water use by all customers system-wide. Additionally, the SFPUC applied mandatory reductions and excess use fines to irrigation customers, a small subset of all retail customers. The SFPUC's actions during this drought included the following:

- Establishing a 25% mandatory demand reduction for dedicated irrigation customers, subject to excess use fines of 1 time the normal rate.
- Establishing a 30% mandatory demand reduction for Interruptible Water Service accounts, subject to excess use fines of 3 times the normal rate.

During the 2020-2023 drought, the SFPUC declared a water shortage emergency at Shortage Level 1, on November 23, 2021, with a call for a voluntary 10% system-wide demand reduction. The SFPUC also instituted a temporary drought surcharge for retail water and wastewater customers of up to 5% on part of their bill, effective April 1, 2022. On April 21, 2022, the SFPUC released its final water supply availability estimate for the upcoming supply year (FY 2022-23), which indicated that despite lower-than-normal snowpack, Hetch Hetchy Reservoir was expected to fill but the water bank was not expected to fill, demonstrating that demand reductions continued to be necessary. At the same time, Governor Newsom issued Executive Order N-7-22, directing the SWRCB to adopt emergency drought regulations requiring urban water suppliers to implement Shortage Level 2 of their WSCPs. On May 24, 2022, the SFPUC adopted an 11% system-wide demand reduction associated with Shortage Level 2 of the SFPUC's 2020 WSCP, which aligned with State requirements. In the months that followed, storms came through California that restored water storage levels in SFPUC reservoirs. As a result, on April 11, 2023, the SFPUC ended the water shortage emergency declaration and lifted the drought surcharge, effective May 1, 2023.

If an individual customer exceeds its water use allocation, the SFPUC may, after issuing one written warning, install a flow restriction device on the customer's service line. If a customer continues to consume water in excess of its allotment, the SFPUC has the authority to discontinue the customer's water service and charge penalty fees for the violation and the cost of enforcement.

6.2 ENFORCEMENT OF WATER WASTE PROHIBITIONS FOR RETAIL CUSTOMERS

Water waste activities can be reported through the City's 311 service request system or observed by or reported directly to SFPUC staff. The SFPUC reviews each report of potential water waste, and if a report contains sufficient information and reflects a restricted water use, the SFPUC notifies the water account holder, property owner, and/or occupant. If there are additional water waste reports at the same property, the SFPUC may call or visit the site to verify that there is water waste. If water waste is verified and continues, the SFPUC will issue additional warnings to the water account holder. Account holders that receive multiple warnings of verified water waste may be subject to additional enforcement actions. The SFPUC also takes the same actions for incidents of water waste observed by SFPUC Water Conservation field inspectors, and the SFPUC may increase the number of inspectors patrolling for water waste during a drought.

Per the SFPUC Rules and Regulations Governing Water Service to Customers and the SFPUC's water rate schedule, violation of any water use restriction may result in fines on the customer's water bill, installation of flow restriction devices, injunctions, or other actions as deemed appropriate. Continued violation may result in termination of water service.

6.3 ENFORCEMENT OF WATER USE ALLOCATIONS FOR WHOLESALE CUSTOMERS

Section 3 describes the allocation of RWS supplies between retail and Wholesale Customers in the event of a system-wide water shortage reduction. During periods of mandatory demand reduction, the SFPUC will not assess excess use charges on any of the Wholesale Customers if the Wholesale Customers' collective cumulative purchases over the course of the Supply Year are less than the Wholesale Customers' Tier 1 allocation as reflected in Table 3-1. If the Wholesale Customers' collective cumulative purchases exceed the Wholesale Customers' Tier 1 allocation, the SFPUC can assess excess use charges on each individual Wholesale Customer that exceeded its individual Tier 2 allocation (as established in the Tier 2 Plan) over the course of the Supply Year in proportion to each individual Wholesale Customer's share of the collective purchases that exceeded their Tier 1 allocation. Monthly excess use charges will be determined by the SFPUC at the time of the declared water shortage consistent with the terms of the WSA. Information about excess use charges for Wholesale Customers are discussed in Section 4 of the WSAP.

SECTION 7 LEGAL AUTHORITIES

The SFPUC will declare a water shortage emergency in accordance with California Water Code Chapter 3, Sections 350-359 of Division 1. The SFPUC will coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency (California Government Code Section 8558). The SFPUC is in regular communication with its Wholesale Customers about water supply conditions.

Additional legal authorities for implementation of the WSCP include, but are not limited to, the following:

- Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County (described in more detail in Section 3).
- SFPUC Rules and Regulations Governing Water Service to Customers, originally established by Resolution No. 19.786 passed December 15, 1959, as they are amended from time to time.
- Chapter 3.3 of Division 1 of the California Water Code (Excessive Residential Water Use During Drought).

SECTION 8 FINANCIAL CONSEQUENCES OF THE WSCP

The SFPUC's rate structure is comprised of fixed and variable components. As a result, as per-unit sales decrease, revenues are lost. The marginal cost of water delivery is relatively small, which means that as demand decreases, the cost of providing water service remains the same. Meanwhile, the SFPUC may incur some new costs to implement its water shortage actions, such as efforts required to coordinate implementation of customer-specific allocations in the SFPUC's billing system and the cost of notifying customers. For both retail and wholesale customers, a reduction in water purchases – whether voluntary or mandated – could result in challenges meeting financial obligations for debt-service coverage or financial reserves. To help mitigate these financial risks, the SFPUC's retail water rates have a provision for a drought surcharge that automatically increases rates in the event of an SFPUC-declared water shortage. The SFPUC Commission may pass a resolution to impose a drought surcharge in the form of a percentage increase in the volumetric portion of retail water rates. The percentage increase would be in line with the expected water use reductions and would ensure the SFPUC recovers sufficient revenues to cover ongoing service costs despite lower demands. The drought surcharge would remain in effect until the Commission adopts a resolution to rescind the system-wide demand reduction. The drought surcharge is calculated so that, accounting for the expected reduction in retail water usage, total revenues are approximately equal to what they would have been without the demand reduction. The drought surcharge protects the SFPUC's financial stability during water shortages. More information about drought surcharges is in the SFPUC's Rate Schedules & Fees for Water and Sewer Service.

For Wholesale Customers, the rate-setting process is governed by the terms of the WSA, which provides that, in the event of a water shortage emergency, the SFPUC Commission may adjust wholesale rates in an expedited way concurrently with the imposition of drought surcharges on retail customers. Beyond drought rate setting and emergency rate setting, rates are set annually in coordination with the SFPUC's annual budget process and are based on the forecasted wholesale share of RWS expenditures and total purchases. If Wholesale Customer usage

is expected to decrease – either voluntarily or due to water shortages – this would be incorporated into the wholesale rate forecast, and rates may increase to make up for the revenue loss caused by reductions in water use.

SECTION 9 MONITORING AND REPORTING

With respect to water use monitoring and reporting, the SFPUC's customer billing system generates monthly consumption reports through which the SFPUC will track actual water savings during a water shortage. These consumption reports are highly accurate as all retail and wholesale customers are metered. The SFPUC can determine how much both retail and wholesale customers reduced their water use in response to voluntary or mandatory demand reductions by comparing their consumption data month to month. The SFPUC will also use these data to evaluate the effectiveness of the water shortage response plan that the SFPUC will have prepared in accordance with the WSCP. State regulations require the SFPUC to report retail customer consumption to the State on a monthly, quarterly, and annual basis, whether or not water shortage conditions exist. State regulations also require the SFPUC to report to the State if water shortage conditions exist, and, if so, what demand reduction and water supply augmentation actions the SFPUC is taking in response. The SFPUC conducts ongoing monitoring of its watersheds, reservoirs, and other RWS components for reporting on the status of the SFPUC's water supply to determine the applicable water shortage level.

SECTION 10 PREPARATION FOR CATASTROPHIC SUPPLY INTERRUPTION

The SFPUC maintains various planning documents and strategies that collectively address its emergency preparedness and planned response in the event of a catastrophic interruption of water supplies due to power outages, earthquakes, or other disasters. These plans are described in the following subsections 10.1 (Emergency Preparedness Plans), 10.2 (Emergency Drinking Water Planning), and 10.3 (Power Outage Preparedness and Response). Subsection 10.4 further addresses the Seismic Risk Assessment and Mitigation Plan required by California Water Code Section 10632.5(a). Should a catastrophic interruption occur, the SFPUC will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency (California Government Code, California Emergency Services Act Article 2, Section 8558).

10.1 EMERGENCY PREPAREDNESS PLANS

Following the 1989 Loma Prieta earthquake, the SFPUC created a departmental Emergency Operations Plan (EOP). The SFPUC EOP was originally released in 1992 and has since been updated as necessary. The SFPUC EOP addresses a broad range of potential emergency situations that may affect the SFPUC and supplements the City's Emergency Response Plan, which was prepared by the Department of Emergency Management and most recently updated in 2017. The purpose of the SFPUC EOP is to describe the SFPUC's emergency management organization, roles and responsibilities, and emergency policies and procedures.

In addition, the SFPUC's enterprises each have their own emergency plans (in alignment with the SFPUC EOP), which detail each entity's specific emergency management organization, roles and responsibilities, emergency policies and procedures, and response to hazardous events (e.g., hazardous materials, power interruption, etc.). In 2025, the

SFPUC developed a Water Emergency Operations Plan (Water EOP) to comply with the America's Water Infrastructure Act passed in 2018. The Water EOP integrates directly into, and functions as an annex to, the SFPUC EOP. The Water EOP addresses SFPUC water transmission and distribution systems and identifies the agency's enterprises, divisions, and bureaus with direct roles and responsibilities for those systems. The SFPUC EOP functions as a front end for the SFPUC's enterprise EOPs, covering emergency response at the department level, while each enterprise EOP covers enterprise-specific information on the enterprise's emergency organization and response procedures specific to enterprise responsibilities, assets, technical scope, and operations.

The SFPUC exercises its EOPs on a regular basis by conducting emergency exercises and responding to real-world events. Through these exercises and activations, the SFPUC learns how well the plans and procedures will or will not work in response to an emergency. EOP improvements are based on the results of these exercises and real-world event response and evaluation. The SFPUC also has an emergency response training plan that is based on federal, State, and local standards and exercise and incident improvement plans. SFPUC employees have emergency training assignments based on their emergency response roles, as identified in the EOPs.

The types of events affecting the SFPUC that require emergency plans include but are not limited to:

- Major earthquake
- Loss of power
- Loss of water supply
- Major fire
- Hazardous material release that threatens water supply or the environment
- Major pipeline breaks
- Dam incident
- Significant outage of SFPUC services
- Man-made or intentional acts of terrorism resulting in damage to the system or interruption in service

In addition to the documents described above, the SFPUC also maintains various plans and procedures that deal with the possibility of alternate supply schemes and options. These plans and procedures include:

- Emergency Disinfection and Recovery Plan
- Emergency Response Action Plan
- Emergency Drinking Water Equipment and Alternatives Report
- Disinfection of SFPUC Water Trailers Procedure
- San Francisco Water Division Hydrant Manifold Standard Operating Procedure

10.2 EMERGENCY DRINKING WATER PLANNING

The SFPUC has implemented several projects to increase its capability to provide emergency drinking water during a catastrophic emergency. These projects include:

- Completion of many WSIP projects and other capital upgrades to improve security, detection, and communication (see Section 10.4);
- Development of public information and educational materials for residents and businesses;
- Construction of a disinfection and fill station at the existing San Francisco Zoo well, and obtaining a permit to utilize this well as a standby emergency drinking water source;
- Construction of six wells as part of the San Francisco Groundwater Supply Project, two of which also serve as emergency drinking water supplies, including a distribution system to fill emergency water tankers;
- Purchase and engineering of emergency-related equipment, including water tanker trucks and water distribution manifolds, to help with distribution post-disaster; and
- Coordination of planning with other City departments, neighboring jurisdictions, and other public and private partners to maximize resources and supplies for emergency response.

The SFPUC also maintains a Water Quality Notifications and Communications Plan. Initially prepared in 1996 and most recently updated in 2022, this plan provides contact information and guidelines on notifications that SFPUC staff will issue in the event of water quality impacts that warrant communications internally and externally with the State, the Wholesale Customers, and/or the public. The plan treats water quality issues as potential or actual supply problems, which fall under the emergency response structure of the SFPUC EOP.

10.3 POWER OUTAGE PREPAREDNESS AND RESPONSE

The SFPUC's water transmission system is primarily gravity fed from Hetch Hetchy Reservoir to the City. Within the in-City distribution system, key pump stations have generators on site, and all others have connections in place that would allow the use of portable generators.

Although power outages would not greatly impact water conveyance throughout the RWS because it is gravity fed, the SFPUC has prepared for potential regional power outages as follows:

- The Tesla Treatment Facility, the Sunol Valley Water Treatment Plant (SVWTP), the Sunol Valley Chloramination Facility (SVCF), and the San Antonio Pump Station (SAPS) have back-up power on site in the form of generators. Additionally, SVWTP, SVCF, and SAPS would not be impacted by a failure of the regional power grid because these facilities are powered by hydropower generated by Hetch Hetchy Water and Power via the Calaveras Substation.
- Both the Harry Tracy Water Treatment Plant and the Baden Pump Station (part of the Peninsula System) have back-up generators in place.
- Administrative facilities that may act as emergency operation centers also have back-up power.
- The SFPUC has a water supply connection with the Santa Clara Valley Water District (Valley Water or VW), known as the SFPUC-VW Intertie, which also has back-up generators in place.
- Additionally, as described in the next section, various WSIP projects expanded the SFPUC's ability to remain in operation during power outages and other emergency situations.

10.4 SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

As part of the SFPUC's Facilities Reliability Program and WSIP, the SFPUC performed an extensive multi-year evaluation of seismic risks to its water system that resulted in major capital improvements to increase seismic reliability. The goals of WSIP include enhancing the ability of the SFPUC water system to meet identified levels of service goals for water quality, seismic reliability, delivery reliability, and water supply. One of the reasons the SFPUC developed WSIP was to reduce the likelihood of shortages, thereby reducing the likelihood of needing to implement the WSCP. Several WSIP projects located in San Francisco improved the seismic reliability of the in-City distribution system, such as additional wells that can be used as emergency drinking water sources. Many WSIP projects related to the RWS outside of San Francisco, the majority of which are now complete, addressed both seismic reliability and overall system reliability. The SFPUC completed the San Francisco portion of WSIP as of October 2020 and forecasts that the overall WSIP will be complete in June 2032.

WSIP seismic levels of service (LOS) informed development of WSIP capital projects and guided program implementation. The LOS established post-earthquake delivery and recovery objectives under the following seismic scenarios:

- Magnitude 7.9 event on the San Andreas fault
- Magnitude 7.3 event on the Hayward fault
- Magnitude 6.9 event on the Calaveras fault

An assessment of seismic risk and resilience is contained in the body of analysis performed to support the WSIP. The risks associated with the seismic scenarios considered are reflected in the delivery objectives established in the LOS, specifically:

- Delivery of winter month demand 24 hours after a major earthquake, and
- Delivery of average day demand 30 days after a major earthquake

In addition to the improvements that have come or will come from the WSIP, the SFPUC has already constructed system interties for use during catastrophic emergencies, short-term facility maintenance and upgrade activities, and times of water shortages. These are listed below:

- **EBMUD-Hayward-SFPUC Emergency Intertie:** An intertie that may transfer up to 30 MGD among East Bay Municipal Utility District (EBMUD), the City of Hayward (an SFPUC Wholesale Customer), and the SFPUC to boost water supply reliability during emergencies. EBMUD and the SFPUC own these facilities jointly, while the City of Hayward maintains and operates them in coordination with EBMUD and the SFPUC.

- **SFPUC-Valley Water Intertie:** The SFPUC and Valley Water maintain a 40-MGD intertie between their two systems at Milpitas to exchange water during emergencies and planned maintenance (as mentioned in Section 10.3). The intertie has been used on several occasions during maintenance of Valley Water's system.

- **South Bay Aqueduct Intertie:** An intertie connecting the South Bay Aqueduct and the SFPUC's San Antonio Reservoir that the SFPUC used in 1991-1992 for a two-year water transfer. The SFPUC may upgrade this intertie to receive State Water Project water in the event of a future emergency.

The WSIP also includes projects related to standby power facilities at various locations. These projects provide standby electrical power at six critical facilities to keep them in operation during power outages and other emergency situations. Permanent engine generators are located at four locations (San Pedro Valve Lot, Millbrae Facility, Alameda West, and Harry Tracy Water Treatment Plant), while hookups for portable engine generators are at two locations (San Antonio Reservoir and Calaveras Reservoir).

The City also has a Hazards and Climate Resilience Plan, which was last updated in July 2025, see **www.onesanfrancisco.org/hazards-and-climate-resilience-plan**. This plan is a roadmap to minimize the impacts of natural hazards and climate change on buildings, infrastructure, and communities. The plan also serves as San Francisco's Local Hazard Mitigation Plan, which the City updates every five years to include the latest understanding of natural hazards and climate change impacts, local risks, and community priorities. Examples of hazards analyzed in the plan include dam or reservoir failure, flooding, drought, and wildfire.

SECTION 11 WSCP REFINEMENT PROCEDURES

The SFPUC considers the WSCP a dynamic tool that will be subject to regular refinement as needed to ensure shortage response actions are effective and produce the desired results. If planned shortage response actions are implemented in the future, the SFPUC will conduct an evaluation of their effectiveness using the monitoring and reporting described in Section 9 and incorporate edits as needed to the WSCP.

SECTION 12 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The SFPUC has informed all cities or counties within which the SFPUC provides water supplies of its intent to update the WSCP. In addition, the SFPUC made this WSCP available for public review within 30 days of the SFPUC Commission public hearing by posting an electronic copy on the SFPUC website at **www.sfpuc.gov/uwmp**.

The SFPUC prepared this 2025 WSCP and presented it to the SFPUC Commission for adoption. A copy of the SFPUC resolution adopting this 2025 WSCP is provided in Appendix D. Within 30 days of SFPUC Commission adoption, the SFPUC will submit the adopted 2025 WSCP electronically to DWR via its online submittal tool (WUEdata portal), submit the plan on a compact disk mailed to the California State Library, email an electronic copy to cities and counties within which the SFPUC provides water supplies, and upload an electronic copy to the SFPUC website at **www.sfpuc.gov/uwmp.**

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2025 WATER SHORTAGE CONTINGENCY PLAN

FOR THE CITY AND COUNTY OF SAN FRANCISCO

APPENDICES

June 2026

Prepared by: The San Francisco Public Utilities Commission

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

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Appendix A

Summary of San Francisco's Response to 1987-1992 Drought Experience

JUNE 2026

WATER SHORTAGE CONTINGENCY PLAN

for the City and County of San Francisco

Prepared by the San Francisco Public Utilities Commission

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

Summary of San Francisco's Response to 1987-92 Drought Experience

Background:

The 1987-92 six year drought provides an example of how the near-term drought management process works in times when the operational capabilities of Hetch Hetchy and other water supplies available to the SFPUC are taxed to a point that forces drastic actions to avoid running out of water. By the sixth year of that drought period, many of the programs and actions identified in San Francisco's current Retail Water Shortage Allocation Plan (adopted in December 2001) had been implemented. The following describes some of the major actions that occurred.

Demand Reductions:

The extended drought forced San Francisco to adopt a mandatory rationing program, enforced by stiff excess use charges and the threat of shut-off for continued violations of water use prohibitions. Mandatory rationing was in effect May of 1988 through May of 1989, re-instituted in May of 1990, and continued until March of 1993. A Water Shortage Emergency Resolution was passed by the SFPUC on April 28, 1988 declaring these rationing periods (Resolution No. 88-0155).

The SFPUC's water rationing program was one of the toughest in the state and the most stringent imposed by any major urban water supply agency. Although the specifics of the program varied over time, the basic outline of the mandatory rationing program was to achieve a 25 percent reduction to 1987 (pre-drought) consumption (system-wide), with water allocations set on an account-by-account basis.

To provide a strong incentive for customers to use no more water than their allotment, the SFPUC adopted a rate structure that incorporated excess use charges. Any customer that used less water than its allotment was charged the normal rate per unit of water consumption, while any customer who used more than its allotment was charged a multiple of the normal rate for every unit of consumption above its allotment. As of January 1, 1992 (the last year of the rationing program), the rate structure shown in the table below applied to SFPUC customers.

Excess Use Charges

If Water Consumption Is (Over Allotment)	Excess Use Charge Will Be (Times Normal Rate)
Up to 10%	2
10.01 - 20%	8
20.01% or over	10

In the event that water was used in excess of the customer's specified allotment, the SFPUC could, after one written warning, install a flow restrictor on the customer's service line. The charge to install and remove the restricting device is shown in the table below. If a customer continued to consume water in excess of its allotment, the SFPUC had the authority to discontinue the customer's water service and require the customer to bear the cost for the re-connection of water service.

Fee for Installing Flow Restricting Devices

Meter Size	Installation/Removal Cost
Up to 1” 1” to 2” 3” and larger	$95 $149 Actual cost

In addition to pricing disincentives for excess water use, numerous water use restrictions were adopted and enforced. San Francisco retail customers were required to comply with the following water use prohibitions and restrictions:

- Water waste, including but not limited to, any flooding or runoff into the street or gutters, was prohibited.
- Hoses could not be used to clean sidewalks, driveways, patios, plazas, homes, businesses, parking lots, roofs, awnings or other hard surfaces areas.
- Hoses used for any purpose had to have positive shutoff valves.
- Restaurants served water to customers only upon request.
- Potable water was not to be used to clean, fill or maintain levels in decorative fountains.
- Use of additional water was not allowed for new landscaping or expansion of existing facilities unless low water use landscaping designs and irrigation systems were employed.
- Water service connections for new construction were granted only if water saving fixtures or devices were incorporated into the plumbing system.
- Use of potable water for consolidation of backfill, dust control or other non-essential construction purposes was prohibited.
- Irrigation of lawns, play fields, parks, golf courses, cemeteries, and landscaping of any type with potable water would be reduced by at least the amount specified for outside use in the adopted rationing plan.
- Verified water waste as determined by the Water Department would serve as prima facie evidence that the allocation assigned to the water account is excessive; therefore, the allocation was subject to review and possible reduction, including termination of service.
- Water used for all cooling purposes was to be recycled.
- The use of groundwater and/or reclaimed water for irrigation of golf courses, median strips, and similar turf areas was strongly encouraged.
- The use of groundwater and/or reclaimed water for street sweepers/washers was strongly encouraged.

In addition to water use prohibitions and directives specifically responsive to the drought, the SFPUC coincidentally was implementing long-term conservation programs, which also lowered water demands during the drought period (refer to the Demand Management discussion). Following the drought, several of the measures described above were adopted by San Francisco into permanent, on-going programs.

Water Management:

In addition to effecting reductions to water demands, the SFPUC also employed water management activities to control the severity of water shortages to its customers.

During the drought and for the first time in history, the SFPUC utilized a Delta supply within its system. The SFPUC imported water from the Delta through use of State Water Project South Bay Aqueduct facilities. The sources of water transferred included transfers via the California Emergency Water Bank, Placer County and the Modesto Irrigation District. The waters were diverted from the South Bay Aqueduct into the SFPUC's San Antonio Reservoir and then treated and integrated into SFPUC's water distribution system.

The amount of water actually delivered to the SFPUC was constrained due to numerous factors including the lack of willing sellers, allocation procedures, lack of priority in use of the State transmission facilities, storage constraints in San Antonio Reservoir, and water treatment constraints within the SFPUC's system. The total water that was imported into the SFPUC's system amounted to a maximum of approximately 31,000 acre-feet in one year, and in total for the drought period amounted to 59,000 acre-feet.

The importation of additional water into the SFPUC's system allowed the continuation of a 25 percent system-wide rationing program as compared to a potentially higher level of rationing had the transfers not occurred.

System Response and Effects:

The system-wide goal of reducing water use by 25 percent was achieved. However, the reduction was not accomplished without cost or hardship.

To achieve its annual 25 percent system-wide rationing goal, the SFPUC targeted a reduction of indoor consumption by 10 percent and outdoor consumption by 60 percent.

Due to the nature of the allocation formula for water allotments and the level of system-wide reduction goals, instances occurred where individual users or wholesale water customers were burdened with up to twice the system-wide average in delivery reductions.

Some of the costs incurred by individuals, property owners and renters include:

- The cost of installing low-flow toilets, retrofit kits for toilets and showerheads, and special low-water use landscaping and irrigation systems
- The financial losses resulting from loss of lawns, plants and trees due to the 60 percent reduction in water available for irrigation

- The cost of excess use charges ($12,300,000 in excess use charges was billed to retail accounts in fiscal year 1991-92 alone)

The ability of SFPUC's retail customers to achieve a 25 percent reduction in the future is highly unlikely due to the "hardening" of water demands that occurred during and subsequent to the drought. The rationing programs implemented by San Francisco during the 1987-92 drought were measured by comparison to calendar year 1987 water deliveries, i.e., pre-drought conditions.

During the 1987-92 drought San Francisco's retail and wholesale water customers implemented numerous conservation measures that have led to permanent per capita water usage savings. San Francisco's current water demand is likely hardened as compared to the 1987 level of water demand. This situation leads to a conclusion that comparable rationing goals (e.g., up to 25 percent reduction) would be more difficult to achieve since the drought, and would require measures in excess of those implemented during the 1987-92 drought to achieve a comparable percentage of delivery reduction.

As the level of rationing increases, the economic and societal impacts become more severe. The SFPUC has first hand experience in attempting to employ rationing to levels, which are intolerable to citizens and businesses.

In 1991, water storage had deteriorated and the SFPUC was forced to immediately adopt a 45 percent system-wide rationing plan. It was proposed the reduction would be achieved through a 33 percent reduction to inside water use and a 90 percent reduction to outside water use.

San Francisco's plan for meeting its rationing goal included the following minimum and maximum criteria:

- *Maximum Allocation for Single and Multi-family Residences*. No single-family residence shall receive an allocation of more than 300 gallons per day: no multi-family residence shall receive an allocation of more than 150 gallons per day times the number of living units in the building.
- *Minimum Allocation for All Residential Accounts*. A minimum of 50 gallons per day per documented resident will be allowed. However, a minimum allocation will not be approved to increase an allocation above current usage absent a documented change in circumstances.
- *Irrigation Services*. Accounts classified for irrigation only will be reduced by 90 percent.
- *Commercial/Industrial Allocations*. Commercial and industrial allocations will be reduced by 32 percent. Hospitals and other health care facilities may be subject to lesser restrictions subject to verification that all conservation measures are in place; such approval shall require an on-site conservation inspection.
- *Allocations for New Accounts*. Initial allocations will be established at 50 gallons per day. These allocations will be re-evaluated after customers have installed retrofit kits provided by the San Francisco Water Department. After verification of installation, allocations will be calculated on the basis of the number of documented residents within a household, or, in the case of commercial or industrial customers, on the basis of business data supplied to the Department.

Additional water use restrictions and prohibitions were enforced:

- The washing of all automobiles, motorcycles, RVS, trucks, transit vehicles, trailers, boats, trains and airplanes was prohibited outside of a commercial washing facility.
- Exceptions to the above use restriction were windows on all vehicles and such commercial or safety vehicles requiring cleaning for health and safety reasons.
- Water used for all cooling purposes or for commercial car washes had to be recycled.
- The use of potable water on golf courses was limited to the irrigation of putting greens. The use of groundwater and reclaimed water was permitted when approved by the Department of Health.
- The filling of new swimming pools, spas, hot tubs or the draining and refilling of existing pools, etc., was prohibited; topping off was allowed to the extent that the designated allocation was not exceeded.
- The irrigation of median strips with potable water was prohibited. The use of groundwater and reclaimed water was permitted when approved by the Department of Health.
- The use of potable water for street sweepers/washers was prohibited. The use of groundwater and reclaimed water was permitted when approved by the Department of Health.

Public and commercial response to 45 percent rationing was overwhelmingly negative. During the first weeks after notification of the program, SFPUC received over 2,000 appeal letters per day. In the month before rationing was returned to 25 percent, 19,000 appeals, 12,000 telephone calls, and 1,500 walk-in complaints occurred.

Both the allocation levels and new prohibitions required to meet this level of rationing would have had a devastating effect on commercial enterprises. Some water uses would have simply been prohibited. Simply put, rationing had been taken to a level that was considered intolerable to citizens and had become economically disastrous.

Appendix B
Summary of San Francisco's Response to 2012-2016 Drought Experience

JUNE 2026

WATER SHORTAGE CONTINGENCY PLAN

for the City and County of San Francisco

Prepared by the San Francisco Public Utilities Commission

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

Summary of San Francisco's Response to 2012-2016 Drought Experience

Introduction

The purpose of this Drought Summary (Summary) is to provide an overview of the SFPUC's activities in response to the statewide drought, beginning with State of Emergency declared by Governor Brown in January 2014. This drought is unprecedented, not only for being the driest period in California history, but also for the drastic measures taken by the State to mandate reductions in urban water use. This Summary primarily focuses on the SFPUC's retail service area (e.g., retail sales, excess use charges, customer outreach), but documentation related to the wholesale service area is included to a lesser extent.

This Summary is organized chronologically, with one section for each calendar year (CY): 2014, 2015, 2016, and 2017. The Summary covers activities through the end of Fiscal Year (FY) 2016-17 (i.e., through June 2017).

Each section provides an overview of the main drought-related activities that occurred during the year, and includes a timeline of regulatory actions made at the State and local levels and a summary of retail water use by sector compared to the CY 2013 baseline.

Summary of Activities in Calendar Year 2014

The three-year period from October 2011 to September 2014 was the driest in California's hydrologic record and, as a result, reservoir storage, snowpack, and reservoir inflows were significantly lower than normal throughout the State. The unprecedented dry weather conditions prompted Governor Jerry Brown to declare a drought emergency for the State of California in January 2014 (Proclamation 1-17-2014). This action spurred the SFPUC to request that all customers of the Regional Water System (RWS) voluntarily reduce water use by at least 10% (Press Release 3-14), corresponding to Stage 1 of the Retail Water Shortage Allocation Plan.

Soon after, the San Francisco Mayor's Office issued a formal executive directive requiring that all City departments develop individual water conservation plans and take immediate steps to achieve a mandatory 10% reduction in their water consumption (Executive Directive 14-01). Moreover, in July 2014, new emergency regulations issued by the SWRCB (Resolution 2014-0038) prompted the SFPUC to implement outdoor water waste restrictions and require a mandatory 10% reduction in outdoor water use (Resolutions 14-0121 and 14-0140).

At this time, starting in October 2014, mandatory reductions in water use and corresponding excess use charges applied only to dedicated irrigation customers for a few reasons. First, requiring reductions only in irrigation was in line with the State's regulations targeting outdoor water use. The call for a voluntary reduction of 10% still applied to all customers system-wide. Second, the outdoor sector had the most potential for water savings. Third, the SFPUC's Customer Care and Billing System (CC&B) was undergoing an upgrade in summer 2014, so it was not possible to implement any new rationing programs in CC&B until fall 2014. To implement the Mandatory Irrigation Allocation Program, and a workaround system was created outside of CC&B. Because the pool of dedicated irrigation customers was relatively small (approximately 1,600 accounts), it was manageable with the workaround system. It would not have been feasible or cost-effective to create a workaround system for any large sectors (e.g., residential).

Per the SFPUC's existing Interruptible Water Service rate (Rate Schedules W-3B and W-34), a subset of dedicated irrigation customers, known as interruptible customers, pay reduced rates, but are subject to more stringent reductions during water shortages. Since 2007, this rate was made available only to irrigation customers for public uses within the City and County of San Francisco (i.e., municipal City departments). However, on May 13, 2014, the SFPUC adopted Resolution 14-0070, which expanded Interruptible Water Service to all retail irrigation uses inside and outside the City and County of San Francisco. Coupled with the water use restrictions due to the drought, this resolution prompted SFPUC staff to make changes to and clarify the implementation of the Interruptible Water Service rate effective July 1, 2014. In June 2014, all eligible irrigation account holders, including both municipal and private customers, were notified of the opportunity to opt-in to the Interruptible Water Service program. Most City departments opted to remain in the program, and several private customers also opted to participate in the program. Implementation of the Interruptible Water Service rate was revised again in February 2015 with the adoption of formal rules and regulations for administering Interruptible Water Service; this is described in the chapter for CY 2015.

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

The SFPUC also implemented an education and notification program about wasteful outdoor water use activities, such as spraying or washing down outdoor hardscapes unless required for health and safety purposes; watering landscape in a manner that causes runoff to the sidewalk; and operating a hose without the use of an automatic shut-off spray nozzle. One of the key actions included targeted messaging to top water-using residential accounts, individuals demonstrating outdoor water waste, and commercial properties performing maintenance of outdoor hardscapes. The SFPUC also established a public water waste reporting and tracking system through the City of San Francisco's centralized 3-1-1 online and telephone response center.

Retail customers collectively saved 3.3 MGD, or 4.8%, in CY 2014 compared to CY 2013. Wholesale Customers collectively saved 13.4 MGD, or 8.9%, of RWS supplies compared to CY 2013. Both sets of customers fell short of the voluntary system-wide goal of 10% that was declared in January 2014. Taking both the retail and wholesale service areas into account, system-wide savings in CY 2014 was 16.7 MGD, or 7.7%, compared to CY 2013 and did not meet the voluntary 10% goal.

Summary of Activities in Calendar Year 2015

In 2015, California was in its fourth year of a severe drought and entering a fifth year. The drought State of Emergency issued by Governor Brown in January 2014 remained in effect, and the SWRCB enacted additional emergency conservation regulations to promote even more conservation throughout the State (Resolution 2014-0013). These included mandatory restrictions on outdoor water use, as well as prohibitions on water use by businesses, which the SFPUC formally adopted (Resolution 15-0102). Shortly thereafter, the Governor issued an Executive Order (EO) in April 2015 (EO B-29-15), a mandatory statewide water use reduction of 25%, compared to a 2013 baseline, which took effect starting June 2015 (Resolution 2015-0032). When the regulations were initially adopted by the SWRCB, this mandatory reduction was intended to remain in place until February 2016 unless extended or modified if the drought continued.

To help achieve the statewide conservation goal of 25%, the SWRCB assigned the SFPUC a conservation standard of 8% in recognition of its low residential per capita water use. The 8% standard represents the lowest tier in the SWRCB emergency regulations. In response to the mandatory reduction issued by the State, the SFPUC adopted the 2015-2016 Drought Program (Resolution 15-0119 and 15-0149), which:

- Continued the call for a 10% reduction in water use by all customers system-wide
- Increased the mandatory reduction in water use by dedicated irrigation customers from 10% to 25%, subject to excess use charges of 100% (“1x”)
- Established a mandatory reduction in water use by Interruptible Water Service accounts at 30%, subject to excess use charges of 300% (“3x”)
- Adjusted existing reduced wastewater flow factors to reflect a 25% reduction in irrigation usage

The SFPUC decided to maintain its system-wide voluntary 10% reduction for continuity in messaging because (1) retail customers had already achieved about 9% through the first restriction period (i.e., 10% Mandatory Irrigation Allocation Program starting in October 2014), and (2) supply was being successfully managed such that further reductions were not needed. However, a further reduction on irrigation use was imposed to provide additional assurance that the 8% reduction mandated by the SWRCB could be met. The SFPUC continued to target dedicated irrigation customers because, similar to the initiation of the 10% Mandatory Irrigation Allocation Program in October 2014, this sector was considered to have the highest potential for savings and could be most feasibility managed through CC&B. Mandatory rationing for other sectors was discussed, but would have been difficult to set targets equitably and to determine a sensible way to track water use (i.e., volume normalized per dwelling unit, square foot, or occupant). Any additional savings that could have been achieved through rationing would not have been worth the effort to implement rationing given the significant savings already achieved. Ultimately, the SFPUC implemented a program that would avoid mandatory rationing while achieving the targeted level of savings.

In February 2015, prior to development of the 2015-2016 Drought Program and unrelated to the drought, the SFPUC adopted rules and regulations for administering Interruptible Water Service (Resolution 15-0040). The rules and regulations allow eligible irrigation customers to opt into the Interruptible Water Service program and receive water service at a reduced rate (about 9% lower than regular commercial water rates). By opting in, these customers would be subject to service interruption and/or greater mandatory water use reductions, along with greater excess use charges, during water shortages and other emergencies at the discretion of the SFPUC Water Enterprise. The Interruptible Water Service rules had to be amended as part of the 2015-2016 Drought Program because the existing rules did not include a water shortage scenario (or stage) that was set forth by the Drought Program. Specifically, reductions and excess use charges were not defined for interruptible customers during a stage

corresponding to a 10% system-wide water reduction with a mandatory reduction on dedicated irrigation. SFPUC staff initially proposed that interruptible customers should be subject to a 25% reduction and excess use charge of 200% ("2x") (Resolution 15-0119). However, the Commission requested that staff evaluate the feasibility and potential impacts of imposing more stringent reductions and excess use charges on interruptible customers. Based on an analysis of hypothetical financial impacts to existing interruptible customers assuming historical water use, with a focus on the largest interruptible customer (the San Francisco Recreation and Parks Department), staff recommended that interruptible customers be subject to a 30% reduction and excess use charge of 300% ("3x"). This proposal was adopted by the Commission and the 2015-2016 Drought Program was amended accordingly (Resolution 15-0149).

With the launch of the 2015-2016 Drought Program in July 2015, the workaround system that was created for the initial 10% Mandatory Irrigation Allocation Program was replaced with full integration of the 25% Mandatory Irrigation Allocation Program in CC&B. However, there was a delay in implementing the rationing program specific to Interruptible Water Service accounts until November 2015 because it took more time than expected to aggregate allocations and usage at the department level.

Although mandatory reductions were not imposed on residential and commercial customers, the SFPUC provided guidance and outreach to those customers on how to track and achieve water savings. In the SFPUC's on-line bill management system My Account, a Drought Water Use Target line was added to daily use charts for each single-family residential, multi-family residential, and non-residential account. The target reflected a 10% reduction from the account's historic 2013 water use. To aid customers in tracking their conservation in the future, the SFPUC started investigating the feasibility of fractional billing which was eventually implemented and launched in January 2017.

In addition to imposing conservation standards on individual urban water suppliers, the emergency regulations adopted by the SWRCB in May 2015 included additional water use prohibitions (Resolution 2015-0032). The SFPUC adopted additional mandatory restrictions to impose the State's prohibitions in the SFPUC retail service area if they had not already been addressed by existing SFPUC water use restrictions. The restrictions adopted by the SFPUC in CY 2015 are listed below:

- Watering outdoor landscapes with potable water during and within forty-eight (48) hours after a rain event (Resolution 15-0102)
- Not providing guests the option to refuse daily laundering of towels and linens at hotels and motels, and not prominently displaying notice of this option in each guestroom (Resolution 15-0102)
- Irrigation with potable water of ornamental turf on public street medians (Resolution 15-0119)

The SFPUC expanded its efforts to educate the public about wasteful water use activities restricted by the State, including runoff from irrigation and hardscape washing. SFPUC field inspectors continued to keep an eye out for water waste during daily rounds, and conservation staff responded to an increasing number of water waste reports submitted through San Francisco's 3-1-1 online and telephone response center.

The SFPUC continued to inform customers on the drought, water efficient practices, and new regulations through a variety of means in addition to those described above. The drought outreach campaign from the previous summer was updated and re-launched. In June 2015, irrigation customers were sent letters describing the Mandatory Irrigation Allocation Program and providing monthly account allocations through February 2016. The letters also provided an opportunity for the account holder to participate in or opt out of the Interruptible Service Program. The

SFPUC also sent letters to account holders with reduced flow factors to notify them of adjustments to their reduced flow factor, or lack thereof in the case of adjustments that were too small to implement.

As the 2015-2016 Drought Program was being developed, SFPUC management and staff contemplated temporarily suspending high bill appeals, flow factor appeals, and interruptible rates during the drought as these processes could be considered counterproductive to conservation. However, the City Attorney's Office advised against suspending these processes, and instead, the SFPUC proceeded with the adjustment to reduced flow factors.

In December 2015, SFPUC management and staff met to discuss the effectiveness of the 2015-2016 Drought Program to date in anticipation of an extension to the State mandates in the beginning of 2016 as directed by the Governor (EO B-36-15). In brief, the Drought Program was effective at reducing water use across all customer sectors (except industrial, which is a small sector), and was on track to meet its objectives. Challenges in implementing program criteria and modifications to the billing system (CC&B) were also discussed at this meeting as well as at a follow-up meeting specifically regarding CC&B held in May 2016.

The April 2015 EO B-29-15 directed the California Department of Water Resources (DWR) to update the State's Model Water Efficient Landscape Ordinance (MWELO) to increase water efficiency standards for new and existing landscapes. In July 2015, the California Water Commission approved a revised MWELO. Accordingly, the SFPUC adopted amendments to San Francisco's Water Efficient Irrigation Ordinances and the related SFPUC rules (Section F of the Rules and Regulations Governing Water Service to Customers) to comply with the State's revisions (Resolution 15-0221).

Retail customers collectively saved 7.9 MGD, or 11.7%, in CY 2015 compared to CY 2013, thus exceeding the voluntary system-wide goal of 10%. Looking specifically at retail irrigation use, dedicated irrigation customers collectively saved 0.7 MGD, or 27.9%, over the course of the 10% Mandatory Irrigation Allocation Program (October 2014 through June 2015), far exceeding the program's goal. Wholesale customers also exceeded the voluntary system-wide goal of 10% by collectively saving 33.7 MGD, or 22.4%, of RWS supplies compared to CY 2013. Taking both the retail and wholesale service areas into account, system-wide savings in CY 2015 was 41.6 MGD, or 19.1%, compared to CY 2013 and exceeded the voluntary 10% goal.

Summary of Activities in Calendar Year 2016

Although hydrologic conditions improved during the winter of 2015/2016, the statewide drought continued into its fifth consecutive year. In anticipation of a dry winter, the Governor issued EO B-36-15 in November 2015 directing the SWRCB to extend the emergency regulations adopted in May 2015 beyond their initial expiration date in February 2016. In response, the SWRCB updated and extended the emergency regulations through October 2016 (Resolution 2016-0007). The most significant update to the emergency regulations was the addition of credits and adjustments to urban water suppliers' conservation standards that consider the differences in climate, growth, and investments in creating new, local, drought-resilient sources of potable water supply.

To comply with the SWRCB's extended emergency regulations, the SFPUC maintained its 2015-2016 Drought Program. The SFPUC did not apply for an adjustment to its existing 8% conservation standard because its customers were doing well to conserve well beyond that system-wide. Letters were sent to irrigation customers notifying them of the extension of the 25% Mandatory Irrigation Allocation Program, and included a new batch of monthly allocations from March through October 2016.

Despite improved conditions during the past winter, Governor Brown issued EO B-37-16 in May 2016 aiming to make water conservation a California way of life. Among other directives, the EO directed the SWRCB to extend its emergency regulations, which had previously been extended through October 2016, through January 2017. The regulation was ultimately set to expire on February 28, 2017 per the Office of Administrative Law. Additionally, the EO called for the emergency regulations to be adjusted in recognition of differing water supply conditions throughout the State. In response, the SWRCB required that all urban water suppliers self-certify their water supply reliability and corresponding conservation standard by June 2016 (Resolution 2016-0029). The self-certification process, also referred to as a "stress test," assumed three additional dry years. The self-certified conservation standard replaces the existing State-developed conservation standard (i.e., 8% for SFPUC), and will remain in effect through February 2017. SFPUC staff analyzed the regulations and described proposed actions for its Commissioners in a memo dated May 18, 2016.

To comply with the revised emergency regulations, the SFPUC conducted the self-certification procedures and determined that potable water supplies would be sufficient to meet both retail and wholesale demands over the next three years. Thus, the revised conservation standard for the SFPUC retail system was established to be 0%, rather than the existing 8% conservation standard. Despite its self-certified conservation standard of 0%, the SFPUC continued to promote and encourage conservation in line with the State mandates. Specifically, the SFPUC maintained its call for a voluntary 10% system-wide reduction in water use over the 2013 baseline considering the proposed SWRCB emergency regulations and the fact that the Hetch Hetchy Regional Water System was still recovering from the drought. System storage was not anticipated to fill in 2016, and the next year's hydrology remained uncertain.

However, in recognition of improved hydrologic conditions and the reduced conservation standard, the SFPUC adopted changes to the 2015-2016 Drought Program in June 2016 to ease mandatory reductions on outdoor irrigation with potable water (Resolution 16-0130). These changes included:

- Ceasing the 25% mandatory reduction in water use by dedicated irrigation customers and corresponding excess use charges;
- Reducing the mandatory reduction in water use by interruptible customers from 30% to 10%, subject to excess use charges; and

- Reverting reduced wastewater flow factors that had been adjusted to reflect a 25% reduction in irrigation usage back to their pre-adjusted reduced values.

In July 2016, the SFPUC sent letters to irrigation customers and customers with adjusted flow factors regarding the lifted restrictions. The letters to irrigation customers offered account holders the opportunity to participate in the Interruptible Water Service program for FY 2016-17 effective August 2016.

EO B-37-16 also directed the SWRCB to permanently prohibit practices that waste potable water. While the SWRCB has yet to take action to make the prohibitions permanent, the SFPUC updated its water waste restrictions and made temporary restrictions permanent in line with the Executive Order (Resolution 16-0127).

In June 2016, the SFPUC surveyed San Francisco residents to learn what they did at home to achieve water savings during the drought, how long water-savings from these actions might last, and how people got information about the drought and ways to conserve. Overall, the poll showed that most respondents are informed about the drought, cut back their water use, feel they and others could conserve even more but need direction on what more they should do. The SFPUC will use the results to help shape continued outreach about all the ways people can save water whether they own or rent, and live in an apartment or single family home.

In addition to addressing the current drought through temporary regulations, EO B-37-16 also builds on the conservation accomplished during the current drought and seeks to establish longer-term water conservation and efficiency measures through the following directives:

- Use Water More Wisely – Develop new urban water use targets that generate more water conservation than existing SBX7-7 requirements.

- Eliminate Water Waste – Reduce water loss.

- Strengthen Local Drought Resilience – Improve urban Water Shortage Contingency Plans and reporting requirements.

The EO calls for DWR, SWRCB, and the California Department of Food and Agriculture (CDFA), in coordination with the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) (collectively referred to as the “EO State Agencies”) to seek input from stakeholders on implementation of EO B-37-16. The Urban Advisory Group (UAG) was formed by the EO State Agencies to provide input and advice on recommendations and approaches regarding EO directives applicable to urban water use.

Although the SFPUC is not a member of the UAG, SFPUC staff closely monitored the development of the recommendations and framework report that was finalized by the EO Agencies in April 2017. SFPUC staff continue to track the development of the resulting legislation. Because this long-term water use efficiency framework was not intended to influence the current drought, ***this Drought Summary does not cover activities related to the long-term directives of EO B-37-16***.

Separate from SWRCB emergency regulations and Governor EOs, State legislation was signed by the Governor on August 29, 2016 requiring urban retail water suppliers to set rules for identifying and discouraging excessive residential water consumption during a prescribed statewide or local drought. The provisions of this legislation, known as Senate Bill (SB) 814, took effect January 1, 2017 and are described further in the next chapter as the SFPUC took action in January 2017 to implement the provisions.

Retail customers collectively saved 8.8 MGD, or 13.0%, in CY 2016 compared to CY 2013, thus exceeding the voluntary system-wide goal of 10%. Looking specifically at retail irrigation use, dedicated irrigation customers

collectively saved 1.2 MGD, or 38.5%, over the course of the 25% Mandatory Irrigation Allocation Program (July 2015 through June 2016), far exceeding the program's goal. Wholesale customers also exceeded the voluntary system-wide goal of 10% by collectively saving 31.7 MGD, or 21.1%, of RWS supplies compared to CY 2013. Taking both the retail and wholesale service areas into account, system-wide savings in CY 2016 was 40.5 MGD, or 18.6%, compared to CY 2013 and exceeded the voluntary 10% goal.

Summary of Activities in Calendar Year 2017 (through June 2017)

The winter of 2016-2017 was one of California's wettest winters on record and marked the end of the five-year drought in most of the State. Despite much improved hydrologic conditions, portions of state remained dry and groundwater basins remained depleted. Thus, in February 2017, the SWRCB readopted its emergency regulations (i.e., the stress test approach) and extended them through October 2017 with the intent to reconsider repealing the regulations in May should statewide water supply conditions improve (Resolution 2017-0004). However, on April 7, 2017, Governor Brown issued EO B-40-17 to lift the drought emergency throughout the State except for four counties that continue to suffer from water supply shortages (Fresno, Kings, Tulare, and Tuolumne). In response to this EO, on April 26, 2017, the SWRCB rescinded the stress test and conservation standard portions of its emergency regulations for all of California except for the four counties identified in the EO (Resolution 2017-0024). Monthly water use reporting and water waste prohibitions remain in place until the emergency regulations expire in November 2017, though the SWRCB is working to make these requirements permanent as directed by EO B-37-16.

While EO B-40-17 ended the statewide emergency drought proclamation put in place by the Governor in January 2014 (Proclamation 1-17-2014), it also marks a transition to the long-term water use efficiency framework to make water conservation a California way of life under EO B-37-16.

Prior to the Governor issuing EO B-40-17, SFPUC staff reviewed RWS conditions and determined that precipitation and snowpack were well above normal. It was anticipated that the system would fill over the course of the year. Because of these favorable supply conditions and because the SFPUC was subject to a 0% self-certified conservation standard per the SWRCB emergency regulations at the time, the SFPUC lifted its call for a voluntary 10% reduction in water use system-wide on April 11, 2017 (Resolution 17-0075). The SFPUC also notified its wholesale customers that it would no longer be requesting voluntary reductions.

As noted in the chapter for CY 2016, the Governor signed into law SB 814, which required urban retail water suppliers to set rules for identifying and discouraging excessive residential water consumption during a prescribed statewide or local drought. To implement this legislation locally, in January 2017, the SFPUC adopted rules and regulations to establish a 500-gallon-per-day threshold for single-family households and individually-metered multi-family units (Resolution 17-0010). The threshold would be effective during designated drought periods in which mandatory reduction on residential customers are imposed, and result in a $150 excess use fine for each 30-day period a customer's average daily water use exceeds the threshold.

During the 12-month period of July 2016 to June 2017, retail customers collectively saved slightly less water in FY 2016-17 (with only the voluntary 10% system-wide reduction in place) compared to FY 2015-16 (when 25% Mandatory Irrigation Allocation Program was in place): 8.6 MGD (12.7%) compared to 9.1 MGD (13.4%) savings. For the same periods of time, dedicated irrigation customers also saved slightly less water: 1.1 MGD (35.2%) compared to 1.2 MGD (38.5%) savings. However, both retail and wholesale customers still exceeded the voluntary 10% goal.

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Appendix C
Summary of San Francisco's Response to 2020-2023 Drought Experience

JUNE 2026

WATER SHORTAGE CONTINGENCY PLAN

for the City and County of San Francisco

Prepared by the San Francisco Public Utilities Commission

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

Summary of San Francisco's Response to 2020-2023 Drought Experience

Introduction

The purpose of this Drought Summary (Summary) is to describe the SFPUC's actions in response to Governor Newsom's State of Emergency Proclamation for the drought starting in April 2021. This drought was unique and unprecedented, not only because of the severe climatic conditions but also because:

- The COVID-19 public health emergency unfolded at the same time as the drought emergency.
- The State and local agencies had an opportunity to apply lessons learned and use new tools developed after the 2012-2016 drought.
- The State, for the first time, directed urban water suppliers to implement specific levels of their water shortage contingency plans.
- The SFPUC, also for the first time, implemented a drought surcharge.

This Summary focuses primarily on activities within the SFPUC's in-City retail service area. Because many State mandates applied to the SFPUC's Regional Water System, the Summary also includes information relevant to the SFPUC's wholesale service area.

This Summary is organized chronologically, with one chapter for each calendar year (CY): 2021, 2022, and 2023. Although CY 2020 was the first dry year of the multi-year drought, the severity of the drought did not become clear until CY 2021, when the State and the SFPUC began taking regulatory action.

Each chapter outlines the major drought-related activities of that year, the regulatory actions taken at the State and local levels, and—where applicable—water use reductions compared to the Fiscal Year (FY) 2019-20 baseline.

Summary of Activities in Calendar Year 2021

After a second consecutive dry winter, California entered the second year of what became a severe multi-year drought. As drought conditions intensified statewide, Governor Newsom issued a drought State of Emergency proclamation on April 21, first covering Mendocino and Sonoma counties and then expanding it through three updates in 2021. The May 10 proclamation added more counties. On July 8, the Governor issued Executive Order N-10-21, calling on all Californians to voluntarily reduce water use by 15% from 2020 levels and directing the State Water Resources Control Board (SWRCB) to track and report monthly progress toward the statewide goal of a 15% reduction in urban water use. The October 19 proclamation extended the emergency to all 58 counties, including the City and County of San Francisco.

In response to worsening drought conditions and water shortages in the Delta watershed, the SWRCB adopted an emergency regulation authorizing curtailment of diversions when water is unavailable at a water right holder's or claimant's priority of right, effective August 19 for up to one year. On August 20, the SWRCB issued curtailment orders to the SFPUC for its Tuolumne River watershed diversions. This action set a precedent for restricting the SFPUC's ability to divert Water Bank supplies stored in New Don Pedro Reservoir during drought conditions. On October 19, anticipating a significant storm, SWRCB staff temporarily lifted the curtailments for the SFPUC's Tuolumne River diversion points. These curtailments remained suspended until the following summer, when the SWRCB amended and renewed the curtailment regulations (see CY 2022 section).

On April 15, the SFPUC issued its Water Supply Availability Estimate for FY 2021-22, setting a goal to keep summertime water use at or below 2019 pre-pandemic levels and requesting a voluntary 10% reduction in irrigation use. Following the Governor's July 8 Executive Order, the SFPUC issued a revised call to action on July 12, asking all retail and wholesale customers to voluntarily reduce water use by 15% compared to 2020.

Beginning in spring 2021, the SFPUC communicated its drought response to reach the broad public through letters to wholesale and retail irrigation-only customers, outreach to City department heads, social media, newsletters, website, direct outreach to high-use residential customers, and media and community outreach. Because COVID-19 continued to affect the economy and per capita water use in San Francisco was already low, the SFPUC emphasized that water supplies remained sufficient, commended customers for their efficiency, and focused on reducing irrigation and water waste.

Anticipating another dry winter, the SFPUC declared a water shortage emergency on November 23, activating Level 1 of the Water Shortage Contingency Plan and requesting a 10% system-wide water use reduction from FY 2019-20 levels (Resolution 21-0177). This declaration allowed the SFPUC to set a water use reduction target aligned with its service area needs and access additional resources and supplies available only during emergencies. Under a 10% system-wide reduction, the Water Shortage Contingency Plan allocates Regional Water System supplies as 36.0% to retail and 64.0% to wholesale. The November 23 action also approved a drought surcharge effective April 1, 2022. Although the drought surcharge was established after the 2012-2016 drought in the four-year retail water and wastewater rates schedule for FYs ending in 2019-2022, this was the first time it was activated. The drought surcharge is a temporary charge designed to offset operational costs as water use and revenues decline during a declared water shortage emergency. A 5% charge applies to the volumetric portions of a customer's water and

wastewater bills, with lower-use customers experiencing a smaller impact. The 5% level corresponds to the amount of conservation requested of retail customers during a 10% system-wide reduction. The drought surcharge is removed once the water shortage emergency ends.

Following the declaration of a water shortage emergency, the SFPUC expanded its fall and winter 2021 outreach to include additional earned media; digital, print, and radio advertising; increased social media and community engagement; and more direct communication with customers, including culturally and linguistically diverse communities. As curtailments and drought conditions worsened, messaging adopted a more urgent tone and encouraged everyone to reduce water waste. Outreach promoted customers to participate in conservation programs and reinforced awareness of permanent water waste restrictions in effect. SFPUC staff coordinated with BAWSCA on messaging and media relevant to the wholesale service area and with California Department of Water Resources' Save Our Water campaign on regional outreach opportunities.

On November 30, the SFPUC notified BAWSCA of the water shortage emergency and the allocation methodology under the Amended and Restated Water Supply Agreement Water Shortage Allocation Plan. On December 15, the SFPUC provided Wholesale Customers with monthly water budgets, with a revision on January 3, 2022 and noted that these monthly reports will compare each agency's water use against its water budget.

Summary of Activities in Calendar Year 2022

Severe drought conditions continued across California into the winter and early spring of 2022. In its January and March Water Supply Availability estimates, the SFPUC maintained its call for a 10% system-wide water use reduction while monitoring local supply conditions and curtailment orders.

On January 4, the SWRCB adopted emergency statewide water use regulations prohibiting certain wasteful water use practices. The SFPUC had already adopted permanent water waste restrictions in 2016 (Resolution 16-0127). To align with the new statewide restrictions, the SFPUC updated its permanent water waste restrictions on February 22 (Resolution 22-0045).

As drought conditions persisted and the dry season approached, Governor Newsom issued Executive Order N-7-22 on March 28, directing the SWRCB to consider emergency regulations that included the following requirements. The SWRCB adopted these regulations on May 24 (Resolution 2022-0018):

- Urban water suppliers must submit a preliminary annual water supply and demand assessment to the Department of Water Resources by June 1, 2022, followed by a final assessment.
- Urban water suppliers must implement Level 2 shortage response actions (up to a 20% water shortage) from their Water Shortage Contingency Plans.
- Consideration of emergency regulations defining "non-functional turf" (ornamental turf not used for recreation, such as sports fields or parks) and prohibiting irrigation of non-functional turf in the commercial, industrial, and institutional sectors, except as needed to maintain trees and other perennial non-turf plantings.

On June 28, the SFPUC adopted a temporary prohibition on irrigating non-functional turf at commercial, industrial, and institutional sites with potable water (Resolution 22-0126).

Up to this point, customers in SFPUC's retail and wholesale service areas were reducing water use, but not enough to meet the system-wide 10% reduction goal compared to FY 2019-20. From July 1 through April 7, retail customers achieved a 13.2% water use reduction, while Wholesale Customers achieved less than 4.7%, resulting in a system-wide reduction of 7.4%. From January 1 through April 7—covering most of the winter—retail customers reduced water use by 9.8%, while Wholesale Customers increased water use by 0.4%, resulting in a system-wide reduction of 3.2%. Wholesale Customers, in particular, were falling short of the reduction target.

As noted in the previous chapter, temporary drought surcharges adopted on November 23, 2021, took effect on April 1, 2022.

To comply with the new emergency regulations and reinforce the need for additional reductions through the summer, the SFPUC increased the system-wide reduction request from 10% to 11% effective July 1 (Resolution 22-0098). This action moved the water shortage emergency from Level 1 to Level 2 of the Water Shortage Contingency Plan. The allocation of Regional Water System supplies also shifted: retail increased from 36% to 37% and wholesale decreased from 64% to 63%. For retail customers, the increased system-wide reduction did not

change the existing voluntary request, as retail customers were already meeting or exceeding the system-wide 10% goal. The 5% drought surcharge that began on April 1 remained in place. For Wholesale Customers, the increased system-wide reduction raised their collective reduction goal from 13.7% to 16.0%.

The SFPUC continued its “We’re in a drought, cut waste out” campaign and expanded regional outreach early in the year to highlight drought conditions and encourage simple actions to reduce water waste. Beginning in July, the SFPUC partnered with the Major League Baseball team, San Francisco Giants, on a “Game Up to Save Up” drought awareness campaign during the baseball season. Additional outreach to retail customers included:

- Monthly water use reports to City departments beginning in March
- A drought-focused article in the *Currents* newsletter sent to all customers and interested parties
- Emphasis on reducing outdoor water use
- Bill inserts and fact sheets notifying customers of the new drought surcharge

By the end of the year, customers achieved the system-wide 10% reduction goal compared to FY 2019-20. From July 1 through December 31, retail customers reduced water use by 13.7%, and Wholesale Customers reduced water use by 10.8%, resulting in a system-wide reduction of 11.7%.

After three dry years, California experienced an extremely wet fall and winter in 2022. A series of atmospheric rivers quickly ended the drought but caused significant flooding. The SWRCB temporarily suspended Delta watershed curtailment orders on December 6. However, state and local drought-related emergency regulations remained in place until 2023, as described in the next chapter.

Despite the wet conditions, on December 7 the SWRCB extended the emergency water use regulations prohibiting certain wasteful water use practices for another year (Resolution 2022-0054), underscoring the importance of efficient water use regardless of weather.

Summary of Activities in Calendar Year 2023

The winter of 2022-2023 marked the end of California's three-year drought. Statewide emergency orders were gradually rolled back through a series of Executive Orders issued by the Governor on February 13, March 10, and March 23 (Executive Orders N-3-23, N-4-23, and N-5-23). On April 3, the SWRCB rescinded the Delta watershed curtailment orders that had been in place since August 2021. On June 5, the SWRCB ended emergency regulations requiring urban water suppliers to implement Level 2 of their Water Shortage Contingency Plans. However, it extended emergency prohibition on irrigating non-functional turf for one more year, through June 5, 2024.

The SFPUC continued to request an 11% system-wide water use reduction until April 11, when it rescinded the water shortage emergency that had been in place since November 23, 2021 (Resolution 23-0073). As a result, the temporary drought surcharge was lifted effective May 1.

Notably, during this drought the SFPUC did not impose any mandatory water use reductions on any customer sectors. This contrasts with the 2012-2016 drought, when the SFPUC imposed mandatory irrigation reductions even without declaring a water shortage emergency, in response to more prescriptive State-mandated outdoor irrigation targets. Applying lessons from that earlier drought, urban water suppliers were required to update their Water Shortage Contingency Plans in 2020 to uniformly define water shortage levels. This uniformity enabled the Governor, through Executive Order N-7-22, to require all urban water suppliers to implement Level 2 of their Water Shortage Contingency Plans rather than setting individual reduction targets.

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Appendix D
San Francisco Public Utilities Commission Resolution Adopting 2025 Water Shortage Contingency Plan

JUNE 2026

WATER SHORTAGE CONTINGENCY PLAN

for the City and County of San Francisco

Prepared by the San Francisco Public Utilities Commission

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

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City and County of San Francisco

Public Utilities Commission

RESOLUTION NO. **26-0100**

WHEREAS, The Urban Water Management Planning Act (Act) requires the San Francisco Public Utilities Commission (SFPUC) to adopt an Urban Water Management Plan (UWMP) and update it at least once every five years by July 1; and

WHEREAS, The Act also requires that an urban water supplier prepare and adopt a Water Shortage Contingency Plan (WSCP) as part of its UWMP; and

WHEREAS, On June 11, 2021, by Resolution No. 21-0100, this Commission adopted the 2020 UWMP and 2020 WSCP for the City and County of San Francisco; and

WHEREAS, The SFPUC, in compliance with the Act, has prepared the 2025 UWMP and the 2025 WSCP for the City and County of San Francisco; and

WHEREAS, The SFPUC prepared the 2025 UWMP with updated information from the previous five years, including projected retail and wholesale customer demands through 2050, available supplies to meet current and future demands under varying water supply conditions, and demand-management measures to reduce long-term water use; and

WHEREAS, The 2025 WSCP, incorporated in the 2025 UWMP, describes the SFPUC's process for conducting an annual water supply and demand assessment and the shortage response actions that the SFPUC will take in the event of water-shortage levels ranging from 10% to greater than 50% system-wide shortages; and

WHEREAS, California Government Code Section 65589.7 directs public water agencies to develop procedures and standards for the provision of water service to affordable-housing developments, which procedures and standards the SFPUC has incorporated into the 2025 UWMP; and

WHEREAS, The 2025 UWMP and 2025 WSCP reflect the current status of the SFPUC's programs and planning efforts as of the close of Fiscal Year 2024-25; and

WHEREAS, The SFPUC coordinated preparation of the 2025 UWMP with its wholesale customers and encouraged active involvement of diverse social, cultural, and economic elements within the SFPUC's retail water service area pursuant to the Act; and

WHEREAS, In accordance with California Water Code Section 10642, on March 16, 2026, SFPUC made the Draft 2025 UWMP and Draft 2025 UWMP available for public inspection on the SFPUC website; and

WHEREAS, On April 14, 2026, at its regular meeting, the Commission held a public hearing on the Draft 2025 UWMP and Draft 2025 WSCP, at which SFPUC presented each plan and provided an opportunity for public comment in accordance with the Act; and

WHEREAS, The public comment period for the Draft 2025 UWMP and Draft 2025 WSCP ran from March 16 to April 20, 2026; and

WHEREAS, Since the April 14, 2026, public hearing, SFPUC has revised the 2025 UWMP and 2025 WSCP with formatting improvements, editorial changes, and updated language to reflect the transition from draft to final versions as well as feedback received at the public hearing and throughout the public comment period; and

WHEREAS, The final 2025 UWMP also incorporates the new provisions restricting the use of potable water to irrigate nonfunctional turf in alignment with Water Code Section 10608.14; and

WHEREAS, The final 2025 UWMP is accompanied by a summary of public comments received during the comment period with SFPUC responses; and

WHEREAS, On May 21, 2026, the Planning Department determined the Plan to be statutorily exempt from environmental review under the California Water Code Section 10652 and the California Environmental Quality Act Guidelines Section 15282(v) (Other Statutory Exemptions) (Case No. 2026-004457ENV); and

WHEREAS, At its regular meeting on June 23, 2026, this Commission reviewed the final 2025 UWMP and 2025 WSCP in advance of the July 1, 2026, deadline for submittal to the California Department of Water Resources, and a copy of the final 2025 UWMP and 2025 WSCP are on file with the Director of Commission Affairs; and

WHEREAS, On May 14, 2026, SFPUC posted a Notice of Public Hearing on the SFPUC website and at the San Francisco Public Library pursuant to Charter Section 4.104; now, therefore, be it

RESOLVED, That this Commission hereby adopts the 2025 Urban Water Management Plan for the City and County of San Francisco, including the 2025 Water Shortage Contingency Plan and the affordable-housing development water service priority policy, and directs the General Manager to submit the same to the California Department of Water Resources by July 1, 2026.

I hereby certify that the foregoing resolution was adopted by the San Francisco Public Utilities Commission at its meeting of June 23, 2026.

Director of Commission Affairs
San Francisco Public Utilities Commission

2025 WATER SHORTAGE CONTINGENCY PLAN

FOR THE CITY AND COUNTY OF SAN FRANCISCO

June 2026

Prepared by: The San Francisco Public Utilities Commission

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