2025 Urban Water Management Plan

South San Francisco District
June 2026

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List of Acronyms

AB	Assembly Bill
ABAG	Association of Bay Area Governments
AF	acre-feet
AFY	acre-feet per year
AMI	Advanced Metering Infrastructure
AMR	Automatic Meter Reading
AWE	Alliance for Water Efficiency
AWS	Alternative Water Supply
AWWA	American Water Works Association
BAWSCA	Bay Area Water Supply and Conservation Agency
BG	billions of gallons
BMP	Best Management Practices
CAP	Customer Assistance Program
CCF	hundred cubic feet
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CII	Commercial, Industrial, and Institutional
CPUC	California Public Utilities Commission
CWC	California Water Code
DDW	Division of Drinking Water
DIMs	Dedicated Irrigation Meters
DMM	Demand Management Measure
DPR	Direct Potable Reuse
DQ	Designated Quantity
DRA	Drought Risk Assessment
DSOD	Division of Safety of Dams
DWR	California Department of Water Resources
EO	Executive Order
EPA	Environmental Protection Agency
FTE	full-time equivalent
FY	Fiscal Year
GHG	Green House Gas
GMP	Groundwater Management Plan
GPCD	gallons per capita per day
GPF	gallons per flush
GPSCD	gallons per service connection per day
GRC	General Rate Case

GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plans
HHLSM	Hetch Hetchy and Local Simulation Model
HHWP	Hetch Hetchy Water and Power
HRL	Healthy Rivers and Landscapes Program
HTWTP	Harry Tracy Water Treatment Plant
IPCC	Intergovernmental Panel on Climate Change
IPR	Indirect Potable Reuse
IRWMP	Integrated Regional Water Management Plan
ISG	Individual Supply Guarantee
kWh	kilowatt-hour
kWh/AF	kilowatt-hours per acre-foot
kWh/vol	kilowatt-hours per volume
LOS	Level of Service
LTVA	Long Term Vulnerability Assessment
MAWA	Maximum Applied Water Allowance
MCCWL	Making Conservation a California Way of Life
MCL	Maximum Contaminant Levels
MG	million gallons
MGD	million gallons per day
MUMs	Mixed-use Meters
MWELO	Model Water Efficient Landscape Ordinance
NPR	Non Potable Reuse
NSMCSD	North San Mateo County Sanitation District
P&As	Projects and Actions
PWS	Public Water System
RCP	Representative Concentration Pathways
RGSR	Regional Groundwater Storage and Recovery
RUWMP	Regional Urban Water Management Plan
RWS	Regional Water System
SB	Senate Bill
SFPUC	San Francisco Public Utilities Commission
SGMA	Sustainable Groundwater Management Act
SSFWQCP	South San Francisco and San Bruno Water Quality Control Plant
SVWTP	Sunol Valley Water Treatment Plant
SWRCB	State Water Resources Control Board
TAZ	Traffic Analysis Zones
TCFD	Task Force on Climate-related Financial Disclosures
TDS	Total Dissolved Solids
TRVA	Tuolumne River Voluntary Agreement

U.S.	United States
UWMP	Urban Water Management Plan
UWUO	Urban Water Use Objective
WQCP	Water Quality Control Plant
WQD	Water Quality Division
WSA	Water Supply Agreement
WSAP	Water Shortage Allocation Plan
WSCP	Water Shortage Contingency Plan
WSIP	Water System Improvement Program
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Chapter 1
Introduction and Overview

This chapter discusses the importance and uses of this 2025 Urban Water Management Plan (UWMP or Plan), the relationship of this Plan to the California Water Code (CWC), the relationship of this Plan to other local and regional planning efforts, and how this Plan is organized and developed in general accordance with the California Department of Water Resources' (DWR's) 2025 UWMP Guidebook.[1] Specifically, this chapter contains the following sections:

1.1 Background and Purpose

1.2 Urban Water Management Planning and the California Water Code

1.3 Relationship to Other Planning Efforts

1.4 Plan Organization

1.5 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions

1.6 Lay Description

1.1 Background and Purpose

California Water Service (Cal Water) is a public utility regulated by the California Public Utilities Commission (CPUC) that supplies water service to more than 2 million Californians through about 500,000 connections. Cal Water's 24 districts serve over 100 communities, spanning from the Chico District in the north to the Palos Verdes Peninsula in the south. California Water Service Group, Cal Water's parent company, also provides utility service to communities in Washington, New Mexico, Hawaii, and Texas. While water rates are set separately for each of Cal Water's 24 districts, oversight of the water rate setting process and district operations is provided by the CPUC.

This UWMP is a foundational document and source of information about the South San Francisco District's (also referred to herein as the "District") historical and projected water demands, water supplies, supply reliability and potential vulnerabilities, water shortage contingency planning, and demand management programs. Among other things, it is used as:

- A long-range planning document by Cal Water for water supply and system planning; and
- A source for data on population, housing, water demands, water supplies, and capital improvement projects used in:

[1] The UWMP Guidebook 2025 is available at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

- Regional water resource management plans prepared by wholesale water suppliers and other regional planning authorities (as applicable),
- General Plans prepared by cities and counties, and
- Statewide and broad regional water resource plans prepared by the California Department of Water Resources (DWR), the State Water Resources Control Board (SWRCB), or other state agencies.

The District's last UWMP was completed in 2021, referred to herein as the "2020 UWMP." This Plan is an update to the 2020 UWMP and carries forward information from that plan that remains current and relevant, and provides additional information as required by subsequent amendments to the UWMP Act (CWC §10610 – 10657). Although this Plan is an update to the 2020 UWMP, it was developed to be a self-contained, stand-alone document and does not require readers to reference information contained in previous UWMP updates.

1.2 Urban Water Management Planning and the California Water Code

The UWMP Act requires urban water suppliers to prepare a UWMP every five years and to submit this plan to DWR, the California State Library, and any city or county within which the supplier provides water supplies. All urban water suppliers, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) annually are required to prepare a UWMP (CWC §10617). For the purposes of the Plan, the terms "customer" and "connections" are used interchangeably.

The UWMP Act was enacted in 1983. Over the years it has been amended in response to water resource challenges and planning imperatives confronting California. A significant amendment was made in 2009 as a result of the governor's call for a statewide 20 percent reduction in urban water use by 2020, referred to as "20x2020," the Water Conservation Act of 2009, and "Senate Bill (SB) X7-7." This amendment required urban retail water suppliers to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. Beginning in 2016, urban retail water suppliers were required to comply with the water conservation requirements in SB X7-7 in order to be eligible for state water grants or loans. Chapter 5 of this plan contains the data and calculations used to determine compliance with these requirements.

In 2016, Governor Brown signed Executive Order (EO) B-37-16 Making Conservation a California Way of Life (MCCWL) regulation and subsequently SB 606 and Assembly Bill (AB) 1668 were passed in 2018. A substantial revision to the UWMP Act was made through SB 606 and AB 1668. These changes include, among other things: (1) additional requirements for Water Shortage Contingency Plans [WSCPs] (CWC §10640), (2) requirements for urban water suppliers to conduct a drought risk assessment as part of their future UWMPs to assess water supply reliability for a period of drought lasting five consecutive water years (CWC §10635(b)), and (3) conduct annual water supply and demand assessments to determine water supply reliability for the current year and one dry year (CWC §10632(a)). These elements are included in Chapter 7 and Chapter 8 of this Plan. Additionally, SB 606 and AB 1668 set new requirements for urban water agencies to continue to increase water efficiency beyond SB X7-7. Beginning in 2024, agencies were required to report an annual Urban Water Use Objective (UWUO) to DWR as part of their Annual Water Use Reports.

The UWMP Act contains numerous other requirements that UWMPs must satisfy. **Appendix A** to this Plan lists each of these requirements and where in the Plan they are addressed.

1.3 Relationship to Other Planning Efforts

This Plan provides information specific to water management and planning by the South San Francisco District. However, water management does not happen in isolation; there are other planning processes that integrate with the UWMP to accomplish urban planning. Some of these relevant planning documents include relevant city and county General Plans, Water Master Plans, Recycled Water Master Plans, integrated resource plans, Integrated Regional Water Management Plans, Groundwater Management Plans, and others.

This Plan is informed by and helps to inform these other planning efforts. In particular, this Plan utilizes information contained in city and county General Plans and local and regional water resource plans to the extent data from these plans are applicable and available.

1.4 Plan Organization

The organization of this Plan follows the same sequence as outlined in the 2025 UWMP Guidebook.[2]

Chapter 1 - Introduction and Overview

Chapter 2 - Plan Preparation

Chapter 3 - System Description

Chapter 4 - Water Use Characterization

Chapter 5 - SB X7-7 Baseline, 2020 Target and 2025 Reporting

Chapter 6 - Water Supply Characterization

[2] ibid

Chapter 7 - Water Supply Reliability Assessment

Chapter 8 - Water Shortage Contingency Planning

Chapter 9 - Demand Management Measures

Chapter 10 - Plan Adoption, Submittal, and Implementation

In addition to these ten chapters, this Plan includes a number of appendices providing supporting documentation and supplemental information. Pursuant to CWC §10644(a)(2), this Plan utilizes the standardized forms, tables, and displays developed by DWR for the reporting of water use and supply information required by the UWMP Act. This Plan also includes additional tables, figures, and maps to augment the set developed by DWR, as appropriate. The table headers indicate if the table is part of DWR's standardized set of submittal tables.

1.5 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions

Although not required by the UWMP Act, in the 2025 UWMP Guidebook,[3] DWR recommends that all suppliers that are participating in, or may participate in, receiving water from a proposed project that is considered a "covered action" under the Delta Plan—such as a: (1) multiyear water transfer; (2) conveyance facility; or (3) new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta)—provide information in their UWMP to demonstrate consistency with the Delta Plan policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code of Regulations, Title 23, Section 5003).

The San Francisco Public Utilities Commission (SFPUC), the District's wholesale agency, has made a legal determination that this requirement does not apply to their water sources.[4]

1.6 Lay Description

☑ ***CWC § 10630.5***

Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

[3] ibid

[4] Email from BAWSCA, dated 9 February 2021.

This 2025 UWMP is prepared for the South San Francisco District, which serves drinking water to a population of approximately 62,609. The District meets the definition of an urban water supplier. Therefore, in accordance with CWC§10621(f), the District is obligated to develop and submit a UWMP to DWR.

This UWMP serves as a foundational planning document and includes descriptions of historical and projected water demands, water supplies, and the resulting reliability during a set of defined water supply conditions over a 20-year planning horizon. This document also describes the actions the District is taking to promote water conservation, both by the District itself and by its customers (referred to as "demand management measures"), and includes a plan to address potential water supply shortages such as drought or other impacts to supply availability (the "Water Shortage Contingency Plan", included as **Appendix J**). This UWMP is updated every five years in accordance with state requirements under the UWMP Act and Amendments (Division 6 Part 2.6 of the California Water Code [CWC] §10610 – 10657). Past plans developed for the District are available on the California Department of Water Resources (DWR) Water Use Efficiency Data Portal website: https://wuedata.water.ca.gov/.

This document includes 10 chapters, which are summarized below pursuant to the requirements of the CWC §10630.5.

Chapter 1 - Introduction and Overview

This chapter presents the background and purpose of the UWMP, identifies the Plan organization, and provides this lay description overview of the document. For agencies that rely on water from the Delta, this section also discusses and demonstrates consistency with the Delta Plan by the Delta Stewardship Council. The SFPUC, the District's wholesale agency, has made a legal determination that this requirement does not apply to their water sources.[5]

Chapter 2 - Plan Preparation

This chapter discusses key structural aspects related to the preparation of the UWMP, and describes the coordination and outreach conducted as part of the preparation of the Plan, including coordination with local agencies and other community organizations (i.e., City of South San Francisco, City of Colma, City of Daly City, San Mateo County, SFPUC, and Bay Area Water Supply and Conservation Agency [BAWSCA]) and the public.

Chapter 3 - System Description

This chapter provides a description of the South San Francisco District's water system and the service area, including information related to the climate, population, and demographics. The

[5] ibid

District is located in San Mateo County. The District serves a population of approximately 62,609 and has a climate characterized by mild summers and cool wet winters. The majority of the 24.9 inches of average annual precipitation falls between October and May. Current land use within the District is a mixture of low, medium, and high density residential, mixed use, commercial, light and heavy industrial, public facilities, and parks/open space. All water customers are considered urban (i.e., non-agricultural water users).

Chapter 4 - Water Use Characterization

This chapter provides a description and quantifies the South San Francisco District's current and projected demands through the year 2050. The District provides drinking water (also referred to as "potable water") to customers. Water demands refer not only to the water used by customers, but also includes the water used as part of the system maintenance and operation, as well as unavoidable losses inherent in the operation of a water distribution system. Water demand within the District was 6,189 acre-feet per year (AFY) in 2025. Taking into account historical water use, expected population increase and other growth, climatic variability, and other assumptions, water demand within the District is projected to increase to 7,252 AFY by 2050, a change of 16 percent compared to 2025. In dry year periods, water demands are expected to be somewhat higher, potentially up to 7,656 AFY by 2050 during an extended five-year drought.

Chapter 5 - SB X7-7 Baseline, 2020 Target and 2025 Reporting

In this chapter, the South San Francisco District demonstrates compliance with its per capita water use target for the year 2020. The Water Conservation Act of 2009 (SB X7-7) was enacted in November 2009 and requires the state of California to achieve a 20 percent reduction in urban per capita water use by December 31, 2020. In order to achieve this, each urban retail water supplier was required to establish water use targets for 2015 and 2020 using methodologies established by DWR. The District was in compliance with its 2020 water use target of 124 gallons per capita per day (GPCD), having reduced its water use in 2020 to 98 GPCD. The District continues to meet its 2020 Target in 2025.

Chapter 6 - Water Supply Characterization

This chapter presents an analysis of the South San Francisco District's water supplies, as well as an estimate of water-related energy-consumption. The intent of this chapter is to present a comprehensive overview of the District's water supplies, estimate the volume of available supplies over the UWMP planning horizon, and assess the sufficiency of the District's supplies to meet projected demands under "normal" hydrologic conditions.

The District derives its water supply from a combination of imported surface water supply purchased from the City and County of San Francisco's RWS, which is operated by the SFPUC, and groundwater. Cal Water shares an annual allocation of SFPUC supply among its Bear Gulch, Mid-

Peninsula, and South San Francisco Districts. The District also pumps groundwater from the Westside Basin (DWR Basin No. 2-35). Cal Water is working on the development of the Baylands Water Recycling Facility, as part of the Baylands Specific Plan development, which is anticipated to provide 1.0 MGD (1,120 AFY) of non-potable supplies by 2042.

The Westside Basin is not adjudicated and, in its recent evaluation, DWR determined that it is not in a condition of critical overdraft and designated it as “low priority”. The Westside Basin is therefore not subject to the requirements of the Sustainable Groundwater Management Act (SGMA); however, it has been actively managed for years, including the establishment of pumping limitations (i.e., Designated Quantities [DQs]) via the Regional Groundwater Storage and Recovery (RGSR) Project in partnership with the SFPUC, City of Daly City, and City of San Bruno (Participating Pumpers). Under the RGSR Project, the SFPUC provides supplemental in-lieu water during normal and wet years to allow the Westside Basin to recharge while in dry years the Participating Pumpers increase pumping to their DQs.

Energy intensity is defined as the net energy used for water treatment, pumping, conveyance, and distribution for all water entering the distribution system, and does not include the energy used to treat wastewater. The energy intensity for the District is estimated to be 99 kilowatt hours per acre-foot of water (kWh/AF).

Chapter 7 - Water Supply Reliability Assessment

This chapter assesses the reliability of the South San Francisco District’s water supplies, with a specific focus on potential constraints such as purchased and groundwater supply availability, water quality, and climate change. The intent of this chapter is to identify any potential constraints that could affect the reliability of the District’s supply (such as drought conditions) to support the District’s planning efforts to ensure that its customers are well served. Water service reliability is assessed during normal, single dry-year, and multiple dry-year hydrologic conditions.

The District’s groundwater supply is expected to be 100 percent reliable in all year types up to the District’s DQ. In contrast, the reliability of the supply from the SFPUC RWS is anticipated to vary greatly in different year types. Cal Water has relied on the supply reliability estimates provided by the SFPUC for the RWS and the drought allocation structure provided by SFPUC and BAWSCA to estimate available RWS supplies in dry year types through 2050.

Based on this analysis, the District’s supply is expected to be sufficient to meet demands in normal year conditions. However, the District is expected to experience significant shortfalls during single dry and multiple dry year conditions after 2030 as a result of Bay-Delta Plan Amendment implementation. At this time numerous uncertainties remain in the implementation of the Bay-Delta Amendment and the resultant allocation of the available supply to the District and the other SFPUC Wholesale Customers. Cal Water has developed a WSCP to address potential water shortage conditions.

Further, potential water quality issues are not expected to affect the quality of water served to the District's customers, as water quality is routinely monitored and the District is able to make all appropriate adjustments to its treatment and distribution system to ensure only high-quality drinking water is served.

Chapter 8 - Water Shortage Contingency Planning

This chapter describes the WSCP for the South San Francisco District. The WSCP serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will be implemented at various shortage level scenarios. (e.g., implementing customer water budgets and surcharges, or restricting landscape irrigation to specific days and/or times). Consistent with DWR requirements, the WSCP includes six water Shortage Levels to address shortage conditions ranging from up to 10 percent to greater than 50 percent shortage.

Chapter 9 - Demand Management Measures

This chapter includes descriptions of past and planned conservation programs that Cal Water operates within each demand management measure (DMM) category outlined in the UWMP Act, specifically: (1) water waste prevention ordinances, (2) metering, (3) conservation pricing, (4) public education and outreach, (5) distribution system water loss management, (6) water conservation program coordination and staffing support, and (7) "other" DMMs. Cal Water has developed a suite of conservation programs and policies, which address each DMM category.

Chapter 10 - Plan Adoption, Submittal, and Implementation

This chapter provides information on a public hearing, the adoption process for the UWMP, the adopted UWMP and WSCP submittal process, plan implementation, and the process for amending the adopted UWMP and WSCP. Prior to adopting the Plan, Cal Water held a formal public hearing to present information on its South San Francisco District UWMP and WSCP on June 2, 2026, 5:30 PM. This UWMP and the corresponding WSCP was submitted to DWR within 30 days of adoption and by the July 1, 2026 deadline.

Chapter 2
Plan Preparation

This chapter discusses the type of Urban Water Management Plan (UWMP or Plan) the California Water Service (Cal Water) South San Francisco District (also referred to herein as "District") has prepared and includes information that will apply throughout the Plan. Coordination and outreach during the development of the Plan is also discussed. Specifically, this chapter includes the following sections:

2.1 Public Water Systems

2.2 Regional Planning

2.3 Individual or Regional Planning and Compliance (Regional Alliance)

2.4 Plan Preparation, Standard Units, and Basis for Reporting

2.5 Coordination and Outreach

2.1 Public Water Systems

The South San Francisco District includes the one Public Water System (PWS) listed in **Table 2-1**. Public Water Systems are the systems that provide drinking water for human consumption and are regulated by the California State Water Resources Control Board (SWRCB), Division of Drinking Water. The SWRCB requires that water agencies report water usage and other relevant PWS information via the electronic Annual Reports to the Drinking Water Program (eARDWP). These data are used by the state to determine, among other things, whether an urban retail water supplier has reached the threshold (3,000 or more connections or 3,000 acre-feet [AF] of water supplied) for submitting a UWMP. For the purposes of the Plan, the terms "customer" and "connections" are used interchangeably. In 2025, the District provided water through 16,457 connections and served 6,098 AF of water (**Table 2-1**).

Table 2-1. Public Water Systems (DWR Table 2-1)

Has there been a change in the number of affiliated Public Water Systems since the 2020 UWMP? (OPTIONAL)			No
Public Water System Number	Public Water System Name	Number of Municipal Connections 2025	Volume of Water Supplied 2025 (AF)
CA4110009	California Water Service – S San Francisco	16,457	6,098
	Total	16,457	6,098
Notes:			

2.2 Regional Planning

Regional planning can deliver mutually beneficial solutions to all agencies involved by reducing costs for the individual agency, assessing water resources at the appropriate geographic scale, and allowing for solutions that cross jurisdictional boundaries. Cal Water participates in regional water resources planning initiatives throughout California in the regions in which its 24 water districts are located.

In the South San Francisco District region, Cal Water participates in regional planning through the Bay Area Water Supply and Conservation Agency (BAWSCA). As a BAWSCA member, Cal Water assisted with development of the San Francisco Bay Area Integrated Regional Water Management Plan and is actively participating in BAWSCA's Long-Term Reliable Water Supply Strategy 2050, discussed further in Section 7.1.1. Furthermore, Cal Water is actively involved in the development of regional water supply projects including the Regional Groundwater Storage and Recovery (RGSR) Project and the PureWater Peninsula (formerly known as the Crystal Springs Purified Water Project) discussed further in Section 6.2.2 and Section 6.5.4, respectively.

2.3 Individual or Regional Planning and Compliance (Regional Alliance)

Urban water suppliers may elect to prepare individual or regional UWMPs. The South San Francisco District has elected to prepare an individual UWMP (see **Table 2-2**). This Plan has been prepared in general accordance with the format suggested in the California Department of Water Resources' (DWR's) 2025 UWMP Guidebook. Text from the UWMP Act has been included in text boxes at the beginning of relevant chapters of this UWMP. The information presented in the respective UWMP chapters, and the associated text, figures, and charts are collectively intended to fulfill the requirements of that sub-section of the UWMP Act. To the extent practicable, supporting documentation has also been provided in **Appendices A** through **Appendix** L. Other sources for the information contained herein are provided in the references section of the Plan.

Urban retail water suppliers may report on the requirements of the Water Conservation Act of 2009 (SB X7-7) individually or as a member of a "Regional Alliance." Although the District is a member of a Regional Alliance, this UWMP provides information on the District's compliance with its SB X7-7 water conservation targets as an individual urban retail water supplier.

Table 2-2. Plan Identification (DWR Table 2-2)

Select One or Both	Type of Plan		Name of Regional Alliance or RUWMP
☒	**Individual UWMP**		
	☒	Water Supplier is also a member of a SB X7-7 Regional Alliance	California Water Service – San Francisco Bay Regional Alliance
☐	**Regional Urban Water Management Plan (RUWMP)**		

Notes:
(a) The South San Francisco District is a member of a Regional Alliance; however, Chapter 5 provides information on the District's progress towards meeting its water conservation targets under SB X7-7 as an individual urban retail water supplier.

2.4 Plan Preparation, Standard Units, and Basis for Reporting

☑ ***CWC § 10608.12 (t)***
"Urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

☑ ***CWC § 10617***
"Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

☑ ***CWC § 10621 (a)***
Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

☑ ***CWC § 10621 (f)***
Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.

Per California Water Code (CWC) §10617, the South San Francisco District is an urban water supplier providing water for municipal purposes to more than 3,000 connections or supplying more than 3,000 AF of water annually. It is therefore obligated under CWC §10621(f) to develop and submit a UWMP to the California Department of Water Resources (DWR) by July 1, 2021. The District is an urban retail water supplier, as defined by CWC §10608.12 (t) and §10617, and as identified in **Table 2-3**. The District is not a wholesale water supplier.

Annual volumes of water reported in this UWMP are measured in AF and are reported on a calendar year basis (**Table 2-3**). Water use and planning data reported in this UWMP use calendar year 2025 as the selected twelve-month reporting period, consistent with the reporting period options provided in the 2025 UWMP Guidebook.

Per the 2025 UWMP Guidebook, the UWMP preparer is requested to complete a checklist of specific UWMP requirements to assist DWR's review of the submitted UWMP. The completed checklist is included in **Appendix A**. Further, consistent with the 2025 UWMP Guidebook, the terms "water use", "water consumption", and "water demand" are used interchangeably in this UWMP.

Table 2-3. Supplier Identification (DWR Table 2-3)

Type of Supplier (select one or both)	
☐	Supplier is a wholesale supplier
☒	Supplier is a retail supplier
Fiscal or Calendar Year (select one)	
☒	UWMP Tables are in calendar years
☐	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP (Select from the drop down list).	
Unit	AF
Notes:	

2.5 Coordination and Outreach

☑ ***CWC § 10620 (d) (3)***

Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

☑ ***CWC § 10631 (a)*** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

☑ ***CWC § 10642***

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. …

Coordination with other water suppliers, cities, counties, and other community organizations in the region is an important part of preparing a UWMP and a Water Shortage Contingency Plan (WSCP). This section identifies the agencies and organizations the South San Francisco District sought to coordinate with during preparation of this Plan.

2.5.1 Wholesale and Retail Coordination

☑ ***CWC § 10631 (h)***

An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

Urban retail water suppliers relying on one or more wholesalers for water supply are required to provide these wholesalers with information regarding projected water supply and demand. The District coordinates with the wholesale supplier shown in **Table 2-4**.

Table 2-4. Water Supplier Information Exchange (DWR Table 2-4)

Wholesale Water Supplier Name
San Francisco Public Utilities Commission
Notes:

2.5.2 Coordination with and Notice to Other Agencies and the Community

☑ ***CWC § 10620 (d) (3)***

Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

☑ ***CWC § 10642***

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

The District coordinated with cities, counties, and other community organizations during preparation of this UWMP. Cal Water provided notice to these entities and the communities it serves 60 days prior to the public hearing it held on June 2, 2026, to present the draft of the UWMP, address questions, and receive comments. Cities and counties receiving the public hearing notification from the District as required per CWC §10621 (b) are listed in **Table 10-1** in Chapter 10 of this Plan.

Copies of correspondence with other agencies and public notices are provided in **Appendix B** and **Appendix C**, respectively.

Water suppliers are required by the UWMP Act to encourage active involvement of the community within the service area prior to and during the preparation of its UWMP. The UWMP Act also requires water suppliers to make a draft of the UWMP available for public review and to hold a public hearing regarding the findings of the UWMP prior to its adoption. In addition to sending notices to the various agencies listed in **Table 2-4**, the District also notified the public of its intent to adopt its UWMP. The Public Review Draft of the 2025 UWMP was made available on

Cal Water's website on May 1, 2026. Additional information on public participation, including information on noticing, is provided in Chapter 10.

2.5.3 Coordination with Land Use Authorities

☑ ***CWC § 10631 (a)*** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

Cal Water coordinated with the San Mateo County, City of South San Francisco, Town of Colma, and City of Daly City staff to review and confirm that appropriate land use assumptions were used to develop the UWMP demand projections. Correspondence with land use authorities is included in **Appendix B**.

Chapter 3
System Description

☑ ***CWC § 10631 (a)***

A plan shall be adopted in accordance with this chapter that shall do all of the following:

Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

This chapter provides a description of the California Water Service (Cal Water) South San Francisco District (also referred to herein as the "District") water system and service area, including climate, population, demographics, and land uses to help in understanding various elements of water supply and demand. This chapter includes the following sections:

3.1 General Description

3.2 Service Area Boundary Map

3.3 Service Area Climate

3.4 Service Area Population and Demographics

3.5 Land Uses within Service Area

3.1 General Description

The South San Francisco District was formed in 1931 when Cal Water, a public water utility regulated by the California Public Utilities Commission (CPUC), acquired the South San Francisco Water Company, the San Carlos Water Company, and the San Mateo water system from Pacific Water Company.

The District's water supply consists of treated imported surface water purchased from the City and County of San Francisco's Regional Water System (RWS), which is operated by the San Francisco Public Utilities Commission (SFPUC) and locally produced groundwater. In total, the District currently has eight wells, 13 storage tanks, 19 booster pumps, and over 162 miles of pipeline delivering approximately 14 million gallons of water daily. The District serves residential, commercial, industrial, and governmental customers. Residential customers account for the majority of service connections and approximately 44 percent of total water use. Non-residential uses represent about 54 percent of demand, with distribution system losses accounting for the remainder.

3.2 Service Area Boundary Map

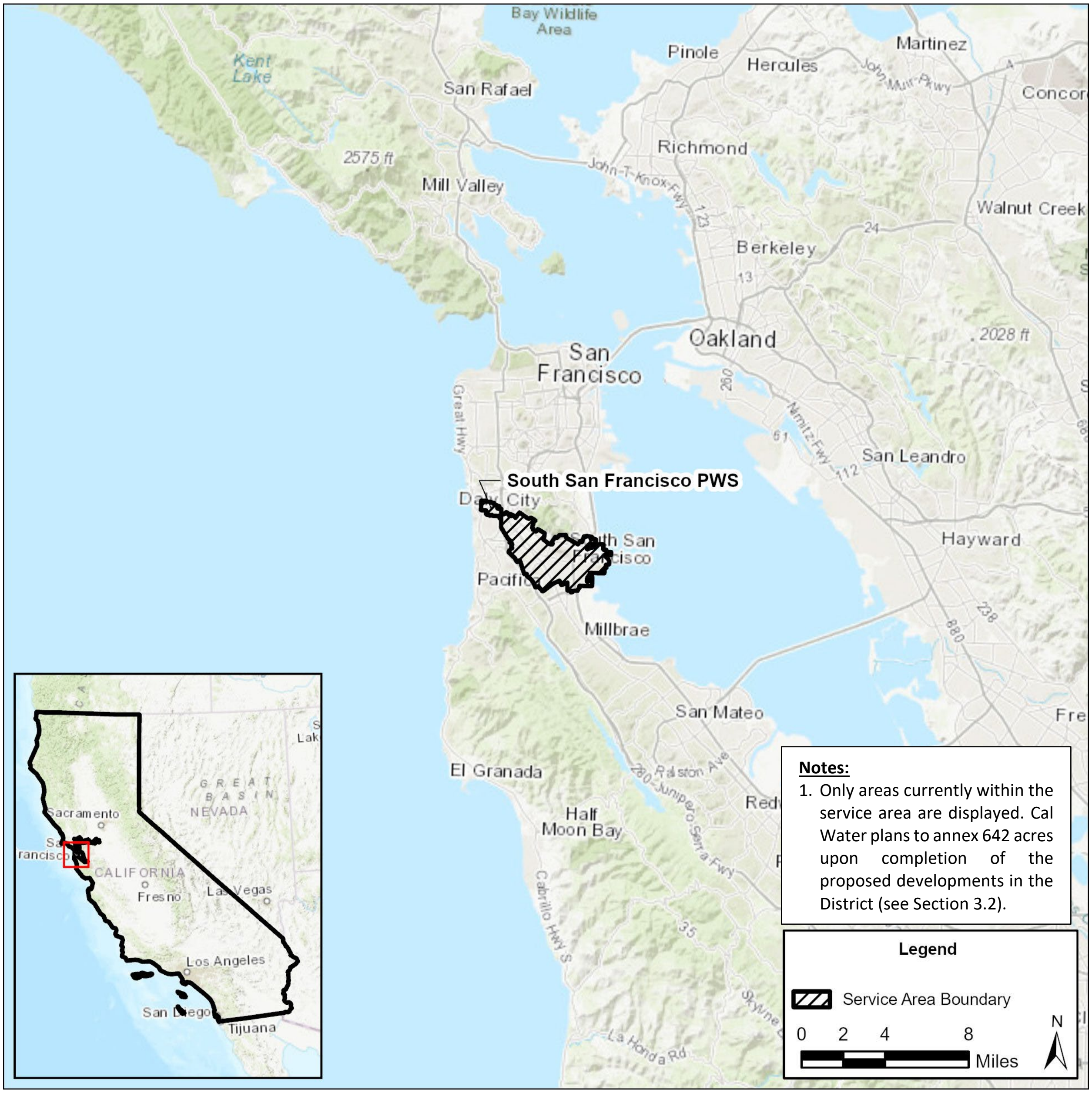
Figure 3-1 shows the location of the South San Francisco District and its current service area boundaries. Although not shown on **Figure 3-1,** 642 acres of land outside of the District's current service area have been proposed for residential and commercial development that would be served by the District in the future.

The District is located in northern San Mateo County, approximately six miles south of the City of San Francisco. It serves the communities of South San Francisco, Colma, a small portion of Daly City, and the unincorporated community of Broadmoor, which lies between Colma and Daly City. Major transportation corridors serving the District include Interstate 280 and U.S. Highway 101. San Francisco International Airport is located immediately south of the service area.

The District is situated on the Bay Plain and the northern foothills of the Coastal Range. It is bounded on the north by San Bruno Mountain; on the west and northwest by Daly City; on the south by the City of San Bruno; and on the east by San Francisco Bay. The San Andreas Fault rift zone is the primary geologic feature in the region and runs along the western boundary of the service area. The Hayward Fault lies on the eastern side of San Francisco Bay. A major seismic event on either fault could disrupt water service within the District.

Elevations range from just above sea level along the eastern boundary to more than 500 feet above sea level along the northern boundary. This significant variation in elevation requires 15 separate pressure zones for effective system operation.

Figure 3-1. District Location and Service Boundaries



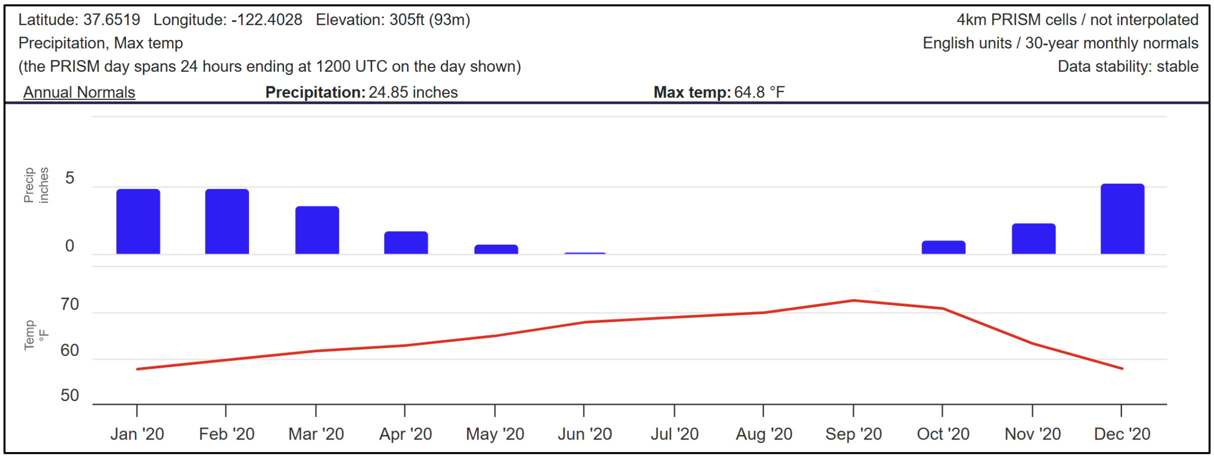
3.3 Service Area Climate

The District's climate is characterized by mild summers and cool wet winters (see **Figure 3-2**).[6] Most rainfall occurs between October and May. Precipitation totals in the summer months are

[6] Precipitation and temperature data downloaded from: https://prism.oregonstate.edu/explorer/. These data represent a 30-year period from 1991 through 2020. The x-axis reflects the end of the 30-year time series.

negligible. On average, the District receives 24.9 inches of rainfall annually. Maximum daily air temperature averages 70 degrees Fahrenheit during the summer months. In the winter, it averages 58 degrees Fahrenheit.

Figure 3-2. 30-Year Normals, Precipitation and Maximum Daily Air Temperature



Based on data from the Oregon State PRISM dataset for 1895–2024, annual rainfall varies considerably from year to year, as is typical across much of California. The standard deviation of annual rainfall is 7.6 inches—about 32 percent of the long-term average. Multi-year periods of below-average rainfall are common: since 1895, there have been ten episodes lasting three or more consecutive years and two episodes lasting five or more years. The last long spell of below average rainfall ran from 1987 to 1991. Despite the high variability, there is no statistically significant long-term trend in average annual rainfall, and the variance of annual rainfall has remained stable.

In contrast, temperatures in the District have been steadily warming. Since 1895, the average daily temperature has increased at a rate of approximately 0.018 degrees Fahrenheit per year. Mean annual temperature for the 2015–2024 period was 2.6 degrees Fahrenheit higher than for the corresponding 10-year period a century earlier. Although average temperature has been rising, the variance in annual temperatures has remained stable.

3.4 Service Area Population and Demographics

The South San Francisco District estimates that its service area population was 62,609 in 2025.

Population estimates are developed using U.S. Census Block population counts from the decennial Census. These counts are converted to average population per single-family and multi-family service, which are then applied to annual service counts for the years between decennial censuses. This approach is similar to the method used in the California Department of Water

Resources (DWR) Population Tool, and comparisons between the two methods show that resulting population estimates typically differ by less than one percent.[7]

Current and projected service area populations are shown in **Table 3-1**. Population projections are based primarily on population, housing, and employment forecasts through 2050 for Traffic Analysis Zones (TAZ) overlaying the District prepared by the Association of Bay Area Governments (ABAG). Between 2025 and 2050, the service area population is projected to grow at an average rate of approximately 0.75 percent per year.

Table 3-1. Population – Current and Projected (DWR Table 3-1)

Population Served	2025	2030	2035	2040	2045	2050
	62,609	66,193	69,591	71,522	73,509	75,555

Demographics for the City of South San Francisco are summarized in **Table 3-2.**[8] These data are from the U.S. Census American Community Survey 2023 5-Year Estimates. Relative to the rest of California, the South San Francisco's population is older and more racially homogeneous. Educational attainment in South San Francisco is higher than for the state as a whole, as is median household income.

South San Francisco's stock of housing is older than for California as a whole. Seventy-eight percent of South San Francisco's housing stock was built before 1990, compared to 72 percent for California overall. Homes built after 1990 are more likely to have plumbing fixtures that are compliant with state and federal water and energy efficiency standards.

[7] California Water Service, 2016. 2015 Urban Water Management Plan: South San Francisco District, dated June 2016.

[8] Although the District covers portions of the City of Colma, a small portion of Daly City, and the unincorporated community of Broadmoor, due to the relative coverage of those communities in relation to the District, the information presented herein is focused on the City of South San Francisco as a reasonable proxy for the whole District.

Table 3-2. Demographic and Housing Characteristics

Demographics	**South San Francisco**	**California**
Median Age (years)	42.4	37.6
Racial Makeup (%)		
White	26.6	38.1
Black or African American	1.7	5.4
American Indian and Alaska Native	0.7	1.4
Asian	43.0	16.1
Native Hawaiian	1.1	0.4
Some other race	14.0	18.9
More than two races	12.9	19.8
Hispanic or Latino (of any race) (%)	30.8	40.8
Educational Attainment (%)		
Bachelor’s Degree or Higher	40.1	36.5
Primary Language Spoken at Home (%)		
English Only	79.4	82.7
Limited English-Speaking Households	20.6	17.3
Median Household Income ($)	135,909	96,334
Population below Federal Poverty Level (%)	7.1	12.0
Housing	**South San Francisco**	**California**
Median Year Built	1965	1976
Year Housing Built (%)		
2010 or Later	7.1	6.9
2000 to 2009	8.3	11.1
1990 to 1999	6.9	10.3
Before 1990	77.7	71.6

3.5 Land Uses within Service Area

Current land uses within the South San Francisco District are a mixture of low, medium, and high density residential, mixed use, commercial, industrial, public facilities, and parks/open space. Maps showing General Plan land use designations for communities served by the District are provided in **Appendix D**.

The District's population and service growth projections are tied to ABAG TAZ projections of population, housing, and employment. These projections, in turn, are developed by ABAG through detailed land use modeling of the Bay Area.[9] The areas included in the ABAG land use model include all incorporated and unincorporated areas of the nine-county Bay Area. ABAG's land use model application is comprised of ten sub models:

1. Employment Transition Model
2. Household Transition Model
3. Real Estate Development Model
4. Scheduled Development Events Model
5. Employment Relocation Model
6. Household Relocation Model
7. Government Growth Model
8. Employment Location Choice Model
9. Household Location Choice Model
10. Real Estate Price Model

Parcels, or individual units of land ownership, provide the fundamental building block for the ABAG land use model. The land use database includes information linking the parcels to the TAZ they are within, buildings that are on them, their size, their monetary value, and their current planning constraints. The base year database contains 1.9 million buildings categorized into 14 different land use types, ranging from detached single-family housing to heavy industrial.

The ABAG land use model relies on current zoning for all parcels in the region as a representation of the land use controls in place in the base year. Zoning codes, general plans, and specific plans are processed by ABAG to obtain a consistent indication of each jurisdiction's long-term vision for land use type, residential dwelling units per acre, and commercial floor-area-ratio.

[9] Association of Bay Area Governments and Metropolitan Transportation Commission (2017). Land Use Modeling Report, Plan Bay Area 2040 Final Supplemental Report, dated July 2017. Accessed from: https://files.mtc.ca.gov/library/pub/29736.pdf

Chapter 4
Water Use Characterization

This chapter provides a description and quantifies the California Water Service (Cal Water) South San Francisco District's (also referred to herein as the "District") past, current, and projected water uses through 2050. For the purposes of the Urban Water Management Plan (UWMP or Plan), the terms "water use" and "water demand" are used interchangeably. This chapter is divided into the following subsections:

4.1 Non-Potable Versus Potable Water Use

4.2 Past, Current, and Projected Water Uses by Sector

4.3 Distribution System Water Loss

4.4 Climate Change Considerations

4.5 Coordinating Water Use Projections

Appendix E provides additional information and data related to the development of the water demand projections presented in this chapter.

4.1 Non-Potable Versus Potable Water Use

Potable and non-potable water uses are accounted for separately herein. Potable uses are served by the District's potable water delivery system. Potable water deliveries comply with Title 22 Drinking Water Standards. Non-potable water uses include recycled and untreated raw water deliveries, such as tertiary treated recycled water or surface or groundwater supplies that do not meet potable drinking water standards. Uses of potable versus non-potable water are clearly distinguished in the tables included in this section of the plan.

4.2 Past, Current, and Projected Water Uses by Sector

☑ ***CWC § 10631 (d) (1)*** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

(d)(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(J) Distribution system water loss (d)(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(d)(4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(d)(4)(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

Demand within the District's water service area is measured using water meters that are installed at each customer service connection. Demand within the service area is tracked and reported for the following sectors:

- **Single Family Residential**: Attached or detached dwelling units that are individually metered.

- **Multi-Family Residential**: Three or more dwelling units served by a common water meter.
- **Commercial**: Private enterprise customers other than large industrial customers.
- **Institutional/Governmental**: Institutional and governmental entities such as schools, administrative buildings, and publicly owned parks and landscaping.
- **Industrial**: Large industrial sites and water use.
- **Landscape**: Water meters classified exclusively for outdoor landscape irrigation.
- **Other**: Includes temporary meters, and miscellaneous customers not listed elsewhere.
- **Fire Service**: Water meters used for fire suppression or system maintenance. These meters typically do not have billed consumption.

Water use categories described in California Water Code (CWC) §10631(d)(1)(G) through (I)—listed below—were not included in the District's water demand calculations because they do not apply to the system:

- Sales to other agencies;
- Sales for agricultural irrigation; and,
- Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

4.2.1 Past and Current Water Use

☑ ***CWC §10631***

(d)(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use… based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors…

Table 4-1 and **Figure 4-1** show water uses from 2021 through 2025 in acre-feet (AF). Total demand in 2025 was 6,189 AF. Residential customers constitute the majority of the District's service connections but only 44 percent of total water use. Non-residential demands represent about 54 percent, while distribution system losses account for the remaining amount. The District does not currently serve recycled water; however, there is potential for future use of recycled water associated with the Baylands Specific Plan as described in Section 6.5.

Per capita water use in the District has declined steadily since the early 2000s. Between 2000 and 2025, water use per person decreased by 43 percent (**Figure 4-2**), falling from 155 gallons per capita per day (GPCD) to 88 GPCD. During this period total demand decreased by approximately 3,500 AF—going from approximately 9,700 AF in 2000 to 6,189 AF today.

Several factors have contributed to this long-term reduction in per capita use. Tiered residential pricing was adopted in 2009, strengthening incentives for efficient household water use. Additionally, beginning in 2012, Cal Water tripled conservation program expenditures, expanding customer access to tools and resources that support water-use efficiency. Lastly, state and federal efficiency standards have significantly reduced water use from toilets, showers, clothes washers, and other plumbing fixtures.

Collectively, these actions have resulted in a sustained reduction in water use across the service area. These trends are expected to continue and are incorporated into the demand projections presented in the next section.

Table 4-1. Uses for Potable and Non-Potable Water – Actual (DWR Table 4-1)

Use Type	Additional Description (as needed)	Historical Water Use					
		Level of Treatment When Delivered (OPTIONAL)	2021 (AF)	2022 (AF)	2023 (AF)	2024 (AF)	2025 (AF)
Single Family		Potable	2,474	2,307	2,279	2,299	2,270
Multi-Family		Potable	371	390	416	446	443
Commercial		Potable	2,717	2,895	2,859	2,866	2,828
Institutional		Potable	261	247	228	222	246
Industrial		Potable	475	550	394	300	253
Landscape	(a)	Potable	0	0	0	0	0
Other		Potable	13	19	33	13	11
Losses	(b)	Potable	152	110	138	168	138
		Subtotal Potable	6,463	6,517	6,346	6,313	6,189
		Subtotal Non-Potable	0	0	0	0	0
		Total	6,463	6,517	6,346	6,313	6,189

Notes:
(a) District's billing system does not track this use type separate from other use types.
(b) Sum of potable real and apparent losses and authorized unbilled consumption from water loss reports.
(c) The total demands in DWR Table 4-1 may not be equal to the volume supplied in DWR Table 2-1, and total supply in DWR Table 6-8 due to estimations of water loss based on historical state-reported water loss values.

Figure 4-1. Annual Total Water Demand by Sector

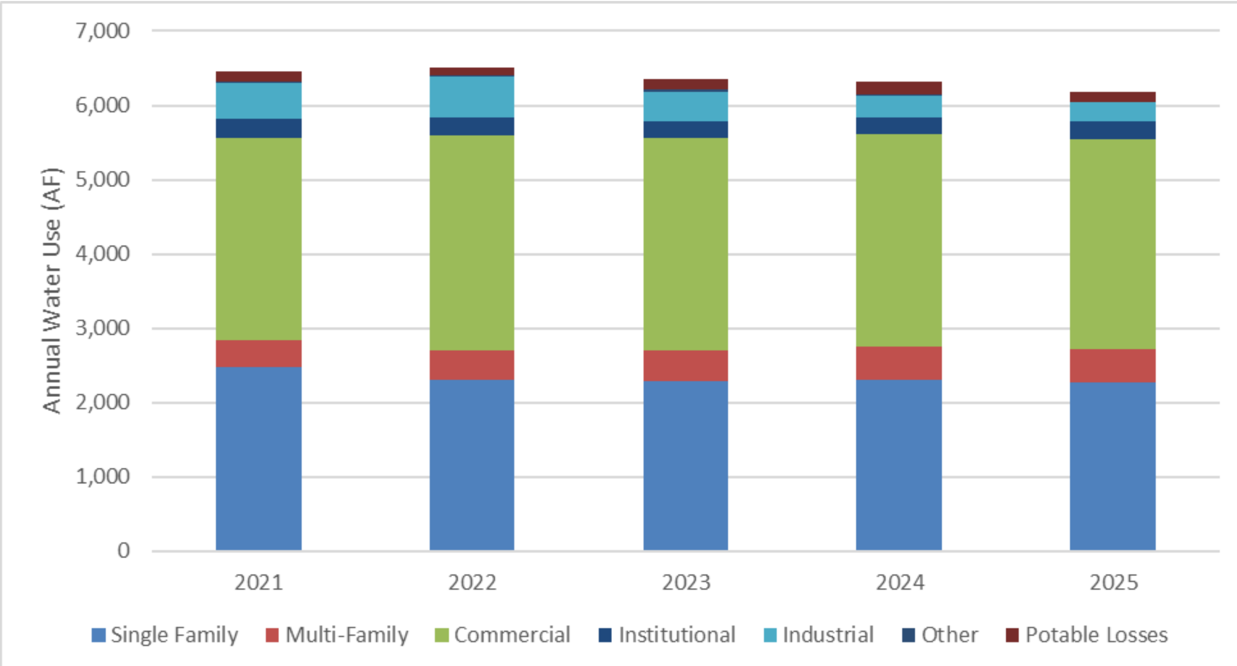
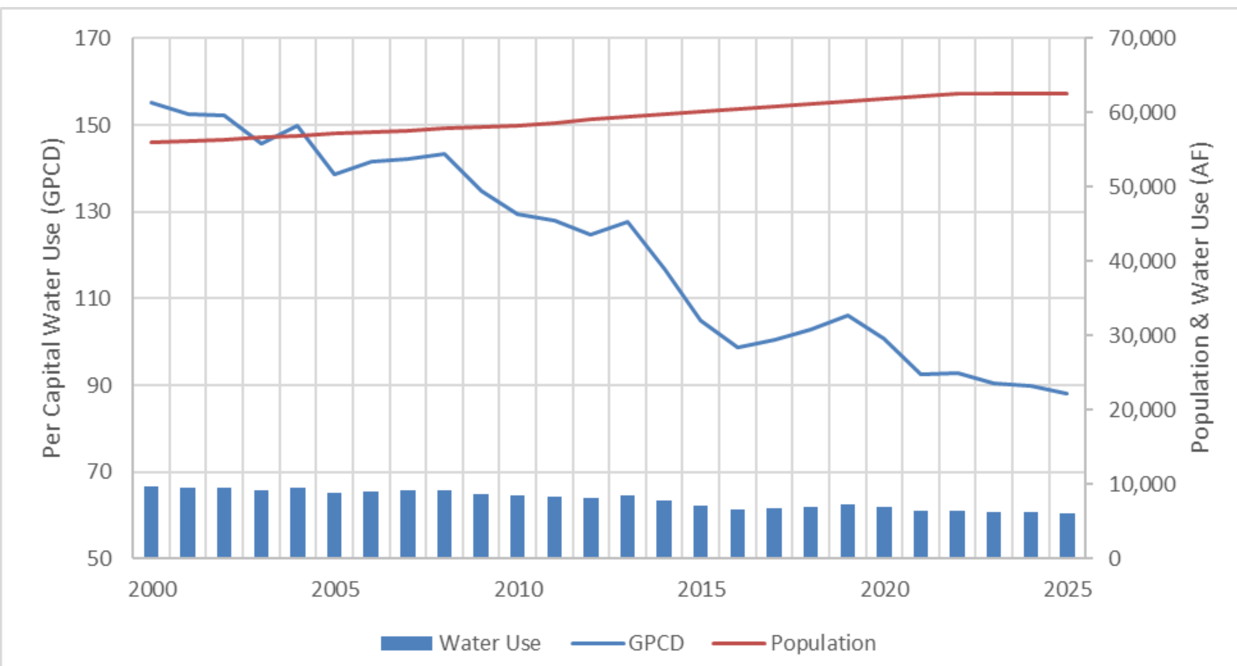


Figure 4-2. Annual Per Capita Water Use



4.2.2 Projected Water Use

Table 4-2 and **Figure 4-3** show projected water uses in five-year increments through 2050. Future water uses are projected by combining forecasts of future water services with forecasts of expected water use per service. The forecasts of future services are aligned with the population, housing, and employment forecasts described in Section 3.4. Separate growth rates were developed for residential and non-residential services based on these regional projections. Between 2025 and 2050, the total number of services is expected to increase from approximately 16,500 to about 19,600, a rate of growth generally consistent with the projected increase in service area population.

Baseline forecasts of expected use per service are calibrated to average usage for the previous three years. The baseline forecasts are then adjusted over the forecast period for expected changes in usage associated with:

1. **Passive water savings** that are primarily driven by plumbing codes and appliance standards that affect both the turnover of existing appliances and fixtures and the installation of new ones.
2. **Active water savings** that are driven by the continued implementation of District conservation programs.
3. **Behavioral responses to higher water service** costs that are driven by customer responsiveness to changes in marginal water prices and projected increases in water service costs over the forecast period.
4. **Water loss standards compliance** that is translated into a reduction in expected loss per service connection (see **Table 4-6**).

These adjustments are described in greater detail in the next section.

Although population is projected to increase at an annual rate of 0.75 percent, total water use is projected to increase at about half this rate. As shown in **Figure 4-4**, per capita demand is projected to continue declining, though at a more gradual pace than in previous decades, as many of the most accessible conservation opportunities—such as metering—have already been realized.

Table 4-2. Uses for Potable and Non-Potable Water – Projected (DWR Table 4-2)

Use Type	Additional Description (as needed)	Projected Water Use					
		Level of Treatment When Delivered (OPTIONAL)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
Single Family		Potable	2,114	2,012	1,945	1,913	1,876
Multi-Family		Potable	423	417	401	392	382
Commercial		Potable	3,648	3,874	4,028	3,841	3,821
Institutional		Potable	230	228	228	226	226
Industrial		Potable	303	302	304	306	308
Landscape	(a)	Potable	0	0	0	0	0
Other		Potable	13	13	14	14	14
Losses	(b)	Potable	146	152	157	160	164
Commercial	Recycled	Non-Potable	0	0	0	425	425
Losses	Recycled	Non-Potable	0	0	0	38	38
		Subtotal Potable	6,877	7,000	7,077	6,852	6,790
		Subtotal Non-Potable	0	0	0	462	462
		Total	6,877	7,000	7,077	7,314	7,252

Notes:

(a) District's billing system does not track this use type separate from other use types.

(b) Sum of potable real and apparent losses and authorized unbilled consumption. Assumes compliance with state water loss standards by 2028.

(c) Recycled water use is contingent on construction of the Baylands Water Recycling Facility as part of the Baylands Specific Plan development.

Figure 4-3. Projected Annual Water Demand by Sector

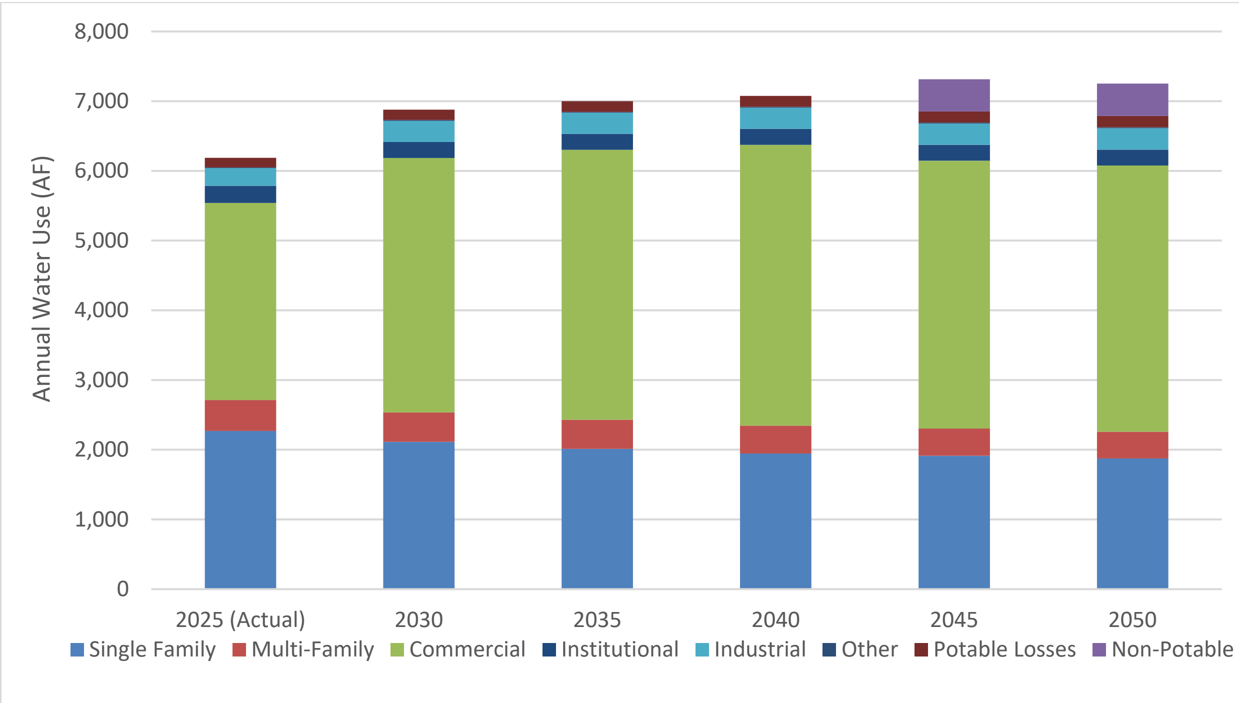
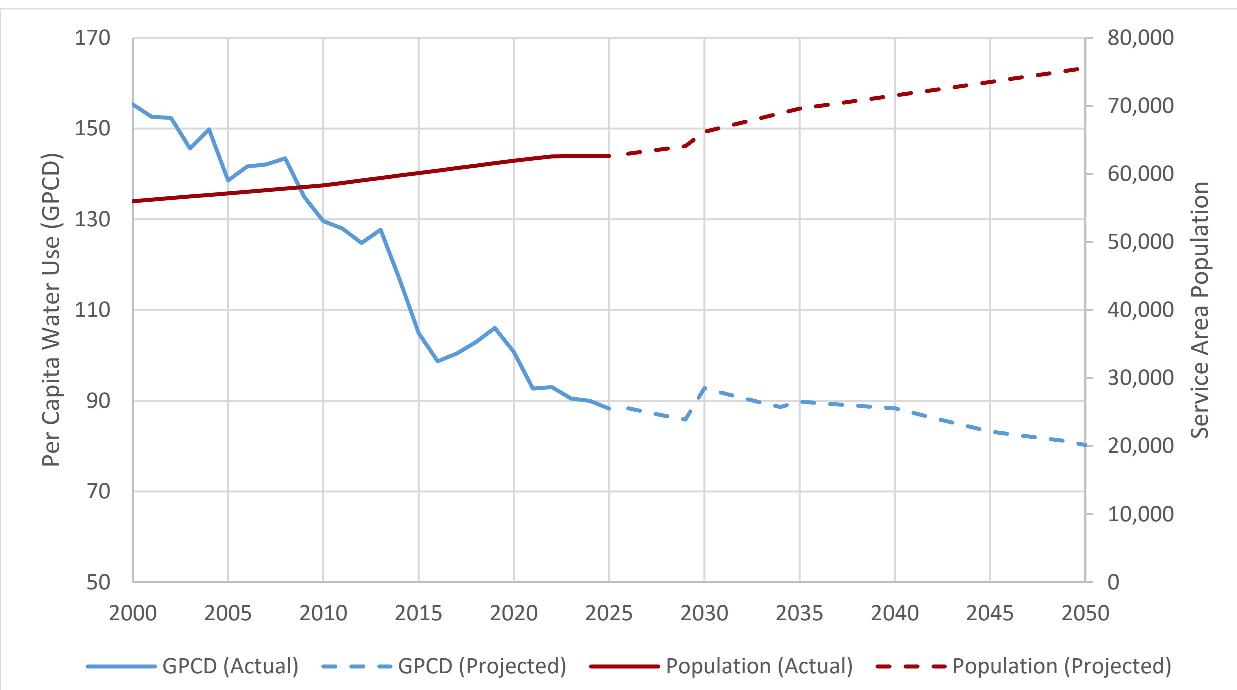


Figure 4-4. Projected Per Capita Water Use



4.2.3 Adjustments to Projected Water Uses

As noted in the previous section, four adjustments were made to projected water usage:

1. **Passive water savings** from plumbing codes and appliance standards.
2. **Active water savings** from implementation of the District's conservation programs.
3. **Behavioral responses to higher water service cost**.
4. **Water loss standards compliance**.

This section describes the data and methods underlying these adjustments as well as their relative magnitudes.

Table 4-3. Inclusion in Water Use Projections (DWR Table 4-3)

Are Future Water Savings Included in Projections?	Yes
If "Yes" to above: State the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	Section 4.2.3
Are Lower Income Residential Demands Included in Projections?	Yes
OPTIONAL If the method for accounting Lower Income Residential Demands has been included, provide page number where this accounting can be found.	See notes
Notes: (a) All District residential customers, regardless of income level, are metered and thus the demands of residential customers with lower incomes are fully included in the single- and multi-family water uses shown in DWR Table 4-2.	

(1) Passive Water Savings Adjustment

☑ ***CWC §10631(d)(4)***

(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

The passive water savings adjustments reflect the effects of the following codes and regulations:

- **Assembly Bill (AB) 715 (2007)** requires that any toilet or urinal sold or installed in California on or after January 1, 2014, must not exceed flush ratings of 1.28 gallons per flush (gpf) for toilets and 0.5 gpf for urinals. These standards superseded the earlier 1991 limits of 1.6 and 1.0 gpf, respectively. In response to the Governor's Emergency Drought Response Executive Order B-29-15, the California Energy Commission adopted new urinal standards in April 2015, reducing allowable use to 0.125 gpf—75 percent lower than the AB 715 standard.
- **California Appliance Efficiency Regulations (California Code of Regulations [CCR], Title 20, Sections 1601-1609)** set a two-tier standard for showerheads: a maximum flow rate of 2.0 gallons per minute (gpm) for models manufactured on or after July 1, 2016, and a maximum flow rate of 1.8 gpm for models manufactured on or after July 1, 2018.
- **Federal appliance water efficiency standards** for residential and commercial clothes washers and dishwashers are established by the U.S. Department of Energy under the Energy Policy and Conservation Act.
- **CALGreen Building Code** requirements apply to new construction and renovations in California. CALGreen includes prescriptive indoor standards limiting water consumption of plumbing fixtures and fittings, as well as an optional performance path requiring a 20 percent reduction in indoor water use relative to a calculated baseline using CALGreen worksheets.
- **Senate Bill (SB) 407 (2009)** mandates that all buildings constructed on or before January 1, 1994, retrofit noncompliant plumbing fixtures to meet current state efficiency standards. The law also requires sellers of single-family homes, effective January 1, 2017, to disclose in writing whether required plumbing fixture replacements have been completed. Similar disclosure requirements for multi-family and commercial properties took effect January 1, 2019. **SB 837 (2011)** reinforced these requirements by adding corresponding disclosure elements to the statutory property transfer disclosure statement.
- **Model Water Efficient Landscape Ordinance (MWELO)** was updated by the California Water Commission in 2015. MWELO (or a locally adopted equivalent) limits water use for new and rehabilitated landscapes. Under MWELO, the maximum applied water allowance (MAWA) is set at 55 percent of reference evapotranspiration for residential landscapes and 45 percent for commercial landscapes, with exceptions for special uses such as sports fields, parks, or landscapes irrigated with recycled water.

Passive water savings adjustments were estimated using the Alliance for Water Efficiency's *Water Conservation Tracking Tool* (AWE Tracking Tool), a quantitative model widely used by water utilities to assess both active and passive water savings.[10]

(2) Active Savings Adjustment

Active savings refer to water savings resulting from the District's implementation of water conservation programs, customer education efforts, and the provision of financial incentives (e.g., rebates). The active savings adjustment assumes continuation of the District's current conservation programs at implementation levels consistent with conservation program funding authorized by the California Public Utilities Commission (CPUC) in California Water Service's most recent General Rate Case.

A description of the District's existing and planned conservation programs, also referred to as Demand Management Measures (DMMs), is provided in Chapter 9. Projected compliance with state urban water conservation regulations is addressed in Chapter 5.

As with passive savings, the cumulative effects of these programs on future water demand were estimated using the AWE Tracking Tool.

(3) Customer Price Response Adjustment

The AWE Tracking Tool was also used to calculate customer price response adjustments. The adjustment assumes a sustained 1.0 percent annual rate of increase above general price inflation in the marginal cost of water service.

The AWE Tracking Tool's default demand elasticities were used to adjust baseline demands over the forecast period in response to the real increases in marginal water service costs. The demand elasticities estimate the expected percentage change in water use given a 1.0 percent inflation-adjusted increase in marginal water cost. For example, an elasticity of -0.1 implies that demand will decrease, on average, by 0.1 percent given a 1.0 percent increase in marginal water cost.

The default elasticities used by the tracking tool are as follows:

- Single-Family: -0.15
- Multi-Family: -0.075
- CII: -0.15
- Irrigation: -0.25

[10]AWE's Tracking Tool is available at: https://allianceforwaterefficiency.org/resource/water-conservation-tracking-tool/

Because higher water service cost encourages conservation program participation, the AWE Tracking Tool's default elasticities are purposely conservative (i.e., small in magnitude) in order to reduce the likelihood of double counting water savings.

(4) Water Loss Standards Compliance

The water loss standards compliance adjustment is based on the difference between average real and apparent water loss, as reported in the District's most recent three water loss reports (see **Table 4-5**), and the corresponding standards. Real and apparent water use per service is reduced by these differences in 2028, the deadline for compliance with the standards, if the average loss rates exceed their standards.

(5) Summary of Demand Adjustments

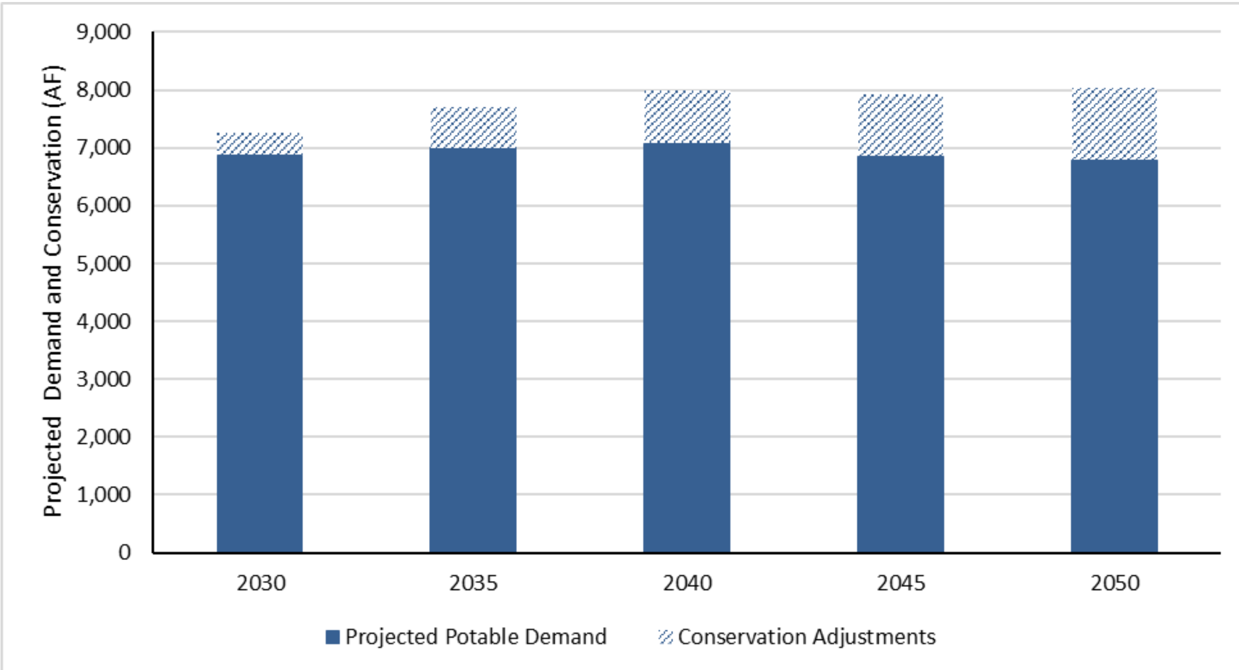
Table 4-4 and **Figure 4-5** show the impact of the demand adjustments on projected water use. In total, the adjustments reduce projected 2050 water use by 16 percent relative to the baseline forecast. Most of the reduction is associated with water savings from District conservation programs (68 percent), followed by passive water savings (31 percent). The water service cost adjustment incorporates adjustments for increases in both price and household income. The relatively small adjustment shown in **Table 4-4** indicates that the income adjustment mostly offsets the price adjustment. No adjustment for water loss standards compliance is shown because current District real loss rates already are below the state standards.

Table 4-4. Projected Baseline and Adjusted Potable Water Demand

Water Conservation Type	Projected Potable Water Demand				
	2030	2035	2040	2045	2050
	(AF)	(AF)	(AF)	(AF)	(AF)
Baseline Potable Water Demand	7,268	7,697	7,989	7,932	8,046
Demand Adjustments					
Passive Conservation	192	310	344	365	393
Active Conservation	198	384	561	709	857
Water Service Cost (a)	1	4	8	6	6
Water Loss Standards Compliance (b)	0	0	0	0	0
Subtotal Adjustments	391	698	913	1,080	1,256
Projected Potable Demand	6,877	7,000	7,077	6,852	6,789

Notes:
(a) Water cost adjustments incorporate adjustments for increases in both income and price. Negative water service cost adjustments indicate the increase in demand because of increased income is greater than the reduction in demand because of increased price of water.
(b) Compliance with loss standards by 2028 is assumed. No reported adjustment indicates current losses per connection are below the District's standards for real and apparent water loss.

Figure 4-5. Projected Potable Water Demand and Conservation



4.2.4 Cal Water's Development Offset Program

In July 2021, Cal Water began development of a Development Offset Program for its three Peninsula Districts, which share the same San Francisco Public Utilities Commission (SFPUC) supply allocation. The purpose of the Program is to ensure that overall customer demand for water does not exceed available current or future supply under a range of hydrologic conditions, and to ensure the availability of water for residential, commercial, and other purposes for future water use in the three Peninsula Districts.[11]

As described and approved in Advice Letter No. 2453 to the CPUC, dated 7 June 2022, the Development Offset Program will require any new residential, commercial, or industrial development within any of the three Peninsula Districts that is projected to increase net demand by more than 50 acre-feet per year (AFY) to pay a special facilities fee, referred to as a "developer offset fee", of $15,400 per acre-feet of net demand increase.[12] The developer offset fee was calculated based on representative alternative water projects in the Bay Area region, and the anticipated yield of those projects, and will be used to fund accelerated water supply projects and expanded customer conservation programs. The alternative water projects included in the Developer Offset Fee include projects Cal Water is partnering with the SFPUC on as described in their Alternative Water Supply (AWS) Program. The net demand increase is defined as the

[11] Cal Water, 2022. Advice Letter No. 2453, Rule 15 Update for Developer Offset Fee, dated 7 June 2022.
[12] Ibid.

expected total potable water use for the development once it is completed, minus the average annual existing potable water use on the property over the previous five years.

4.3 Distribution System Water Loss

☑ ***CWC § 10631 (3)***

(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

4.3.1 Previous Five Years Distribution System Losses

Since 2016, urban retail water suppliers have been required under CWC §10608.34 and CCR §638.1 et seq to quantify distribution system water losses using the American Water Works Association (AWWA) Free Water Audit Software (referred to as "water loss audit reports"). **Table 4-5** summarizes the water loss audit reports submitted to DWR since 2021.

Table 4-5. Water Loss Audit Reporting (DWR Table 4-5)

Public Water System ID # Reported in Table 2-1 R	Reporting Period	Submitted to DWR Water Loss Audit Program (yes/no)
CA4110009	2021	Yes
	2022	Yes
	2023	Yes
	2024	Yes
	2025	(see notes)

<u>Notes:</u>
(a) Submitted water loss reports are available at: https://wuedata.water.ca.gov/
(b) 2025 water loss audit reports are not due until January 1, 2027, after the July 2026 UWMP filing deadline.

4.3.2 Progress Toward Meeting the Water Loss Performance Standard

In 2022, the State Water Resources Control Board (SWRCB) adopted new performance standards for urban retail water suppliers that would reduce water loss by nearly 35 percent. Effective starting in 2023, the SWRCB provided a volumetric standard to each urban retail water supplier that sets cost-effective levels of achievable water loss given each water system's characteristics and budgets. Suppliers will be required to start meeting individual volumetric loss standards over a three-year period beginning January 2028. This water loss standard is one component of the Making Conservation a California Way of Life (MCCWL) regulation.[13]

CWC §10631 (3)(c) requires that this UWMP demonstrate whether the distribution loss standards enacted by the SWRCB pursuant to CWC §10608.34 have been met. **Table 4-6** shows that the District's current water loss rates fall below the loss standards established by the SWRCB (i.e., the District is in compliance).

[13] SWRCB, 2025. Making Conservation a California Way of Life, dated January 2025. Accessed From: https://www.waterboards.ca.gov/conservation/regs/water_efficiency_legislation.html.

Table 4-6. Progress Towards 2028 Water Loss Standards (DWR Table 4-6)

Public Water System ID #	Did the Water Board Calculate a Water Loss Standard for this Public Water System? (y/n) If no, Supplier will not complete this row.	Real Water Loss					Apparent Water Loss				
		State Water Board Standard		Most Recent AWWA Water Loss Audit			State Water Board Standard		Most Recent AWWA Water Loss Audit		
		2028 Real Water Loss Standard (a)	Units for Real Water Loss (b)	Number of Services	Volume of Real Loss (c) (AF)	Real Water Loss Per Unit per Day	2028 Apparent Water Loss Standard (a)	Units for Apparent Water Loss (b)	Number of Services	Volume of Apparent Loss (c) (AF)	Apparent Water Loss Per Unit per Day
CA4110009	Yes	4.2	GPSCD	17,520	59	3.0	7.2	GPSCD	17,520	93	4.7

Notes:
(a) Provided by State Water Resources Control Board (SWRCB).
(b) GPSCD = Gallons per service connection per day.
(c) Result from most recent validated AWWA water loss report.

4.4 Climate Change Considerations

☑ ***CWC §10630***

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

☑ ***CWC §10635(b)***

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment …(and) shall include each of the following …

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

As discussed in Section 3.3, the South San Francisco District's climate has been warming. Changing climate can affect water demands, as extreme and higher temperatures can lead to increases in water use. At the same time, adaptive behavior by water users, such as replacing existing landscape with more drought-tolerant landscape material, may partially offset these effects. Pursuant to the CWC requirements and the 2025 UWMP Guidebook, this Plan incorporates climate change considerations into the water demand projections provided in this section.

For many years, Cal Water has focused on identifying and assessing climate-related risks and opportunities. Cal Water's initial evaluations in 2016 and 2020 formed the foundation for the Climate Change Risk Assessment and Adaptation Framework (Climate Assessment) which was completed in 2021. This Climate Assessment considered climate-related risks and opportunities over three distinct time horizons:

- The early-century horizon (2020-2049) includes near-term vulnerabilities and adaptation measures to consider for implementation.
- The mid-century horizon (2035-2064) covers longer-term investments, such as new facilities constructed after the lifespan of the current infrastructure.
- The late-century horizon (2070-2099) evaluates long-term adaptation pathways.

Climate projections for each time horizon were averaged to account for natural climate variability across shorter periods. Cal Water also followed guidance from the Task Force on Climate-related Financial Disclosures (TCFD) and the Intergovernmental Panel on Climate Change (IPCC) to leverage Representative Concentration Pathways (RCPs) for a range of possible climate futures. RCPs show trajectories of atmospheric Green House Gas (GHG) concentrations for different timeframes and emission levels. Based on the findings from our foundational work and the associated literature review, the following RCPs were selected for risk analysis:

- RCP 4.5 is an intermediate scenario that assumes an estimated global temperature rise between 2.0 degrees Celsius and 3.0 degrees Celsius from pre-industrial levels by 2100, with anthropogenic GHG emissions peaking in 2040.
- RCP 8.5 is a high-emissions scenario that assumes temperature increases of at least 4.0 degrees Celsius from pre-industrial levels by 2100, with anthropogenic GHG emissions continuing to rise over the next century.

Although RCP 2.6 is the lower bound of the RCP scenarios adopted by the IPCC, Cal Water selected RCP 4.5, since Cal Water believes it to be a more realistic potential lower bound, because achieving RCP 2.6 requires significant actions at a global scale. The California Fourth Climate Assessment also identified RCP 4.5 and RCP 8.5, which are consistent with planning models that stage agencies use.

The Climate Assessment also identifies and prioritizes climate-driven risks to future water supply availability and critical operations and assets, projects and assesses supply of and demand for water, and identifies primary risks to Cal Water's operations.

The Climate Assessment provides actionable insights and a reliable framework for future planning. Using this framework, Cal Water intends to continue implementing programs that capitalize on these adaptation strategies.

The Executive Summaries from the 2016 and 2020 foundational work, and the Climate Assessment, can be found in **Appendix F**.

4.4.1 Characteristic Five-Year Water Use

☑ ***CWC § 10635(b)(3)***

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following…

*(3) A comparison of the total water supply sources available to the water supplier with **the total projected water use for the drought period.*** (Emphasis added).

In accordance with CWC §10635(b)(3), UWMPs must provide a five-year Drought Risk Assessment (see Section 7.5). As a first step, DWR suggests that water suppliers estimate their unconstrained water demand for the next five years (2026-2030). Unconstrained water demand is water use in the absence of drought water use restrictions. These numbers can then be adjusted to estimate the five-years' cumulative drought effects. The Drought Risk Assessment presented in Section 7.5 accounts for this increase in unconstrained water demand.

As part of the sales forecasting process for General Rate Cases before the CPUC, Cal Water conducts econometric modeling to evaluate the sensitivity of water sales to variations in weather conditions. These models were used to simulate differences in projected water use under normal weather conditions and under multiple dry-year scenarios. For this analysis, historical weather data from the dry periods of 1929–1934, 1987–1991, and 2013–2016 were applied.

The results indicate that the District's annual water use under a multiple dry-year scenario would increase by approximately five percent relative to normal conditions. This increase reflects the District's commercial and industrial water uses which are largely invariant to weather, even in dry years.

Projected unconstrained demands for 2026-2030 for normal and multiple-dry-year scenarios are provided in **Table 4-7**.

Table 4-7. Characteristic Five-Year Water Use for Normal and Multi-Year Dry Scenarios

Water Year Type	2026	2027	2028	2029	2030
	(AF)	(AF)	(AF)	(AF)	(AF)
Normal	6,230	6,203	6,180	6,159	6,877
Multi-Year Dry	6,599	6,571	6,546	6,524	7,286

4.5 Coordinating Water Use Projections

☑ ***CWC §10631***

(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision.

As described in Chapter 6, the District purchases imported water from the City and County of San Francisco's Regional Water System (RWS), which is operated by the SFPUC. The SFPUC was provided with the District's 2026-2050 water demand projections as part of the preparation of the UWMP.

Chapter 5
SB X7-7 Baseline, 2020 Target and 2025 Reporting

Senate Bill (SB) X7-7 mandated a 20 percent reduction in urban per capita water use across California by 2020. To achieve this goal, SB X7-7 required each retail supplier to establish an urban water use target (2020 Target), contributing to the State's collective efforts. Because the California Water Code (CWC) does not set an end date for reporting progress in meeting the 2020 Target, this section of the Urban Water Management Plan (UWMP or Plan) demonstrates the California Water Service (Cal Water) South San Francisco District's (also referred to herein as the "District") compliance with SB X7-7 in 2020.

This chapter has the following sections:

5.1 Demonstration of Compliance with the 2020 Target in 2020

5.2 Nexus to State Water Board Urban Water Use Objectives

5.1 Demonstration of Compliance with the 2020 Target in 2020

☑ ***CWC §10608.40***

Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631.

☑ ***CWC §10608.12***

(af) "Urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

The South San Francisco District achieved its 2020 Target in 2020. The data used to calculate the 2020 Target and demonstrate compliance are documented in the District's 2020 UWMP. **Table 5-1** below summarizes the District's 2020 Target and actual 2020 GPCD, confirming that it met the SB X7-7 compliance requirements.

Table 5-1. SB X7-7 2020 Target Progress (DWR Table 5-1)

☐	**Check the box if the Supplier was not an Urban Water Supplier during or before the 2020 UWMP reporting cycle. Proceed to the next table.**					
					Only for suppliers that did not meet the Target in 2020	
Was Supplier part of a merger or consolidation since 2020?	Regional Alliance Target or Individual Target?	2020 Target	Actual 2020 GPCD	Did Supplier achieve targeted reduction for 2020?	Actual 2025 GPCD (From SB X7-7 Compliance Form)	Did Supplier meet the 2020 Target in 2025?
No	Individual Target	124	98	Yes		N/A

5.2 Nexus to State Water Board Urban Water Use Objectives

☑ ***CWC § 10609.20***

(a) Each urban retail water supplier shall calculate its urban water use objective no later than January 1, 2024, and by January 1 every year thereafter.

(b) The calculation shall be based on the urban retail water supplier's water use conditions for the previous calendar or fiscal year.

☑ ***CWC § 10609.22***

(a) An urban retail water supplier shall calculate its actual urban water use no later than January 1, 2024, and by January 1 every year thereafter.

(b) The calculation shall be based on the urban retail water supplier's water use for the previous calendar or fiscal year.

☑ ***CWC § 10609.24***

(a) An urban retail water supplier shall submit a report to the department no later than January 1, 2024, and by January 1 every year thereafter. The report shall include all of the following:

(1) The urban water use objective calculated pursuant to Section 10609.20 along with relevant supporting data.

(2) The actual urban water use calculated pursuant to Section 10609.22 along with relevant supporting data.

(3) Documentation of the implementation of the performance measures for CII water use.

(4) A description of the progress made towards meeting the urban water use objective.

(5) The validated water loss audit report conducted pursuant to Section 10608.34.

(b) The department shall post the reports and information on its internet website.

(c) The board may issue an information order or conservation order to, or impose civil liability on, an entity or individual for failure to submit a report required by this section.

In July 2024, California adopted the Making Conservation a California Way of Life (MCCWL) regulation, implementing SB 606 and Assembly Bill (AB) 1668 to support long-term water conservation and drought resilience. The regulation establishes annual Urban Water Use Objectives (UWUOs) for urban retail water suppliers and introduces performance measures for commercial, industrial, and institutional (CII) water uses.

The UWUO is a water budget–based framework that is specific to each urban retail water supplier. It consists of the following components: (1) a residential indoor water use standard; (2)

a residential outdoor water budget; (3) a CII landscape outdoor water use standard for landscapes served by dedicated irrigation meters; (4) a water loss standard; (5) allowable variances; and (6) a potable reuse bonus. Beginning in 2027, suppliers must annually assess whether the sum of their regulated water uses—residential indoor and outdoor use, dedicated irrigation meter use, and distribution system water loss—is at or below their UWUO. Additionally, starting in 2028, they must demonstrate that real and apparent distribution system water loss rates are less than their corresponding standards, as discussed in Section 4.2.4. Compliance with the water loss standards is required even if the urban retail water supplier's total regulated water use is below its UWUO.

The state standards underlying the residential indoor, residential outdoor, and CII outdoor components of the UWUO will become increasingly stringent over time. As a result, compliance is expected to require continued reductions in water use beyond those achieved under the SB X7-7 framework.[14] Urban retail water suppliers are required to report annually to the State Water Resources Control Board on water use relative to their UWUOs. The South San Francisco District submits UWUO compliance data through the Department of Water Resources' Water Use Efficiency Data portal.[15]

Although projections of UWUO compliance are not required as part of an Urban Water Management Plan, they provide useful insight into the magnitude and timing of future conservation needs. For this reason, Cal Water has evaluated how projected regulated water use in the District compares to anticipated UWUO requirements over the planning horizon, with findings expressed as relative changes to baseline demand needed for compliance.

The assessment of future UWUO compliance for the District is predicated on levels of conservation that are currently authorized by the California Public Utilities Commission (CPUC), together with anticipated passive conservation savings. These passive savings include continued turnover of plumbing fixtures and appliances subject to state and federal efficiency standards and customer behavioral responses to conservation-oriented rate structures. The baseline demand projections described in Chapter 4 reflect these authorized active conservation programs and anticipated passive savings.

Under this baseline demand scenario, regulated water use in the District is projected to remain below the applicable UWUO requirements through the 2050 planning horizon. Similarly, real and apparent distribution system water losses are projected to comply with the state water loss standards through the 2050 planning horizon.

[14] Under the MCCWL regulation, the SB X7-7 target serves as a backstop on the UWUO. If a supplier's UWUO exceeds its SB X7-7 target, its UWUO becomes its SB X7-7 target.
[15] DWR's Water Use Efficiency Data Portal: https://wuedata.water.ca.gov/uwuo_plans

Chapter 6
Water Supply Characterization

☑ ***CWC § 10631 (b)*** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).

This chapter provides a description of the California Water Service (Cal Water) South San Francisco District's (also referred to herein as "District") current water supplies, including surface water, a discussion of the underlying groundwater basin and its management, purchased water, and potential supply sources, such as stormwater and recycled water, as well as assessment of the energy intensity used to operate the District's treatment and distribution system. This chapter includes the following sections:

6.1 Purchased Water

6.2 Groundwater

6.3 Surface Water

6.4 Stormwater

6.5 Wastewater and Recycled Water

6.6 Desalinated Water Opportunities

6.7 Water Exchanges and Transfers

6.8 Future Water Projects

6.9 Summary of Existing and Planned Sources of Water

6.10 Special Conditions

6.11 Energy Intensity

To maintain consistency with the Urban Water Management Plans prepared by the San Francisco Public Utilities Commission (SFPUC) and the other Bay Area Water Supply and Conservation Agency (BAWSCA) member agencies, much of the language describing the SFPUC wholesale water supply in the following sections is common language provided by BAWSCA, in coordination with the SFPUC.

6.1 Purchased Water

☑ ***CWC § 10631 (h)*** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

The majority of the water supply to the South San Francisco District (i.e., approximately 81 percent from 2016-2025, not inclusive of in-lieu surface water deliveries) is treated water purchased from the City and County of San Francisco's Regional Water System (RWS), which is operated by the SFPUC. Detailed information regarding the SFPUC supply is provided below and in Section 7.1.1. Within the District, Cal Water takes delivery from 19 metered turnouts (connections) from RWS transmission lines.

6.1.1 Description of SFPUC RWS

Details of the various components of the SFPUC RWS are provided below and are shown on **Figure 6-1**. Information regarding the Hetch Hetchy, Alameda, and Peninsula water systems is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

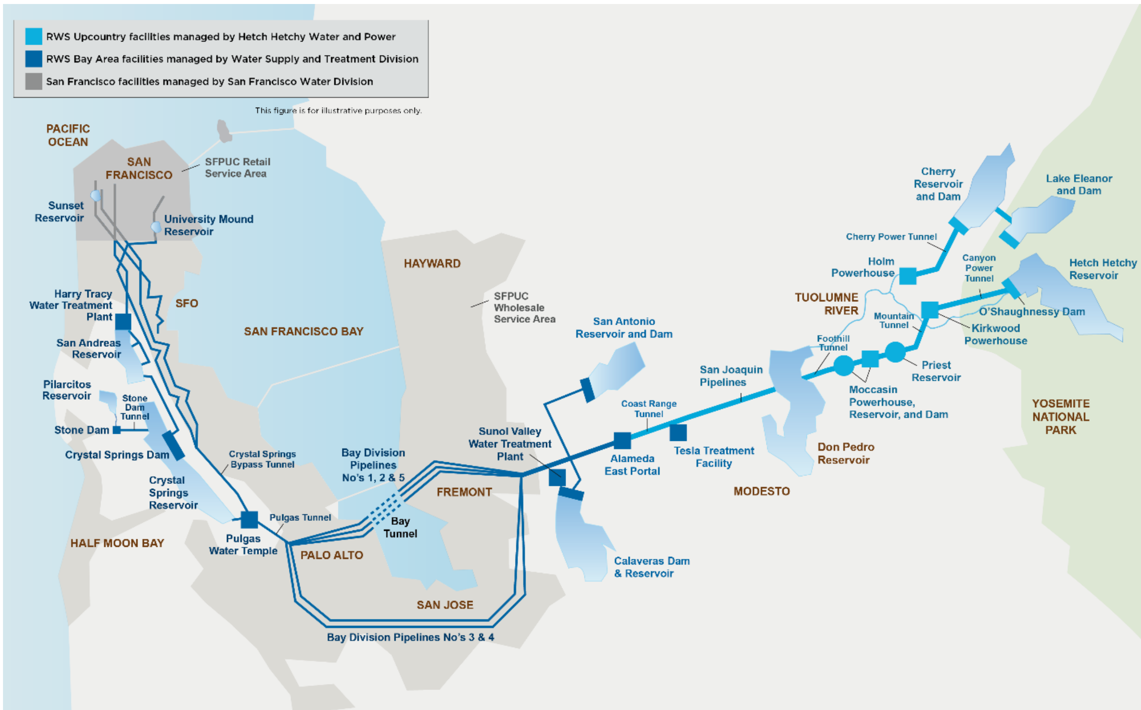
> "Over 2.7 million people and thousands of businesses in the San Francisco Bay Area rely on water supplied by the SFPUC, a department of the City and County of San Francisco, to meet their daily water needs. The San Francisco-owned and operated RWS, which serves both retail and wholesale customers, 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
>
> *RWS Distribution*
>
> The RWS, shown in **Figure 6-1,** consists of more than 280 miles of pipelines, 60 miles of tunnels, 11 reservoirs, five pump stations, two water filtration plants, and two treatment

facilities for pH adjustment and/or disinfection. It includes the Hetch Hetchy Water and Power (HHWP) Project and the Bay Area water system facilities. The HHWP Project is generally composed of the reservoirs, hydroelectric generation and transmission facilities, and water transmission facilities from the Hetch Hetchy Valley west to the Alameda East Portal of the Coast Range Tunnel in Sunol Valley. Water system components of the HHWP Project are also referred to as the Hetch Hetchy System. The local Bay Area water system is comprised of two parts—the Alameda System and the Peninsula System—generally consisting of the facilities west of the Alameda East Portal of the Coast Range Tunnel, including the 63,000-acre Alameda and Peninsula watersheds, storage reservoirs, two water filtration plants, and the distribution system that delivers water to both retail and wholesale customers. The Hetch Hetchy, Alameda, and Peninsula Systems are described in more detail below.

- **Hetch Hetchy System:** In the Hetch Hetchy System, water is diverted from the Tuolumne River watershed into the Hetch Hetchy Reservoir and is then transported in a series of tunnels and aqueducts from the Sierra Nevada to the San Joaquin Pipelines that cross the San Joaquin Valley to the Coast Range Tunnel, which connects to the Alameda System at the Alameda East Portal. Hetch Hetchy System water is disinfected at the Tesla Treatment Facility.
- **Alameda System:** The Alameda System includes two reservoirs, San Antonio Reservoir and Calaveras Reservoir, which collect water from the San Antonio Creek, Upper Alameda Creek, and Arroyo Hondo watersheds in Alameda County. San Antonio Reservoir also receives water from the Hetch Hetchy System. Conveyance facilities in the Alameda System connect the Hetch Hetchy System and Alameda System to the Peninsula System. The Bay Division Pipelines cross the South Bay to the Peninsula System delivering water to customers along the pipeline route. The Sunol Valley Water Treatment Plant (SVWTP) filters and disinfects water supplied from San Antonio Reservoir and Calaveras Reservoir. The Sunol Valley Chloramination Facility treats Hetch Hetchy supplies with aqueous ammonia to form chloramines and with sodium hydroxide to adjust pH, then blended in the Alameda Siphons for delivery to Bay Area customers via the Irvington Tunnels.
- **Peninsula System:** The Peninsula System includes conveyance facilities connecting the Bay Division Pipelines to the distribution system in San Francisco and to other customers on the Peninsula. Two reservoirs, Crystal Springs Reservoir and San Andreas Reservoir, collect runoff from the San Mateo Creek watershed. Crystal Springs Reservoir also receives water from the Hetch Hetchy System. A third reservoir, Pilarcitos Reservoir, collects runoff from the Pilarcitos Creek watershed and directly serves one of SFPUC’s Wholesale Customers, the Coastside County Water District (which includes the City of Half Moon Bay), along with

delivering water to Crystal Springs and San Andreas Reservoirs. The Harry Tracy Water Treatment Plant (HTWTP) filters and disinfects water supplied from Crystal Springs Reservoir and San Andreas Reservoir before it is delivered to customers on the Peninsula and in San Francisco.

Figure 6-1. Regional Water System and Main Facilities



Water Treatment

The Hetch Hetchy Reservoir is the largest unfiltered water supply on the West Coast and one of only a few large unfiltered municipal water supplies in the nation. The water originates from well-protected wilderness areas in Yosemite National Park and flows down the Tuolumne River to Hetch Hetchy Reservoir. This water meets or exceeds all federal and State of California (State) criteria for watershed protection. Water from Hetch Hetchy Reservoir, which is protected in pipes and tunnels as it is conveyed to the Bay Area, requires pH adjustment to control pipeline corrosion and disinfection for bacteria control. Based on the SFPUC's disinfection treatment practice, extensive bacteriological quality monitoring, and high operational standards, the U.S. Environmental Protection Agency (USEPA) and the SWRCB Division of Drinking Water (DDW) determined that the Hetch Hetchy water source meets federal and State drinking water quality requirements without the need for filtration.

The Tesla Treatment Facility was a key component of the SFPUC's Water System Improvement Program and enhances the high-quality water from the RWS. The facility has a capacity of 315 mgd, making it the third largest ultraviolet drinking water disinfection facility in the United States.

The SFPUC treats all water derived from sources other than Hetch Hetchy Reservoir at one of two water filtration facilities: the SVWTP or the HTWTP. The SVWTP primarily treats water from the Alameda System reservoirs and has a design capacity of 160 mgd. Treatment processes include powder activated carbon treatment for taste and odor control, coagulation, flocculation, sedimentation, filtration, disinfection, fluoridation, corrosion control treatment, and chloramination. The nearby Sunol Valley Chloramination Facility can also provide fluoridation, chloramination, and corrosion control treatment for Hetch Hetchy System and blending with water treated from the SVWTP. The HTWTP treats water from the Peninsula System reservoirs and has a design capacity of 140 mgd. Treatment processes at SVWTP include ozonation, coagulation, flocculation, filtration, disinfection, fluoridation, corrosion control treatment, and chloramination. The SFPUC completed major upgrades to the SVWTP in 2013 and to the HTWTP in 2015.

Water Storage

Most of the water delivered by the SFPUC is supplied by runoff from the upper Tuolumne River watershed on the western slope of the central Sierra Nevada. Three major reservoirs collect runoff: Hetch Hetchy, Cherry (also known as Lake Lloyd), and Lake Eleanor. The storage capacity of these three reservoirs is included in **Table 6-A**. A "water bank" in Don Pedro Reservoir is also integrated into RWS operations.[16] Don Pedro Reservoir, which is jointly owned and operated by Modesto Irrigation District and Turlock Irrigation District (the Districts), is located on the Tuolumne River downstream of the Hetch Hetchy System.

San Francisco generates hydroelectric power through the HHWP Project as a by-product of water delivery and water supply management. Water released from Hetch Hetchy Reservoir is used for hydroelectric generation and provides instream flows when released downstream. Normally, only Hetch Hetchy Reservoir water supplies are exported to the Bay Area, while releases from Lake Eleanor and Cherry Reservoir are used to provide instream flows, satisfy the Districts' Raker Act allocations, and produce hydroelectric power. The HHWP Project includes four hydroelectric powerhouses along the Tuolumne

[16] The Turlock Irrigation District and Modesto Irrigation District (the Districts) have senior water rights compared to those held by the City and County of San Francisco for the Tuolumne River water diversions and are provided the first increment of flow in the Upper Tuolumne River watershed according to the apportionment set forth in the Raker Act of 1913 (38 Stat. 242). The water bank at Don Pedro Reservoir provides a credit and debit system, which allows the City and County of San Francisco to divert water upstream while meeting its obligations to the Districts. Through this agreement, the SFPUC may pre-deliver the Districts' Raker Act and contractual allocations and credit the water bank so that at other times the SFPUC may retain water upstream that would otherwise be allocated to the Districts while the Districts debit the water bank.

River—Holm, Kirkwood, Moccasin, and Moccasin Low Head—that have a collective generating capacity of nearly 400 megawatts.

In the Bay Area, the SFPUC utilizes the local Peninsula and Alameda watersheds. Crystal Springs, San Andreas, and Pilarcitos Reservoirs, located in San Mateo County, capture local runoff in the Peninsula watershed, and Calaveras and San Antonio Reservoirs, located in Alameda County, capture local runoff in the Alameda watershed. In addition to capturing local runoff, San Andreas, San Antonio, and Crystal Springs Reservoirs provide storage for water conveyed to the Bay Area from the Hetch Hetchy System. These five local reservoirs are an important water supply source in the event there is an interruption to Hetch Hetchy System deliveries. The storage capacity of each of these Bay Area reservoirs is included in **Table 6-A**.

Prior to 2019, Calaveras Reservoir had been operating at one-third of its capacity due to restrictions imposed by the California Department of Water Resources Division of Safety of Dams (DSOD). The Calaveras Dam Replacement Project, which took place from 2011 to 2019, involved the construction of a new dam downstream of the then-existing dam. The DSOD restrictions on filling Calaveras Reservoir to full capacity have since been removed, and Calaveras Reservoir reached full capacity during the 2022-2023 winter season when it was refilled completely in January 2023 following the dam replacement project.

Table 6-A. Regional Water System Storage Capacity

RWS Reservoir	Storage Capacity in Acre-Feet (AF)	Storage Capacity in Billions of Gallons (BG)
Upcountry (a)		
Hetch Hetchy	360,360	117.4
Cherry (b)	273,500	89.1
Lake Eleanor	27,100	8.8
Water Bank (c)	570,000	185.7
Subtotal Upcountry	**1,230,960**	**401.0**
Local		
Calaveras (Alameda)	96,800	31.5
San Antonio (Alameda)	50,500	16.5
Crystal Springs (Peninsula) (d)	69,300	22.6
San Andreas (Peninsula) (e)	19,000	6.2
Pilarcitos (Peninsula) (f)	3,100	1.0
Subtotal Local	**238,700**	**77.8**

Total Regional Water System Storage (g)	1,469,660	478.8

a) Three other regulating reservoirs are also part of the RWS: Early Intake, Priest, and Moccasin Reservoirs.
b) Storage capacity shown includes flashboards, which are structures placed in a spillway to increase the capacity of a reservoir.
c) The SFPUC may draw against a credit of up to 740,000 AF in storage in a water bank account in Don Pedro Reservoir; 170,000 AF of this water bank storage is only available under certain circumstances and for a limited time. For this reason, the SFPUC considers 570,000 AF in contributing to total storage for planning purposes.
d) Crystal Springs Reservoir has a maximum storage capacity of 22.6 BG (at 294.6 feet). Based on permit conditions, the reservoir is currently operated at 286.6 feet (8 feet below capacity).
e) San Andreas Reservoir has a maximum storage capacity of 6.2 BG (at 451.8 feet). Since August 2020, in response to safety concerns about the seismic stability of the dam and a directive from the Division of Safety of Dams, the SFPUC has held the maximum water level at approximately 447.8 feet (4 feet below capacity).
f) Pilarcitos Reservoir has a maximum storage capacity of 1.0 BG (at 696.5 feet). Since April 2025, in response to safety concerns about the seismic stability of the dam and a directive from the Division of Safety of Dams, the SFPUC has held the maximum water level at approximately 681.5 feet (15 feet below capacity).
g) For planning purposes, the total RWS storage is 1,469,660 AF. This includes 63,700 AF in dead storage (i.e., the volume in a reservoir below the lowest controllable level).

6.1.2 Wholesale Contractual Obligations

Information regarding Wholesale Contractual Obligations is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

> "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), the SFPUC sells water to 26 wholesale customers (collectively referred to as the Wholesale Customers). The SFPUC has associated individual water sales contracts with each Wholesale Customer, as well. Collectively, the Wholesale Customers receive over two-thirds of the RWS's annual deliveries, with the remaining approximately one-third provided to the SFPUC's retail customers located inside and outside of San Francisco (collectively referred to as the Retail Customers). Of the 26 Wholesale Customers, 10 rely on the SFPUC for 100% of their total supply. The remaining 16 Wholesale Customers rely on the SFPUC for a significant portion of their water supply needs, but also use other local and imported supplies to meet their retail water customers' demands, including, but not limited to, local groundwater and surface water, recycled water, and, in some cases, purchases from the Santa Clara Valley Water District and the State Water Project.

The WSA became effective on July 1, 2009, as its predecessor agreement, the 1984 Settlement Agreement and Master Water Sales Contract between the SFPUC and the Wholesale Customers (1984 Agreement), expired. The WSA, as amended and restated in 2025, describes the current contractual relationship between the SFPUC and the Wholesale Customers.

The WSA carries forward many components of the 1984 Agreement, including the SFPUC's "Supply Assurance" of 184 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.

The Supply Assurance is shared among 24 of the 26 Wholesale Customers (all Wholesale Customers, which have "permanent" status, except the cities of San Jose and Santa Clara, which are "temporary, interruptible" customers). Twenty-three of these 24 Wholesale Customers have an "Individual Supply Guarantee" (ISG), which represents their dedicated individual share of the 184 mgd Supply Assurance. The ISGs are also perpetual and survive the expiration of the WSA. The City of Hayward is the 24th Wholesale Customer that shares in the Supply Assurance, but it does not have an ISG due to the terms of its 1962 individual water supply contract with the SFPUC that did not contain a fixed allocation of water. The City of Hayward's unspecified water supply allocation is included in the Supply Assurance as the difference between 184 mgd and the sum of the other 23 permanent Wholesale Customers' ISGs (22.1 mgd). If Hayward's water purchases from the RWS exceed 22.1 mgd over a period of three consecutive fiscal years (FY; an event that has not occurred to date and is not projected to occur before 2050), the 23 Wholesale Customers with ISGs would be required to reduce their individual ISGs to accommodate the demands of Hayward.

Each Wholesale Customer also has an individual water sales contract with the SFPUC that describes the service area of the customer, identifies the location and size of service connections between the RWS and the customer's distribution systems, and in some instances contains additional specific provisions unique to the customer. The individual water sales contracts may be amended from time to time by the SFPUC and the applicable Wholesale Customer pursuant to the terms of the WSA."

Cal Water's Individual Supply Guarantee (ISG) is 35.68 million gallons per day (MGD; or 39,993 acre-feet per year [AFY]), which is shared among its Bear Gulch, Mid-Peninsula, and South San Francisco Districts (also referred to herein as the "Peninsula Districts").

6.1.3 Future Water Supply Decisions

Information regarding the 2028 SFPUC Decisions (formerly 2018 SFPUC Decision) was provided by BAWSCA in coordination with SFPUC and is provided verbatim below in indented text (see **Appendix G**).

> "In the 2009 WSA, the SFPUC committed to make two decisions before the end of 2018 regarding future water supplies, with the prerequisite of the SFPUC having completed any necessary California Environmental Quality Act (CEQA) review relevant to those decisions:
>
> Whether or not to make the cities of San Jose and Santa Clara permanent customers of the RWS, if the SFPUC determines that RWS long-term water supplies are available to support their permanent status, and
>
> Whether or not to increase the Supply Assurance above 184 mgd to meet future Wholesale Customer demands.
>
> Prior to 2018, the SFPUC determined that it was prudent to defer these decisions due to uncertainty about water supply availability and future growth patterns in the Bay Area, as well as unprecedented reductions in demands on the RWS, which indicated that total Wholesale Customer demands (including the demands of San Jose and Santa Clara, who do not share in the 184 mgd Supply Assurance) would be 173.9 mgd in 2040. Accordingly, the SFPUC and the Wholesale Customers amended the WSA in 2018, deferring the future water supply decisions to the end of 2028 to allow the SFPUC to conduct further water supply planning, including a reevaluation of RWS demands and supply options, and any necessary CEQA analysis. Based on current projections, Wholesale Customer demands (including the demands of San Jose and Santa Clara) will continue to be less than the 184 mgd Supply Assurance through the year 2050.
>
> The SFPUC's planning efforts to support its decision regarding the status of San Jose and Santa Clara are a part of the SFPUC's Alternative Water Supply Program (see DWR Section 6.2.10)."

Additionally, there have been recent changes to instream flow requirements and customer demand projections that have affected water supply planning beyond 2018. As a result, in 2019, the SFPUC established the Alternative Water Supply (AWS) Program to identify and plan water supply and storage projects and actions that increase the dry-year reliability of the RWS. The AWS Program is discussed in more detail in Section 7.3.4.

6.2 Groundwater

☑ ***CWC § 10631***

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following:

(4) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:

(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.

(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

Groundwater makes up a portion of the water supply for the District (i.e., roughly 19 percent from 2016 to 2025, inclusive of in-lieu surface water deliveries). Detailed information regarding the groundwater supply is provided below.

6.2.1 Basin Description and Status

As shown on **Figure 6-2**, the majority of the District overlies the Westside Basin (California Department of Water Resources [DWR] Basin No. 2-35) and a very small portion (approximately eight percent) of the District service area overlies the Visitation Valley Basin (DWR Basin No. 2-32). Cal Water only pumps groundwater from the Westside Basin to supply the District, and no groundwater from the Visitacion Valley Basin is planned for use. Although the District is not anticipated to use water supplied directly by the Visitacion Valley Basin to meet demands, information about the Visitacion Valley Basin is included throughout this Section 6.2 for completeness per California Water Code (CWC) § 10631(b)(4)(B).

Westside Basin

The Westside Basin underlies approximately 92 percent of the District, as shown in **Figure 6-2**. The Westside Basin covers an area of approximately 25,400 acres (39.7 square miles) and is separated from the Lobos Basin to the north by a northwest trending bedrock ridge through the northeastern part of Golden Gate Park. The San Bruno Mountains bound the Westside Basin on the east. The San Andreas Fault and Pacific Ocean form its western boundary and its southern limit is defined by bedrock high that separates it from the San Mateo Plain Subbasin. The Westside Basin is connected to the Pacific Ocean on the northwest and San Francisco Bay on the southeast. The Westside Basin is not adjudicated and, in its recent evaluation of California groundwater basins, DWR determined that the Westside Basin is not in a condition of critical overdraft and designated it as very low priority.[17]

The Westside Basin is generally underlain by impermeable bedrock composed of consolidated sediment of the Franciscan Complex and the Great Valley Sequence of late Jurassic and Cretaceous age. Unconsolidated materials overlying the bedrock comprise the water bearing formations of the Westside Basin. These water bearing formations consist of dune sands, the Colma Formation of Pleistocene age, and the Merced Formation of Pleistocene/Pliocene age.[18]

Groundwater used for water supply within the Westside Basin is generally pumped from the Merced and Colma Formations. The Merced Formation is composed of sand and thin interbedded silt and clay layers of shallow marine depositional origin. The Colma Formation overlies the Merced Formation and consists of fine-grained sand, silty sand, and inter-fingered clay layers.[19] Water is produced from the coarse-grained layers within these complex, layered formations.[20]

The Westside Basin is subdivided for management purposes into northern and southern portions by the county line separating San Francisco and San Mateo counties. The county-line boundary between the "North Westside Basin" and the "South Westside Basin" does not have hydrogeological significance other than influencing the jurisdictional distribution of groundwater pumping. No geologic features restrict groundwater flow between the northern and southern parts of the Westside Basin.[21] Groundwater pumping has historically provided up to 50 percent of local water supply in the South Westside Basin for the communities of San Bruno, Daly City, and South San Francisco,[22] although current usage is significantly less as a proportion.

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[17] DWR, 2020. Sustainable Groundwater Management Act 2019 Basin Prioritization, dated May 2020.

[18] DWR, 2006. California's Groundwater Bulletin 118, Westside Groundwater Basin, dated January 2006; Phillips et al., 1993. Geohydrology, Water Quality, and Estimation of Ground-Water Recharge in San Francisco, California 1987-92 US Geological Survey Water-Resources Investigations Report 93-4019, dated 1993.

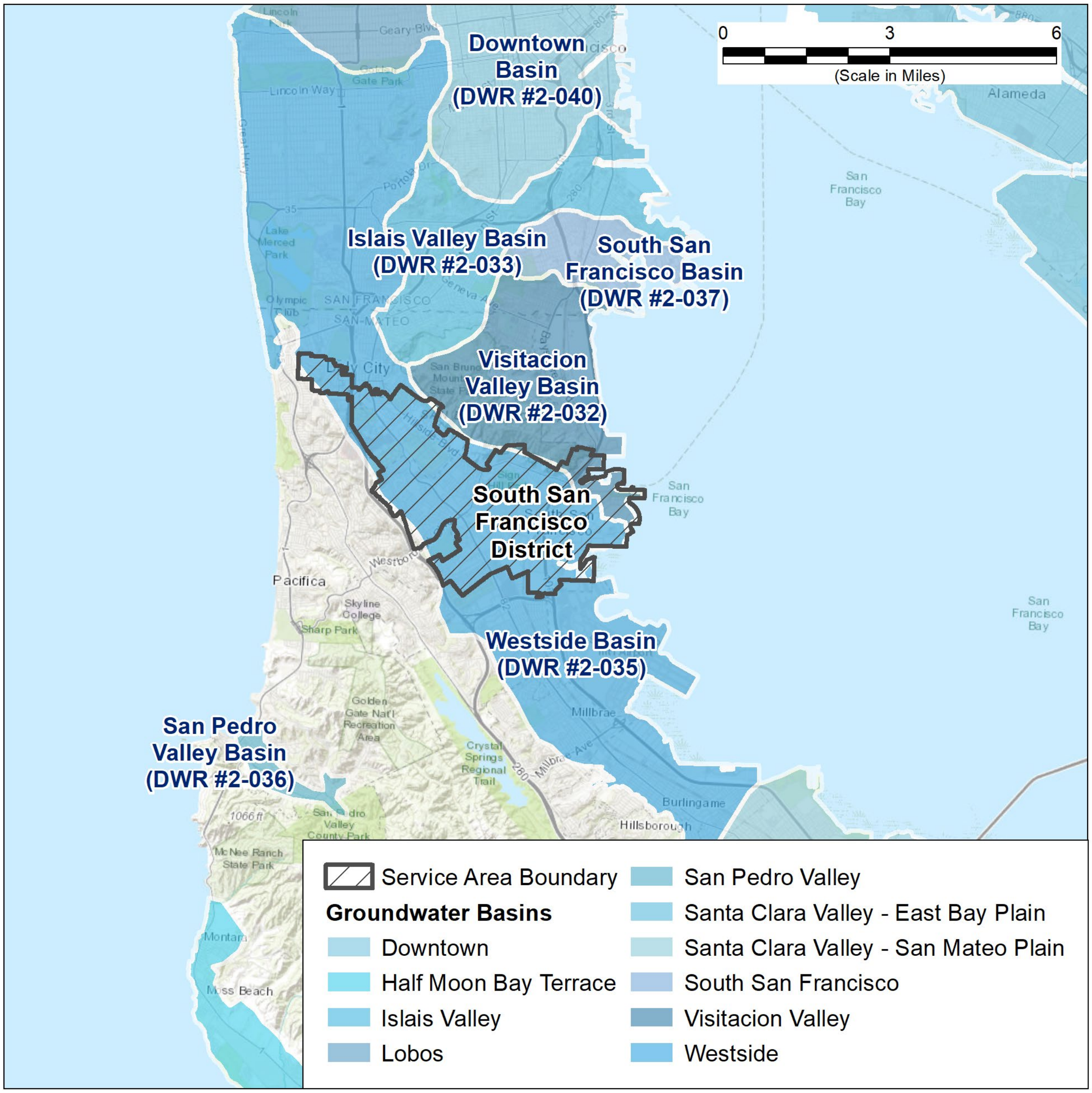
[19] DWR, 2020. Sustainable Groundwater Management Act 2019 Basin Prioritization, dated May 2020.

[20] WRIME, 2012. South Westside Basin Groundwater Management Plan, dated July 2012.

[21] SFPUC, 2021. 2020 Urban Water Management Plan, City and County of San Francisco District, dated June 2021.

[22] WRIME, 2012. South Westside Basin Groundwater Management Plan, dated July 2012.

Figure 6-2. Groundwater Basin Underlying the South San Francisco District



The Westside Basin is managed by several groundwater management programs described below. Additional details on the Westside Basin are given in DWR's Groundwater Bulletin 118, as well as in the key documents described below related to groundwater management of the Westside Basin, which are incorporated into this Urban Water Management Plan (UWMP) by reference:

- The Draft South Westside Basin Groundwater Management Plan (GMP) was completed in July 2012 as a joint effort between Cal Water, the SFPUC, and the Cities of Daly City and

San Bruno. This GMP includes information regarding Westside Basin water quality and quantity monitoring, as well as groundwater level management.

- The Regional Groundwater Storage and Recovery (RGSR) Project is one of the SFPUC's Water System Improvement Program (WSIP) projects with the goal of providing additional dry-year water supply through conjunctive water management to help achieve the WSIP goals to increase RWS supply reliability. The RGSR Project is discussed in detail in the South Westside GMP. Information on the RGSR Project can be found on the SFPUC Website.

Visitacion Valley Basin

The Visitacion Valley Basin is approximately 9.1 square miles and is physically bordered by a combination of surface water hydrologic boundaries, jurisdictional boundaries, and the extent of the San Francisco Bay shoreline. The Visitacion Valley Basin is categorized as a very-low priority basin according to the DWR Bulletin 118 basin priority classification.[23] The Visitacion Valley Basin's groundwater resources are largely undeveloped and there are no known significant groundwater users/uses.

6.2.2 Groundwater Management

Westside Basin

In 2014, the California State Legislature enacted the Sustainable Groundwater Management Act (SGMA), with subsequent amendments in 2015. SGMA requires the formation of Groundwater Sustainability Agencies (GSAs) and the development and implementation of Groundwater Sustainability Plans (GSPs) for groundwater basins that are designated by DWR as medium or high priority.

The Westside Basin is currently categorized by DWR as a very-low priority basin. As such, the Westside Basin is not subject to the requirements of SGMA. However, as discussed below, the Westside Basin has been actively managed for years, including the establishment of pumping limitations, and several groundwater management programs are actively implemented within the Westside Basin that have relevance to the District.

South Westside Basin Groundwater Management Plan

The South Westside Basin GMP was completed in July 2012 as a joint effort between Cal Water, the SFPUC, and the Cities of Daly City and San Bruno that superseded prior groundwater

[23] DWR, 2020. Sustainable Groundwater Management Act 2019 Basin Prioritization, dated May 2020.

management and planning efforts.[24] The GMP was prepared pursuant to Assembly Bill 3030 (AB 3030; codified in CWC §10750 et seq.).[25]

The goal of the GMP is to ensure a sustainable, high quality, reliable water supply at a fair price for beneficial uses achieved through local groundwater management.[26] The GMP development was supported by a companion effort by the City of Daly City to develop a numerical groundwater model for the Westside Basin. The GMP includes the following elements: (1) groundwater storage and quality monitoring, (2) control of saltwater intrusion, (3) conjunctive use, (4) recycled water, and (5) source water protection.

Among other things, the GMP provides steps for monitoring water quality and quantity in the South Westside Basin. Each groundwater well identified in the GMP has defined triggers for overdraft, seawater intrusion, and various water quality measures. The GMP also identifies two levels of trigger thresholds for each groundwater well based on historical water levels, and actions to address the trigger that is met.

Regional Groundwater Storage and Recovery Project (RGSR)

In a joint effort between SFPUC, Cal Water, Daly City, and San Bruno, the RGSR Project was developed to support groundwater and surface water management in the South Westside Basin and improve the reliability of the RWS.[27] The RGSR Project agreement was signed in December 2014 following two phases of successful pilot programs. As part of the RGSR project agreement, the municipal pumpers within the South Westside Basin agreed to self-limit pumping within the South Westside Basin to no more than 6.9 MGD, of which Cal Water's Designated Quantity (DQ) is an annual average rate of 1.37 MGD or 1,534 AFY.[28]

Under the RGSR project, the SFPUC will provide supplemental "in-lieu" RWS water to Cal Water and the other "Partner Agencies" (i.e., Cal Water, Daly City, and San Bruno) during normal and wet years and in turn the Partner Agencies will reduce their groundwater pumping in their own wells to allow the South Westside Basin to recharge.[29] During dry years, the Partner Agencies

[24] WRIME, 2012. South Westside Basin Groundwater Management Plan, dated July 2012.
[25] AB 3030 provided a systematic procedure to develop a groundwater management plan by local agencies overlying DWR Bulletin 118 groundwater basins. Upon adoption of such plan, these agencies could possess the same authority as a water replenishment district to "fix and collect fees and assessments for groundwater management" (CWC §10754).
[26] Ibid.
[27] San Francisco Public Utilities Commission (SFPUC), 2013. Draft Environmental Impact Report for the San Francisco Public Utilities Commission's Regional Groundwater Storage and Recovery Project, dated April 2013.
[28] SFPUC, City of Daly City, City of San Bruno, and California Water Service Company (Cal Water), 2014. Agreement for Groundwater Storage and Recovery from the Southern Portion of the Westside Basin by and among the San Francisco Public Utilities Commission, the City of Daly City, the City of San Bruno, and California Water Service Company, dated 2014.
[29] Supplemental deliveries do not count towards the Member Agencies' ISGs.

may pump from RGSR project wells in addition to resuming use of their own wells up to their DQ. The in-lieu recharge (i.e., "put") and additional groundwater pumping from RGSR wells (i.e., "take") under the RGSR project are tracked under the Westside Basin Storage Account. Production wells in the South Westside Basin are considered to be either a RGSR Well Facility or a Partner Agency Facility, where only production from RGSR Well facilities is tracked under the RGSR project.

The RGSR Project is one of the SFPUC's WSIP projects and provides additional dry-year water supply to help achieve the WSIP goals to increase RWS supply reliability. Phase 1 of the RGSR Project consisted of the construction of 13 well stations to produce approximately 6.2 MGD and associated facilities, such as pumping systems, pipelines, and chemical treatment equipment. Phase 2 consisted of the installation of up to 3 test wells. The Phase 2 test wells will not be converted to production wells at this time, but will allow for determination as to whether the identified sites could be viable future production wells, and will provide valuable information related to water quality and potential pumping capacities that can be used for future planning and decision making. Construction for Phase 1 of this project began in April 2015 and was completed in March 2023. Phase 2B began in June 2025 and is expected to be completed around March 2027.[30]

Visitacion Valley Basin

Like the Westside Basin, the Visitacion Valley Basin is not adjudicated, is not designated as high- or medium-priority and is not critically overdrafted and is therefore not subject to the requirements of SGMA. The City and County of San Francisco overlie the northern portion of the Visitacion Valley Basin, and SFPUC applied to become and is currently designated as the GSA for the portion of the Visitacion Valley Basin within San Francisco city/county limits. No entity has been designated as a GSA for the portion of the Visitacion Valley Basin within San Mateo County. The SFPUC may develop a GSP for its portion of the Visitacion Valley Basin although, to date, no GSP Initial Notification for the Visitacion Valley Basin has been posted on the DWR SGMA Portal website.[31] As a very low priority basin, compliance with SGMA in the Visitacion Valley Basin is "encouraged" but not required.

6.2.3 Historical Pumping and Supply Sufficiency

The groundwater used by the District is extracted from the Westside Basin which underlies the District. The District has a total of eight wells located within the District service area boundaries shown in **Figure 6-2**.

There are 13 surface storage structures, enabling the groundwater wells to pump to storage during non-peak demand periods and provide peak day demand. The District has sufficient

[30] https://www.sfpuc.gov/construction-contracts/construction-projects/rgw-phase2
[31] https://sgma.water.ca.gov/portal/gsa/all

production capacity to supply all of the District's current annual average day and maximum day demand.

Table 6-1 lists the amount of groundwater pumped by Cal Water over the past five years. It should be noted that the volume of groundwater pumped in **Table 6-1** does not represent actual extractions from the Basin, but rather the combined volume of in-lieu surface water deliveries provided through the RGSR and extractions from the Basin. The available groundwater supply (supplemented by the District's other supplies) have been sufficient to meet all of the District's demands in the past five years and all prior years.

Table 6-1. Groundwater Volume Pumped (DWR Table 6-1)

☐	**Check the box if the Supplier does not pump groundwater.**						
☐	**Check the box if all or part of the groundwater below is desalinated. (OPTIONAL)**						
Groundwater Type	**Water Type (OPTIONAL)**	**Location or Basin Name**	2021 (AF)	2022 (AF)	2023 (AF)	2024 (AF)	2025 (AF)
Alluvial Basin	Potable	Westside Basin	0	0	169	194	246
Alluvial Basin	Potable	In Lieu Surface Water (RGSR)	761	0	689	1,340	1,288
		TOTAL	761	0	858	1,534	1,534

Notes:
(a) Cal Water's Designated Quantity of water from the South Westside Basin as part of the Regional Groundwater Storage and Recovery Project (RGSR) agreement is an annual average rate of 1.37 million gallons per day (MGD) or 1,534 acre-feet per year (AFY).
(b) While a portion of the District overlies the Visitacion Valley Basin, given that the District only pumps groundwater from the Westside Basin, the Visitacion Valley Basin is not included in this Table.

6.3 Surface Water

Cal Water does not have rights to any local surface water for use in the South San Francisco District. However, surface water is ultimately the source of SFPUC's supply for the District.

6.4 Stormwater

There are no plans to divert stormwater for beneficial uses in the South San Francisco District.

6.5 Wastewater and Recycled Water

☑ ***CWC § 10633***

The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.

The recycling of wastewater offers several potential benefits to Cal Water and its customers. One of these benefits is to help maintain a sustainable groundwater supply either through direct recharge, or by reducing potable supply needs by utilizing recycled water for appropriate uses (e.g., landscape irrigation) now being served by potable water. Cal Water is evaluating the feasibility of specific recycled water projects that could be implemented, including the Baylands Water Recycling Facility proposed as part of the Baylands Specific Plan development (see Section 6.5.3 and Section 6.5.4). The potential amount of recycled water that can be produced is proportional to the amount of wastewater that is locally generated and is discussed in the following sections.

6.5.1 Recycled Water Coordination

The South San Francisco District relies on two facilities for wastewater treatment: (1) the North San Mateo County Sanitation District (NSMCSD) Wastewater Treatment Plant (WWTP), and (2) the South San Francisco and San Bruno Water Quality Control Plant (SSFWQCP). The NSMCSD WTP is owned and operated by NSMCSD. The SSFWQCP is owned and operated by the cities of San Bruno and South San Francisco. Cal Water coordinates with the NSMCSD and cities of San Bruno and South San Francisco for wastewater collection, treatment, and recycling.

6.5.2 Wastewater Collection, Treatment, and Disposal

☑ ***CWC § 10633 (a)***

A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

☑ ***CWC § 10633 (b)***

A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

The NSMCSD treats a portion of the wastewater from the communities of Broadmoor and portions of Colma within the South San Francisco District. Other communities within the NSMCSD service area include Westlake, Westborough County Water District, Daly City, and the San Francisco County Jail. Municipal wastewater is generated in the NSMCSD service area by residential, commercial, and limited industrial sources. NSMCSD owns, operates and maintains its sewer system consisting of gravity sewers and pumping stations. The wastewater at the NSMCSD WWTP undergoes primary and secondary treatment. The NSMWTP has a capacity to treat 10.3 MGD average daily flow but as of 2024 received 5.6 MGD from the NSMCSD service area, which is below the 8.0 MGD dry weather flow permitted amount.[32] Effluent is discharged to an outfall at Thornton Beach via pipeline. Secondary non-public contact treated water is currently recycled from the NSMCSD WTP for irrigation of landscaped medians in Westlake. Recycled water is not provided in the District service area by the NSMCSD WTP.

South San Francisco and San Bruno own and operate the SSFWQCP. Wastewater from the communities of South San Francisco and Colma is treated at the SSFWQCP. The sewer system includes gravity lines and force mains that combine both wastewater and storm water runoff. The wastewater at the SSFWQCP undergoes primary and secondary treatment with chlorination and de-chlorination before being discharged to the San Francisco Bay. The SSFWQCP also provides de-chlorination for chlorinated effluent for Burlingame, Millbrae, and the San Francisco International Airport. The SSFWQCP has design capacity to treat 13 MGD average daily flow. The average dry weather flow through the facility is 9.0 MGD. Peak wet weather flows can exceed 60 MGD. The SSFWQCP does not provide recycled water.

A summary of wastewater collection for the District is shown in **Table 6-2,** including estimates of the volume of wastewater collected from District customers in 2025. The estimate is calculated by annualizing 90 percent of January water use in the service area. As shown in **Table 6-3**, wastewater from the SSFWQCP is discharged into the San Francisco Bay within the District.

As described in Section 6.5.3 and Section 6.5.4, there is currently a coordinated effort between Cal Water and other partners to potentially develop recycled water for various uses in the San Francisco Peninsula region. The Baylands Specific Plan development includes construction of the Baylands Water Recycling Facility, that would supply non-potable water to both the Baylands Specific Plan and potentially other South San Francisco District customers.

[32] Daly City Water & Wastewater Reports available at: https://www.dalycity.org/577/Reports

Table 6-2. Wastewater Collected Within Service Area in 2025 (DWR Table 6-2)

☐	Check the box if there is no wastewater collection system.			
	Percentage of 2025 service area covered by wastewater collection system (OPTIONAL)			
	Percentage of 2025 service area population covered by wastewater collection system (OPTIONAL)			
Wastewater Collection			Recipient of Collected Wastewater	
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? (OPTIONAL)	Volume of Wastewater Collected from UWMP Service Area 2025 (AF)	Name of Wastewater Treatment Plant (WWTP) and Place ID Number	Is WWTP Located Within UWMP Area?
City of South San Francisco and City of Colma	Estimated	6,054	South San Francisco-San Bruno WQCP, Place ID 254881	No
North San Mateo County Sanitation District	Estimated	458	North San Mateo County Sanitation District WWTP, Place ID 244566	No
Total Wastewater Collected from Service Area in 2025:		6,512		

Notes:

(a) The total volume of wastewater collected from the South San Francisco District service area in 2025 is estimated by annualizing 90 percent of January water use in the District. The volume of wastewater attributed to each collection agency was estimated by multiplying the percentage of that agency's service area that overlies the South San Francisco District by the total volume of wastewater collected from the South San Francisco District's service area to calculate the portion of wastewater associated with each agency.

(b) WQCP = Water Quality Control Plant.

(c) WWTP = Wastewater Treatment Plant.

Table 6-3. Wastewater Treatment and Outcomes Within UWMP Service Area in 2025 (DWR Table 6-3)

☐	Check box if no wastewater is treated or disposed of within the UWMP service area.													
Wastewater Treatment Plant Name and Place ID Number	Does This Plant Treat Wastewater Generated Outside the UWMP Service Area?	2025 Volume of Wastewater Received from UWMP Service Area (AF)	Total 2025 Volume of Water Treated (AF)	2025 Outcomes of Treated Wastewater										
				Water Recycled Within UWMP Service Area		Water Recycled Outside of UWMP Service Area		Effluent Discharge that is not a Permitted Recycled Water Use		Required Discharge for Instream Flow		Delivered to Another Entity for Additional Treatment		
				Treatment Level	Volume (AF)	Treatment Level	Volume (AF)	Treatment Level	Volume (AF)	Treatment Level	Volume (AF)	Treatment Level	Volume (AF)	Name of other entity
South San Francisco-San Bruno WQCP, Place ID 254881	Yes	6,512	10,081		0		0	Secondary, Disinfected - 23	10,081		-		0	
Total		6,512	10,081		0		0		10,081		-		0	

Notes:
(a) WQCP = Water Quality Control Plant

6.5.3 Recycled Water System and Recycled Water Beneficial Uses

☑ ***CWC § 10633 (c-g)***

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

As shown in **Table 6-4** and **Table 6-5**, the District does not have any current beneficial uses of recycled water as of 2025. As described in Section 6.5.2, the Baylands Specific Plan development includes the construction of the Baylands Water Recycling Facility. For supply planning purposes, it is conservatively assumed that the Baylands Water Recycling Facility will be completed in 2042.

Table 6-4. Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4)

☐	Check box if recycled water is not used and is not planned for use within the service area of the supplier.									
Name(s) of Facility/ies Producing (Treating) the Recycled Water (OPTIONAL):					Baylands Water Recycling Facility					
Name of Supplier Operating the Recycled Water Distribution System (OPTIONAL):										
Supplemental Water Added in 2025 (Volume) (OPTIONAL):										
Source of 2025 Supplemental Water (OPTIONAL):										
Use Type	Water Type (after treatment if treated) (OPTIONAL)	Additional Information (as needed)	2025	2030	2035	2040	2045	2050 (opt)	Potential Recycled Water Use	
			(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	Volume	Narrative Page Number (OPTIONAL)
Commercial use	Non-Potable	Includes distribution losses	0	0	0	0	462	462		
Total:			0	0	0	0	462	462		

Notes:

(a) The recycled water demands shown in **Table 6-4** reflect the non-potable demands associated with the Baylands Specific Plan upon full buildout.

(b) The capacity of the Baylands Water Recycling Facility is greater than the anticipated non-potable demand of the Baylands Specific Plan. While other customers may be served non-potable water from the facility, this UWMP conservatively assumes that only the non-potable demands associated with the Baylands Specific Plan. While the capacity of the Baylands Water Recycling Facility is greater than the anticipated non-potable demand of the Baylands Specific Plan, this UWMP conservatively assumes that only the non-potable demands associated with the Baylands Specific Plan (462 AFY) will be served by the Baylands Water Recycling Facility upon completion of the facility through 2050.

Table 6-5. 2020 UWMP Recycled Water Use Projection Compared to 2025 Actual (DWR Table 6-5)

☒	Check the box if recycled water was not used in 2025 nor projected for use in 2020.	
Use Type	2020 Projection for 2025	2025 Actual Use
	(AF)	(AF)
Total		
Notes:		

6.5.4 Actions to Encourage and Optimize Future Recycled Water Use

As shown in **Table 6-6**, Cal Water is working on the development of the Baylands Water Recycling Facility, which is anticipated to provide 1.0 MGD (1,120 AFY) of non-potable supplies by 2042.

In addition, Cal Water's supply portfolio in some districts already includes recycled water. Cal Water has also recently developed a Water Reuse Strategic Plan that evaluated potential reuse opportunities across all Cal Water Districts, including Non-Potable Reuse (NPR), Indirect Potable Reuse (IPR), and Direct Potable Reuse (DPR). It further outlined key aspects of potable reuse projects including project structure, interagency coordination, and source control. Cal Water will utilize this Strategic Plan to further evaluate the feasibility of specific opportunities and is eager to expand its water supply portfolio to utilize water reuse where feasible, and to form partnerships with other agencies and jurisdictions to accomplish this.

Cal Water is also participating in the development of the PureWater Peninsula. Information regarding PureWater Peninsula is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

> "PureWater Peninsula (formerly known as the Crystal Springs Purified Water Project) is a purified water project that could provide 6 mgd of additional potable water supply to the RWS through surface water augmentation at the SFPUC's Crystal Springs Reservoir. The currently proposed project involves treating wastewater effluent from Silicon Valley Clean Water at a new advanced purified water facility located on the Peninsula and transmitting that purified water to Crystal Springs Reservoir, where it would blend with RWS surface water supplies before the SFPUC treats it again at Harry Tracy Water Treatment Plant. A future phase could provide an additional 6 mgd of additional potable water supply to the RWS. Project partners include the SFPUC, Silicon Valley Clean Water,

BAWSCA, Mid-Peninsula Water District, California Water Service Company, City of Redwood City, City of Foster City, and City of San Mateo."

The District will benefit indirectly through increased supply availability to the Peninsula Districts collectively. Additional recycled water expansion efforts by SFPUC are described further in Section 7.1.1.

Table 6-6. Methods to Expand Future Recycled Water Use (DWR Table 6-6)

☐	Check the box if the Supplier does not plan to expand recycled water use in the future.		
Section 6.5.4, Page 84	Page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use (AF)
Baylands Water Recycling Facility	Buildout of the Baylands Water Recycling Facility (1.0 MGD capacity) as part of the Baylands Specific Plan	2042	462
		Total	462

Notes:

(a) Buildout of the Baylands Water Recycling Facility, which is expected to have a capacity of 1.0 MGD (1,120 AFY), is anticipated to occur as part of the Baylands Specific Plan. Due to uncertainty in timing and planning, the Baylands Water Recycling Facility is anticipated to come online by 2042.

(b) The capacity of the Baylands Water Recycling Facility is greater than the anticipated non-potable demand of the Baylands Specific Plan. While other customers may be served non-potable water from the facility, this UWMP conservatively assumes that only the non-potable demands associated with the Baylands Specific Plan. While the capacity of the Baylands Water Recycling Facility is greater than the anticipated non-potable demand of the Baylands Specific Plan, this UWMP conservatively assumes that only the non-potable demands associated with the Baylands Specific Plan (462 AFY) will be served by the Baylands Water Recycling Facility upon completion of the facility through 2050. Given that the construction of the Baylands Water Recycling Facility is dependent on the buildout of the Baylands Specific Plan, it is important to note that the expected increase in recycled water use shown herein would only occur in the case that the Baylands Specific Plan and therefore, the Baylands Water Recycling Facility, are built out.

6.6 Desalinated Water Opportunities

☑ ***CWC § 10631 (g)*** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

Opportunities to develop desalinated water supplies from ocean water, brackish surface, and brackish groundwater were investigated by BAWSCA as part of Phase II of its Long-Term Reliable Water Supply Strategy (Strategy, see Section 7.1.1).

According to BAWSCA, there are high costs and intensive permitting requirements associated with desalination. However, it does potentially provide a substantial yield given the limited options for generating significant new water supplies for the region. The SFPUC is also exploring desalination as part of its AWS Program (see Section 7.1.1).

At this time, Cal Water has no plans to implement a desalinated water project; however, Cal Water continues to investigate opportunities to add a potential desalination supply to the District's supply portfolio.

6.7 Water Exchanges and Transfers

☑ ***CWC § 10631 (c)*** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

The combination of purchased water and groundwater has historically provided a reliable source of supply for the District. Therefore, Cal Water is not actively pursuing water transfers or exchanges in the South San Francisco District at this time.

6.7.1 Exchanges

Cal Water is not pursuing water exchanges involving the District and other entities at this time.

6.7.2 Transfers

Cal Water is not pursuing water transfers involving the District and other entities at this time. However, the water supply agreements with SFPUC allow the transfer of supply between wholesale customers without penalty, or additional charges. The available transfer mechanisms can be used if other wholesale customers have excess supply, either due to their contract capacity, or if Cal Water were to fund other projects within these agencies that may free up SFPUC supply for transfer.

6.7.3 Emergency Interties

Cal Water has emergency interties with the following entities: one with the City of Brisbane, one with the City of San Bruno, and four with the City of Daly City.

6.8 Future Water Projects

☑ ***CWC § 10631** A plan shall be adopted in accordance with this chapter and shall do all of the following:*

(b) (3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

(f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single-dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

As shown in **Table 6-7**, construction of the Baylands Water Recycling Facility, as discussed in Section 6.5, is expected to provide non-potable water to the District's water supply portfolio. However, beyond this project, there are no currently planned future water supply projects or programs that are expected to provide a quantifiable increase to the District's water supply. Cal Water is currently participating in the development of BAWSCA's 2050 Long-Term Reliable Water Supply Strategy which will evaluate potential projects throughout the region that may improve regional reliability (Section 7.4).

The SFPUC has been implementing its Water System Improvement Plan (WSIP) since it was adopted in 2008. The WSIP includes several water supply projects to address the Level of Service (LOS) Goals and Objectives established in the WSIP. The SFPUC amended and updated the LOS Goals and Objectives in November 2023. The SFPUC's AWS Program is also being implemented to explore other projects that would increase overall water supply resiliency. These programs and future water supply projects are described in Section 7.1.1.

In July 2021, Cal Water began development of a Development Offset Program for its three Peninsula Districts, which share the same San Francisco Public Utilities Commission (SFPUC) supply allocation. The purpose of the Program is to ensure that overall customer demand for water does not exceed available current or future supply under a range of hydrologic conditions, and to ensure the availability of water for residential, commercial, and other purposes for future water use in the three Peninsula Districts.[33]

As described and approved in Advice Letter No. 2453 to the CPUC, dated 7 June 2022, the Development Offset Program will require any new residential, commercial, or industrial development within any of the three Peninsula Districts that is projected to increase net demand by more than 50 acre-feet per year (AFY) to pay a special facilities fee, referred to as a “developer offset fee”, of $15,400 per acre-feet of net demand increase.[34] The developer offset fee was calculated based on representative alternative water projects in the Bay Area region, and the anticipated yield of those projects, and will be used to fund accelerated water supply projects and expanded customer conservation programs. The alternative water projects included in the Developer Offset Fee include projects Cal Water is partnering with the SFPUC on as described in their Alternative Water Supply (AWS) Program. The net demand increase is defined as the expected total potable water use for the development once it is completed, minus the average annual existing potable water use on the property over the previous five years.

Additionally, as shown in **Table 6-7**, Cal Water plans to bring two wells online: one by 2027 with an anticipated capacity of 281 AFY and the other by 2028 with anticipated capacity of 248 AFY. Production from these wells will be limited to Cal Water’s DQ (i.e., 1,534 AFY).

[33] Cal Water, 2022. Advice Letter No. 2453, Rule 15 Update for Developer Offset Fee, dated 7 June 2022.
[34] Ibid.

Table 6-7. Expected Future Water Supply Projects or Programs (DWR Table 6-7)

☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply.						
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.						
	Provide page location of narrative in the UWMP						
Name of Future Projects or Programs	Joint Project with Other Suppliers?		Additional Description (as needed)	Water Type (after treatment if treated) (OPTIONAL)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier
	Yes/ No	*If Yes, Supplier Name*					(AF)
Baylands Water Recycling Facility	No		Buildout of the Baylands Water Recycling Facility (1.0 MGD capacity) as part of the Baylands Specific Plan	Non-potable	2042	All Year Types	462
Linear Park Well	Yes	SFPUC		Potable	2027	All Year Types	281
Main Well	Yes	SFPUC		Potable	2028	All Year Types	248

Notes:

(a) Buildout of the Baylands Water Recycling Facility, which is expected to have a capacity of 1.0 MGD (1,120 AFY), is anticipated to occur as part of the Baylands Specific Plan. Due to uncertainty in timing and planning, the Baylands Water Recycling Facility is anticipated to come online by 2042.

(b) The capacity of the Baylands Water Recycling Facility is greater than the anticipated non-potable demand of the Baylands Specific Plan. While other customers may be served non-potable water from the facility, this UWMP conservatively assumes that only the non-potable demands associated with the Baylands Specific Plan. While the capacity of the Baylands Water Recycling Facility is greater than the anticipated non-potable demand of the Baylands Specific Plan, this UWMP conservatively assumes that only the non-potable demands associated with the Baylands Specific Plan (462 AFY) will be served by the Baylands Water Recycling Facility upon completion of the facility through 2050. Given that the construction of the Baylands Water Recycling Facility is dependent on the buildout of the Baylands Specific Plan, it is important to note that the expected increase in recycled water use shown herein would only occur in the case that the Baylands Specific Plan and therefore, the Baylands Water Recycling Facility, are built out.

(c) SFPUC = San Francisco Public Utilities Commission.

6.9 Summary of Existing and Planned Sources of Water

☑ ***CWC § 10631 (b)*** *Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

☑ ***CWC § 10631 (b) (2)*** *When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.*

☑ ***CWC § 10631 (b) (4) (D)*** *A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.*

Table 6-8 summarizes the actual volumes of purchased water and groundwater production for the District in 2025. No recycled water was used within the District in 2025.

As discussed above, Cal Water's ISG of 39,993 AFY is shared among all three of its Peninsula districts (South San Francisco District, Bear Gulch District, and Mid-Peninsula District) to provide the operational flexibility to distribute the supply as needed in each system depending on the availability of local supplies and conditions within each district. As such, the collective "Total Right or Safe Yield" from the RWS shown for the three districts in **Table 6-8**, **Table 6-9A**, and **Table 6-9B** is equal to the ISG. However, the "Reasonably Available Volume" shown in the tables is equal to each District's projected RWS demands through 2050, which are collectively less than the ISG.

An estimate of projected SFPUC supply available to the South San Francisco District (i.e., the "Reasonably Available Volume") was calculated by subtracting the District's groundwater/in-lieu surface water supply through the RGSR from the District's total demand over the planning horizon. It is assumed that the District will receive the maximum volume allotted to the District per its pumping agreement with other municipal pumpers within the Westside Basin through production from Cal Water wells or RGSR in-lieu deliveries. Therefore, the groundwater supply amounts shown in **Table 6-9A** and **Table 6-9B** equal 1,534 AFY although the entirety or a portion of that supply volume may be comprised of in-lieu surface water deliveries.

Consistent with the water supply reliability projections that are discussed in Chapter 7, the purchased supplies from the RWS, along with groundwater supply to the District, will be sufficient to serve normal year demands through 2050.

Table 6-8. Water Supplies – Actual (DWR Table 6-8)

Water Supply	Additional Description (As Needed)	2025		
		Water Type (after treatment if treated) (OPTIONAL)	**Actual Volume** (AF)	**Total Entitlement** (OPTIONAL) (AF)
Purchased or Imported Water	San Francisco Public Utilities Commission	Potable	4,564	39,993
Groundwater (not desalinated)	Groundwater and In-Lieu Surface Water from the Regional Groundwater Storage and Recovery (RGSR) Program	Potable	1,534	1,534
		Subtotal Potable	6,098	41,527
		Subtotal Non-Potable	0	0
		Total	6,098	41,527

Notes:

(a) Total SFPUC supply is equal to the ISG shared among Cal Water's three Peninsula districts: South San Francisco, Mid-Peninsula, and Bear Gulch.

(b) The “Total Entitlement” (1,534 AFY) of groundwater is based on Cal Water’s designated quantity of water from the South Westside Basin as part of the RGSR project agreement.

Table 6-9A. Water Supplies (Combined Peninsula Districts) – Projected

District	Water Supply	Additional Detail on Water Supply	Projected Water Supply									
			2030		2035		2040		2045		2050 *(opt)*	
			Reasonably Available Volume	Total Entitlement (optional)	Reasonably Available Volume	Total Entitlement (optional)	Reasonably Available Volume	Total Entitlement (optional)	Reasonably Available Volume	Total Entitlement (optional)	Reasonably Available Volume	Total Entitlement (optional)
			(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)
South San Francisco	Purchased or Imported Water (a)	San Francisco Public Utilities Commission	5,343	39,993	5,466	39,993	5,543	39,993	5,318	39,993	5,256	39,993
	Groundwater/ In-Lieu Surface Water (b)	Westside Basin	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534
	Recycled Water (e)	Baylands Water Recycling Facility	0		0		0		462	1,120	462	1,120
	District Total		6,877		7,000		7,077		7,314		7,252	
Bear Gulch	Purchased or Imported Water (c)	San Francisco Public Utilities Commission	10,045	39,993	9,800	39,993	9,706	39,993	9,676	39,993	9,645	39,993
	Surface water (not desalinated) (d)	Bear Gulch Reservoir	871	2,200	871	2,200	871	2,200	871	2,200	871	2,200
	District Total		10,916		10,671		10,577		10,547		10,516	

District	Water Supply	Additional Detail on Water Supply	Projected Water Supply									
			2030		2035		2040		2045		2050 *(opt)*	
			Reasonably Available Volume	Total Entitlement (optional)	Reasonably Available Volume	Total Entitlement (optional)	Reasonably Available Volume	Total Entitlement (optional)	Reasonably Available Volume	Total Entitlement (optional)	Reasonably Available Volume	Total Entitlement (optional)
			(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)
Mid-Peninsula	Purchased or Imported Water (a)	San Francisco Public Utilities Commission	12,783	39,993	12,558	39,993	12,485	39,993	12,484	39,993	12,494	39,993
	Recycled Water (f)	City of Redwood City	2		2		2		2		2	
	District Total		12,785		12,560		12,487		12,486		12,496	
		Subtotal Potable	30,577		30,228		30,139		29,883		29,800	
		Subtotal Non-Potable	2		2		2		464		464	
		Total	30,579		30,230		30,141		30,347		30,264	

Notes:
(a) Totals may not sum due to rounding.
(b) The "Total Entitlement" of groundwater for the South San Franscisco District (1,534 AFY) is based on Cal Water's designated quantity of water from the South Westside Basin as part of the RGSR project agreement. The "Reasonably Available Volume" is assumed equal to the "Total Entitlement".
(c) Total SFPUC supply is equal to the ISG shared among Cal Water's three Peninsula districts: South San Francisco, Mid-Peninsula, and Bear Gulch. The reasonably available supply volume is equal to the districts' projected SFPUC purchases. For all years, the total SFPUC purchase volume is within the ISG of 35.68 MGD (39,993 AFY) shared between the three Peninsula districts.
(d) The "Total Entitlement" (2,200 AFY) estimate of local surface water is not intended to and do not determine, limit or represent Cal Water's surface water rights. Any determination of Cal Water's water rights is beyond the scope of this report and the UWMP statutes and regulations.
(e) Given that recycled water is considered to be a drought-proof supply, the "Reasonably Available Volume" of recycled water (462 AFY) available to the South San Francisco District from the Baylands Water Recycling Facility is assumed to equal the projected non-potable demands of the Baylands Specific Plan. The "Total Entitlement" (1,120 AFY) reflects the projected maximum non-potable water production capacity of the Baylands Water Recycling Facility at full buildout, which is anticipated to occur by 2042.
(f) Given that recycled water is considered to be a drought-proof supply, the "Reasonably Available Volume" of recycled water (2 AFY) available to the Mid-Peninsula District from the City of Redwood City is assumed to equal the projected demand of beneficial uses.

Table 6-9B. Water Supplies – Projected (DWR Table 6-9)

Water Supply	Additional Detail on Water Supply	Water Type (OPTIONAL)	Projected Water Supply									
			2030		2035		2040		2045		2050 (opt)	
			Reasonably Available Volume	Total Entitlement (OPTIONAL)	Reasonably Available Volume	Total Entitlement (OPTIONAL)	Reasonably Available Volume	Total Entitlement (OPTIONAL)	Reasonably Available Volume	Total Entitlement (OPTIONAL)	Reasonably Available Volume	Total Entitlement (OPTIONAL)
			(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)
Purchased or Imported Water	San Francisco Public Utilities Commission	Potable	5,343	39,993	5,466	39,993	5,543	39,993	5,318	39,993	5,256	39,993
Groundwater (not desalinated)	Westside Basin	Potable	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534
Recycled Water	Baylands Water Recycling Facility	Non-Potable	0	0	0	0	0	0	462	1,120	462	1,120
		Subtotal Potable	6,877	41,527	7,000	41,527	7,077	41,527	6,852	41,527	6,790	41,527
		Subtotal Non-Potable	0	0	0	0	0	0	462	1,120	462	1,120
		Total	6,877	41,527	7,000	41,527	7,077	41,527	7,314	42,647	7,252	42,647

Notes:

(a) Total SFPUC supply is equal to the ISG shared among Cal Water's three Peninsula districts: South San Francisco, Mid-Peninsula, and Bear Gulch. The reasonably available supply volume is equal to the districts' projected SFPUC purchases. For all years, the total SFPUC purchase volume is within the ISG of 35.68 MGD (39,993 AFY) shared between the three Peninsula districts.

(b) The "Total Entitlement" of groundwater for the District (1,534 AFY) is based on Cal Water’s designated quantity of water from the South Westside Basin as part of the RGSR project agreement. The “Reasonably Available Volume” is assumed equal to the “Total Entitlement”.

(c) Given that recycled water is considered to be a drought-proof supply, the “Reasonably Available Volume” of recycled water (462 AFY) available to the South San Francisco District from the Baylands Water Recycling Facility is assumed to equal the projected non-potable demands of the Baylands Specific Plan. The “Total Entitlement” (1,120 AFY) reflects the projected maximum non-potable water production capacity of the Baylands Water Recycling Facility at full buildout, which is anticipated to occur by 2042 (discussed further in Section 6.5).

6.10 Special Conditions

6.10.1 Climate Change Effects

SFPUC Climate Change Effects

Information regarding climate change is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

> "Climate change has become an important factor in water resources planning in California and is frequently considered in urban water management planning, although the extent and precise effects of climate change remain uncertain. Increasing concentrations of greenhouse gases have caused and will likely continue to cause a rise in temperatures around the world, which will result in a wide range of changes in climate patterns. Moreover, observational data show that a warming trend occurred during the latter part of the 20th century, the first quarter of the 21st century, and will likely continue through the end of the 21st century. Numerous studies have been conducted to determine the potential impacts of climate change on water resources. These climate change impacts are likely to affect both the Tuolumne River watershed and local watersheds in the Bay Area and include the following:
>
> - Reductions in the average Sierra Nevada annual snowpack due to a rise in the snowline elevation and a shallower snowpack at lower elevations, and a shift in snowmelt runoff to earlier in the year;
> - Changes in the timing, annual average, intensity, and variability of precipitation, and an increased amount of precipitation falling as rain instead of as snow;
> - Long-term changes in watershed vegetation and increased incidence of wildfires that could affect water quality and quantity;
> - Sea level rise and an increase in saltwater intrusion;
> - Increase in water temperatures with accompanying potential adverse effects on some fisheries and water quality;
> - Increases in evaporation and concomitant increase in irrigation need; and
> - Changes in urban and agricultural water demand.
>
> *SFPUC Climate Change Studies*
>
> The SFPUC views assessment of the effects of climate change as an ongoing need that requires regular updating to reflect improvements in climate science, atmospheric/ocean

modeling, observations, and human response to the threat of greenhouse gas emissions. Climate change research by the SFPUC began in 2009 and continues to be refined.

The SFPUC partnered with The Water Research Foundation to develop the Long Term Vulnerability Assessment (LTVA) of the RWS. The study was conducted by the University of Massachusetts Amherst Hydrosystems Research Group with input from National Center for Atmospheric Research, other climate scientists, and Deltares. The goal of the LTVA is to help quantitatively and qualitatively assess to what extent climate change will be a threat to the RWS in comparison to, or in combination with, other external drivers of change over the next 50 years (2020-2070). The LTVA assessed the potential effects of climate change on RWS water supply using a wide range of plausible increases in temperature and changes in precipitation to address the wide uncertainty in climate projections over the planning horizon. There are many uncertain factors, such as climate change, changing regulations, water quality, growth and economic cycles, that may create vulnerabilities for the RWS's ability to meet Levels of Service. The uncertainties associated with the degree to which these factors will occur and how much risk they present to the water system are difficult to predict but were considered in this study. To address this planning challenge, the LTVA used a vulnerability-based planning approach to explore a range of future conditions to identify vulnerabilities, and to assess the risks associated with these vulnerabilities, that could lead to developing an adaptation plan that is flexible and robust to a wide range of future outcomes. The LTVA was completed in 2021 and the University of Massachusetts Amherst and The Water Research Foundation amended it in 2024.

The key findings of the LTVA are:

- Climate change exacerbates impacts from other external drivers of change and is not the single most important driver of vulnerability for the RWS.
- The RWS at a baseline demand of 227 MGD is resilient to changes in climate and other external drivers.
- The RWS water supply performance declines with reductions in mean precipitation but is mostly insensitive to increases in temperature.
- The RWS is more vulnerable to changes in demand and instream flow requirements than changes in mean annual temperature and precipitation.
- The RWS is vulnerable to changes to mean climate when demand or regulatory instream flow requirements increase.

Further results and conclusions from the LTVA and its amendment are provided below:

- According to climate projections and expert elicitations, there is a central tendency of warming of +2°C and +4°C by 2040 and 2070 (Representative Concentration Pathway [RCP] 8.5), respectively, with no clear direction of change in mean annual precipitation over the planning horizon.
- In the upcountry region, by 2040, most projections and elicitations of warming estimate between +1°C and +4°C, and precipitation changes range between -5% and +5%, compared to historical baseline; and by 2070, estimates of warming range between +3°C and +6°C, and precipitation changes range between -15% and +15% (RCP8.5).
- Changes in hydrology due to climate change affect the RWS's ability to meet water supply targets. At 227 MGD baseline demand, the RWS can sustain up to +4°C and -5% precipitation change before failing to meet targets for delivery reliability, frequency of 20% rationing, storage reliability, and duration of rationing.
- Precipitation change is an important driver for RWS performance. A decrease by 10% or more will cause RWS water supply targets to be missed. The climate projections and expert elicitations show that such a change in precipitation is possible by 2040, although unlikely. The likelihood of this change increases toward 2070.
- The RWS shows minor sensitivity to temperature change for the metrics evaluated in this study. Most metrics stay above target under warming conditions. However, warming conditions often magnify the loss in system performance if precipitation or demand change.
- Demand change appears to be a major driver of future RWS performance. An increase in demand by 15% (265 MGD) will lead to failure to meet rationing frequency targets under current climate conditions. At 265 MGD demand, the rationing frequency targets would be met if there is an increase in precipitation of 10%. If demand increases by 30%, the rationing target cannot be met even when precipitation increases by 40%, which is believed plausible but unlikely over the planning horizon.
- The RWS is particularly vulnerable to the state-amended new instream flow requirements below Don Pedro Dam, which represents a huge reduction in water available. Under all demand and climate scenarios the system reliability, defined as frequency of years without rationing, remains below 5%.

(d) The RWS is also vulnerable to the draft Tuolumne voluntary agreement new instream flow requirements below Don Pedro Dam, which represents a large reduction in water available, although significantly less than for the state-amended new instream flow releases. The implementation of the draft Tuolumne voluntary agreement under current climate and demand conditions would reduce the system reliability to 75%, which corresponds to the effects of a reduction in average rainfall by 20% under the current Federal Energy Regulatory Commission agreement."

Cal Water Climate Change Effects

Cal Water is committed to incorporating climate change into its ongoing water supply planning. Section 4.4 of this UWMP includes a description of plausible changes to projected demands under climate change conditions, and Cal Water is currently working to consider the effects of climate change in future demand modeling. The impact of climate change on District supplies is addressed in detail in the key resources described below, which are incorporated into this UWMP by reference:

- In 2016, Cal Water completed a study of climate change impacts on a representative subset of its district to gain a better understanding of the potential impacts of climate change on the availability of its diverse supplies.[35] The 2016 study relied on the best available projections of changes in climate (temperature and precipitation) through the end of the century to examine how surface water flows and groundwater recharge rates may change. The executive summary of this study is included in this Plan in **Appendix F**.
- Cal Water developed a multi-phase climate change study to assess the climate-related impacts on Cal Water assets, supplies, demands, and vulnerabilities. Phase 1, which primarily consisted of a literature and tools review of previous and complementary studies, was completed in December 2020. Phase 2 included a District-level vulnerability assessments of Cal Water's facilities and operations, an assessment approach that evaluates climate impacts to Cal Water, identification of asset vulnerabilities, and prioritization of climate risks. Phase 2 also included an assessment of climate-driven impacts to water supply resources and demand, and was completed in December 2021. The executive summary of Phase 1 and the Summary for Decision Makers for Phase 2 of these studies are included in this Plan in **Appendix F**.

6.10.2 Regulatory Conditions and Project Development

Emerging regulatory conditions (e.g., issues surrounding the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary [Bay-Delta Plan]) may affect planned future projects and the characterization of future water supply availability and analysis. Beyond bringing two wells online, the District does not have any current plans to develop additional supply sources. If the District does move forward with any plans to develop supply projects, emerging

[35] California Water Service Company, 2016. Potential Climate Change Impacts on the Water Supplies of California Water Service, prepared by Gary Fiske and Associates, Inc. and Balance Hydrologics, Inc., dated January 2016.

regulatory conditions will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

A detailed description of the potential impacts of Bay-Delta Plan implementation on RWS supply reliability is included in Section 7.1.1.

6.10.3 Other Locally Applicable Criteria

Other locally applicable criteria may affect characterization and availability of an identified water supply (e.g., changes in regional water transfer rules may alter the availability of a water supply that had historically been readily available). Beyond bringing two wells online, the District does not have any current plans to develop additional supply sources. If the District does move forward with any plans to develop supply projects, locally applicable criteria will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

6.11 Energy Intensity

☑ ***CWC § 10631.2***

(a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:
(1) An estimate of the amount of energy used to extract or divert water supplies.
(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.
(3) An estimate of the amount of energy used to treat water supplies.
(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.
(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.
(6) An estimate of the amount of energy used to place water into or withdraw from storage.
(7) Any other energy-related information the urban water supplier deems appropriate.
(b) The department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.
(c) The Legislature finds and declares that energy use is only one factor in water supply planning and shall not be considered independently of other factors.

The “Total Utility Approach” as defined by DWR in the 2025 UWMP Guidebook is used to report water-related energy-consumption data for the South San Francisco District. Calendar year 2024 is selected as the one-year reporting period, and utility bills for the associated time period are used as the source for energy consumption data. Utility bills reported the following energy consumption data for the District during calendar year 2024:

$$
\begin{gathered}
\textit{Total Energy Consumed by the South San Francisco District} \\
= 626{,}866\ \textit{kilowatt hour}\ (kWh)
\end{gathered}
$$

Table 6-10 shows the energy consumed for each acre-foot (AF) of water entering the distribution system in the District, including energy associated with the pumping, treatment, conveyance, and distribution of drinking water, but not including energy associated with the treatment of wastewater. Based on this, the energy intensity is estimated to be 99 kilowatt hours per acre-foot (kWh/AF), or 304 kWh per million gallon consistent with the DWR 2025 UWMP Submittal Tables (see **Table 6-10**).

Table 6-10. Recommended Energy Intensity – Total Utility Approach (DWR Table O-1B)

Water Delivery Product	Retail Potable Deliveries	**Only for Water Delivery Products Under the Urban Water Supplier's Operational Control**		
Start Date of Reporting Period	1/1/2024	**Sum of All Water Management Processes**	**Non-Consequential Hydropower**	
End Date of Reporting Period	12/31/2024			
Is Upstream Embedded Energy in the Values Reported?	No			
Units of Measure for Water	(AF)	**Total Utility**	**Hydropower**	**Net Utility**
Volume of Water Entering Process		6,325	-	6,325
Energy Consumed (kWh)		626,866	-	626,866
Energy Intensity (kWh/vol. converted to MG)		304	-	304
Quantity of Self-Generated Renewable Energy				
N/A				
Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)				
Metered Data				
Data Quality Narrative:				
Utility bills for the associated time period are used as the source for energy consumption data.				
Narrative:				
Total energy consumption represents the energy consumed during pumping, treatment, conveyance, and distribution.				
Notes:				

Chapter 7
Water Supply Reliability Assessment

☑ ***CWC § 10620 (f)***

An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

☑ ***CWC § 10630.5***

Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

This chapter describes the reliability of the California Water Company (Cal Water) South San Francisco District's (also referred to herein as "District") water supplies. Assessment of water supply reliability is complex and dependent upon a number of factors, such as the number of water sources, regulatory and legal constraints, hydrological and environmental conditions, climate change, and expected growth, among others. Based on available historical information and projections of future water uses, regulatory and legal constraints, and hydrological and environmental conditions, including climate change, Cal Water has made its best determination of future water supply reliability for the District. This chapter includes the following sections:

7.1 Constraints on Water Sources

7.2 Reliability by Type of Year

7.3 Supply and Demand Assessment

7.4 Water Supply Management Tools and Options

7.5 Drought Risk Assessment

7.1 Constraints on Water Sources

The District derives its water supply from a combination of both imported surface water supply purchased from the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS) and groundwater supply from the Westside Basin. Cal Water has relied on the supply reliability estimates provided by the SFPUC for the RWS and the drought allocation structure provided by SFPUC and the Bay Area Water Supply and Conservation Agency (BAWSCA) to estimate available RWS supplies in dry year types through 2050. Cal Water has identified several potential constraints on future supply availability, water quality, and climate change. These constraints, along with the management strategies that the District and other affected agencies have employed or will employ to address these constraints are summarized in the following sections.

7.1.1 Regional Water System Supply Availability

☑ ***CWC § 10631 (h)*** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

Regional Water System Supply Availability

Information summarizing potential constraints on the RWS is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

> "The 2018 adoption of the Bay-Delta Plan Amendment may significantly impact the supply available from the RWS. The SFPUC recognizes that the Bay-Delta Plan Amendment has been adopted and that, given that it is now state law, the SFPUC must plan for a future in which it is fully implemented. The SFPUC also acknowledges that the plan is not self-implementing and therefore does not automatically go into effect. Similarly, there is active litigation at the appellate level regarding the Bay-Delta Plan Amendment. The SFPUC is also pursuing a voluntary agreement, known as the Healthy Rivers and Landscapes Program (HRL). The HRL is currently undergoing evaluation at the SWRCB. In fall of 2025, the SWRCB released a Scientific Basis Report evaluating the biological benefits of the Tuolumne River component of the HRL. The next step is for SWRCB to finalize this report including scientific peer review. At the same time, the SWRCB is undergoing CEQA evaluation of the Tuolumne HRL. No timeline has been provided for when the HRL will be considered for adoption by the SWRCB.
>
> Because of the uncertainty surrounding implementation of the Bay-Delta Plan Amendment, the following water supply reliability assessment includes a set of tables for two future supply scenarios: (1) a scenario in which the Bay-Delta Plan Amendment is implemented and (2) a scenario that considers the SFPUC system's current conditions without implementation of the Bay-Delta Plan Amendment. The two scenarios provide a bookend for the possible future scenarios regarding RWS supplies. The Bay-Delta Plan

Amendment implementation start date is unknown, for the purposes of the supply reliability analysis, it is included in the 2030 modeling scenarios. The standardized tables associated with this UWMP contain the future scenario that assumes implementation of the Bay-Delta Plan Amendment.

There are additional factors that could affect the availability of water supply regarding the SWRCB curtailments and agreements with Turlock and Modesto Irrigation Districts pertaining to instream flow obligations on the Tuolumne River. The following describes these and how they were incorporated into the water supply reliability analysis.

- During the last two drought periods, 2013-2016 and 2021-2023, the SWRCB implemented curtailments through emergency regulations and curtailment orders that attempted to limit diversions from Central Valley watersheds including the Tuolumne River at certain times. Due to the uncertain legality of the SWRCB's curtailment actions as well as the uncertainties regarding any potential future curtailment actions against San Francisco, the SFPUC's RWS supply reliability analyses do not assume curtailments are in effect.
- Through a 1966 agreement with the Modesto and Turlock Irrigation Districts (Districts), who are more senior downstream appropriative water rights holders on the Tuolumne River, San Francisco may become responsible for up to approximately 51.7% of any flow releases the Federal Energy Regulatory Commission (FERC) may require through issuance of a new license for the Districts' Don Pedro Hydropower Project. The exact flow contribution for which San Francisco may become responsible is highly uncertain and may depend on multiple currently unknown factors, including an anticipated Endangered Species Act biological opinion from the National Marine Fisheries Service and a Clean Water Act section 401 water quality certification from the SWRCB. San Francisco's potential responsibility for FERC-ordered flows may further depend on San Francisco's ability to enter into a new or extended agreement with the Districts to offset a portion of San Francisco's flow contributions in exchange for payment. Due to the high levels of uncertainty surrounding the Districts' FERC-relicensing process, as well as the unknown timing for license issuance, the SFPUC's RWS water supply reliability analyses do not assume additional water supply losses from any potential new FERC-ordered flow releases.
- The simulation of the Bay-Delta Plan Amendment scenario assumes that a 1996 agreement between San Francisco and the Districts (the Side Agreement), which allows San Francisco to pay the Districts in lieu of contributing a portion of current FERC-ordered flow releases, remains in effect, and that the San Francisco share of flows in excess of and not covered by the Side Agreement is approximately 51.7%. These assumptions were made for the purpose of completing the modeling for

the UWMP update, and they do not represent a commitment by San Francisco or the Districts to any future agreement or of San Francisco accepting responsibility for any future FERC-ordered flow releases."

Reliability of the RWS

Detailed information is provided below regarding factors that impact the SFPUC RWS supply reliability. Information regarding the constraints on the RWS is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

> "Initiated in 2008, SFPUC's Water System Improvement Program (WSIP) is a $4.8 billion, multi-year capital program to upgrade the RWS as well as the SFPUC's local water system. The program is delivering capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water in an environmentally sustainable manner to its Retail and Wholesale Customers. The SFPUC structured WSIP to cost-effectively meet water quality requirements, improve seismic and delivery reliability goals through the year 2030, and fulfill water supply objectives through the year 2018. The SFPUC completed the San Francisco portion of WSIP in October 2020. As of June 30, 2025, the regional portion of WSIP was 99.3% complete, having repaired, replaced, and seismically upgraded crucial portions of the RWS; only two regional projects remain in planning and construction, while 49 regional projects have been completed or are in close-out. The SFPUC forecasts that the overall WSIP will be complete in June 2032.
>
> The SFPUC undertook the WSIP to ensure the ability of the RWS to meet Level of Service (LOS) Goals and Objectives for water quality, seismic reliability, delivery reliability, and water supply. The Water Supply LOS goal, stated in the WSIP and adopted in 2008, is to meet customer water needs in non-drought and drought periods. The SFPUC amended and updated the LOS Goals and Objectives in November 2023. The SFPUC's current LOS Goals and Objectives related to water supply include the following:
>
> - Meet an average annual water demand of 265 mgd from the SFPUC watersheds for Retail and Wholesale Customers during non-drought years consistent with the Water Supply Agreement between San Francisco and its Wholesale Customers in Alameda, San Mateo, and Santa Clara Counties.
> - Meet dry-year delivery needs while limiting rationing to a maximum 20 percent system-wide reduction in water service during extended droughts.
> - Diversify and improve use of new water sources and drought management, including groundwater, recycled water, conservation, transfers, storage expansion, purified water, desalinated water, and technological innovations that can increase supply and/or water use efficiency.

- Maintain San Francisco retail residential potable water use below 45 gallons per capita per day.
- Realize annual Real Water Losses of less than 10% of water supplied to San Francisco.
- Meet 80% of San Francisco's Recreation and Parks Department irrigation demands with recycled water by December 31, 2025."

Bay-Delta Plan Amendments Updates

Information regarding how the adoption of the 2018 Bay-Delta Plan Amendment is anticipated to impact the reliability of the RWS supplies in the future is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

> "In December 2018, the SWRCB adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) to establish water quality objectives for the San Francisco Bay-Delta watershed. The SWRCB is required by law to regularly review this plan. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the San Francisco Bay-Delta. The Bay-Delta Plan Amendment requires the release of 30-50% of the "unimpaired flow"[36] on the three tributaries from February through June in every year type. In SFPUC modeling of the new flow standard, it is assumed that the required release is 40% of unimpaired flow.
>
> If the Bay-Delta Plan Amendment is implemented, the SFPUC will be able to meet the projected water demands presented in this 2025 UWMP in normal years but is expected to experience supply shortages in single dry years or multiple dry years. Implementation of the Bay-Delta Plan Amendment could require rationing in all single dry years and multiple dry years.
>
> Implementation of the Bay-Delta Plan Amendment remains uncertain for multiple reasons.
>
> - Over a dozen lawsuits have been filed in both state and federal courts challenging the SWRCB's adoption of the Bay-Delta Plan Amendment, including a legal

[36] "Unimpaired flow represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds." (Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Dec. 12, 2018) p.17, fn. 14, available at https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf.)

challenge filed by the federal government at the request of the U.S. Department of Interior, Bureau of Reclamation. This litigation is currently at the appellate level.

- The Bay-Delta Plan Amendment is not self-implementing and does not automatically allocate responsibility for meeting its new flow requirements to San Francisco or any other water rights holders. Rather, the Bay-Delta Plan Amendment merely provides a regulatory framework for implementing water quality objectives, which must be accomplished by other regulatory and/or adjudicatory proceedings, such as a comprehensive water rights adjudication or, in the case of the Tuolumne River, may be implemented through the water quality certification process set forth in section 401 of the Clean Water Act as part of the Federal Energy Regulatory Commission's licensing proceedings for the Don Pedro and La Grange hydroelectric projects. It is currently unclear when the license amendment process is expected to be completed. This process and the other regulatory and/or adjudicatory proceedings may face legal challenges and have lengthy timelines, and quite possibly could result in a different assignment of flow responsibility (and therefore a different water supply impact on the RWS).

In recognition of the obstacles to implementation of the Bay-Delta Plan Amendment, the SWRCB Resolution No. 2018-0059 adopting the Bay-Delta Plan Amendment directed staff to help complete a "Delta watershed-wide agreement, including potential flow measures for the Tuolumne River," and to incorporate such agreements as an "alternative" for a future amendment to the Bay-Delta Plan to be presented to the SWRCB "as early as possible after December 1, 2019." On March 26, 2019, the SFPUC adopted Resolution No. 19-0057 to support the SFPUC's participation in the Voluntary Agreement negotiation process. To date, those negotiations are ongoing under the California Natural Resources Agency and the leadership of the Newsom administration.[37] On November 10, 2022, the SFPUC along with the Modesto and Turlock Irrigation Districts signed a Memorandum of Understanding Advancing the Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan and Other Actions. Voluntary Agreements are now referred to as the Agreements to Support Healthy Rivers and Landscapes and negotiations remain ongoing.

Because of the uncertainty surrounding implementation of the Bay-Delta Plan Amendment, the water service reliability assessment in the 2025 UWMP looks at two future supply scenarios: (1) implementation of the Bay-Delta Plan Amendment and (2) SFPUC system's current conditions without implementation of the Bay-Delta Plan Amendment."

[37] California Natural Resources Agency, "Voluntary Agreements to Improve Habitat and Flow in the Delta and its Watersheds," available at https://files.resources.ca.gov/voluntary-agreements/.

Drought Allocation Methodology

Given the constraints described above, the SFPUC has provided all wholesale customers with estimates of RWS reliability, which predict shortfalls in excess of 50% during a five-year extended drought scenario., as shown in **Appendix H**. The Tier 1 Plan describes the method for allocating RWS water between Retail and Wholesale Customers during system-wide shortages of 20 percent or less. The Tier 2 Plan allocates the collective Wholesale Customer share from the Tier 1 Plan among each of SFPUC's 26 Wholesale Customers.

For the purposes of 2025 UWMP development, BAWSCA provided a revised methodology to allocate RWS supplies during projected future single dry and multiple dry years in the instance where the supply shortfalls are greater than 20 percent. SFPUC and BAWSCA assumed that Tier 1 allocations for system-wide shortfalls of 16 percent to 20 percent would apply for all shortfalls greater than 20 percent. BAWSCA provided a revised methodology to allocate RWS supplies to Wholesale Agencies. The inclusion of these revised methodologies, which serve as the preliminary basis for UWMP supply reliability analyses, does not in any way imply an agreement by BAWSCA member agencies as to the exact allocation methodologies.

Information regarding the Tier 1 and Tier 2 Plans and the drought allocation methodologies used in the 2025 UWMP for shortfalls of greater than 20 percent is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

> "*Tier One Drought Allocation*
>
> The WSA between the SFPUC and the Wholesale Customers, discussed above, includes as "Attachment H" a Water Shortage Allocation Plan (WSAP), also known as the Tier 1 Shortage Plan. This plan describes the method for allocating water from the RWS between the SFPUC's Retail Customers, on the one hand, and the Wholesale Customers collectively, on the other, during system-wide shortages caused by drought. The Tier 1 Shortage Plan applies only when the SFPUC determines that a system-wide water shortage due to drought exists, as set forth in a declaration of water shortage emergency by the SFPUC Commission; in the absence of such a declaration, the SFPUC also may opt to request voluntary cutbacks from its Retail and Wholesale Customers to achieve water use reductions. The SFPUC and the Wholesale Customers most recently amended the Tier 1 Shortage Plan in 2025.
>
> The SFPUC allocates water under the Tier 1 Shortage Plan when it determines that the projected available water supply is less than projected system-wide water purchases for the upcoming Supply Year, defined as the period from July 1 through June 30. The following table shows the Retail Customers' share and the Wholesale Customers' share of the annual water supply available during shortages depending on the level of system-

wide reduction in water use that is required. If the SFPUC determines that the level of system-wide reduction required during a shortage is greater than 20 percent, the SFPUC and the Wholesale Customers will meet to discuss the appropriate Retail and Wholesale Customers' shares of available water. The Retail and Wholesale Customers' shares of available water are also known as the Retail and Wholesale Customers' Tier 1 Allocations. The Wholesale Customers' Tier 1 Allocation will be apportioned among the individual Wholesale Customers based on a separate methodology, known as the Tier 2 Drought Response Implementation Plan (Tier 2 Plan), which is separately adopted by all the Wholesale Customers without the SFPUC's involvement as discussed further below.

Level of System-Wide Reduction in Water Use Required	Share of Available Water	
	SFPUC Share	**Wholesale Customers Share**
5% or less	35.5%	64.5%
6% through 10%	36.0%	64.0%
11% through 15%	37.0%	63.0%
16% through 20%	37.5%	62.5%

The Tier 1 Shortage Plan allows for voluntary transfers of shortage allocations between the SFPUC and any Wholesale Customer as well as between Wholesale Customers themselves. In addition, voluntary transfers of water "banked" by the SFPUC or a Wholesale Customer, through reductions in usage greater than required, may occur.

Under the Tier 1 Shortage Plan, as amended in 2018, if the Retail Customers' Tier 1 Allocation results in the Retail Customers receiving a "positive allocation" (i.e., a supply of additional water rather than a required reduction in water use), then the excess percentage for Retail is re-allocated to the Wholesale Customers' Tier 1 Allocation. The Retail Customers are also required to conserve a minimum of 5% for any level of reduction in system-wide water use. The additional water conserved by Retail Customers up to the minimum 5% level is deemed as remaining in RWS storage for inclusion in the calculation of projected available water in future successive dry years.

The Tier 1 Shortage Plan allows for voluntary transfers of shortage allocations between the SFPUC and any Wholesale Customer as well as between Wholesale Customers themselves. In addition, voluntary transfers of water "banked" by the SFPUC or a Wholesale Customer, through reductions in usage greater than required, may occur.

Under the Tier 1 Shortage Plan, as amended in 2018, if the Retail Customers' Tier 1 Allocation results in the Retail Customers receiving a "positive allocation" (i.e., a supply of additional water rather than a required reduction in water use), then the excess percentage for Retail is re-allocated to the Wholesale Customers' Tier 1 Allocation. The Retail Customers are also required to conserve a minimum of 5% for any level of reduction in system-wide water use. The additional water conserved by Retail Customers up to the

minimum 5% level is deemed as remaining in RWS storage for inclusion in the calculation of projected available water in future successive dry years.

The Tier 1 Shortage Plan will expire at the end of the term of the WSA in 2034, unless the SFPUC and the Wholesale Customers mutually agree to revise or terminate it prior to that date."

As discussed above, the Tier 1 Plan only applies to system-wide shortages of 20 percent or less, and there is currently no methodology for sharing available water between SFPUC and Wholesale Customers for system-wide shortages of greater than 20 percent. SFPUC and BAWSCA assumed that Tier 1 allocations for System-Wide shortfalls of 16 percent to 20 percent would apply for all shortfalls greater than 20 percent for purposes of the UWMP supply reliability analyses. The analysis included herein does not in any way imply an agreement by BAWSCA member agencies with the assumed application of the Tier 1 allocations by SFPUC and BAWSCA for shortages of greater than 20 percent.

"*Tier Two Drought Allocations*

The Wholesale Customers have negotiated and adopted the Tier 2 Plan, referenced above, which allocates the Wholesale Customer Tier 1 Allocation from the Tier 1 Shortage Plan among each of the 26 Wholesale Customers. These Tier 2 Allocations are based on a formula that takes into account multiple factors for each Wholesale Customer including:

- Residential population;
- Non-residential "base" (i.e., indoor) use;
- Seasonal uses;
- Total RWS purchases in recent non-drought years; and
- Individual Supply Guarantee;

The Tier 2 Plan employs a structured, sequential, five-step method to allocate water to each Wholesale Customer. The allocations are constrained by minimum and maximum cutbacks, which establish the maximum final allocation and minimum guaranteed final allocation, respectively. No agency's final allocation can fall outside of these bounds. The allocation then proceeds by prioritizing indoor uses.

The subsequent steps systematically allocate the remaining available water based on different customer demands. First focusing on indoor demand, water is allocated based on an agency's residential population and the State residential efficient indoor standard (47 gallons per person per day (GPCD) in 2025), followed by an allocation based on non-residential "base" (i.e., indoor) use. A limited amount of water is allocated based on seasonal use (e.g., cooling towers and irrigation). Finally, the remaining supply is allocated based on a weighted share of two-thirds RWS purchases in the recent non-drought years and one-third ISG.

The result of the Tier 2 Plan is each Wholesale Customers' proportion, expressed as a percentage, of the available Tier 1 Allocation (Allocation Factor).

The Tier 2 Plan requires that the Allocation Factors be calculated by BAWSCA each year in preparation for a potential water shortage emergency. As the Wholesale Customers change their water use characteristics (e.g., increases or decreases in RWS purchases and use of other water sources, changes in monthly water use patterns, or changes in population), the Allocation Factor for each Wholesale Customer will also change. However, for long-term planning purposes, each Wholesale Customer may use as its Allocation Factor, the value identified in the Tier 2 Plan when adopted.

The Tier 2 Plan was renegotiated and adopted by all Wholesale Customers in 2025."

7.1.2 Groundwater Supply Availability

Because groundwater has been allocated at a fixed maximum value, irrespective of year-type, (i.e., the Designated Quantity [DQ]) per the Agreement for Groundwater Storage and Recovery from the Southern Portion of the Westside Basin (see Section 6.2), the District's groundwater supply is expected to be available in all year types at a consistent volume of 1,534 acre-feet per year (AFY).[38]

7.1.3 Water Quality

☑ ***CWC § 10634***

The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

Impaired water quality also has the potential to affect water supply reliability. Cal Water is committed to meeting all state and federal water quality regulations. All drinking water standards are set by the U.S. Environmental Protection Agency (EPA) under the authorization of the Federal Safe Drinking Water Act of 1974. In California, the State Water Resources Control Board (SWRCB),

[38] San Francisco Public Utilities Commission (SFPUC), City of Daly City, City of San Bruno, and California Water Service Company (Cal Water), 2014. Agreement for Groundwater Storage and Recovery from the Southern Portion of the Westside Basin by and among the San Francisco Public Utilities Commission, the City of Daly City, the City of San Bruno, and California Water Service Company, dated 2014.

Division of Drinking Water (DDW) can either adopt the EPA standards or set more stringent standards, which are then codified in Title 22 of the California Code of Regulations. There are two general types of drinking water standards:

- **Primary Maximum Contaminant Levels (MCLs)** are health protective standards and are established using a very conservative risk-based approach for each constituent that takes into potential health effects, detectability and treatability, and costs of treatment. Public water systems may not serve water that exceeds Primary MCLs for any constituent.
- **Secondary MCLs** are based on the aesthetic qualities of the water such as taste, odor, color, and certain mineral content, and are considered limits for constituents that may affect consumer acceptance of the water.

Cal Water routinely monitors its wells and the water that is treated and served to customers to ensure that water delivered to customers meets these drinking water standards. The results of this testing are reported to the SWRCB DDW following each test and are summarized annually in Water Quality Reports (also known as "Consumer Confidence Reports"), which are provided to customers by mail and made available on Cal Water's website:
https://www.calwater.com/water-quality-reports/.

Additionally, a review of water quality conditions of the underlying groundwater basin are provided in the most recent (2023) Annual Groundwater Monitoring Report for the Westside Basin prepared by SFPUC in June 2024, which is available on the SFPUC website:
https://www.sfpuc.gov/sites/default/files/documents/2023_Annual_Westside_Basin_Groundwater_Report.pdf

Although there is the potential for some regulated constituents to be present in source water, as documented in the Water Quality Reports, the District's monitoring, management, and treatment of its water results in high quality drinking water meeting all drinking water standards being served to customers. Cal Water tracks changes in constituent concentrations to proactively address water quality issues before they impact supply reliability.[39] In the event that water quality constituents are detected in source water at concentrations requiring treatment, the District is able to take impacted source(s) offline to implement appropriate treatment.

Cal Water is committed to proactively addressing emerging contaminants and changing MCL requirements as needed.

As discussed in Chapter 6, the majority of the water supply to the SFPUC RWS is from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains. The Hetch Hetchy Reservoir is considered a very high-quality water source due to low total dissolved solid (TDS) concentrations and other

[39] Cal Water, 2018. Direct Testimony of Director of Water Quality, 2018 CPUC Rate Case Filing.

factors. Additional water supplies from the Alameda and Peninsula sources come from areas with restricted access to protect the source water quality.

The SFPUC's Water Quality Division (WQD) regularly collects and tests water samples from reservoirs and designated sampling points throughout the RWS to ensure that the SFPUC's water meets or exceeds federal and state drinking water standards. In 2024, the WQD conducted more than 45,650 drinking water tests in the sources and transmission systems.[40] This is in addition to the extensive treatment process control monitoring performed by the SFPUC's certified operators and online instruments. The SFPUC also has online instruments providing continuous water quality monitoring at numerous locations.

Information regarding the water quality of the RWS is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

> "Most of the water supply originates in the upper Tuolumne River watershed high in the Sierra Nevada, where the watershed is protected from development and pollution. Water from Hetch Hetchy Reservoir is conveyed to the Bay Area through a system of pipes and tunnels and requires only primary disinfection, ultraviolet light disinfection at the Tesla Treatment Facility, and pH adjustment for corrosion control.
>
> The USEPA and SWRCB DDW have approved the use of this drinking water source without filtration. In contrast, water from the SFPUC's local watersheds requires filtration to meet drinking water quality standards. The SFPUC blends filtered and treated local water with water from Hetch Hetchy Reservoir, and most customers receive this blended supply. The SFPUC continuously monitors and tests both raw and treated water to ensure that water delivered to customers meets or exceeds federal and state drinking water and public health requirements. The SFPUC expects to continue relying on these high quality water sources and does not anticipate future degradation of water quality.
>
> Each spring, the SFPUC publishes an annual water quality report (Consumer Confidence Report), available at www.sfpuc.gov/waterqualityreport."

Given Cal Water and SFPUC's proactive monitoring and management, water quality is not expected to impact the reliability of the District's available supplies within the planning horizon (i.e., through 2050).

[40] SFPUC, 2025. San Francisco Regional Water System 2024 Annual Water Quality Report, dated 2025. Accessed From: https://www.sfpuc.gov/sites/default/files/accounts-and-services/water-quality/EN_SF_Regional_2024.pdf.

7.1.4 Climate Change

☑ ***CWC § 10631 (b) (1)***

…For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

Section 6.10.1 provides a summary of the assessments of the applicable climate change on supplies that Cal Water and SFPUC have previously performed and those planned for the near term. The anticipated effects of climate change have been directly factored into the District's assessment of its supply reliability. Section 4.4 of this UWMP presents information on how the impacts of climate change are factored into projected demands in the District. As discussed in Section 6.10.1, Cal Water is actively working to further quantify and consider future climate change impacts as part of its Cal Water's ongoing supply and operations planning.

7.2 Reliability by Type of Year

☑ ***CWC § 10631 (b)***

Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following:

☑ ***CWC § 10631 (b)(1)***

A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

☑ ***CWC § 10635 (a)***

Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

Per the 2025 UWMP Guidebook, the water service reliability assessment includes three unique year types:

- A normal hydrologic year represents the water supplies available under normal conditions, this could be an averaged range of years or a single representative year,
- A single dry year represents the lowest available water supply, and

- A five-consecutive year drought represents the driest five-year period in the historical record.

Identification of these dry year periods consistent with the 2025 UWMP Guidebook methodology is provided in the language provided by BAWSCA and the SFPUC in **Appendix G** and **Appendix H**, and is presented in **Table 7-1** and **Table 7-2**.

Table 7-1. Basis of Water Year Data (Reliability Assessment) (DWR Table 7-1)

Year Type	Base Year	Available Supplies if Year Type Repeats	
		☒	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location: Table 7-2
		Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available (AF)	% of Average Supply
Average Year			
Single-Dry Year			
Consecutive Dry Years 1st Year			
Consecutive Dry Years 2nd Year			
Consecutive Dry Years 3rd Year			
Consecutive Dry Years 4th Year			
Consecutive Dry Years 5th Year			
Notes:			

7.2.1 SFPUC Supply Modeled RWS Dry Year Supply Availability

Information regarding the SFPUC Supply Modeled RWS Dry Year Supply Availability is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

> "The SFPUC used its Hetch Hetchy and Local Simulation Model (HHLSM) to perform the water supply analyses for the supply reliability assessment and the drought risk assessment within the 2025 UWMP. HHLSM combines a historical record of hydrology from 1920 through 2025 with a current representation of RWS infrastructure and operations. The simulated operations include decisions on water supply rationing during droughts. The use of those results is described below.

A key input for the HHLSM model is the anticipated level of demand on the RWS. Supply modeling results presented in the 2025 UWMP reflect an input of projected demands on the RWS consisting of (1) projected Retail Customer demands on the RWS (total Retail Customer demands minus local groundwater and recycled water supplies), and (2) projected Wholesale Customer purchases. The SFPUC has estimated total RWS demands for 2030 through 2050 and used these estimates in HHLSM simulations of RWS water supply reliability. The SFPUC has a Level of Service objective of meeting an average annual water demand of 265 mgd from the SFPUC watersheds for Retail and Wholesale Customers during non-drought years consistent with the WSA, under which the SFPUC has a contractual obligation to supply up to 184 mgd to the Wholesale Customers. Therefore, the SFPUC has also conducted modeling that assumes Wholesale Customer demand is 184 mgd to facilitate planning that supports meeting this Level of Service objective and contractual obligation.

In a normal year the SFPUC can provide up to 265 mgd of supply from the RWS. However, within the context of this document, normal year RWS supply is defined as the supply that will be used to meet the full demands on the RWS in a non-drought year."

7.2.2 Cal Water's Year Type Characterization

As discussed in Section 6.1, in accordance with the SFPUC's perpetual obligation to Cal Water's Supply Assurance, Cal Water has an Individual Supply Guarantee (ISG) of 35.68 MGD (39,993 AFY), which is shared among its Bear Gulch, Mid-Peninsula, and South San Francisco Districts (also referred to herein as the "Peninsula Districts"). SFPUC is obligated to provide Cal Water with up to 100 percent of Cal Water's ISG during normal years.

Using the SFPUC modeling results presented in the SFPUC letter dated March 11, 2026, BAWSCA provided single and five-consecutive dry-year allocations for each agency based on the methodology described in Section 7.1.1. As discussed therein, for the purposes of the 2025 UWMP supply reliability analysis, Wholesale Agency drought allocations assume an equal percent reduction across all agencies when the average Wholesale Customers' RWS shortages are greater than 20 percent. These percent reductions for the scenario that assumes the implementation of the Bay-Delta Plan Amendment are included in Table 4 of the BAWSCA updated drought allocation memorandum dated March 11, 2026 (**Appendix H**) and reproduced in **Table 7-2**, below, for base year 2030 through 2050. The percent reductions shown in **Table 7-2** are applied to the District's projected potable demands listed in **Table 4-4** for each respective base year to calculate the projected dry-year RWS supplies shown in **Table 7-4** and **Table 7-5**.

Table 7-2. RWS Wholesale Supply Availability During Normal and Dry Years for Based Years 2030 through 2050 (Responds to DWR Table 7-1)

Base Year	Normal Year	Single Dry Year	Multiple Dry Years				
			Year 1	Year 2	Year 3	Year 4	Year 5
2030	100%	69%	69%	58%	58%	58%	58%
2035	100%	67%	67%	57%	57%	57%	57%
2040	100%	65%	65%	55%	55%	55%	55%
2045	100%	63%	63%	53%	53%	53%	53%
2050	100%	62%	62%	52%	52%	52%	52%

Notes:

(a) Normal-year water supply availability is presented in terms of percentage of Cal Water's ISG (35.68 MGD).

(b) Dry-year water supply availability is presented in terms of percentage of projected RWS demands for each base year consistent the revised BAWSCA Drought Methodology that assumes equal percent cutbacks across all Wholesale Agencies.

(c) Results reflect scenario with implementation of the Bay-Delta Plan Amendment implemented.

7.3 Supply and Demand Assessment

Water supply and demand patterns change during normal, single dry, and multiple dry years. Cal Water has relied on the demand modeling described in Chapter 4 to forecast demands for normal, single dry and multiple dry years.

7.3.1 Normal Year Supply and Demand Assessment

Table 7-3 shows the projected supply and demand totals for a normal year. The supply and demand totals are consistent with those in **Table 6-9B** and **Table 4-2**, respectively. The District is expected to have adequate water supplies during normal years to meet its projected demands through 2050.

Table 7-3. Normal Year Supply and Use Comparison (DWR Table 7-2)

	2030	2035	2040	2045	2050 (opt)
	(AF)	(AF)	(AF)	(AF)	(AF)
Supply Totals	6,877	7,000	7,077	7,314	7,252
Use Totals	6,877	7,000	7,077	7,314	7,252
Surplus/(Shortfall)	0	0	0	0	0

Notes:

(a) The supply totals presented herein for 2030 through 2050 reflect the percentages of single dry year supply availability received during the 2025 UWMP process (shown in Table 7-2 above).

(b) Recycled water use (462 AFY in 2045 and 2050) is contingent on construction of the Baylands Water Recycling Facility as part of the Baylands Specific Plan development.

7.3.2 Dry Year Supply and Demand Assessment (with Bay-Delta Plan)

The District's groundwater/in-lieu surface water supply is expected to be 100 percent reliable in all year types at a consistent volume of 1,534 AFY. Additionally, the District's recycled water supply, once available in 2042 (see Section 6.5), is expected to be 100 percent reliable in all year types at a constant 462 AFY, as recycled water is considered to be a drought-proof supply.

In contrast, the reliability of the RWS is anticipated to vary greatly in different year types. As described above and detailed in **Appendix H**, Cal Water has relied on the supply reliability estimates provided by the SFPUC for the RWS and the drought allocation structure provided by SFPUC and BAWSCA to estimate available RWS supplies in dry year types through 2050.[41]

Table 7-4 shows the projected supply and demand totals for the single dry year, and **Table 7-5** shows the projected supply and demand totals for multiple dry year periods extending five years.

Dry year RWS supply availability is calculated in accordance with **Table 7-2**, as a percentage of projected RWS demands for each base year consistent with the revised BAWSCA Drought Methodology that assumes equal percent cutbacks across all Wholesale Agencies. Projected RWS demands for the District are calculated by subtracting the District's groundwater/in-lieu surface water supply through the Regional Groundwater Storage and Recovery (RGSR) Project from the District's total projected demand over the planning horizon.

[41] The balance between supply and demand totals excludes usage reductions that are not directly a function of Cal Water supplies, but are externally-imposed by other entities, such as the 2015 State-mandated cutbacks.

Table 7-4. Single Dry Year Supply and Use Comparison (DWR Table 7-3)

	2030	2035	2040	2045	2050 (opt)
	(AF)	(AF)	(AF)	(AF)	(AF)
Supply Totals	5,395	5,368	5,305	5,505	5,409
Use Totals	7,130	7,256	7,336	7,566	7,501
Surplus/(Shortfall)	(1,735)	(1,888)	(2,031)	(2,061)	(2,092)

Notes:

(a) The supply totals presented herein for 2030 through 2050 reflect the percentages of single dry year supply availability received during the 2025 UWMP process (shown in Table 7-2 above).

(b) Recycled water use (462 AFY in 2045 and 2050) is contingent on construction of the Baylands Water Recycling Facility as part of the Baylands Specific Plan development.

Table 7-5. Multiple Dry Years Supply and Use Comparison (DWR Table 7-4)

		2030	2035	2040	2045	2050 (Opt)
First Year	Supply Totals	5,503	5,474	5,410	5,603	5,505
	Demand Totals	7,286	7,415	7,497	7,722	7,656
	Surplus/(Shortfall)	(1,783)	(1,941)	(2,087)	(2,119)	(2,151)
Second Year	Supply Totals	4,870	4,886	4,814	5,031	4,939
	Demand Totals	7,286	7,415	7,497	7,722	7,656
	Surplus/(Shortfall)	(2,416)	(2,529)	(2,683)	(2,691)	(2,717)
Third Year	Supply Totals	4,870	4,886	4,814	5,031	4,939
	Demand Totals	7,286	7,415	7,497	7,722	7,656
	Surplus/(Shortfall)	(2,416)	(2,529)	(2,683)	(2,691)	(2,717)
Fourth Year	Supply Totals	4,870	4,886	4,814	5,031	4,939
	Demand Totals	7,286	7,415	7,497	7,722	7,656
	Surplus/(Shortfall)	(2,416)	(2,529)	(2,683)	(2,691)	(2,717)
Fifth Year	Supply Totals	4,870	4,886	4,814	5,031	4,939
	Demand Totals	7,286	7,415	7,497	7,722	7,656
	Surplus/(Shortfall)	(2,416)	(2,529)	(2,683)	(2,691)	(2,717)

Notes:

(a) The supply totals presented herein for 2030 through 2050 reflect the percentages of multiple dry year supply availability received during the 2025 UWMP process (shown in Table 7-2 above).

(b) Recycled water use (462 AFY in 2045 and 2050) is contingent on construction of the Baylands Water Recycling Facility as part of the Baylands Specific Plan development.

7.3.3 Uncertainties in Dry Year Water Supply Projections

As shown in the above tables, significant water supply shortfalls are currently projected in future single and multiple dry years, directly because of the Bay-Delta Plan Amendment implementation. However, numerous uncertainties remain in the implementation of the Bay-

Delta Plan Amendment. The water supply projections presented above likely represent a worst-case scenario in which the Bay-Delta Plan Amendment is implemented without the SFPUC and the SWRCB reaching a Voluntary Agreement and do not account for implementation of SFPUC's Alternative Water Supply (AWS) Program, described in more detail below. Under this supply scenario, SFPUC appears not to be able to meet its contractual obligations (i.e., Level of Service goals) and Cal Water's forecasted demands during droughts.

As discussed in Section 7.2.1, SFPUC also provided water supply reliability projections without the Bay-Delta Plan Amendment (see **Appendix H**), which likely represents a highly optimistic water supply reliability outcome. These projections indicated that without the Bay-Delta Plan Amendment SFPUC would be able to supply 100 percent of projected RWS demands in all year types through 2050. The large disparity in projected water supply reliability between these two scenarios demonstrate the current level uncertainty.

> The SFPUC is also pursuing a voluntary agreement, known as the Healthy Rivers and Landscapes Program (HRL). The HRL is currently undergoing evaluation at the SWRCB. In fall of 2025, the SWRCB released a Scientific Basis Report evaluating the biological benefits of the Tuolumne River component of the HRL. The next step is for SWRCB to finalize this report including scientific peer review. At the same time, the SWRCB is undergoing CEQA evaluation of the Tuolumne HRL. No timeline has been provided for when the HRL will be considered for adoption by the SWRCB.

HHSLM modelling results for the HRL showed significantly improved RWS supply availability compared to the Bay-Delta Plan Amendment scenario.

The current sources of uncertainty in the dry year water supply projections are summarized below:

- *Implementation of the Bay-Delta Plan Amendment is under negotiation.* The SFPUC is continuing negotiations with the SWRCB on implementation of the Bay-Delta Plan Amendment for water supply cutbacks, particularly during droughts. The SFPUC, in partnership with other key stakeholders, has proposed a voluntary substitute agreement to the Bay-Delta Plan Amendment, the HRL, that provides a collaborative approach to protect the environment and plan for a reliable and high-quality future potable water supply. This is a dynamic situation, and the projected drought cutback allocations may need to be revised before the next (i.e., 2030) UWMP depending on the outcome of ongoing negotiations.
- *Benefits of the AWS Program are not accounted for in current supply projections.* As discussed in Section 7.3.4 and **Appendix G**, SFPUC is exploring options to increase its supplies through the AWSP. Implementation of feasible projects developed under the

AWSP is not yet reflected in the supply reliability scenarios presented herein and is anticipated to reduce the projected RWS supply shortfalls (**Appendix H**).

- *Methodology for Tier 1 and Tier 2 Wholesale drought allocations have not been established for wholesale shortages greater than 20 percent.* As discussed in Section 7.1.1, the current Tier One and Tier Two Plans are not designed for RWS supply shortages of greater than 20 percent. For UWMP planning purposes per BAWSCA guidance, the Tier One Wholesale share for a 16 percent to 20 percent supply reduction (62.5 percent) has been applied for reductions greater than 20 percent, and an equal percent reduction has been applied across all Wholesale agencies for Tier Two. BAWSCA member agencies have not formally agreed to adopt this shortage allocation methodology and are in discussions about jointly developing an alternative allocation method that would consider additional equity factors if SFPUC is unable to deliver its contractual supply volume and cutbacks to the RWS supply exceed 20 percent.
- *RWS demands are subject to change.* The RWS supply availability is dependent upon the system demands. As discussed in Section 7.2, the supply scenarios are based on the total projected Wholesale Customer purchases provided by BAWSCA to SFPUC in March 2026. Many BAWSCA agencies have refined their projected demands during the UWMP process after these estimates were provided to SFPUC. Furthermore, the RWS demand projections are subject to change in the future based upon future housing needs, increased conservation, and development of additional local supplies.
- *Frequency and duration of cutbacks are also uncertain.* While the projected shortfalls presented in the UWMP appear severe in the Bay-Delta Plan Amendment scenario, the actual frequency and duration of such shortfalls are uncertain. In addition to the supply volumes, the above listed uncertainties would also impact the projected frequency and duration of shortfalls.

The above uncertainties notwithstanding, BAWSCA’s current drought allocation cutbacks will require the District to apply its Water Shortage Contingency Plan (WSCP) Shortage Level 5, for water use restrictions above 40 percent and will affect Cal Water’s short- and long-term water management decisions. As described further below (and in Section 7.4), Cal Water is working independently and with the other BAWSCA agencies to identify regional mitigation measures to improve reliability for regional and local water supplies and meet its customers’ water needs. If conditions for large drought cutbacks to the RWS persist, Cal Water will need to implement additional demand management practices to invoke strict restrictions on potable water use, and obtain funding to accelerate developing alternate supplies of water.

Cal Water recommends that users of its 2025 UWMP contact District staff for potential updates about its water supply reliability and the DRA before using the 2025 UWMP drought cutback projections for their planning projects and referencing the drought allocations.

7.3.4 Strategies and Actions to Address Dry Year Supply Shortfalls

Although there remains significant uncertainty in future supply availability, as discussed above, Cal Water, SFPUC, and BAWSCA have developed strategies and actions to address the projected dry year supply shortfalls. These efforts are discussed in the following sections.

SFPUC and Other Regional Strategies and Actions

Information summarizing SFPUC and other regional strategies and actions is sourced from the common language provided by SFPUC and BAWSCA and is provided verbatim below in the indented text (see **Appendix G**).

> "Strategy 2050 Future Water Supply Projects and Programs
>
> (Strategy 2050), a regional assessment of Member Agencies' water supply needs. Strategy 2050 will identify the water supply and demand management needs and opportunities for the BAWSCA region and establish a framework to collectively support water reliability and resilience. The main objectives of Strategy 2050 include:
>
> - Providing a comprehensive picture of the region's supply and demand management needs and options;
> - Establishing a framework for collectively maintaining and improving regional water supply reliability and resilience;
> - Elevating awareness of and supporting the region's interests in new and emerging regulations that impact water supply and demand management;
> - Expanding regional dialogue and collaboration to collectively address common needs;
> - Closing the gap on funding needed for water supply resilience and reliability; and
> - Supporting availability of affordable water supplies and demand management strategies to all customers.
>
> Strategy 2050 is actively evaluating opportunities to enhance water supply reliability in the BAWSCA region, including projects involving physical infrastructure and actions involving non-infrastructure interventions, such as policies, programs, and/or contractual agreements. A total of 70 local and regional projects and actions (P&As) will be considered, including stormwater capture projects, technical assistance programs for onsite reuse, groundwater banking partnerships, new and replacement well projects, and interties development and optimization, among others. Strategy 2050 will evaluate these the water reliability of under the range of potential future conditions and make recommendations on priorities and next steps for implementation.

Strategy 2050 plan is anticipated to be completed by 2027. From 2027 onward, the Strategy 2050 effort is anticipated to involve implementing the actions identified in the plan, tracking and reporting on the progress, and incorporating the findings from the implementation activities into BAWSCA's following fiscal year Work Plan.

WSIP Dry Year Water Supply Projects

With WSIP, the SFPUC has undertaken several water supply projects to meet dry-year demands. Those projects include the following:

- **Calaveras Dam Replacement Project.** Calaveras Dam is in the East Bay near a seismically active fault zone, and following the Loma Prieta earthquake in 1989, it was determined to be seismically vulnerable. To address the dam's vulnerability, the SFPUC constructed a new dam of equal height downstream of the existing dam. This project was completed in 2022. Calaveras Reservoir was completely refilled in 2023 and is now operating at full capacity.
- **Alameda Creek Recapture Project.** The Alameda Creek Recapture Project includes new facilities in and around an existing quarry pit in Sunol Valley to recover the loss of water supply associated with instream flow release and bypass requirements related to the Calaveras Dam Replacement Project. The project is anticipated to be completed in 2032.
- **Lower Crystal Springs Dam Improvements.** The Lower Crystal Springs Dam Improvements Project was completed in May 2012. The related joint San Mateo County/SFPUC Bridge Replacement Project to replace the bridge across the Lower Crystal Springs Dam was completed in January 2019.
- **Regional Groundwater Storage and Recovery Project.** The Regional Groundwater Storage and Recovery (RGSR) Project is a strategic partnership between the SFPUC and three Wholesale Customers in San Mateo County: the California Water Service Company (serving South San Francisco and Colma), the City of Daly City, and the City of San Bruno. The project sustainably manages groundwater and surface water resources to provide the RWS with additional supplies during times of drought. During years of normal or heavy rainfall, the SFPUC provides additional surface water from the RWS to the three agencies in northern San Mateo County, allowing them to reduce the amount of groundwater that they pump from the southern Westside Groundwater Basin. Over time, the reduced pumping allows the aquifer to naturally recharge and result in increased groundwater storage of up to 61,000 acre-feet of new water supply available during dry years. As of December 2025, the SFPUC had accumulated approximately 14 billion gallons of groundwater storage credits (about 43,093 acre-feet) through the project.

The RGSR project has two phases. Phase 1, which included building thirteen production wells and treatment facilities, is complete. Phase 2 design began in early 2020 and covers rehabilitating and reinstalling well pumps, installing two new variable frequency drivers, and conducting start-up testing and well disinfection. Pumps at the Hickey, Southwood Drive, and Mission well were rehabilitated, packed, and stored due to staff shortages, operational challenges, and elevated ammonia levels at the Southwood Drive well; they may be reinstalled later. Construction on Phase 2B began in 2024 and would transport groundwater from SFPUC South San Francisco Main Well to California Water Service Company Treatment Station in South San Francisco. The project will make improvements at the existing well site which includes mechanical, electrical, structural, and corrosion protection upgrades. The SFPUC also prepared a conceptual engineering report and initiated design work for additional treatment to address the high ammonia levels at the South Spruce Lane Well and Treatment Facility. Minor amounts of groundwater pumping from RGSR wells have occurred during start-up testing and monthly maintenance.

- **Regional Groundwater Treatment Improvements Project.** The SFPUC approved this new project in the 10-Year Water Enterprise Capital Improvement Program for FY 2021-2030. The project includes treatment facilities for several of the RGSR project wells to address groundwater quality issues that have emerged since the wells were constructed.
- **Water Transfers.** During the planning and implementation of the WSIP, the SFPUC pursued a long-term agreement to transfer 2 mgd from Modesto irrigation District to the SFPUC in drought years. Negotiations with Modesto Irrigation District ended in 2012 when an agreement could not be reached. The dry-year transfer project is now being included as part of the new SFPUC Alternative Water Supply Program and is described in further detail below.

<u>Alternative Water Supply Program</u>

In 2019, the SFPUC established the Alternative Water Supply (AWS) Program to identify and plan water supply and storage projects and actions that increase the dry-year reliability of the RWS. Based on the 2045 planning horizon that the SFPUC applied in its February 2024 AWS Plan, the SFPUC anticipates a water supply gap will occur in future dry years. The AWS Program aims to help fill the gap through local and regional capital projects. The February 2024 AWS Plan identified six regional projects that might partially address the future water supply gap and the priorities for this planning effort. Since the development of that plan, three projects have been deferred (Daly City Recycled Water Expansion, Alameda County Water District-Union Sanitary District Purified Water, and Calaveras Reservoir Expansion) and one project has been canceled (Los Vaqueros

Reservoir Expansion). The AWS Program is continuing to pursue the following two projects:

- **PureWater Peninsula**. PureWater Peninsula (formerly known as the Crystal Springs Purified Water Project) is a purified water project that could provide 6 mgd of additional potable water supply to the RWS through surface water augmentation at the SFPUC's Crystal Springs Reservoir. The currently proposed project involves treating wastewater effluent from Silicon Valley Clean Water at a new advanced purified water facility located on the Peninsula and transmitting that purified water to Crystal Springs Reservoir, where it would blend with RWS surface water supplies before the SFPUC treats it again at Harry Tracy Water Treatment Plant. A future phase could provide an additional 6 mgd of additional potable water supply to the RWS. Project partners include the SFPUC, Silicon Valley Clean Water, BAWSCA, Mid-Peninsula Water District, California Water Service Company, City of Redwood City, City of Foster City, and City of San Mateo.
- **South Bay Purified Water**. In 2023, the SFPUC, the City of San Jose, and the City of Santa Clara completed an initial feasibility study for the South Bay Purified Water project, envisioned as a 10 mgd purified water project that would serve the local demands of San Jose and Santa Clara during all types of water years and deliver an additional volume of water supply to the RWS in dry years. Currently, Santa Clara Valley Water District (Valley Water) is working with San Jose and Santa Clara to design a larger project to meet broader regional needs. The SFPUC's participation in this project will be based on the regional benefits to the RWS customers. This project may also assist the SFPUC with its decision regarding San Jose and Santa Clara's status as RWS customers, discussed above.

If both AWS projects that SFPUC staff has identified through the current planning process can be implemented, there would still be a supply shortfall to meet projected needs associated with implementation of the Bay-Delta Plan Amendment. Furthermore, both alternative water supply options are in the planning phase and are subject to changes in institutional structure and design. Given the limited availability of water supply alternatives, unless the supply risks are significantly reduced, the SFPUC will continue to plan, develop, and implement all potential projects that can help bridge the anticipated water supply gap during droughts.

Outside of the AWS Program, the following additional regional projects are included in the Agreements to Support Healthy Rivers and Landscapes discussed in the Bay-Delta Plan Amendment section above. Progress on these water supply options will be guided by scientific monitoring and collaborative decision making.

- **Groundwater Banking.** Groundwater banking projects in the Modesto Irrigation District and Turlock Irrigation District service areas could provide the SFPUC with some additional water supply to meet instream flow releases in dry years, reducing water supply impacts on the RWS. A feasibility study of this option is included in the Agreements to Support Healthy Rivers and Landscapes.
- **Inter-Basin Collaborations.** Inter-Basin Collaborations could include establishing a partnership between interests on the Tuolumne River (such as the SFPUC) and those on the Stanislaus River, which would allow responsibility for streamflow to be assigned variably based on the annual hydrology. The Tuolumne system tends to spill more excess flow in wetter years than the Stanislaus system, and this excess flow could be shaped and credited to meet Stanislaus system requirements, while New Melones Reservoir in the Stanislaus system is refilling. Then the stored water could be partially used to provide required streamflow to meet Stanislaus and Tuolumne requirements in future dry years.
- **Dry-Year Transfers.** The SFPUC initiated discussions with irrigation districts under WSIP to secure a dry-year transfer (see WSIP Dry-Year Water Supply Projects section above). While no transfer was secured, the SFPUC continues to engage in discussions with irrigation districts to explore potential transfer opportunities.

The SFPUC's AWS Plan published in February 2024 included a planning framework for the SFPUC to consider water supply needs and related tradeoffs; guide the decisions to proceed with environmental review; and continue the development of projects that can best meet anticipated water supply needs. In June 2025, the SFPUC prepared a progress report that provided status updates on the AWS projects. In 2027, the SFPUC plans to review and revise its Alternative Water Supply Plan based on updated information."

Cal Water Strategies and Actions

In addition to the management tools and options discussed below, Cal Water has been involved directly and through BAWSCA to advocate for an alternative to the Bay-Delta Plan Amendment, including submitting letters and testimony (see **Appendix I**) that identify, among other things, the significant impact to local water supply reliability.

As described in Section 7.4, Cal Water is committed to developing a long-term supply reliability strategy for its Peninsula Districts, including evaluation of alternative supply sources and continued commitment to Cal Water's comprehensive water conservation program.

7.4 Water Supply Management Tools and Options

☑ ***CWC § 10620 (f)***

An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

Cal Water coordinates on an ongoing basis with all relevant agencies in the region to optimize the use of regional water supplies. This includes SFPUC, BAWSCA, City of South San Francisco, Town of Colma, City of Daly City, and other public and private entities with which Cal Water can collaborate to protect and enhance local groundwater and surface water resources.

In addition to supporting SFPUC and BAWSCA, Cal Water developed multiple regional water supply reliability studies using integrated resource planning practices to create a long-term supply reliability strategy through 2050 for Cal Water districts throughout California. The studies created long-term strategies to address a wide range of water supply challenges including climate change, new regulatory requirements (e.g., the Bay-Delta Plan Amendment), and potential growth in demands due to new development. These water supply reliability studies were completed on a rolling basis between 2021 and 2025. The District was included in the Bay Area Water Supply Reliability Study.

Cal Water also has its own aggressive and comprehensive water conservation program that has and will continue to reduce per-capita usage and therefore demands on critical water sources. Cal Water is committed to helping its customers use water efficiently and has developed a range of water conservation programs to support this goal. To ensure that it is providing the right mix of programs in the most cost-effective manner possible, Cal Water routinely conducts comprehensive conservation program analysis and planning. This is done on a five-year cycle in tandem with the UWMP. Cal Water's Conservation Master Plan (see **Appendix K**) provides the basis for the information on the implementation of and expected water savings from Demand Management Measures (DMMs) presented in Chapter 9.

Cal Water also monitors and supports the goals of the Bay Area Integrated Regional Water Management Plan (IRWMP).

In summary, Cal Water has a robust planning process in place with multiple supply projects for consideration to address future supply/demand gaps and to increase supply reliability. Additional conservation, if approved by the California Public Utilities Commission (CPUC), will also support these efforts. Projects will be developed, as needed, to balance supply reliability and affordability.

7.5 Drought Risk Assessment

☑ ***CWC § 10635(b)***

Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.

(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

7.5.1 DRA Data, Methods, and Basis for Water Shortage Condition

Section 7.1.1 presents an evaluation of the sufficiency of the Mid-Peninsula District’s purchased and recycled water supplies to meet projected water demands in dry year conditions, including an extended five-year drought period extending from 2026 through 2030. This evaluation considers historical drought hydrology and plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

7.5.2 Drought Risk Assessment Water Source Reliability

As described in Chapter 6, the District utilizes both groundwater supply from the Westside Basin, including groundwater extractions from the Westside Basin and in-lieu surface water deliveries through the RGSR, and imported surface water supply purchased from the SFPUC RWS.

The District’s available potable water supplies during the five-consecutive-year drought are based upon information provided by SFPUC and BAWSCA included in **Appendix H**, as indicated in Section 7.5.1. Based on the modeling results presented in the March 11, 2026 SFPUC letter, BAWSCA provided percentage-based cutbacks for 2026 to 2030. Specifically, BAWSCA assumed that the uncertainty in Bay-Delta Plan implementation means that the Bay Delta plan will not affect SFPUC RWS supply availability for 2026 to 2030; therefore, no cutbacks are expected even in a multiple dry year period.

7.5.3 Drought Risk Assessment Total Water Supply and Use Comparison

As shown in **Table 7-3**, the District's supply is expected to be sufficient to meet demands in normal year conditions. However, based on SFPUC dry year cutbacks (discussed in further detail in **Appendix H**), the District is expected to experience significant shortfalls during single dry and multiple dry year conditions, as shown in **Table 7-4** and **Table 7-5**.

The District's groundwater/in-lieu surface water supply is expected to be 100 percent reliable in all year types at their DQ of 1,534 AFY. Dry year RWS supply availability is calculated in accordance with the revised BAWSCA Drought Methodology that assumes no cutbacks from the SFPUC RWS for 2026 to 2030. Projected RWS demands for the District are calculated by subtracting the District's groundwater/in-lieu surface water supply through the RGSR from the District's total projected demand over the assumed drought period of 2026 through 2030.

Table 7-6 provides a comparison of the water supply sources available to the District with the total projected water use for an assumed drought period of 2026 through 2030. This includes current climate change conditions. As described in Section 4.4.1, the District's demand forecast model generates separate forecasts for: (1) normal weather conditions, (2) wet-year weather conditions, (3) single-year dry weather conditions, and (4) multi-year dry weather conditions. The DRA is based on the District's multi-year dry weather demand forecast.

Cal Water has developed a WSCP (**Appendix J**) to address water shortage conditions resulting from any cause (e.g., droughts, impacted distribution system infrastructure, regulatory-imposed shortage restrictions, etc.). The WSCP identifies a variety of actions that Cal Water will implement to reduce demands and further ensure supply reliability at various levels of water shortage.

Given the current uncertainty, Cal Water could update its DRA prior to the 2030 UWMP update if significant new information becomes available. CWC §10635(b) permits urban water suppliers to conduct an interim update or updates to their DRA within the five-year cycle of its UWMP update. Cal Water anticipates that by the 2030 UWMP update, SFPUC will provide more specific information about the AWS Program, with estimated water supply contributions from such projects. Additionally, Cal Water expects that SFPUC will provide more specific information and a refined estimate of the Bay-Delta Plan Amendment impacts to the SFPUC supply.

Cal Water recommends that users of its 2025 UWMP contact District staff for potential updates about its water supply reliability and the DRA before using the 2025 UWMP drought cutback projections for their planning projects and referencing the drought allocations.

Table 7-6. Five-Year Drought Risk Assessment Tables (DWR Table 7-5)

2026		Total
Total Water Use	(AF)	6,599
Total Supplies	(AF)	6,599
Surplus/Shortfall w/o WSCP Action		0
OPTIONAL: Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit	(AF)	
WSCP - use reduction savings benefit	(AF)	
Revised Surplus/(shortfall)		

2027		Total
Total Water Use (AF)	(AF)	6,571
Total Supplies (AF)	(AF)	6,571
Surplus/Shortfall w/o WSCP Action		0
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit (AF)	(AF)	
WSCP - use reduction savings benefit (AF)	(AF)	
Revised Surplus/(shortfall)		

2028		Total
Total Water Use (AF)	(AF)	6,546
Total Supplies (AF)	(AF)	6,546
Surplus/Shortfall w/o WSCP Action		0
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit (AF)	(AF)	
WSCP - use reduction savings benefit (AF)	(AF)	
Revised Surplus/(shortfall)		

2029		Total
Total Water Use (AF)	(AF)	6,524
Total Supplies (AF)	(AF)	6,524
Surplus/Shortfall w/o WSCP Action		0
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit (AF)	(AF)	
WSCP - use reduction savings benefit (AF)	(AF)	
Revised Surplus/(shortfall)		

2030		Total
Total Water Use (AF)	(AF)	7,286
Total Supplies (AF)	(AF)	7,286
Surplus/Shortfall w/o WSCP Action		0
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit (AF)	(AF)	
WSCP - use reduction savings benefit (AF)	(AF)	
Revised Surplus/(shortfall)		

Notes:

(a) The supply totals presented herein for 2026 through 2030 reflect that the SFPUC Base Year Multiple Dry Year Drought Allocations predict no shortfalls in multiple dry years through 2030; therefore, supplies are assumed to equal demand.

Chapter 8
Water Shortage Contingency Planning

☑ ***CWC § 10640***

(a) Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

The Water Shortage Contingency Plan (WSCP) for the California Water Service (Cal Water) South San Francisco District (also referred to herein as "District") is included in this Urban Water Management Plan (UWMP or Plan) as **Appendix J**. The WSCP serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will be implemented at various shortage level scenarios. The primary objective of the WSCP is to ensure that the District has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions.

Consistent with California Water Code (CWC) §10632, the WSCP includes six shortage levels to address shortage conditions ranging from up to 10 percent to greater than 50 percent shortage, identifies a suite of demand mitigation measures for the District to implement at each shortage level, and identifies procedures for the District to annually assess whether or not a water shortage is likely to occur in the coming year, among other things.

A summary of the key elements of the WSCP including water Shortage Levels and demand-reduction actions is shown in **Table 8-1**, **Table 8-2**, and **Table 8-3**. Additional details are provided in **Appendix J**.

For the South San Francisco District, the necessary demand reductions in Shortage Level 5 and Shortage Level 6 cannot be achieved with the following constraints: (1) maximum residential outdoor usage reduction of 100 percent, (2) a maximum commercial, industrial, and institutional (CII) indoor usage reduction of 30 percent, and (3) a maximum CII outdoor usage reduction of 100 percent. In such cases, Cal Water will have to balance the attainment of reductions to ensure health and safety and/or impacts to economic activity.

Table 8-1. Water Shortage Contingency Plan Levels (DWR Table 8-1)

☒	Check the box if the Supplier uses the Standard six levels of water shortage. Proceed to the next table.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%		
2	Up to 20%		
3	Up to 30%		
4	Up to 40%		
5	Up to 50%		
6	>50%		
Notes:			

Table 8-2. Supply Augmentation and Other Actions (DWR Table 8-2)

☒	Is the Supplier completing this table using the standard six levels? (yes/no)			
Shortage Level	**Supply Augmentation Methods and Other Actions by Water Supplier**	**How much is this going to reduce the shortage gap?**		**Additional Explanation or Reference (OPTIONAL)**
		Volume or Percentage	Shortage Gap Reduction Value	
			AF	
See note (a)	See note (a)	See note (a)	See note (a)	See note (a)

Notes:

(a) Cal Water evaluates water supply augmentation projects on an on-going basis. At this time, Cal Water does not have supply augmentation projects planned specifically to address water shortage conditions.

Table 8-3. Demand Reduction Actions (DWR Table 8-3)

<table>
<tr><td>X</td><td colspan="5">Is the Supplier completing this table using the standard six levels?</td></tr>
<tr><td rowspan="3">Shortage Level</td><td rowspan="3">Demand Reduction Actions</td><td colspan="2">How much is this going to reduce the shortage gap?</td><td rowspan="3">Additional Explanation or Reference (OPTIONAL)</td><td rowspan="3">Penalty, Charge, or Other Enforcement?</td></tr>
<tr><td rowspan="2">Volume or Percentage</td><td>Shortage Gap Reduction Value</td></tr>
<tr><td>AF</td></tr>
<tr><td>1</td><td>Other</td><td>Percentage</td><td>10%</td><td>1. Landscape - Limit landscape irrigation to specific times.
2. Other - Customers must repair leaks, breaks, and malfunctions in a timely manner.
3. Landscape - Restrict or prohibit runoff from landscape irrigation.
4. Prohibit application of potable water to outdoor landscapes within 48 hours of measurable rainfall. (Landscape - Other landscape restriction or prohibition).
5. Other - Prohibit use of potable water for washing hard surfaces.
6. Other – Require automatic shut off hoses (Other - Require automatic shut off hoses).
7. CII - Lodging establishments must offer opt out of linen service.
8. CII - Restaurants may only serve water upon request.
9. No watering of landscape of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission, the Department of Housing and Community Development, or other State agency (Landscape - Other landscape restriction or prohibition).
10. Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water (Water Features - Restrict water use for decorative water features, such as fountain).</td><td>Yes</td></tr>
</table>

X	Is the Supplier completing this table using the standard six levels?				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? Volume or Percentage	Shortage Gap Reduction Value AF	Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement?
1	Other	--	--	1. Expand Public Information Campaign. 2. Water Bill Inserts (*Improve Customer Billing*). 3. Promote online water waste reporting (*Expand Public Information Campaign*). 4. Expand Rebates or Giveaways of Plumbing Fixtures and Devices. (*Provide Rebates on Plumbing Fixtures and Devices*). 5. Expand Rebates for Landscape irrigation Efficiency (*Provide Rebates for Landscape irrigation Efficiency*). 6. Expand CII Water Use Surveys (*Offer Water Use Surveys*). 7. Expand Res Water Use Surveys (*Offer Water Use Surveys*).	No
2	Other	Percentage	20%	1. Continue with Shortage Level 1 restrictions and prohibitions except where superseded by more stringent restrictions and prohibitions. 2. Landscape - Limit landscape irrigation to specific days.[b] 3. CII - Prohibit the use of non-recirculating systems in all new conveyer car wash and commercial laundry systems (*CII – Other CII restriction or prohibition*). 4. Prohibit the use of single pass cooling systems in new connections (*Other*).	Yes
2	Other	--	--	1. Continue with Shortage Level 1 actions except where superseded by more stringent actions. 2. Water Efficiency Workshops, Public Events (*Other*).	Yes

X	Is the Supplier completing this table using the standard six levels?				
Shortage Level	**Demand Reduction Actions**	**How much is this going to reduce the shortage gap?**		**Additional Explanation or Reference (OPTIONAL)**	**Penalty, Charge, or Other Enforcement?**
		Volume or Percentage	**Shortage Gap Reduction Value** AF		
3	Other	Percentage	30%	1. Continue with Shortage Level 2 restrictions and prohibitions except where superseded by more stringent restrictions and prohibitions. 2. Other - Prohibit use of potable water for construction and dust control. 3. Prohibit use of potable water for street washing (*Other*) 4. Prohibit Filling Ornamental Lakes or Ponds (*Other water feature or swimming pool restriction*).	Yes
3	Other	--	--	1. Continue with Shortage Level 2 actions except where superseded by more stringent actions. 2. Home or Mobile Water Use Reports (*Expand Public Information Campaign*). 3. Decrease Frequency and Length of Line Flushing (*Decrease Line Flushing).* 4. Reduce System Water Loss. 5. Increase Water Waste Patrols/Enforcement (*Increase Water Waste Patrols*). 6. Implement Drought Rate Structure and Customer Water Budgets (Res)(*Implement or Modify Drought Rate Structure or Surcharge*). 7. Implement Drought Rate Structure and Customer Water Budgets (CII) (*Implement or Modify Drought Rate Structure or Surcharge).*	Yes

X	Is the Supplier completing this table using the standard six levels?				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement?
		Volume or Percentage	Shortage Gap Reduction Value AF		
4	Other	Percentage	40%	1. Continue with Shortage Level 3 restrictions and prohibitions except where superseded by more stringent restrictions and prohibitions. 2. Prohibit vehicle washing except with recirculated water or low-volume systems (*Other - Prohibit vehicle washing except at facilities using recycled or recirculating water).* 3. Prohibit use of water for recreational purposes such as water parks and the filling of pools (*Other water feature or swimming pool restriction).*	Yes
5	Other	Percentage	50%	1. Continue with Shortage Level 4 restrictions and prohibitions except where superseded by more stringent restrictions and prohibitions. 2. Require net zero demand increase on new water service connections (*Moratorium or Net Zero Demand Increase on New Connections).* 3. Prohibit single-pass cooling systems (*Other).*	Yes
5	Other	--	--	1. Continue with Shortage Level 4 actions except where superseded by more stringent actions. 2. Require Pool Covers (*Pools and Spas - Require covers for pools and spas).*	Yes

X	Is the Supplier completing this table using the standard six levels?				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? Volume or Percentage	Shortage Gap Reduction Value AF	Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement?
	Other	Percentage	60%	1. Continue with Shortage Level 5 restrictions and prohibitions except where superseded by more stringent restrictions and prohibitions. 2. Moratorium on new water service connections (*Moratorium or Net Zero Demand Increase on New Connections).* 3. Landscape - Prohibit all landscape irrigation.	Yes

Notes:

(a) In certain cases water use restrictions and consumption reduction actions implemented by Cal Water are not specifically called out in DWR's provided demand reduction actions list. The most appropriate DWR provided demand reduction action is included in italics in parenthesis.

(b) Watering restricted to no more than 3 days/week in Shortage Level 2 and Shortage Level 3; no more than 2 days/week in Shortage Level 4; no more than 1 day/week in Shortage Level 5.

(c) Residential water budgets of up to 30% for Shortage Level 3, up to 40% for Shortage Level 4, up to 50% for Shortage Level 5, up to 60% for Shortage Level 6.

(d) CII water budgets of up to 10% for Shortage Level 3, up to 20% for Shortage Level 4, up to 30% for Shortage Levels 5 and 6.

(e) In Shortage Level 5 CII reduction constraint increased to 50%.

(f) In Shortage Level 6 minimum residential indoor usage constraint decreased to 19 GPCD and CII reduction constraint increased to 55%.

(g) Estimates are not strictly additive because multiple actions may target the same end uses or customer behaviors, and combined implementation may result in overlapping or reinforcing effects. For example, irrigation restrictions and drought rate structures and customer water budgets both reduce outdoor water use and may achieve similar savings when implemented together, whereas public information and enforcement actions may improve compliance of other water use restrictions.

(h) The actions listed above were modeled using the Drought Response Tool (DRT), many of which actions are implemented across a number of Shortage Levels, some at increasing implementation levels, and presented in the District's 2025 Water Shortage Contingency Plan (WSCP). The estimated total percent savings with implementation of all demand reductions in:

- Shortage Level 1 is 10%, Shortage Level 2 is 20%, Shortage Level 3 is 30%, Shortage Level 4 is 40%, Shortage Level 5 is 50%, Shortage Level 6 is 60%.

Chapter 9
Demand Management Measures

☑ ***CWC § 10631 (e)***

Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) (A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

This chapter describes the demand management measures (DMMs) implemented by California Water Service (Cal Water) in its South San Francisco District (also referred to herein as the "District") to promote efficient water use and support long-term water supply reliability. These measures are organized in accordance with the categories identified in the Urban Water Management Planning Act and reflect both longstanding conservation practices and more recent programmatic developments.

Demand management plays a central role in Cal Water's resource planning strategy. As discussed in earlier chapters, historical reductions in per capita water use in the South San Francisco District have been driven by a combination of metering, conservation-oriented rate design, customer programs, and passive savings associated with plumbing codes and appliance efficiency standards. The measures described in this chapter build on those foundations and represent the primary tools available to manage future demand growth.

This chapter also provides important context for the State's Making Conservation a California Way of Life (MCCWL) regulation, which establishes new water use efficiency standards and performance requirements that extend beyond the Senate Bill (SB) X7-7 framework. While compliance with MCCWL-related Urban Water Use Objectives (UWUOs) is addressed in Chapter 5, many of the actions required to support future compliance—particularly expanded conservation programs, enhanced reporting, and implementation of Commercial, Industrial, and Institutional (CII) performance measures—are described in this chapter.

For public utilities such as Cal Water that are regulated by the California Public Utilities Commission (CPUC), the scope and pace of demand management implementation are closely tied to authorization by the CPUC. Accordingly, this chapter describes both the measures currently in place and the institutional, staffing, and regulatory considerations that influence Cal Water's ability to expand conservation activities in the District over time.

This chapter includes the following sections:

9.1 Water Waste Prevention Ordinances

9.2 Metering

9.3 Conservation Pricing

9.4 Customer Conservation Programs

9.5 Water Loss Management

9.6 Water Conservation Program Staffing

9.7 Summary and Implementation Considerations

9.1 Water Waste Prevention Ordinances

Cal Water's authority to enforce water waste prevention measures and water use restrictions is established and overseen by the CPUC through Rule 14.1 or Schedule 14.1. In addition, local governments within Cal Water districts may adopt ordinances regulating water use. Cal Water coordinates its water waste prevention efforts with applicable local jurisdictions. For the South San Francisco District, this coordination includes the Cities of South San Francisco, Daly City, and Town of Colma.

CPUC Rule 14.1 defines the District's Water Shortage Contingency Plan (WSCP; see **Appendix J**), including, but not limited to, permanent prohibitions on water waste and restrictions on water use. Prohibited water waste practices include, but are not limited to, the following:

- Use of potable water through a broken or defective plumbing fixture or irrigation system after Cal Water has provided written notice to repair the condition and the customer has failed to complete repairs within seven business days of receipt of the notice.

- Application of potable water to landscapes in a manner that results in runoff onto adjacent property, non-irrigated areas, sidewalks, roadways, parking lots, or structures.
- Use of a hose to wash vehicles—including cars, trucks, buses, boats, aircraft, and trailers—unless the hose is equipped with a shut-off nozzle or similar device that immediately stops water flow when not in use.

During water shortage conditions, Schedule 14.1 also authorizes Cal Water to implement additional water use restrictions and penalties, which may include the following:

- Limitations on outdoor irrigation, including restrictions on time of day and frequency of watering.
- Requirements to repair leaks, breaks, or malfunctions within five business days of written notification by Cal Water.
- Application of potable water to driveways, sidewalks, and other hardscapes.
- Use of potable water in water features unless the feature operates as a recirculating system.
- Application of potable water to outdoor landscapes during and within 48 hours following measurable rainfall.
- Serving drinking water in eating or drinking establishments unless requested by the customer.
- Irrigation of ornamental landscaping on public street medians.
- Irrigation of landscapes at newly constructed homes or buildings using potable water in a manner inconsistent with requirements established by the California Building Standards Commission or the Department of Housing and Community Development.
- Requirements for hotels and motels to provide guests with the option to decline daily laundering of towels and linens, with clear and prominent notice provided in each guest room.
- Limitations on filling ornamental lakes or ponds.
- Use of potable water for street cleaning, except for initial wash-down associated with construction activities.
- Use of potable water for construction-related purposes, such as dust control or backfill consolidation, unless no alternative water source or method is available.

These measures form a key component of the District’s overall demand management strategy and support compliance with state water conservation regulations.

9.2 Metering

☑ ***CWC § 526 (a)***

Notwithstanding any other provision of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract … shall do both of the following:

(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings constructed prior to January 1, 1992, located within its service area.

(2) On and after March 1, 2013, or according to the terms of the Central Valley Project water contract in operation, charge customers for water based on the actual volume of deliveries, as measured by a water meter.

☑ ***CWC § 527 (a)***

(a) An urban water supplier that is not subject to Section 526 shall do both of the following:

(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

All services in the South San Francisco District are metered. Meters are read monthly and are subject to routine maintenance and calibration to ensure accuracy. Customers are billed monthly based on metered water use.

Cal Water is also piloting automatic meter reading (AMR) and advanced metering infrastructure (AMI) in several of its districts. If deployed more broadly in the future, AMI would enhance the District's ability to detect leaks and other system issues and to notify customers of potential problems. AMI would also allow the provision of more timely and detailed water use information, supporting customer engagement as well as enabling customers to more closely monitor their own water usage and take appropriate actions to improve their water use efficiency.

9.3 Conservation Pricing

The CPUC reviews and authorizes the South San Francisco District water rates in a General Rate Case (GRC) every three years. Currently, the District uses a four-tier increasing block rate design for residential water use and a single-tier uniform rate design for non-residential use. The District provides rate assistance to lower income households through its Customer Assistance Program (CAP).

9.4 Customer Conservation Programs

Cal Water has a long-standing water-use efficiency program designed to reduce water use across residential and non-residential customer classes. The program includes landscape conversion incentives, irrigation equipment rebates, indoor device rebates, and customer education resources. Core programs available to residential customers are summarized below. Additional programs are offered to non-residential customers, and program offerings may be adjusted over time based on district-specific needs and program performance.

9.4.1 Current Customer Conservation Programs

Cal Water currently offers residential customers a range of water-use efficiency rebates, support services, and educational resources, including the following:

Turf Replacement

- Turf replacement rebates of up to $3 per square foot for removal of turf and conversion to California-friendly, low-water-use landscaping with efficient irrigation.

Irrigation Equipment Rebates

- Smart Landscape Tune-Up: A free, site-specific irrigation assessment that includes approved repairs to existing irrigation systems and installation of high-efficiency sprinkler nozzles and smart irrigation controllers, as appropriate.
- Smart irrigation controllers: Rebates of $125 per controller for weather- and soil-based irrigation controllers that adjust watering schedules based on site conditions.
- High-efficiency sprinkler nozzles: Rebates of $5 per nozzle for replacing conventional spray nozzles with high-efficiency nozzles that apply water more uniformly.

Indoor Device Rebates

- High-efficiency clothes washers: Rebates of $150 per washer for eligible models that use substantially less water than standard washers.
- MaP Premium high-efficiency toilets: Rebates of $50 per toilet for models using 1.1 gallons per flush or less.
- Conservation kits: Free kits containing water-saving plumbing devices, such as high-efficiency showerheads, faucet aerators, hose nozzles, leak detection tablets, and educational materials.

Online Resources

- Cal Water maintains a suite of online water-use efficiency resources to help customers understand and adopt water-saving practices.

School Education

- Cal Water's school education program includes the Aqua Adventures, A Splash of Creativity, H2Oath, and Water Smart Grant programs. Cal Water's Teacher Toolkit provides teachers with practical guidance and teaching rubrics for helping students learn about resource sustainability and the importance of using water wisely.

These programs are implemented through a combination of in-house staff and contracted service providers. Cal Water conducts ongoing outreach and customer engagement to promote awareness and participation. In addition, customer service representatives are trained to assist customers with high water use or billing concerns by directing them to appropriate conservation programs and educational resources.

9.4.2 Future Customer Conservation Programs

Cal Water understands that its conservation programming must be adapted to the new MCCWL regulatory requirements. For instance, meeting the rigorous outdoor water use standards will require transitioning substantial amounts of turf area to more water efficient landscaping. Therefore, outdoor conservation measures, including turf replacement incentives and support services, will need to be prioritized to drive future water savings. While targeted indoor efficiency measures have also been retained to maximize water savings, the focus remains heavily on outdoor improvements.

Achieving the required level of water savings in the District requires a rapid market transformation towards landscape efficiency. Typically, market transformations can span decades as they require shifting both consumer behaviors and supply chain dynamics, even with incentives. Early adopters have already made necessary adjustments, but many property owners have not yet embraced this change. Landscape transformation represents a significant departure from traditional practices, often perceived as complex and undesirable by many. Overcoming this resistance and encouraging participation will be challenging.

A crucial aspect is convincing customers that embracing landscape efficiency enhances, rather than detracts from, the value of their property. The traditional view equates lush, green lawns with success and economic status. Therefore, changing this deep-seated perception to appreciate the aesthetics and benefits of water-sustainable landscaping is essential.

Given the urgency to transform landscapes without the luxury of time, Cal Water faces several challenges that require:

- Robust customer education.
- High levels of customer motivation.
- Accessibility to landscape design and plant knowledge.
- Considerable labor investment.
- Significant financial resources.

To increase customer engagement, Cal Water's programs must offer compelling incentives, clear communication about the required processes, and substantial support to guide customers through these changes. **Table 9-1** outlines the key barriers to successful deployment of landscape transformation programs.

Table 9-1. Barriers and Customer Requirements of Landscape Transformation Programs

Landscape Transformation Barriers	Customer Requirements
• Customers lack motivation to reduce their water use. • Most customers are unaware of, or overwhelmed by, landscape efficiency programs. • Landscape efficiency solutions must be "customized" for each property. • Water suppliers do not currently have a deep understanding of their customers. • Agencies do not possess the resources to uniquely target and engage their customers.	• Customers desire to have a beautiful landscape. • Each customer has a different vision of what comprises landscape beauty. • Most customers have considered converting their lawn, but they need help to accomplish this. • Customers confirmed that design support is the most important need. • Incentives are necessary to pull the trigger on converting their lawn. • There are a number of misperceptions that disconnect the customer from their actual water usage. They believe most water is used indoors; that they already have efficient equipment; and saving money is the main driver.

Many water users currently do not prioritize landscape water efficiency, lacking both understanding of its urgency and motivation to implement drastic changes.

Cal Water's strategy is to significantly enhance education about the need for outdoor water use reduction and how to achieve it. Fortunately, studies indicate a growing customer interest in aesthetically pleasing, water-efficient landscaping. Many property owners consider turf removal but require assistance to proceed. Time and cost are significant barriers.

To effectively encourage this shift, Cal Water must not only convince customers of the necessity of these changes but also provide them with extensive support—from design assistance to continuous engagement and resources. Additionally, incentives must be compelling enough to convince customers of the value of investing in these changes.

Success will depend on expanding education, services, and incentives to accelerate market transformation. To support this enhanced program structure, Cal Water must accordingly increase its staff, marketing efforts, operational support, and budget to meet these elevated service demands.

In addition to turf replacement, Cal Water has identified a suite of customer conservation programs with demonstrated water-saving potential and meaningful market impact. Together, these measures represent a comprehensive portfolio that—subject to adequate staffing and funding—is intended to support achievement of the water use reduction levels required under the MCCWL regulation. The measures summarized in **Table 9-2** are representative of Cal Water's current conservation approach. As program performance is evaluated and technologies evolve, Cal Water may refine this portfolio by modifying, replacing, or adding measures to ensure continued effectiveness and cost-efficient water savings.

Table 9-2. Representative Conservation Measures with Significant Savings Potential

Conservation Measure	Remaining Potential	Reasoning for Selecting
Home Water Budgets	All single-family homes	• Identifies customers with inefficient usage, thus allowing better targeting of programs and assistance. • Provides a foundational step in educating customers with powerful and personal information that identifies site-specific efficiency opportunities. • As an educational tool alone, shown to reduce water use.
Outdoor Efficiency		
Turf Replacement	All properties with remaining turf	• Required measure for meeting landscape and irrigation standards. • Huge remaining opportunity. • Long lifespan measure.

Conservation Measure	Remaining Potential	Reasoning for Selecting
Sprinkler Tune-up	All properties with remaining turf	• Nearly all irrigation systems need repair. • Repairs are necessary before efficiency upgrades are made otherwise new products will not work as designed. • High customer demand.
Smart Controllers	All properties with irrigation	• High customer receptivity due to technical aspect of device. • Reduces overwatering by providing the appropriate amount of water based on the local weather.
Pressure Regulating Spray Heads	All properties with popup spray heads	• Millions of non-pressure regulating spray heads. • Reduces water use due to high water pressure and low head drainage.
High Efficiency Sprinkler Nozzles	All properties with popup spray heads	• Millions of high flow nozzles are available for retrofit. • Solution for customers electing to keep turf. • Reduces runoff. • High cost effectiveness. • Generally easy retrofit.
Indoor Efficiency		
Premium Efficiency Toilets	Nearly 50% of existing fixtures are 1.6 GPF or above	• Reliable 25-year life of water savings. • Easy retrofit.
High Efficiency Clothes Washers	All single-family homes and multi-family in-unit washers	• Customers prefer high efficiency models. • Easy to administer. • Washers have 10–12-year life

9.4.3 CII Performance Measures

The MCCWL regulations require urban retail water suppliers to implement a suite of actions intended to improve CII water use efficiency. These actions include converting certain mixed-use meters (MUMs) serving large landscaped areas to dedicated irrigation meters (DIMs), installing approved in-lieu technologies where DIM installation is not pursued, and implementing a broad set of CII best management practices (BMPs). The regulations also require suppliers to classify all CII accounts using a prescribed framework and to identify and catalog large, disclosable buildings.

Importantly, implementation of CII Performance Measures is required regardless of whether a supplier is otherwise projected to comply with its UWUO. As a result, compliance with these requirements will require substantial staffing, technical, and financial resources independent of UWUO compliance outcomes. The following subsections summarize the primary CII Performance Measure requirements applicable to the District.

DIM or In-Lieu Technology Installation

The MCCWL regulation requires Cal Water to install DIMs or implement approved in-lieu technologies at all CII sites served by MUMs that irrigate one-half acre or more of landscaped area.

Installation of DIMs involves significant cost and logistical complexity for both Cal Water and its customers. Activities include site assessments, permitting, meter and backflow device installation, account setup, integration of additional meter reads, and ongoing maintenance and calibration. In recognition of these challenges, the regulations allow suppliers to satisfy the requirement through adoption of approved in-lieu technologies.

Approved in-lieu technologies include the following:

1. Water budget–based rate structures
2. Water budget–based management approaches not tied to rates
3. Hardware upgrades that enhance irrigation performance, including technologies that allow identification of outdoor water use, smart irrigation controllers, and pressure-regulated spray heads
4. Remote sensing technologies
5. Landscape plant palette transformation programs, including green infrastructure such as swales or rain gardens that reduce irrigation demand
6. Other efficient water use technologies, subject to demonstration of improved water use efficiency

For sites utilizing in-lieu technologies, the regulations further require Cal Water to provide education and communication services, irrigation system maintenance support (including audits and testing), and site-specific irrigation scheduling guidance. As a result, Cal Water will be required to take on an active role in supporting irrigation management at CII sites with large, landscaped areas. In addition, Cal Water must calculate landscape water budgets for these sites using prescribed methodologies by June 30, 2029.

CII Account Classification

The MCCWL regulation requires Cal Water to classify all CII accounts using a regulatory classification system that includes U.S. Environmental Protection Agency's (EPA's) 19 ENERGY STAR Portfolio Manager property types, along with additional categories for water recreation facilities, vehicle washes, and commercial laundries. Following classification, Cal Water must identify customers whose water use falls within the 80th to 97.5th percentiles within each category to support targeted delivery of BMPs.

CII Disclosable Buildings

Under the MCCWL regulation, Cal Water is required to identify all disclosable buildings within its service area and provide water use reports upon request. Disclosable buildings are defined as non-manufacturing buildings exceeding 50,000 square feet.[42] Identification of these buildings was required by January 1, 2025, and every January 1 every year thereafter.

Upon request by a building owner or authorized agent, Cal Water must provide water use reports compatible with the EPA's ENERGY STAR Portfolio Manager Data Exchange Services. Reports must include detailed monthly and aggregated usage data for at least the preceding twelve months for each meter serving the building.

Compliance with this requirement will require development of new processes and reporting systems capable of integrating billing data with EPA reporting platforms. Meeting these requirements will necessitate coordinated effort across Cal Water's conservation, billing, and information technology departments.

CII BMPs

The MCCWL regulation requires implementation of CII BMPs for customers in the highest water-use percentiles. Cal Water must implement one BMP from each category (five total) for customers in the 80th percentile of usage and two BMPs from each of five categories (ten total) for customers in the 97.5th percentile of usage. The categories of BMPs include outreach and education, incentives, landscape practices, collaboration and coordination, and operational practices, with a range of eligible actions specified in the regulations.

Selection and implementation of BMPs will be guided by customer characteristics, site conditions, and feasibility, and will require substantial program oversight, customer coordination, and tracking.

[42] For the precise definition of a disclosable building, see California Code of Regulations, title 20, section 1683.

CII Performance Measures and UWUO Compliance

While the CII Performance Measures are an integral component of the MCCWL regulatory framework, water savings achieved through these measures do not directly contribute toward meeting the District's UWUO reduction targets. Under the regulation, CII Performance Measures contribute to UWUO compliance only through reductions in water use measured by DIMs. Cal Water does not currently utilize a DIM meter classification, and DIM water use is therefore not a component of the District's UWUO calculation. As a result, although implementation of CII Performance Measures is mandatory and expected to yield water use efficiency benefits, the associated water savings will not be credited toward UWUO compliance for the District.

9.5 Water Loss Management

Cal Water conducts annual distribution system water loss audits using the American Water Works Association (AWWA) Free Water Audit Software and reports the results to the California Department of Water Resources.[43]

To guide ongoing water loss management, Cal Water has developed a Water Loss Control Compliance Plan and a Water Loss Control Policy. These documents provide a framework for:

- Meeting current and future CPUC and state water loss standards and regulatory requirements;
- Improving audit data quality and validation scores; and
- Identifying and implementing cost-effective water loss control actions.

Cal Water has also conducted a comprehensive assessment comparing each district's current and projected distribution system water loss to applicable water loss standards. The results show that the South San Francisco District's distribution system loss rates currently are below the state-established efficient water loss standards applicable to the District pursuant to SB 555 and are projected to remain below these levels through the 2050 planning horizon.

9.6 Water Conservation Program Staffing

Cal Water's Conservation Department is currently staffed by nine full-time equivalent (FTE) positions. In light of mandated UWUO reductions and the extensive reporting and performance requirements associated with the MCCWL regulation, Cal Water has identified a need to expand its conservation program staffing.

[43] Completed water audits may be accessed at: https://wuedata.water.ca.gov/

While the use of consultants could provide short-term support, the ongoing and long-term nature of the regulatory requirements makes exclusive reliance on temporary staffing impractical. In particular, the data analysis, program tracking, and reporting obligations associated with the MCCWL framework require sustained institutional knowledge and continuity that are best supported through permanent staff.

Cal Water's staffing strategy therefore emphasizes strengthening internal capacity to manage conservation programs, lead outreach and customer engagement efforts, support customers, oversee ongoing CII activities, and fulfill reporting and compliance obligations. Consultants are expected to continue to play a targeted role by providing short-term, specialized expertise as needed, allowing flexibility while maintaining a strong in-house program foundation.

Consistent with this strategy, Cal Water has proposed in its 2024 GRC an increase in Conservation Department staffing from nine to 15 positions. The six requested positions and their primary responsibilities are summarized in **Table 9-3**. At the time this UWMP was prepared, a final decision in the 2024 GRC had not yet been issued. As a result, it remains uncertain whether the requested staffing increases necessary to support compliance with state conservation requirements will be authorized.

Table 9-3. Proposed New Conservation Staff Positions

New Position	Responsibilities
Conservation Manager	• Program development/implementation/management • Budgeting • Staff oversight
Regional Conservation Coordinator (2 positions)	• Regional program implementation • District coordination • Customer engagement
Water Resource Sustainability Analyst	• Program tracking/analysis • Compliance assessment/reporting • Data management
Water Resource Sustainability Assistant	• Data entry • Analysis support • Compliance reporting support
Conservation Assistant	• Program application/rebate processing • Customer assistance • Data entry/processing

9.7 Summary and Implementation Considerations

Cal Water has developed and implemented a comprehensive suite of DMMs in the South San Francisco District that address each category identified in the Urban Water Management

Planning Act. These measures include water waste prevention and enforcement, universal metering, conservation-oriented pricing, public education and outreach, active management of distribution system water losses, and a broad portfolio of customer conservation programs. Collectively, these actions have contributed to substantial long-term reductions in per capita water use and have positioned the South San Francisco District well relative to historical conservation benchmarks.

Looking ahead, demand management will play an increasingly important role in meeting the requirements of the MCCWL regulation and supporting water supply reliability. While many conservation-driven reductions are already embedded in the District's baseline demand projections—through authorized programs, plumbing codes and appliance standards, and implementation of conservation rates—additional reductions are anticipated to be needed in future years as state efficiency standards become more stringent.

For Cal Water, the ability to expand conservation programs, modify rate structures, and implement additional demand management actions is contingent on CPUC authorization. Program funding levels, staffing capacity, and implementation timelines are therefore closely linked to regulatory approval processes, including GRC proceedings. The measures described in this chapter represent both Cal Water's current conservation framework and the foundation upon which expanded efforts may be built, subject to future CPUC decisions.

In this context, this chapter provides a practical and forward-looking assessment of how demand management measures support water use efficiency, regulatory compliance, and long-term resource reliability in the District, while acknowledging the institutional and regulatory factors that shape implementation over the UWMP planning horizon.

Chapter 10
Plan Adoption, Submittal, and Implementation

☑ ***CWC § 10621 (b)***

Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

This chapter provides information on a public hearing, the adoption process for the Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP), the adopted UWMP and WSCP submittal process, plan implementation, and the process for amending the adopted UWMP or WSCP. This chapter includes the following sections:

10.1 Inclusion of All 2025 Data

10.2 Notice of Public Hearing

10.3 Public Hearing and Adoption

10.4 Plan Submittal

10.5 Public Availability

10.6 Notification of Public Utilities Commission

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

10.1 Inclusion of All 2025 Data

This UWMP includes the water use and planning data for the entire calendar year of 2025, per the California Department of Water Resources' (DWR's) 2025 UWMP Guidebook.

10.2 Notice of Public Hearing

☑ ***CWC § 10642***

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

Prior to adopting the Plan, California Water Service (Cal Water) held a virtual public hearing to present information on its South San Francisco District (also referred to herein as the "District") 2025 UWMP and WSCP on June 2, 2026, 5:30 PM.

Relevant entities were notified of the UWMP and WSCP review at least 60 days prior to the public hearing, including: (1) cities and counties, and (2) the public. These same entities were noticed again with the specific date, time and location of the hearing at least two weeks prior to the public hearing. The notice to the public, as specified in Government Code 6066, and letters to relevant agencies can be found in **Appendix C** and **Appendix B**, respectively.

10.2.1 Notice to Cities and Counties

☑ ***CWC § 10631 (a)*** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

Table 10-1 lists the cities, counties, and agencies that were notified. Copies of these letters are provided in **Appendix B**.

Table 10-1. Notification to Cities and Counties (DWR Table 10-1)

City Name	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing **Drop Down (yes/no)**
Add additional rows as needed		
Town of Colma	Yes	Yes
City of South San Francisco	Yes	Yes
City of Daly City	Yes	Yes
City of San Carlos	Yes	Yes
City of San Mateo	Yes	Yes
County Name **Drop Down List**	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing **Drop Down (yes/no)**
Add additional rows as needed		
San Mateo County	Yes	Yes

Notes:
(a) In addition to the cities and counties notified above, the District also notified the Bay Area Water Supply and Conservation Agency (including all member agencies), the San Francisco Public Utilities Commission, Daly City Department of Water and Wastewater Resources, and the Tuolumne River Trust.

10.2.2 Notice to the Public

Notification to the public and to cities and counties also provided instructions on how to view the 2025 UWMP and WSCP prior to the hearing, the revision schedule, and contact information of the UWMP and WSCP preparer. A copy of this notice is included in **Appendix C**.

10.3 Public Hearing and Adoption

☑ ***CWC § 10608.26***

(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.

☑ ***CWC § 10621 (b)***

Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

The deadline for public comments on the UWMP and WSCP was June 5, 2026, three days after the public hearing. The final Plan was formally adopted by Cal Water's Vice President, Water Resources Planning and Sustainability on June 26, 2026, and was submitted to California Department of Water Resources (DWR) within 30 days of approval. **Appendix L** presents a copy of the signed Resolution of Plan Adoption. **Appendix B** contains the following:

- Letters sent to and received from various agencies regarding this plan, and
- Correspondence between Cal Water and participating agencies.

10.4 Plan Submittal

☑ ***CWC § 10621 (f)***

(1) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.

☑ ***CWC § 10635 (c)***

The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

☑ ***CWC § 10644 (a)***

(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(2) The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1) shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

This UWMP and WSCP were submitted to DWR within 30 days of adoption and by the July 1, 2026 deadline. The submittal was done electronically through DWR's Water Use Efficiency Data Portal, an online submittal tool. The adopted UWMP and WSCP were also sent to the California State Library and to the cities and counties listed in **Table 10-1** no later than 30 days after adoption.

10.5 Public Availability

☑ ***CWC § 10645***

(a) Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

(b) Not later than 30 days after filing a copy of its water shortage contingency plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

On May 1, 2026, an electronic version of the draft 2025 UWMP and WSCP were made available for review by visiting Cal Water's website:

https://www.calwater.com/conservation/uwmp2025.

10.6 Notification of Public Utilities Commission

☑ ***CWC § 10621 (c)***

An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.

Cal Water is an urban water supplier regulated by the California Public Utilities Commission. Cal Water will include the South San Francisco District's 2025 UWMP and WSCP as part of its General Rate Case Filings.

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

☑ ***CWC § 10644 (b)***

If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

If either the 2025 UWMP or WSCP are amended, each of the steps for notification, public hearing, adoption and submittal will also be followed for the amended Plan or WSCP.

Appendix A: UWMP Act Checklist

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and overview	n/a	Chapter 1 - Chapter 10 (pdf pg. 15–160)
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the Supplier’s plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a Supplier may also choose to include a simple description at the beginning of each chapter.	Plan preparation	n/a	Section 1.6 (pdf pg. 18)
x	x	Section 2.1	10620(b)	Every person that becomes a Supplier shall adopt UWMP within one year after it has become a Supplier.	Plan preparation	n/a	Section 2.4 (pdf pg. 25)
x	n/a	Section 2.5	10644	Supplier shall report the Public Water Systems number, volume of delivered water, and number of connections that are included in this UWMP.	Plan preparation	2-1	Section 2.1 (pdf pg. 23) Table 2-1 (pdf pg. 24)
x	x	Section 2.5	10644	Supplier shall report if this UWMP is an individual UWMP and whether the Supplier belongs to a regional UWMP or regional alliance.	Plan preparation	2-2	Section 2.3 (pdf pg. 24) Table 2-2 (pdf pg. 25)
x	x	Section 2.5	10644	Supplier shall report whether the data is in fiscal or calendar years and the units of measure used for reporting water volumes.	Plan preparation	2-3	Section 2.4 (pdf pg. 25) Table 2-3 (pdf pg. 26)
x	x	Section 2.4	10642	Provide supporting documentation that the Supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan preparation	n/a	Section 2.5.2 (pdf pg. 28) Section 10.2 (pdf pg. 156) Appendix C (pdf pg. 178)
x	x	Section 2.4.2	10620(d)(3)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other Suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan preparation	n/a	Section 2.5 (pdf pg. 27) Section 10.2 (pdf pg. 156) Appendix B (pdf pg. 174)

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	n/a	Section 2.4.1	10631(h)	Retail Suppliers will include documentation that they have provided their Wholesale Supplier(s)—if any—with water use projections from that source.	Plan preparation	2-4 R	Section 2.5.1 (pdf pg. 27) Table 2-4 (pdf pg. 28) Section 4.5 (pdf pg. 57)
n/a	x	Section 2.4.1	10631(h)	Wholesale Suppliers will provide their Suppliers with identification and quantification of the existing and planned sources of water available from the Wholesale Supplier to the Supplier during various water year types.	Plan preparation	2-4 W	N/A
x	x	Chapter 3.0	10631(a)	Describe the Supplier service area.	System description	n/a	Chapter 3 (pdf pg. 31)
x	x	Section 3.3	10631(a)	Describe the climate of the Supplier's service area.	System description	n/a	Section 3.3 (pdf pg. 33) Figure 3-2 (pdf pg. 34)
x	x	Section 3.4.1	10631(a)	Provide the current and projected service area populations for 2030, 2035, 2040, 2045 and optionally 2050.	System description	3-1	Section 3.4 (pdf pg. 34) Table 3-1 (pdf pg. 35)
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the Supplier's water management planning.	System description	n/a	Section 3.4 (pdf pg. 34) Table 3-2 (pdf pg. 36)
x	x	Section 3.5	10631(a)	Describe the land uses within the service area… include the current and projected land uses within the existing or anticipated service area affecting the Supplier's water management planning. Describe the land uses within the service area.	System description and baselines	n/a	Section 3.5 (pdf pg. 37) Table 3-1 (pdf pg. 35)
x	Optional	Sections 4.2.3 and 4.2.4	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System water use	4-1 and 4-2	Section 4.2 (pdf pg. 40) Table 4-1 (pdf pg. 42) Table 4-2 (pdf pg. 45)

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	Optional	Section 4.3.1	10631(d)(3)(A)	Report the distribution system water loss for each of the five years preceding the plan update.	System water use	4-5	Section 4.3.1 (pdf pg. 52) Table 4-5 (pdf pg. 52)
x	n/a	Section 4.3.2	10631(d)(3)(C)	Retail Suppliers shall provide data to show the distribution loss standards were met.	System water use	4-6	Section 4.3.2 (pdf pg. 52) Table 4-6 (pdf pg. 54)
x	n/a	Section 4.2.5.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the Supplier.	System water use	4-3	Section 4.2.2 (pdf pg. 44) Table 4-3 (pdf pg. 47)
x	n/a	Section 4.2.5.3	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System water use	4-3	Section 4.2.3(1) (pdf pg. 47) Table 4-4 (pdf pg. 50)
x	n/a	Section 4.2.5.3	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System water use	4-3	Section 4.2.3(1) (pdf pg. 47) Table 4-4 (pdf pg. 50)
x	n/a	Section 4.2.5.3	10631(d)(4)(B)(ii)	To the extent that a Supplier reports the information described in subparagraph (A), an urban water Supplier shall… Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.	System water use	4-3	Section 4.2.3(1) (pdf pg. 47) Table 4-4 (pdf pg. 50)
x	x	Section 4.2.5.6	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System water use	n/a	Section 4.4 (pdf pg. 55) Section 7.5 (pdf pg. 129) Table 4-7 (pdf pg. 57) Table 7-5 (pdf pg. 120)
n/a	x	Section 5.1	10608.36	Wholesale Suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their Retail Suppliers achieve targeted water use reductions.	Baselines and targets	n/a	N/A

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	n/a	Section 5.2	10608.4	Retail Suppliers shall report on their compliance in meeting their water use targets. Reporting requirements will vary depending on whether the Supplier: - Was considered an urban retail water supplier in 2020, - Met its 2020 target in 2020, or - Was part of a merger or consolidation since 2020. Chapter 5 Subsections 5.2.1, 5.2.2, and 5.2.3	Baselines and targets	5-1	Chapter 5 (pdf pg. 59) Table 5-1 (pdf pg. 60)
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System supplies	n/a	Section 6.9 (pdf pg. 91) Table 6-9
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, including changes in supply due to climate change.	System supplies	n/a	Chapter 7 (pdf pg. 103)
x	x	Section 6.2.2	10631(b)(4)(C)	Indicate whether groundwater is an existing or planned source of water available to the Supplier. If groundwater is identified as an existing or planned source of water… (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years.	Water supplies and recycled water	6-1	Section 6.2 (pdf pg. 72) Table 6-1 (pdf pg. 78)
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the Supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System supplies	n/a	Section 6.2 (pdf pg. 72)
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System supplies	n/a	Section 6.2.1 (pdf pg. 72)
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the Supplier has the legal right to pump.	System supplies	n/a	Section 6.2.1 (pdf pg. 72)
x	x	Section 6.2.2	10631(b)(4)(B)	For unadjudicated basins… (include) information as to whether DWR has identified the basin as a high- or medium priority basin in the most current official departmental bulletin…	Water supplies and recycled water	n/a	Section 6.2.1 (pdf pg. 72)

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Section 6.2.2	10631(b)(4)(B)	For unadjudicated basins… describe efforts by the Supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	Water supplies and recycled water	n/a	Section 6.2.3 (pdf pg. 77)
x	x	Section 6.2.2.	10631(b)(4)(C)	If groundwater is identified as an existing or planned source of water… (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years.	System supplies	n/a	Section 6.2.5 (pdf pg. 72) Table 6-1 (pdf pg. 78)
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System supplies	6-9	Section 6.9 (pdf pg. 91) Table 6-9
x	x	Section 6.1	10631(b)	Identify and quantify the existing and planned sources of water available for 2025, 2030, 2035, 2040, 2045 and optionally 2050.	System supplies	6-8 and 6-9	Section 6.9 (pdf pg. 91) Table 6-9
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System supplies	n/a	Section 6.7 (pdf pg. 87)
x	n/a	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the Supplier’s service area with quantified amount of collection and treatment and the disposal methods.	System supplies (recycled water)	6-2	Section 6.5.2 (pdf pg. 79) Table 6-2 (pdf pg. 81)
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System supplies (recycled water)	6-3	Section 6.5.2 (pdf pg. 79) Table 6-3 (pdf pg. 82)
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the Supplier's service area.	System supplies (recycled water)	6-4	Section 6.5.3 (pdf pg. 83) Table 6-4 (pdf pg. 84)

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System supplies (recycled water)	6-4	Section 6.5.3 (pdf pg. 83) Table 6-4 (pdf pg. 84)
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the Supplier's service area at the end of 5, 10, 15, and 20 years, and describe the actual use of recycled water in comparison to uses previously projected.	System supplies (recycled water)	6-4 and 6-5	Section 6.5.3 (pdf pg. 83) Table 6-4 (pdf pg. 84) Table 6-5 (pdf pg. 85)
x	x	Section 6.2.5	10633(f)	Describe the actions that may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System supplies (recycled water)	6-6	Section 6.5.4 (pdf pg. 85) Table 6-6 (pdf pg. 86)
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the Supplier's service area.	System supplies (recycled water)	n/a	Section 6.5.4 (pdf pg. 85) Table 6-6 (pdf pg. 86)
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System supplies	6-7	Section 6.6 (pdf pg. 87)
x	x	Section 6.2.10	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water Supplier to address water supply reliability in average, single-dry, and for a period of drought lasting five consecutive water years.	System supplies	6-7	Section 6.8 (pdf pg. 88) Table 6-7 (pdf pg. 90)
x	x	Section 6.3 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a Supplier can readily obtain.	System suppliers, energy intensity	O-1A, O-1B, O-1C, and O-2	Section 6.11 (pdf pg. 100) Table 6-10 (pdf pg. 101)
x		Section 7.1	10634	Provide information on the quality of existing sources of water available to the Supplier and the manner in which water quality affects water management strategies and supply reliability.	Water supply reliability assessment	n/a	Section 7.1.2 (pdf pg. 112)

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Section 7.2	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the Supplier with the total projected water use over the next 20 years.	Water supply reliability assessment	7-2, 7-3, and 7-4	Section 7.2 (pdf pg. 115) Section 7.3 (pdf pg. 118) Table 7-1 (pdf pg. 116) Table 7-2 (pdf pg. 118) Table 7-3 (pdf pg. 119) Table 7-4 (pdf pg. 120)
x	x	Section 7.2.3	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water supply reliability assessment	n/a	Section 7.4 (pdf pg. 128)
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water supply reliability assessment	n/a	Section 7.5 (pdf pg. 129) Table 7-5 (pdf pg. 120)
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive years.	Water supply reliability assessment	n/a	Section 7.5.1 (pdf pg. 129)
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water supply reliability assessment	n/a	Section 7.5.2 (pdf pg. 129)
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the Supplier with the total projected water use for the drought period.	Water supply reliability assessment	7-5	Section 7.5 (pdf pg. 129) Table 7-5 (pdf pg. 120)
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water supply reliability assessment	n/a	Section 7.5 (pdf pg. 129) Table 7-5 (pdf pg. 120)
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water shortage contingency planning	n/a	Appendix J (pdf pg. 339)

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Chapter 8	10632(a)(1)	Provide an analysis of water supply reliability (from Guidebook Chapter 7) in the WSCP.	Water shortage contingency planning	n/a	Appendix J (Chapter 2) (pdf pg. 344)
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the Supplier will use each year to determine its water reliability.	Water shortage contingency planning	n/a	Appendix J (Chapter 3) (pdf pg. 345)
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the Supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water shortage contingency planning	n/a	Appendix J (Chapter 3) (pdf pg. 345)
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10%, 20%, 30%, 40%, 50% shortage, and greater than 50% shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water shortage contingency planning	n/a	Appendix J (Chapter 4) (pdf pg. 349)
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing WSCP that uses different water shortage levels must cross reference their categories with the six standard categories.	Water shortage contingency planning	8-1	Appendix J (Chapter 4) (pdf pg. 349)
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with WSCPs that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water shortage contingency planning	8-2	Appendix J (Section 5.2) (pdf pg. 359)
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water shortage contingency planning	8-3	Appendix J (Section 5.1) (pdf pg. 350)
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water shortage contingency planning	8-2	Appendix J (Section 5.3) (pdf pg. 359)

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to State-mandated prohibitions are appropriate to local conditions.	Water shortage contingency planning	Table 8-3	Appendix J (Section 5.4, Table 5-1) (pdf pg. 359, 353)
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water shortage contingency planning	8-2 and 8-3	Appendix J (Section 5.1, Section 5.2, Section 5.7, Table 5-1) (pdf pg. 350, 359, 361, 353)
x	x	Section 8.4.6	10632.5	The UWMP shall include a seismic risk assessment and mitigation plan.	Water shortage contingency plan	n/a	Appendix J (Section 5.6) (pdf pg. 361)
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water shortage contingency planning	n/a	Appendix J (Chapter 6) (pdf pg. 362)
x	x	Section 8.5	10632(a)(5)(B), 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water shortage contingency planning	n/a	Appendix J (Chapter 6) (pdf pg. 362)
x	n/a	Section 8.6	10632(a)(6)	Retail Supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water shortage contingency planning	n/a	Appendix J (Chapter 7) (pdf pg. 363)
x	x	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the Supplier to enforce shortage response actions.	Water shortage contingency planning	n/a	Appendix J (Chapter 8) (pdf pg. 367)
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the Supplier will declare a water shortage emergency per Water Code Chapter 3. Water Shortage Emergencies.	Water shortage contingency planning	n/a	Appendix J (Chapter 8) (pdf pg. 367)

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the Supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water shortage contingency planning	n/a	Appendix J (Chapter 8) (pdf pg. 367)
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water shortage contingency planning	n/a	Appendix J (Chapter 9) (pdf pg. 368)
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water shortage contingency planning	n/a	Appendix J (Chapter 9) (pdf pg. 368)
x	n/a	Section 8.8	10632(a)(8)(C)	Retail Suppliers must describe the cost of compliance with Water Code Chapter 3.3, Excessive Residential Water Use During Drought.	Water shortage contingency planning	n/a	Appendix J (Chapter 9) (pdf pg. 368)
x	n/a	Section 8.9	10632(a)(9)	Retail Suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data are collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water shortage contingency planning	n/a	Appendix J (Chapter 10) (pdf pg. 369)
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the WSCP to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water shortage contingency planning	n/a	Appendix J (Chapter 11) (pdf pg. 370)
x	n/a	Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water shortage contingency planning	n/a	Appendix J (Section 5.1.1, Table 5-1) (pdf pg. 352, 353)
x	x	Section 8.12	10632(c)	Make available the WSCP to customers and any city or county where it provides water within 30 days after adoption of the plan.	Water shortage contingency planning	n/a	Appendix J (Chapter 12) (pdf pg. 371)

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	n/a	Sections 9.1	10631(e)(1)	Retail Suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand management measures	n/a	Chapter 9 (pdf pg. 141)
n/a	x	Sections 9.2	10631(e)(2)	Wholesale Suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and Supplier assistance program.	Demand management measures	n/a	N/A
x	n/a	Chapter 10	10608.26(a)	Retail Suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan adoption, submittal, and implementation	n/a	Section 2.5.2 (pdf pg. 28) Section 10.3 (pdf pg. 158)
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the Supplier provides water that the Supplier will be reviewing the UWMP and considering amendments or changes to the plan.	Plan adoption, submittal, and implementation	10-1	Section 2.5.2 (pdf pg. 28) Section 10.3 (pdf pg. 158)
x	x	Section 10.4	10621(f)	Each urban water Supplier shall update and submit its 2025 plan to DWR by July 1, 2026.	Plan adoption, submittal, and implementation	n/a	Section 2.4 (pdf pg. 25) Section 10.4 (pdf pg. 159)
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the Supplier made the UWMP and WSCP available for public inspection, published notice of the public hearing, and held a public hearing about the UWMP and WSCP.	Plan adoption, submittal, and implementation	n/a	Chapter 10 (pdf pg. 155) Appendix C (pdf pg. 178)
x	x	Section 10.2.2	10642	The Supplier is to provide the time and place of the hearing to any city or county within which the Supplier provides water.	Plan adoption, submittal, and implementation	10-1	Section 10.2.1 (pdf pg. 156) Table 10-1 (pdf pg. 157) Appendix B (pdf pg. 174)
x	x	Section 10.3.2	10642	Provide supporting documentation that the UWMP and WSCP has been adopted as prepared or modified.	Plan adoption, submittal, and implementation	n/a	Section 10.3 (pdf pg. 158) Appendix L (pdf pg. 458)

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Section 10.4	10644(a)	Provide supporting documentation that the Supplier has submitted their UWMP to the California State Library.	Plan adoption, submittal, and implementation	n/a	Section 10.4 (pdf pg. 159)
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the Supplier has submitted their UWMP to any city or county within which the Supplier provides water no later than 30 days after adoption.	Plan adoption, submittal, and implementation	n/a	Section 10.4 (pdf pg. 159)
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The UWMP, or amendments to the UWMP, submitted to DWR shall be submitted electronically.	Plan adoption, submittal, and implementation	n/a	Section 10.4 (pdf pg. 159)
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the WSCP to DWR within 30 days of adoption.	Plan adoption, submittal, and implementation	n/a	Section 10.7 (pdf pg. 160)
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its UWMP with DWR, the Supplier has or will make the plan available for public review during normal business hours.	Plan adoption, submittal, and implementation	n/a	Section 10.5 (pdf pg. 159)
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its WSCP with DWR, the Supplier has or will make the plan available for public review during normal business hours.	Plan adoption, submittal, and implementation	n/a	Section 10.5 (pdf pg. 159)
x	x	Section 10.6	10621(c)	If Supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan adoption, submittal, and implementation	n/a	Section 10.6 (pdf pg. 160)

Appendix B: Correspondence

- UWMP and WSCP Notice of Preparation
- District Mailing List
- UWMP and WSCP Public Draft Comments

Note: There were no public comments received on the UWMP and WSCP Public Draft.

The Cal Water Difference

Dear XXXX,

We hope that this note finds you well. California Water Service (Cal Water) is beginning the process of updating our Urban Water Management Plans (UWMP) and Water Shortage Contingency Plans (WSCP) and wanted to ensure you had the pertinent information to participate in the process, which is included in the following notification.

These plans are a critical component of the steps we are taking to meet the current and future water supply needs of our customers, and to elevate our urban water use efficiency.

To develop well-rounded plans, **we are requesting data from the partners that serve our customers** to ensure the plans are representative of the communities we serve. The specific data points we are seeking can be found below the following notice.

At your earliest convenience, **please confirm you have received this Notice of Preparation**. If you have any questions, need any additional information, or would like to find time to meet virtually with our team to discuss this further, please reach out at your convenience.

Notice of Preparation of Urban Water Management Plan and Water Shortage Contingency Plan – 2025 Update

The Urban Water Management Planning Act (California Water Code §10608–10656) requires that California Water Service Company (Cal Water) update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every 5 years. The updated UWMP and WSCP are due by July 1, 2026.

Cal Water is currently reviewing its existing UWMP and associated WSCP, which were updated in 2021, and considering revisions to the documents. Coordination with water suppliers, cities, counties, and community organizations in the region is an important part of the preparation of Cal Water's UWMP and WSCP. We invite your agency's participation in this revision process. We are available to discuss the assumptions used in the development of the plans including available water supply, water demands, land use, as well as other aspects of the plans.

A draft of the 2025 UWMP and WSCP will be made available for public review and a public hearing will be scheduled in 2026. In the meantime, if you would like more information regarding Cal Water's 2020 UWMP and WSCP and the schedule for updating these documents, or if you would like to participate in the preparation of the 2025 UWMP and WSCP, please contact Jake Lam at:

Jake Lam
Associate Engineer
California Water Service
jlam@calwater.com

DATA REQUEST – Help Develop Our UWMP and WSCP

We're seeking to coordinate with community partners to ensure we develop a UWMP and associated WSCP that are reflective of our communities. We'd like to begin this partnership today and ask that you provide the following information to Jake Lam (jlam@calwater.com):

- Description of current land use
- GIS files for land use and zoning
- Population growth projections
- Most recent General Plans

We are looking to gather this information by XXXX XX, XXXX.

Once again, we thank you for your continued partnership. If you have any questions, need any additional information, or would like to find time to meet virtually with our team to discuss this further, please reach out at your convenience.

Sincerely,

Kevin McCusker

Director of Government & Community Affairs

About Cal Water

California Water Service provides safe, clean, and affordable water utility service to more than 2 million people statewide. What sets Cal Water apart is its commitment to enhancing the quality of life for its customers and communities. Guided daily by their promise to provide quality, service, and value, the utility's employees lead the way in working to protect the planet, care for people, and operate with the utmost integrity. Integral to Cal Water's strategy is investing responsibly in infrastructure, sustainability initiatives, and community well-being. The utility has been named one of "America's Most Responsible Companies" and the "World's Most Trustworthy Companies" by *Newsweek* and a Great Place to Work®. More information is available at https://link.edgepilot.com/s/4069251c/_CvANuC690u9lTiwQCmjDg?u=http://www.calwaterdifference.com/.

Name	Position (if known)	Agency	Other Agency Affiliation (if applicable)
Ms. Nicole Sandkulla	CEO/General Manager	Bay Area Water Supply & Conservation Agency	
Danielle McPherson	Senior Water Resources Specialist	Bay Area Water Supply & Conservation Agency	
Kyle Ramey	Water Resources Specialist	Bay Area Water Supply & Conservation Agency	
Negin Ashoori	Senior Water Resources Engineer	Bay Area Water Supply & Conservation Agency	
Tom Francis	Water Resources Manager	Bay Area Water Supply & Conservation Agency	
Tom Smegal	CEO/General Manager	Bay Area Water Supply & Conservation Agency	
Allison Schutte	Legal Counsel	Bay Area Water Supply & Conservation Agency	Hanson Bridgett
Jerry Flanagan	Deputy Director of Public Utilities	City of Brisbane	
Maz Bozorgina	Director of Public Works/City Engineer	City of Brisbane	
Kevin Okada	Assistant Public Works Director	City of Burlingame	
Tim McAuliffe	Treasurer/Secretary	City of Burlingame	
Annette Hipona	City Clerk	City of Daly City	
Greg Kraus	Chief of Operations - Water & Wastewater Operations	City of Daly City	
Joshua Cosgrove	Director of Water and Wastewater Resources	City of Daly City	
Craig Centis	Deputy Public Works Director	City of Millbrae	
Heather Ruiz	Management Analyst	City of Millbrae	
Steve Salazar	Water Quality Technician	City of San Bruno	
Dennis Bosch	Deputy Director Maintenance & Operations	City of San Bruno	
Mr. Steven Machida	Director of Public Works	City of San Carlos	
Sara McDowell	Council Member	City of San Carlos	
Adam Rak	Vice Mayor	City of San Carlos	
Jeff Maltbie	City Manager	City of San Carlos	
Crystal Mui	City Clerk	City of San Carlos	
Mr. Eunejune Kim	Public Works Director	City of South San Francisco	
Rosa Govea Acosta	City Clerk	City of South San Francisco	
Mark Nagales	District 2 Vice Mayor	City of South San Francisco	
Buenaflor Nicolas	District 3 Councilmember	City of South San Francisco	
Mark Addiego	District 1 Mayor	City of South San Francisco	
Adrianne Carr	General Manager	North Coast County Water District	
Stephanie Dalton	General Manager	North Coast County Water District	
David Canepa	Board Member	San Mateo County	
Mike Callagy	County Executive	San Mateo County	
Adam Ely	Assistant County Executive	San Mateo County	
Justin Mates	Assistant County Executive	San Mateo County	
Ms. Paula Kehoe	Director of Water Resources	SFPUC	
Alison Kastama	BAWSCA/Wholesale Customer Liaison	SFPUC	
Steve Ritchie	General Manager	SFPUC	
Council Member Raqeul Gonzalez	Vice Mayor	Town of Colma	
Mr. Brad Donohue	Director of Public Works	Town of Colma	
Council Member Helen Fisicaro	Councilmember	Town of Colma	
Vice Mayor John Goodwin	Mayor	Town of Colma	
Council Member Diana Colvin	Council Member	Town of Colma	
Mayor Joanne del Rosario	Councilmember	Town of Colma	
Mr. Brian Dossey	City Manager	Town of Colma	
Ed Cooney	Project Manager	Town of Hillsborough	
Paul Willis	Public Works Director/City Engineer	Town of Hillsborough	
Mr. Peter Dreckmeier	Policy Director	Tuolumne River Trust	
Patricia Mairena	General Manager	Westborough Water District	

Appendix C: Public Meeting Notice

- Public Meeting Notice of Intent
- Proof of Publication
- Public Meeting Presentation

The Cal Water Difference

Dear XXXX,

As a defined urban water supplier, California Water Service (Cal Water) is preparing an update to its Urban Water Management Plans (UWMP) and Water Shortage Contingency Plans (WSCP) that will address the water service conditions in our service areas. These documents support a water supplier's long-term resource planning to ensure that adequate water supplies are available to meet existing and future water demands under defined conditions. Within the UWMP, Cal Water provides its projected water use from each source, in five-year increments, through the year 2050. Cal Water intends to adopt and file that UWMP plan, and the incorporated WSCP, as required with the Department of Water Resources, the California State Library, and any applicable city or county within which Cal Water provides service no later than 30 days after adoption.

Schedule of upcoming actions: After a public review period, a public meeting to receive comments on the Draft UWMP and WSCP will be held. As the information becomes available for each service area, the electronic copy of the UWMP, WSCP, deadline for public comments, and information on the public meeting are available at:

www.calwater.com/conservation/uwmp2025

If you are unable to attend the scheduled public meeting but want to provide comments regarding the proposed UWMP or WSCP, you may send your comments through the inquiry form, located at the URL above.

Sincerely,

Kevin McCusker
Director of Government & Community Affairs

About Cal Water

California Water Service provides safe, clean, and affordable water utility service to more than 2 million people statewide. This year, the company commemorates a century of service. What sets Cal Water apart is its commitment to enhancing the quality of life for its customers and communities. Guided daily by their promise to provide quality, service, and value, the utility's employees lead the way in working to protect the planet, care for people, and operate with the utmost integrity. Integral to Cal Water's strategy is investing responsibly in infrastructure, sustainability initiatives, and community well-being. The utility has been named one of "America's Most Responsible Companies" and the "World's Most Trustworthy Companies" by *Newsweek* and a Great Place to Work®. More information is available at www.calwaterdifference.com.

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California Water Service
1720 North 1st Street - San Jose, CA 95112

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CALIFORNIA WATER SERVICE CO
1720 NORTH FIRST STREET
SAN JOSE, CA 95112

COPY OF NOTICE

Notice Type: GOV2 Government Legal Notice (2Pub)

Ad Description
UWMP BAY SSF 2026

To the right is a copy of the notice you sent to us for publication in the EXAMINER - SO. SAN FRANCISCO. Please read this notice carefully and call us with any corrections. The Proof of Publication will be filed with the County Clerk, if required, and mailed to you after the last date below. Publication date(s) for this notice is (are):

04/29/2026 , 05/06/2026

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NPEN 4036829

NOTICE OF INTENT TO ADOPT AN URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN AND HOLD A PUBLIC MEETING TO RECEIVE COMMENTS ON THE PROPOSED PLANS CALIFORNIA WATER SERVICE – SOUTH SAN FRANCISCO DISTRICT

California Water Code (CWC) sections 10610 through 10656, known as the "Urban Water Management Planning Act" (Act), require all urban water suppliers that provide water for municipal purposes either directly or indirectly to more than 3,000 customers or supply more than 3,000 acre-feet of water annually to prepare an Urban Water Management Plan (UWMP) at least once every five years.

UWMPs support a water supplier's long-term resource planning to confirm that adequate water supplies are available to meet existing and future water demands under defined conditions. The UWMP must describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation, and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The UWMP must also address measures for residential, commercial, governmental, and industrial water demand management.

Further, Section 10632 of the CWC requires that every urban water supplier shall prepare and adopt a Water Shortage Contingency Plan (WSCP) as part of its plan (UWMP). Section 10632.2 provides that, "An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan...or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1." The WSCP will be incorporated as an appendix of the UWMP.

California Water Service's (Cal Water) South San Francisco District, located in San Mateo County, serves the City of South San Francisco and the Town of Colma. As a defined urban water supplier, Cal Water is preparing an update to its UWMP that will address water service conditions in the South San Francisco District. Cal Water intends to adopt and file that UWMP plan, and the incorporated WSCP, as required with the Department of Water Resources, the California State Library, and any applicable city or county within which Cal Water provides service no later than 30 days after adoption.

Schedule of upcoming actions:

On or about May 3, 2026, an electronic copy of the draft 2025 UWMP and WSCP will be available for review. After a public review period, a public meeting to receive comments on the draft UWMP and WSCP for the South San Francisco District will be held online on June 2, 2026, at 5:30 p.m. The UWMP, WSCP, and additional information on the public meeting, including a link to participate, are available at:

www.calwater.com/conservation/uwmp2025

If you are unable to attend the scheduled public meeting but want to provide comments regarding the proposed UWMP or WSCP, you may send your comments through the inquiry form, located at the URL above. Cal Water will receive comments on the draft 2025 UWMP and WSCP through June 5, 2026.

Please share this notice with others who may have interest in this matter.

4/29, 5/6/26

NPEN-4036829#
EXAMINER - SO. SAN FRANCISCO

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2025 Urban Water Management Plan
2025 Water Shortage Contingency Plan

South San Francisco District

June 2, 2026

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Meeting Agenda

- Introduce California Water Service (CWS) staff and consultants
- Purpose and Objectives
- Presentation of the 2025 Urban Water Management Plan (UWMP)
- Presentation of 2025 Water Shortage Contingency Plan (WSCP)
- Public comments and questions

2025 UWMP Update: Public Outreach

- Notice of Preparation to relevant entities by February 2026
- Notice of Intent to relevant entities in April 2026
- Two notices posted in local newspaper in May 2026
- Draft 2025 UWMP and WSCP available for review at:
  https://www.calwater.com/conservation/uwmp2025
- Public hearing held today (June 2, 2026)

Urban Water Management Planning Act

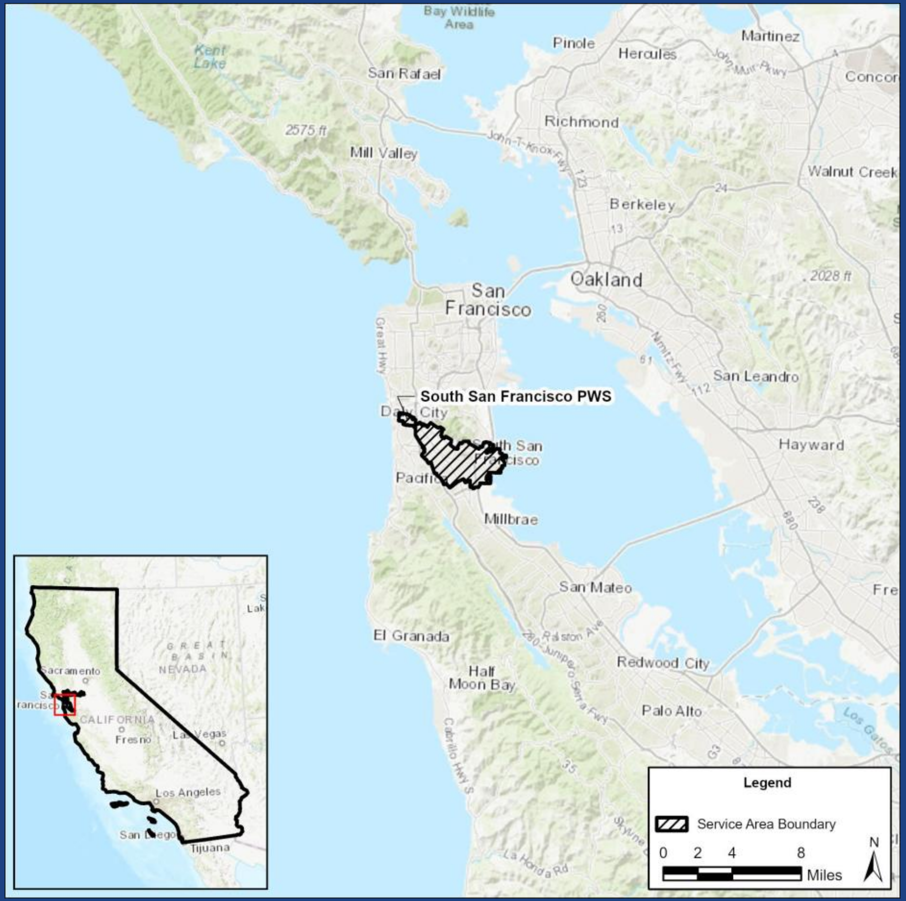
- Supports long-term water resource planning to ensure adequate supplies
- California Water Code - Sections 10610-10656
- Threshold: Utilities with 3,000+ services or 3,000+ acre-feet per year (AFY) water sales
- At least a 20-year planning horizon, Cal Water’s plan cover 25 years
- Must be updated every 5 years and submitted by July 1, 2026
- Basis for SB-610 Water Supply Assessments

2025 UWMP Elements

- Service area description
- Population forecast
- Supply and demand projections through 2050 in normal, single dry, and multiple dry years
- Water supply reliability
- Conservation / Demand Management Measures
- Climate change
- WSCP

District Overview

- Formed in 1931
- Serves the communities of South San Francisco, Colma, a small portion of the City of Daly City, and the unincorporated community of Broadmoor
- Delivers purchased surface water and groundwater
- Operates eight groundwater wells, 13 storage tanks, 19 booster pumps, and 162 miles of mains



Water Supply Sources

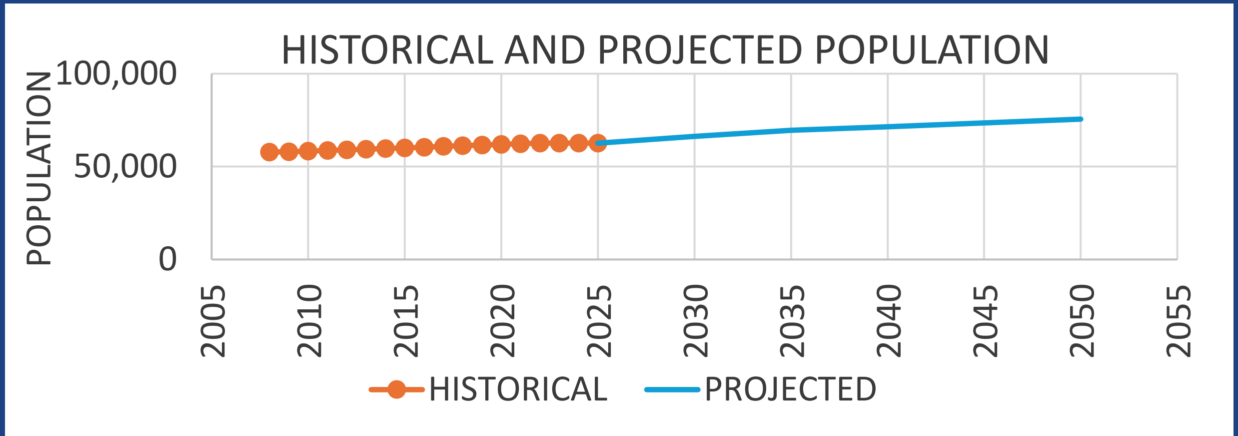
- Imported treated surface water purchased from the City and County of San Francisco's Regional Water System (RWS), which is operated by the San Francisco Public Utilities Commission (SFPUC) (85% of supply mix on average between 2021 - 2025)
- Groundwater pumped from the Westside Basin (15% of supply mix on average between 2021 - 2025)

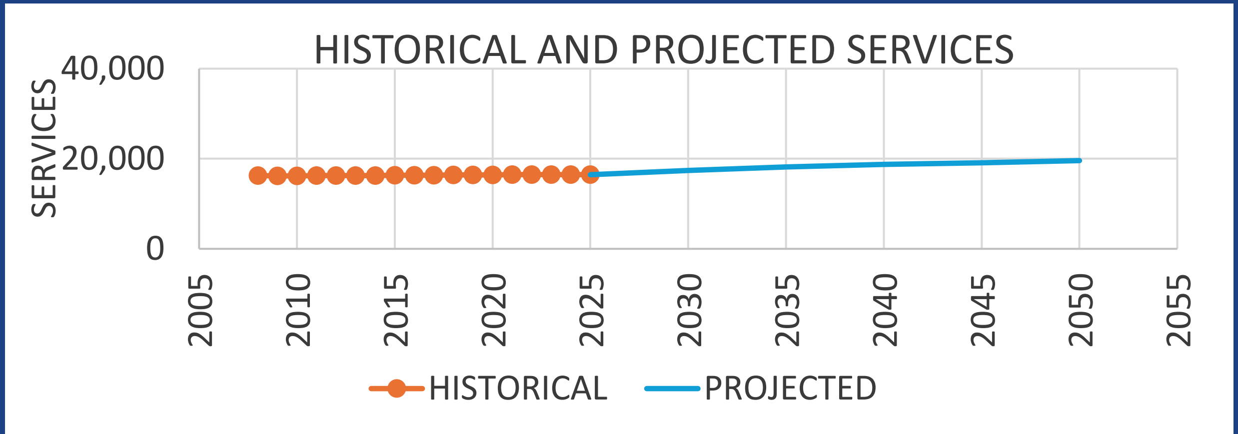
Demand Projection Methodology

- Forecast horizon is beyond 20 years required by UWMP
- Generates normal-, wet-, and dry-year demand forecasts
- Directly considers impacts of climate change
- Demand model uses historical data on services, sales, production, population, and proposed conservation measures
- Projected water use based on regional or general plan growth projections, historical water use trends, anticipated conservation, and compliance with state water use efficiency regulations

Population & Services

- Population Projections
  - 2050 population projected to be 75,600
  - 21% increase relative to 2025 population
- Service Growth
  - 2050 services projected to be 19,600
  - 19% increase relative to 2025 services

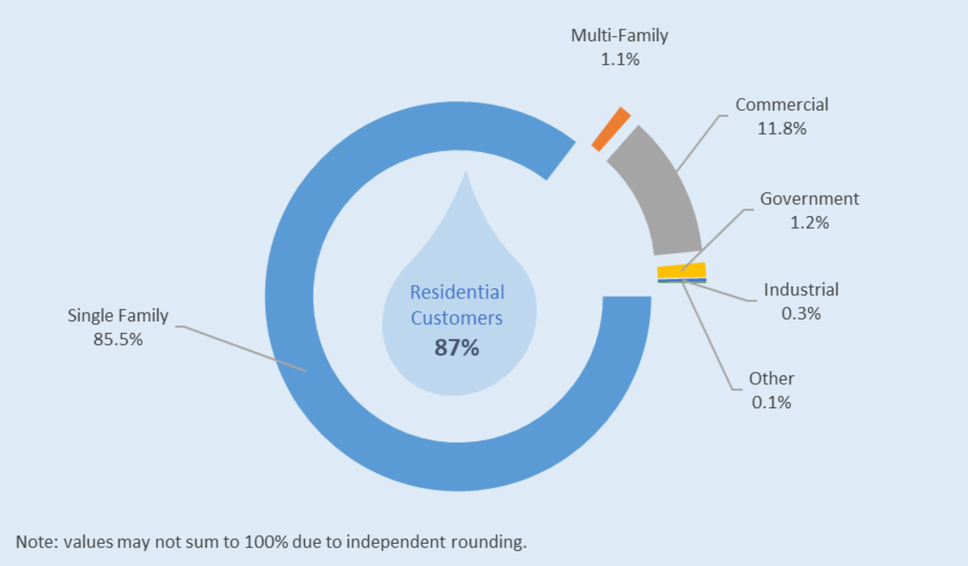




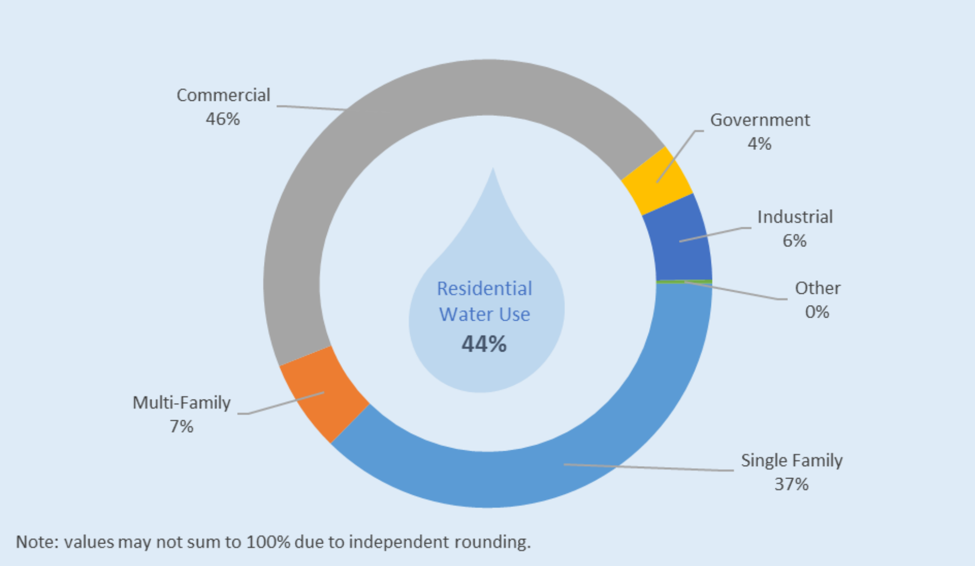
Water Demand by Customer Class

- Water demand decreased 4% between 2021 and 2025
- Largest customer sector is Commercial (46% of total District demand) between 2021 - 2025

<u>Customer Categories</u>

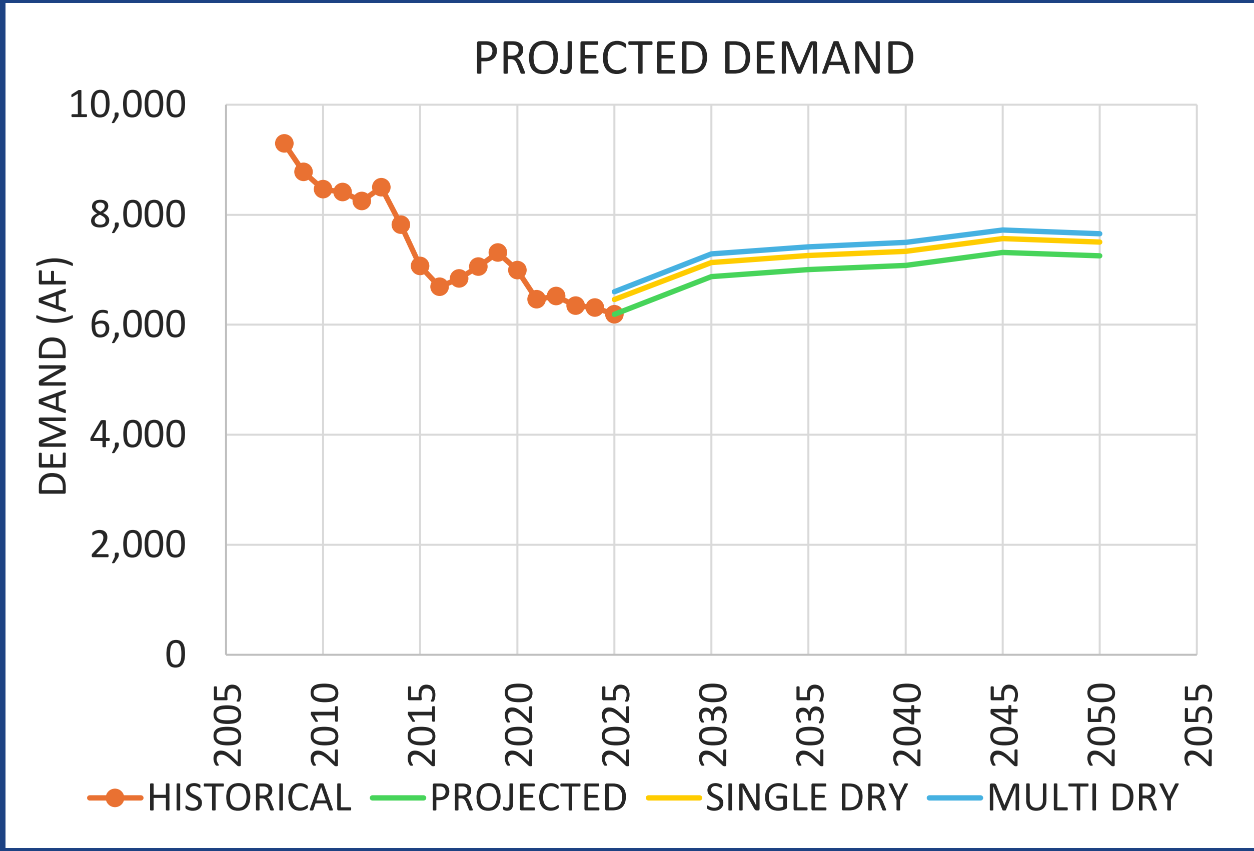


<u>Water Demand</u>



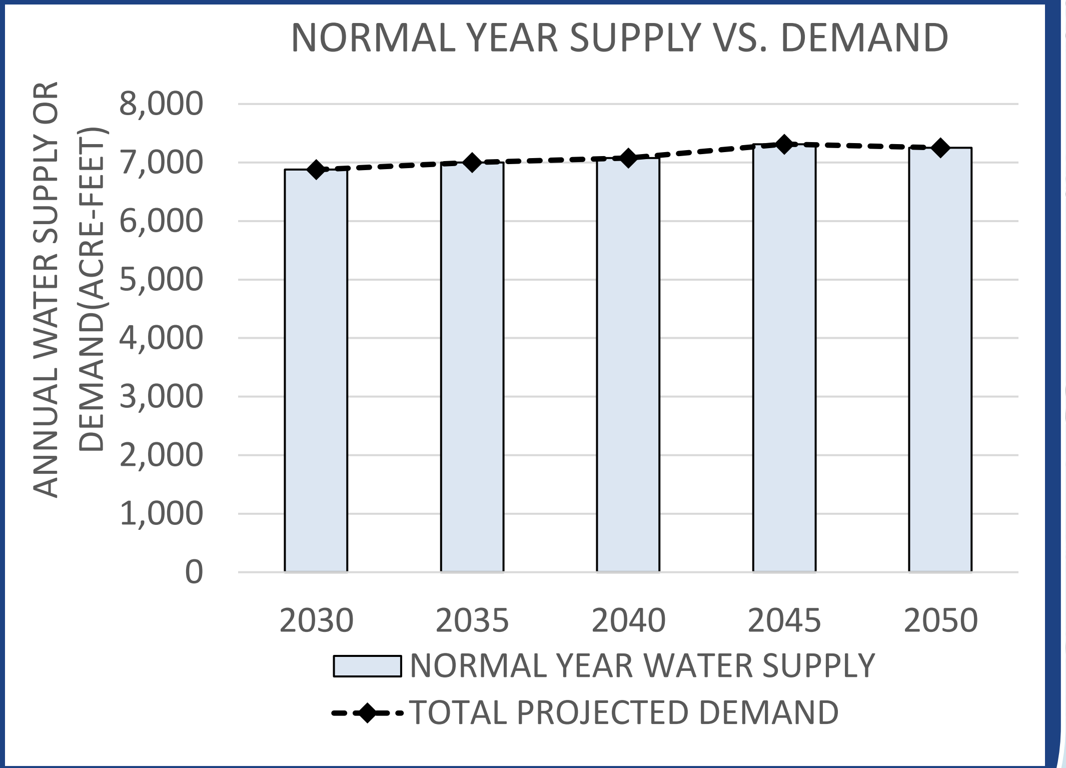
Demand – Current and Projected

- By 2050, demand projected to be 7,300 acre-feet per year (AFY) under normal year conditions and up to 7,700 AFY under multi-dry year conditions
- 17% increase relative to 2025 demands



Supply Sufficiency

- Supply sufficiency analysis is based on the following factors:
    - The District has always been able to meet historical demands
    - SFPUC RWS purchased water availability is based on projections provided by the Bay Area Water Supply & Conservation Agency (BAWSCA) and SFPUC
    - Groundwater production from the Westside Basin, including in-lieu deliveries through the Regional Groundwater Storage and Recovery Project, supports local supply reliability
- Supply is projected to be sufficient to meet projected demand under normal year conditions
- Significant shortfalls are projected in single-dry and multiple-dry years if Bay-Delta Plan Amendment is adopted as written, but numerous uncertainties remain
- Any regulatory or actual shortages will be addressed by the WSCP



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Bay Delta Plan Impacts of SFPUC Supply

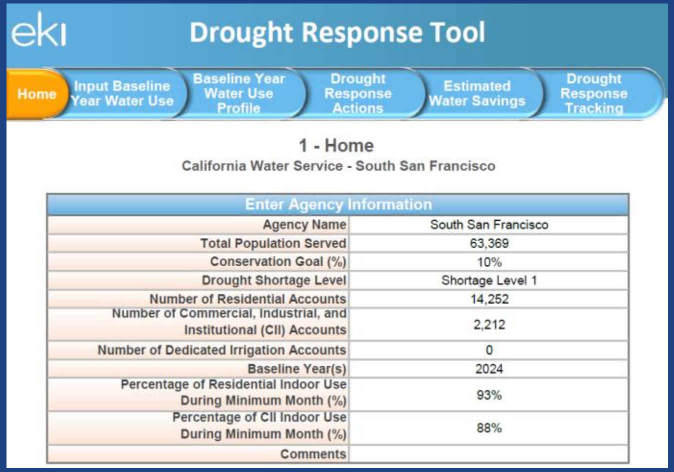
- The Bay-Delta Plan (BDP) establishes water quality objectives to maintain the health of the rivers that flow to the San Francisco Bay / Sacramento – San Joaquin Delta and the Bay-Delta's ecosystem
- The BDP Amendment, adopted by State Water Resources Control Board (SWRCB) in 2018, requires 40% of unimpaired flow to be released every year into Lower Tuolumne River from Feb-June
- SFPUC has provided all wholesale customers with estimates of RWS reliability, which predict reductions of RWS supplies by up to 43% during a five-year extended drought scenario
- SFPUC and key stakeholders submitted Tuolumne River Voluntary Agreement (currently known as the Tuolumne Healthy Rivers and Landscapes [HRL] proposal) as an "alternative" for future amendment that would reduce supply impacts
  - HRL is currently undergoing evaluation at the SWRCB
  - No timeline has been provided for when the HRL will be considered for adoption by the SWRCB
- Cal Water has developed a long-term supply reliability strategy for its Peninsula Districts, including evaluation of alternative supply sources and is continuing its comprehensive water conservation program

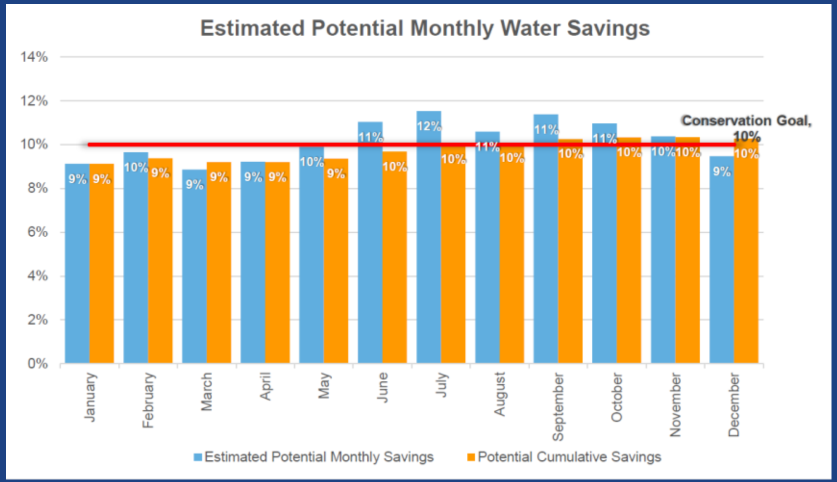
Conservation

- **Key Foundational Measures**
  - Metering & Conservation Pricing: All connections are metered to ensure accurate billing, and tiered rate structures are used to incentivize lower water use
  - System Loss Management: Ongoing leak detection and repair programs minimize “real losses” within the distribution system
  - Education & Outreach: Public information campaigns, school education programs and dedicated staffing support and coordinate conservation initiatives
  - Water Waste Prevention: Ordinances prohibit activities such as excessive runoff and washing down driveways
- **Programs & Compliance**
  - Customer Programs: Landscape tune-ups and rebates for high efficiency irrigation equipment and indoor devices, and conservation kits
  - Target Achievement: Successful implementation of these measures enabled the District to meet its 2020 water use target

Water Shortage Contingency Plan Elements

- Comprehensive drought response plan
  - Procedures for the Annual Water Supply and Demand Assessments
  - Six standard water Shortage Levels (10% to >50%)
  - Shortage response actions
  - Communication protocols
  - Monitoring, enforcement, and reporting
- Quantitatively assessed using Drought Response Tool (DRT)

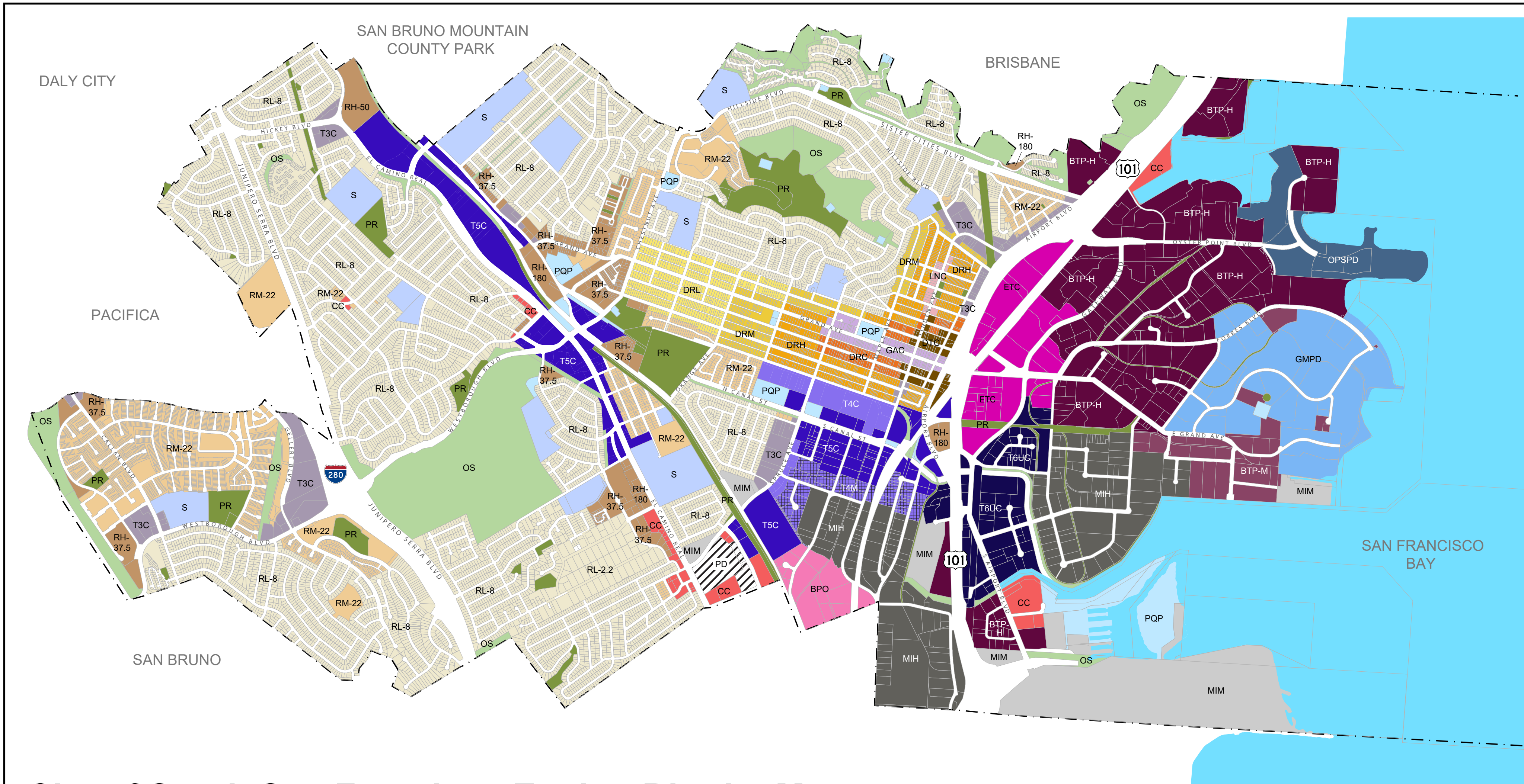




Questions or Comments

- Review the draft 2025 UWMP and 2025 WSCP and submit public comments at: https://www.calwater.com/conservation/uwmp2025
- Comments on the draft 2025 UWMP and 2025 WSCP will be accepted through **June 5, 2026** (three days from today)

Appendix D: South San Francisco General Plan Land Use Map



City of South San Francisco Zoning District Map

- Low Density Residential (RL)
- Medium Density Residential (RM)
- High Density Residential (RH)
- Downtown Residential-Low (DRL)
- Downtown Residential-Medium (DRM)
- Downtown Residential-High (DRH)
- Downtown Residential Core (DRC)
- Linden Neighborhood Center (LNC)
- Grand Avenue Core (GAC)
- Downtown Transit Core (DTC)
- Community Commercial (CC)
- East Transit Core (ETC)
- Business and Professional Office (BPO)
- Business Technology Park-Medium (BTP-M)
- Business Technology Park-High (BTP-H)
- Mixed Industrial Medium (MIM)
- Mixed Industrial High (MIH)
- Public/Quasi-Public (PQP)
- School (S)
- Parks and Recreation (PR)
- Open Space (OS)
- Oyster Point Specific Plan District (OPSPD)
- Genentech Master Plan District (GMPD)
- T3 Corridor (T3C)
- T4 Corridor (T4C)
- T4 Maker (T4M)
- T5 Corridor (T5C)
- T6 Urban Core (T6UC)
- Planned Development (PD)

City of South San Francisco
Planning Division
Adopted October 2022

0 0.25 0.5 Miles

Appendix E: Historical and Projected Service Area Population, Services, Sales, and Production

California Water Service

South San Francisco District

Water Supply/Demand Analysis Projections Summary

June 2026

California Water Service - South San Francisco District
Water Supply/Demand Analysis and Projections Summary

Table 1. Historical & Projected Population

YEAR	TYPE	HOUSEHOLD	GROUP QUARTERS	TOTAL
2000	Historical	55,490	488	55,978
2001	Historical	55,715	495	56,211
2002	Historical	55,941	503	56,444
2003	Historical	56,166	510	56,676
2004	Historical	56,392	518	56,909
2005	Historical	56,617	525	57,142
2006	Historical	56,842	532	57,375
2007	Historical	57,068	540	57,608
2008	Historical	57,293	547	57,840
2009	Historical	57,519	555	58,073
2010	Historical	57,744	562	58,306
2011	Historical	58,113	556	58,668
2012	Historical	58,482	549	59,031
2013	Historical	58,850	543	59,393
2014	Historical	59,219	536	59,756
2015	Historical	59,588	530	60,118
2016	Historical	59,957	524	60,480
2017	Historical	60,326	517	60,843
2018	Historical	60,694	511	61,205
2019	Historical	61,063	504	61,568
2020	Historical	61,432	498	61,930
2021	Historical	61,764	498	62,262
2022	Historical	62,078	498	62,576
2023	Historical	62,124	498	62,622
2024	Historical	62,149	498	62,647
2025	Historical	62,111	498	62,609
2030	Projected	65,680	513	66,193
2035	Projected	69,063	527	69,591
2040	Projected	70,979	543	71,522
2045	Projected	72,951	559	73,509
2050	Projected	74,980	575	75,555
2025 to 2050				
Compound Annual Growth Rate (CAGR)				0.8%

California Water Service - South San Francisco District
Water Supply/Demand Analysis and Projections Summary

Table 2. Historical & Projected Services

YEAR	TYPE	SFR-M	SFR-F	MFR	COM	IND	GOV	IRR	OTH	REC	TOTAL
2000	Historical	13,450	0	151	1,815	74	218	0	62	0	15,771
2001	Historical	13,465	0	151	1,837	74	219	0	69	0	15,815
2002	Historical	13,534	0	151	1,858	72	218	0	59	0	15,893
2003	Historical	13,532	0	150	1,864	71	219	0	26	0	15,861
2004	Historical	13,787	0	151	1,884	68	220	4	23	0	16,137
2005	Historical	13,829	0	151	1,876	68	221	3	24	0	16,171
2006	Historical	13,830	0	151	1,888	69	223	3	27	0	16,192
2007	Historical	13,846	0	151	1,905	66	226	3	28	0	16,224
2008	Historical	13,836	0	152	1,917	65	233	1	28	0	16,231
2009	Historical	13,826	0	152	1,917	63	219	0	16	0	16,193
2010	Historical	13,840	0	152	1,911	61	218	0	13	0	16,194
2011	Historical	13,888	0	152	1,903	60	217	0	14	0	16,234
2012	Historical	13,910	0	155	1,902	60	214	0	13	0	16,255
2013	Historical	13,928	0	159	1,903	60	209	0	13	0	16,273
2014	Historical	13,938	0	161	1,904	59	208	0	14	0	16,284
2015	Historical	13,952	0	167	1,895	56	209	0	23	0	16,302
2016	Historical	13,978	0	171	1,877	53	210	0	26	0	16,314
2017	Historical	14,018	0	172	1,885	53	208	0	32	0	16,368
2018	Historical	14,030	0	177	1,884	52	206	0	34	0	16,382
2019	Historical	14,043	0	179	1,904	50	204	0	35	0	16,416
2020	Historical	14,052	0	182	1,921	50	203	0	32	0	16,440
2021	Historical	14,058	0	185	1,940	51	203	0	33	0	16,470
2022	Historical	14,064	0	187	1,952	50	203	0	28	0	16,484
2023	Historical	14,055	0	188	1,943	49	201	0	30	0	16,467
2024	Historical	14,064	0	188	1,946	49	200	0	17	0	16,464
2025	Historical	14,063	0	188	1,943	48	199	0	16	0	16,457
2030	Projected	14,784	0	201	2,183	46	201	0	16	0	17,431
2035	Projected	15,476	0	213	2,221	47	202	0	16	0	18,176
2040	Projected	15,909	0	219	2,351	47	203	0	16	0	18,747
2045	Projected	16,356	0	225	2,255	48	205	0	16	6	19,110
2050	Projected	16,815	0	231	2,267	48	206	0	17	6	19,590
2025 to 2050											
Compound Annual Growth Rate (CAGR)											0.7%

SFR-M = Single-Family Metered
SFR-F = Single-Family Unmetered (Flat Service)
MFR = Multi-Family
COM = Commercial
IND = Industrial
GOV = Government
IRR = Irrigation
OTH = Other/Miscellaneous
REC = Recycled

California Water Service - South San Francisco District
Water Supply/Demand Analysis and Projections Summary

Table 3. Historical & Projected Service Shares

YEAR	TYPE	SFR-M	SFR-F	MFR	COM	IND	GOV	IRR	OTH	REC	TOTAL
2000	Historical	85.3%	0.0%	1.0%	11.5%	0.5%	1.4%	0.0%	0.4%	0.0%	100.0%
2001	Historical	85.1%	0.0%	1.0%	11.6%	0.5%	1.4%	0.0%	0.4%	0.0%	100.0%
2002	Historical	85.2%	0.0%	1.0%	11.7%	0.5%	1.4%	0.0%	0.4%	0.0%	100.0%
2003	Historical	85.3%	0.0%	0.9%	11.7%	0.4%	1.4%	0.0%	0.2%	0.0%	100.0%
2004	Historical	85.4%	0.0%	0.9%	11.7%	0.4%	1.4%	0.0%	0.1%	0.0%	100.0%
2005	Historical	85.5%	0.0%	0.9%	11.6%	0.4%	1.4%	0.0%	0.1%	0.0%	100.0%
2006	Historical	85.4%	0.0%	0.9%	11.7%	0.4%	1.4%	0.0%	0.2%	0.0%	100.0%
2007	Historical	85.3%	0.0%	0.9%	11.7%	0.4%	1.4%	0.0%	0.2%	0.0%	100.0%
2008	Historical	85.2%	0.0%	0.9%	11.8%	0.4%	1.4%	0.0%	0.2%	0.0%	100.0%
2009	Historical	85.4%	0.0%	0.9%	11.8%	0.4%	1.4%	0.0%	0.1%	0.0%	100.0%
2010	Historical	85.5%	0.0%	0.9%	11.8%	0.4%	1.3%	0.0%	0.1%	0.0%	100.0%
2011	Historical	85.5%	0.0%	0.9%	11.7%	0.4%	1.3%	0.0%	0.1%	0.0%	100.0%
2012	Historical	85.6%	0.0%	1.0%	11.7%	0.4%	1.3%	0.0%	0.1%	0.0%	100.0%
2013	Historical	85.6%	0.0%	1.0%	11.7%	0.4%	1.3%	0.0%	0.1%	0.0%	100.0%
2014	Historical	85.6%	0.0%	1.0%	11.7%	0.4%	1.3%	0.0%	0.1%	0.0%	100.0%
2015	Historical	85.6%	0.0%	1.0%	11.6%	0.3%	1.3%	0.0%	0.1%	0.0%	100.0%
2016	Historical	85.7%	0.0%	1.0%	11.5%	0.3%	1.3%	0.0%	0.2%	0.0%	100.0%
2017	Historical	85.6%	0.0%	1.1%	11.5%	0.3%	1.3%	0.0%	0.2%	0.0%	100.0%
2018	Historical	85.6%	0.0%	1.1%	11.5%	0.3%	1.3%	0.0%	0.2%	0.0%	100.0%
2019	Historical	85.5%	0.0%	1.1%	11.6%	0.3%	1.2%	0.0%	0.2%	0.0%	100.0%
2020	Historical	85.5%	0.0%	1.1%	11.7%	0.3%	1.2%	0.0%	0.2%	0.0%	100.0%
2021	Historical	85.4%	0.0%	1.1%	11.8%	0.3%	1.2%	0.0%	0.2%	0.0%	100.0%
2022	Historical	85.3%	0.0%	1.1%	11.8%	0.3%	1.2%	0.0%	0.2%	0.0%	100.0%
2023	Historical	85.4%	0.0%	1.1%	11.8%	0.3%	1.2%	0.0%	0.2%	0.0%	100.0%
2024	Historical	85.4%	0.0%	1.1%	11.8%	0.3%	1.2%	0.0%	0.1%	0.0%	100.0%
2025	Historical	85.5%	0.0%	1.1%	11.8%	0.3%	1.2%	0.0%	0.1%	0.0%	100.0%
2030	Projected	84.8%	0.0%	1.2%	12.5%	0.3%	1.2%	0.0%	0.1%	0.0%	100.0%
2035	Projected	85.1%	0.0%	1.2%	12.2%	0.3%	1.1%	0.0%	0.1%	0.0%	100.0%
2040	Projected	84.9%	0.0%	1.2%	12.5%	0.3%	1.1%	0.0%	0.1%	0.0%	100.0%
2045	Projected	85.6%	0.0%	1.2%	11.8%	0.2%	1.1%	0.0%	0.1%	0.0%	100.0%
2050	Projected	85.8%	0.0%	1.2%	11.6%	0.2%	1.1%	0.0%	0.1%	0.0%	100.0%

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MFR = Multi-Family
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IND = Industrial
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IRR = Irrigation
OTH = Other/Miscellaneous
REC = Recycled

California Water Service - South San Francisco District
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Table 4. Historical & Projected Sales in Acre-Feet

YEAR	TYPE	SFR-M	SFR-F[1]	MFR	COM	IND	GOV	IRR	OTH	REC	TOTAL
2000	Historical	3,678	0	475	3,774	930	496	0	48	0	9,400
2001	Historical	3,626	0	462	3,886	692	505	0	51	0	9,222
2002	Historical	3,627	0	433	3,773	695	489	0	71	0	9,088
2003	Historical	3,568	0	427	3,678	721	458	0	11	0	8,862
2004	Historical	3,644	0	413	3,878	790	494	0	18	0	9,237
2005	Historical	3,444	0	411	3,704	741	405	0	15	0	8,720
2006	Historical	3,458	0	425	3,880	799	389	0	20	0	8,972
2007	Historical	3,468	0	416	4,039	753	399	0	40	0	9,114
2008	Historical	3,485	0	409	4,041	744	435	0	22	0	9,136
2009	Historical	3,275	0	397	3,690	735	399	0	4	0	8,501
2010	Historical	3,092	0	399	3,525	716	350	0	2	0	8,084
2011	Historical	3,014	0	383	3,468	780	338	0	7	0	7,989
2012	Historical	3,027	0	376	3,471	711	342	0	8	0	7,935
2013	Historical	3,038	0	376	3,637	792	397	0	10	0	8,250
2014	Historical	2,661	0	348	3,502	813	332	0	4	0	7,660
2015	Historical	2,404	0	348	3,212	663	219	0	16	0	6,862
2016	Historical	2,365	0	336	3,026	651	205	0	9	0	6,592
2017	Historical	2,437	0	333	3,082	620	233	0	26	0	6,730
2018	Historical	2,486	0	337	3,190	565	288	0	27	0	6,894
2019	Historical	2,476	0	356	3,189	536	291	0	36	0	6,884
2020	Historical	2,682	0	396	2,840	505	295	0	37	0	6,755
2021	Historical	2,474	0	371	2,717	475	261	0	13	0	6,311
2022	Historical	2,307	0	390	2,895	550	247	0	19	0	6,407
2023	Historical	2,279	0	416	2,859	394	228	0	33	0	6,209
2024	Historical	2,299	0	446	2,866	300	222	0	13	0	6,145
2025	Historical	2,270	0	443	2,828	253	246	0	11	0	6,051
2030	Projected	2,114	0	423	3,648	303	230	0	13	0	6,731
2035	Projected	2,012	0	417	3,874	302	228	0	13	0	6,847
2040	Projected	1,945	0	401	4,028	304	228	0	14	0	6,920
2045	Projected	1,913	0	392	3,841	306	226	0	14	425	7,117
2050	Projected	1,876	0	382	3,821	308	226	0	14	425	7,050
2025 to 2050 Compound Annual Growth Rate (CAGR)											0.6%

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[1] SFR-F sales is an estimate.

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Table 5. Historical & Projected Sales Shares

YEAR	TYPE	SFR-M	SFR-F[1]	MFR	COM	IND	GOV	IRR	OTH	REC	TOTAL
2000	Historical	39%	0%	5%	40%	10%	5%	0%	1%	0%	100%
2001	Historical	39%	0%	5%	42%	8%	5%	0%	1%	0%	100%
2002	Historical	40%	0%	5%	42%	8%	5%	0%	1%	0%	100%
2003	Historical	40%	0%	5%	42%	8%	5%	0%	0%	0%	100%
2004	Historical	39%	0%	4%	42%	9%	5%	0%	0%	0%	100%
2005	Historical	39%	0%	5%	42%	8%	5%	0%	0%	0%	100%
2006	Historical	39%	0%	5%	43%	9%	4%	0%	0%	0%	100%
2007	Historical	38%	0%	5%	44%	8%	4%	0%	0%	0%	100%
2008	Historical	38%	0%	4%	44%	8%	5%	0%	0%	0%	100%
2009	Historical	39%	0%	5%	43%	9%	5%	0%	0%	0%	100%
2010	Historical	38%	0%	5%	44%	9%	4%	0%	0%	0%	100%
2011	Historical	38%	0%	5%	43%	10%	4%	0%	0%	0%	100%
2012	Historical	38%	0%	5%	44%	9%	4%	0%	0%	0%	100%
2013	Historical	37%	0%	5%	44%	10%	5%	0%	0%	0%	100%
2014	Historical	35%	0%	5%	46%	11%	4%	0%	0%	0%	100%
2015	Historical	35%	0%	5%	47%	10%	3%	0%	0%	0%	100%
2016	Historical	36%	0%	5%	46%	10%	3%	0%	0%	0%	100%
2017	Historical	36%	0%	5%	46%	9%	3%	0%	0%	0%	100%
2018	Historical	36%	0%	5%	46%	8%	4%	0%	0%	0%	100%
2019	Historical	36%	0%	5%	46%	8%	4%	0%	1%	0%	100%
2020	Historical	40%	0%	6%	42%	7%	4%	0%	1%	0%	100%
2021	Historical	39%	0%	6%	43%	8%	4%	0%	0%	0%	100%
2022	Historical	36%	0%	6%	45%	9%	4%	0%	0%	0%	100%
2023	Historical	37%	0%	7%	46%	6%	4%	0%	1%	0%	100%
2024	Historical	37%	0%	7%	47%	5%	4%	0%	0%	0%	100%
2025	Historical	38%	0%	7%	47%	4%	4%	0%	0%	0%	100%
2030	Projected	31%	0%	6%	54%	5%	3%	0%	0%	0%	100%
2035	Projected	29%	0%	6%	57%	4%	3%	0%	0%	0%	100%
2040	Projected	28%	0%	6%	58%	4%	3%	0%	0%	0%	100%
2045	Projected	27%	0%	6%	54%	4%	3%	0%	0%	6%	100%
2050	Projected	27%	0%	5%	54%	4%	3%	0%	0%	6%	100%

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[1] SFR-F sales is an estimate.

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Table 6. Historical & Projected Sales Per Service in Gallons/Service/Day

YEAR	TYPE	SFR-M	SFR-F[1]	MFR	COM	IND	GOV	IRR	OTH	REC	TOTAL
2000	Historical	244	0	2,810	1,856	11,152	2,028	0	688	0	532
2001	Historical	240	0	2,731	1,888	8,376	2,062	0	664	0	521
2002	Historical	239	0	2,560	1,813	8,584	2,001	0	1,079	0	510
2003	Historical	235	0	2,533	1,762	9,103	1,871	0	367	0	499
2004	Historical	236	0	2,443	1,837	10,430	2,009	0	688	0	511
2005	Historical	222	0	2,432	1,763	9,676	1,638	0	557	0	481
2006	Historical	223	0	2,514	1,834	10,304	1,556	0	672	0	495
2007	Historical	224	0	2,458	1,893	10,134	1,578	0	1,285	0	502
2008	Historical	225	0	2,408	1,882	10,152	1,668	0	699	0	503
2009	Historical	211	0	2,329	1,719	10,435	1,626	0	248	0	469
2010	Historical	199	0	2,350	1,647	10,556	1,431	0	120	0	446
2011	Historical	194	0	2,245	1,627	11,592	1,393	0	424	0	439
2012	Historical	194	0	2,166	1,629	10,580	1,425	0	540	0	436
2013	Historical	195	0	2,104	1,706	11,805	1,693	0	737	0	453
2014	Historical	170	0	1,925	1,642	12,301	1,429	0	272	0	420
2015	Historical	154	0	1,859	1,514	10,594	933	0	639	0	376
2016	Historical	151	0	1,754	1,439	11,036	874	0	320	0	361
2017	Historical	155	0	1,726	1,459	10,501	1,000	0	716	0	367
2018	Historical	158	0	1,703	1,512	9,736	1,246	0	711	0	376
2019	Historical	157	0	1,779	1,495	9,538	1,271	0	902	0	374
2020	Historical	170	0	1,946	1,320	8,984	1,296	0	1,029	0	367
2021	Historical	157	0	1,794	1,251	8,335	1,150	0	351	0	342
2022	Historical	146	0	1,859	1,324	9,897	1,088	0	592	0	347
2023	Historical	145	0	1,976	1,314	7,170	1,012	0	974	0	337
2024	Historical	146	0	2,116	1,314	5,501	993	0	670	0	333
2025	Historical	144	0	2,106	1,300	4,714	1,100	0	596	0	328
2030	Projected	128	0	1,879	1,492	5,842	1,022	0	747	0	345
2035	Projected	116	0	1,749	1,557	5,728	1,009	0	747	0	336
2040	Projected	109	0	1,635	1,529	5,728	999	0	747	0	330
2045	Projected	104	0	1,556	1,521	5,729	988	0	747	63,176	332
2050	Projected	100	0	1,474	1,505	5,729	978	0	747	63,176	321
2025 to 2050 Compound Annual Growth Rate (CAGR)											-0.1%

SFR-M = Single-Family Metered
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[1] SFR-F sales is an estimate.

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Table 7. Historical & Projected Per Capita Water Use in Gallons/Person/Day

YEAR	TYPE	SFR-M	SFR-F[1]	MFR	COM	IND	GOV	IRR	OTH	REC	TOTAL
2000	Historical	59	0	8	60	15	8	0	1	0	150
2001	Historical	58	0	7	62	11	8	0	1	0	146
2002	Historical	57	0	7	60	11	8	0	1	0	144
2003	Historical	56	0	7	58	11	7	0	0	0	140
2004	Historical	57	0	6	61	12	8	0	0	0	145
2005	Historical	54	0	6	58	12	6	0	0	0	136
2006	Historical	54	0	7	60	12	6	0	0	0	140
2007	Historical	54	0	6	63	12	6	0	1	0	141
2008	Historical	54	0	6	62	11	7	0	0	0	141
2009	Historical	50	0	6	57	11	6	0	0	0	131
2010	Historical	47	0	6	54	11	5	0	0	0	124
2011	Historical	46	0	6	53	12	5	0	0	0	122
2012	Historical	46	0	6	52	11	5	0	0	0	120
2013	Historical	46	0	6	55	12	6	0	0	0	124
2014	Historical	40	0	5	52	12	5	0	0	0	114
2015	Historical	36	0	5	48	10	3	0	0	0	102
2016	Historical	35	0	5	45	10	3	0	0	0	97
2017	Historical	36	0	5	45	9	3	0	0	0	99
2018	Historical	36	0	5	47	8	4	0	0	0	101
2019	Historical	36	0	5	46	8	4	0	1	0	100
2020	Historical	39	0	6	41	7	4	0	1	0	97
2021	Historical	35	0	5	39	7	4	0	0	0	90
2022	Historical	33	0	6	41	8	4	0	0	0	91
2023	Historical	32	0	6	41	6	3	0	0	0	89
2024	Historical	33	0	6	41	4	3	0	0	0	88
2025	Historical	32	0	6	40	4	4	0	0	0	86
2030	Projected	29	0	6	49	4	3	0	0	0	91
2035	Projected	26	0	5	50	4	3	0	0	0	88
2040	Projected	24	0	5	50	4	3	0	0	0	86
2045	Projected	23	0	5	47	4	3	0	0	5	86
2050	Projected	22	0	5	45	4	3	0	0	5	83
2025 to 2050											
Compound Annual Growth Rate (CAGR)											-0.1%

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[1] SFR-F sales is an estimate.

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Table 8. Historical & Projected Non-Revenue Water (NRW) in Acre-Feet[1]

YEAR	TYPE	AUTHORIZED UNBILLED USE	APPARENT LOSS	REAL LOSS	RECYCLED LOSS	TOTAL
2000	Historical					338
2001	Historical					384
2002	Historical					545
2003	Historical					382
2004	Historical					313
2005	Historical					149
2006	Historical					129
2007	Historical					55
2008	Historical					156
2009	Historical					276
2010	Historical					381
2011	Historical					418
2012	Historical					315
2013	Historical					245
2014	Historical					156
2015	Historical					201
2016	Historical	17	66	11	0	94
2017	Historical	17	171	0	0	188
2018	Historical	18	175	0	0	193
2019	Historical	18	176	234	0	429
2020	Historical	17	172	44	0	234
2021	Historical	16	96	40	0	152
2022	Historical	1	97	12	0	110
2023	Historical	16	94	28	0	138
2024	Historical	15	93	59	0	168
2025	Historical	11	94	33	0	138
2030	Projected	11	100	35	0	146
2035	Projected	12	104	36	0	152
2040	Projected	12	107	38	0	157
2045	Projected	12	109	38	38	198
2050	Projected	13	112	39	38	202

[1]Total non-revenue water estimates are available prior to 2016, calculated as total water production less metered sales and estimated unmetered customer water use. Starting in 2016, non-revenue water estimates come from the Water Loss Report for the District that is filed annually with the Department of Water Resources.

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Table 9. Historical & Projected Non-Revenue Water in GCD[1, 2]							
YEAR	TYPE	SERVICES	AUTHORIZED UNBILLED USE	APPARENT LOSS	REAL LOSS	RECYCLED LOSS	TOTAL
2000	Historical	16,730					18
2001	Historical	16,777					20
2002	Historical	16,859					29
2003	Historical	16,826					20
2004	Historical	17,118					16
2005	Historical	17,154					8
2006	Historical	17,177					7
2007	Historical	17,210					3
2008	Historical	17,218					8
2009	Historical	17,178					14
2010	Historical	17,178					20
2011	Historical	17,221					22
2012	Historical	17,243					16
2013	Historical	17,262					13
2014	Historical	17,274					8
2015	Historical	17,293					10
2016	Historical	17,276	1	3	1	0	5
2017	Historical	17,154	1	9	0	0	10
2018	Historical	17,243	1	9	0	0	10
2019	Historical	16,593	1	9	13	0	23
2020	Historical	17,357	1	9	2	0	12
2021	Historical	17,405	1	5	2	0	8
2022	Historical	17,462	0	5	1	0	6
2023	Historical	17,437	1	5	1	0	7
2024	Historical	17,520	1	5	3	0	9
2025	Historical	17,457	1	5	2	0	7
2030	Projected	18,457	1	5	2	0	7
2035	Projected	19,229	1	5	2	0	7
2040	Projected	19,828	1	5	2	0	7
2045	Projected	20,220	1	5	2	2	9
2050	Projected	20,728	1	5	2	2	9

[1]GCD = gallons/connection/day, calculated with total connections (active + inactive)

[2]Total non-revenue water estimates are available prior to 2016, calculated as total water production less metered sales and estimated unmetered customer water use. Starting in 2016, non-revenue water estimates come from the District's Water Loss Report filed annually with the Department of Water Resources.

Table 10. Projected Baseline and Adjusted Potable Demand in Acre-Feet

	2030	2035	2040	2045	2050
Baseline Potable Water Demand	7,268	7,697	7,989	7,932	8,046
Demand Adjustments					
Passive Conservation	-192	-310	-344	-365	-393
Active Conservation	-198	-384	-561	-709	-857
Water Service Cost Growth	-36	-72	-107	-137	-167
Household Income Growth	35	68	99	131	161
Water Loss Management	0	0	0	0	0
Total Adjustments	-391	-698	-913	-1,080	-1,256
Adjusted Potable Water Demand	6,877	7,000	7,077	6,852	6,790

Table 11. Projected Single-Dry-Year and Multi-Dry-Year Demand in Acre-Feet

	2030	2035	2040	2045	2050
Normal Year	6,877	7,000	7,077	7,314	7,252
Single-Dry-Year	7,130	7,256	7,336	7,566	7,501
Multi-Dry-Year	7,286	7,415	7,497	7,722	7,656

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Table 12. Historical & Projected Demand in Acre-Feet

YEAR	TYPE	SALES	NRW[1]	DEMAND[2]	GPCD[3]
2000	Historical	9,400	338	9,738	155
2001	Historical	9,222	384	9,606	153
2002	Historical	9,088	545	9,633	152
2003	Historical	8,862	382	9,245	146
2004	Historical	9,237	313	9,549	150
2005	Historical	8,720	149	8,869	139
2006	Historical	8,972	129	9,101	142
2007	Historical	9,114	55	9,169	142
2008	Historical	9,136	156	9,292	143
2009	Historical	8,501	276	8,777	135
2010	Historical	8,084	381	8,465	130
2011	Historical	7,989	418	8,408	128
2012	Historical	7,935	315	8,250	125
2013	Historical	8,250	245	8,495	128
2014	Historical	7,660	156	7,816	117
2015	Historical	6,862	201	7,064	105
2016	Historical	6,592	94	6,686	99
2017	Historical	6,730	188	6,919	102
2018	Historical	6,894	193	7,086	103
2019	Historical	6,884	429	7,313	106
2020	Historical	6,755	234	6,988	101
2021	Historical	6,311	152	6,463	93
2022	Historical	6,407	110	6,517	93
2023	Historical	6,209	138	6,346	90
2024	Historical	6,145	168	6,313	90
2025	Historical	6,051	138	6,189	88
2030	Projected	6,731	146	6,877	93
2035	Projected	6,847	152	7,000	90
2040	Projected	6,920	157	7,077	88
2045	Projected	7,117	198	7,314	89
2050	Projected	7,050	202	7,252	86
2025 to 2050 Compound Annual Growth Rate (CAGR)				0.6%	-0.1%

[1]Non-Revenue Water (NRW)

[2]Demand is equal to the sum of water sales and non-revenue water.

[3]Gallons per capita per day.

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Table 13. Historical Water Production in Acre-Feet							
YEAR	**TYPE**	**WELLS**	**SURFACE**	**PURCHASED**	**RECYCLED[1]**	**OTHER[2]**	**TOTAL**
2000	Historical	1,106	0	8,632	0	0	9,738
2001	Historical	1,076	0	8,531	0	0	9,606
2002	Historical	1,207	0	8,426	0	0	9,633
2003	Historical	0	0	9,245	0	0	9,245
2004	Historical	0	0	9,549	0	0	9,549
2005	Historical	0	0	8,869	0	0	8,869
2006	Historical	0	0	9,101	0	0	9,101
2007	Historical	0	0	9,169	0	0	9,169
2008	Historical	206	0	9,086	0	0	9,292
2009	Historical	380	0	8,397	0	0	8,777
2010	Historical	452	0	8,013	0	0	8,465
2011	Historical	515	0	7,892	0	0	8,408
2012	Historical	606	0	7,644	0	0	8,250
2013	Historical	995	0	7,500	0	0	8,495
2014	Historical	1,028	0	6,787	0	0	7,816
2015	Historical	1,312	0	5,751	0	0	7,064
2016	Historical	527	0	6,159	0	0	6,687
2017	Historical	0	0	6,842	0	0	6,842
2018	Historical	0	0	6,856	0	0	6,856
2019	Historical	0	0	6,866	0	0	6,866
2020	Historical	0	0	6,627	0	0	6,627
2021	Historical	0	0	6,455	0	0	6,455
2022	Historical	0	0	6,518	0	0	6,518
2023	Historical	169	0	6,178	0	-6	6,342
2024	Historical	194	0	6,131	0	0	6,325
2025	Historical	246	0	5,852	0	0	6,098

[1]Includes water from recycling and desalter supply sources.

[2]Other water may include leased and wheeled water, as well as backwash and wastewater from treatment plant operation. Negative volumes represent production that has not entered the distribution system.

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Table 14. Historical Water Production Shares

YEAR	TYPE	WELLS	SURFACE	PURCHASED	RECYCLED[1]	OTHER[2]	TOTAL
2000	Historical	11%	0%	89%	0%	0%	100%
2001	Historical	11%	0%	89%	0%	0%	100%
2002	Historical	13%	0%	87%	0%	0%	100%
2003	Historical	0%	0%	100%	0%	0%	100%
2004	Historical	0%	0%	100%	0%	0%	100%
2005	Historical	0%	0%	100%	0%	0%	100%
2006	Historical	0%	0%	100%	0%	0%	100%
2007	Historical	0%	0%	100%	0%	0%	100%
2008	Historical	2%	0%	98%	0%	0%	100%
2009	Historical	4%	0%	96%	0%	0%	100%
2010	Historical	5%	0%	95%	0%	0%	100%
2011	Historical	6%	0%	94%	0%	0%	100%
2012	Historical	7%	0%	93%	0%	0%	100%
2013	Historical	12%	0%	88%	0%	0%	100%
2014	Historical	13%	0%	87%	0%	0%	100%
2015	Historical	19%	0%	81%	0%	0%	100%
2016	Historical	8%	0%	92%	0%	0%	100%
2017	Historical	0%	0%	100%	0%	0%	100%
2018	Historical	0%	0%	100%	0%	0%	100%
2019	Historical	0%	0%	100%	0%	0%	100%
2020	Historical	0%	0%	100%	0%	0%	100%
2021	Historical	0%	0%	100%	0%	0%	100%
2022	Historical	0%	0%	100%	0%	0%	100%
2023	Historical	3%	0%	97%	0%	0%	100%
2024	Historical	3%	0%	97%	0%	0%	100%
2025	Historical	4%	0%	96%	0%	0%	100%

[1]Includes water from recycling and desalter supply sources.

[2]Other water may include leased and wheeled water, as well as backwash and wastewater from treatment plant operation. Negative volumes represent production that has not entered the distribution system.

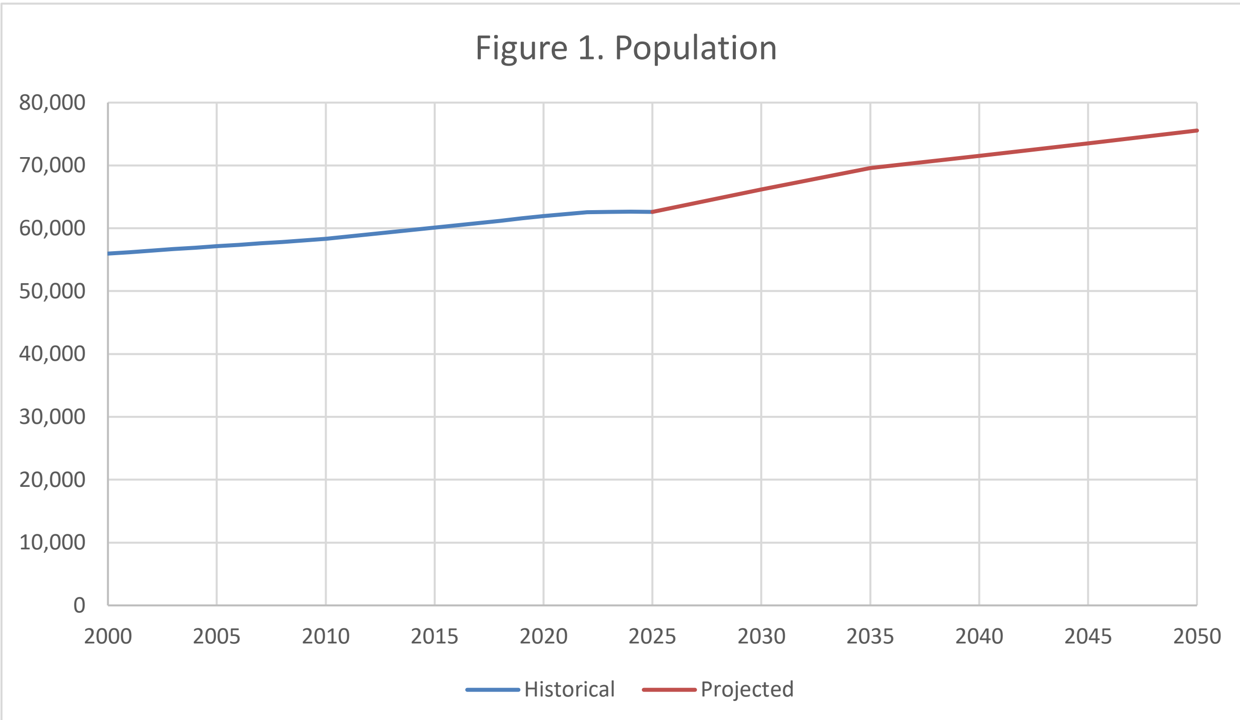


Figure 1. Population
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
Historical
Projected

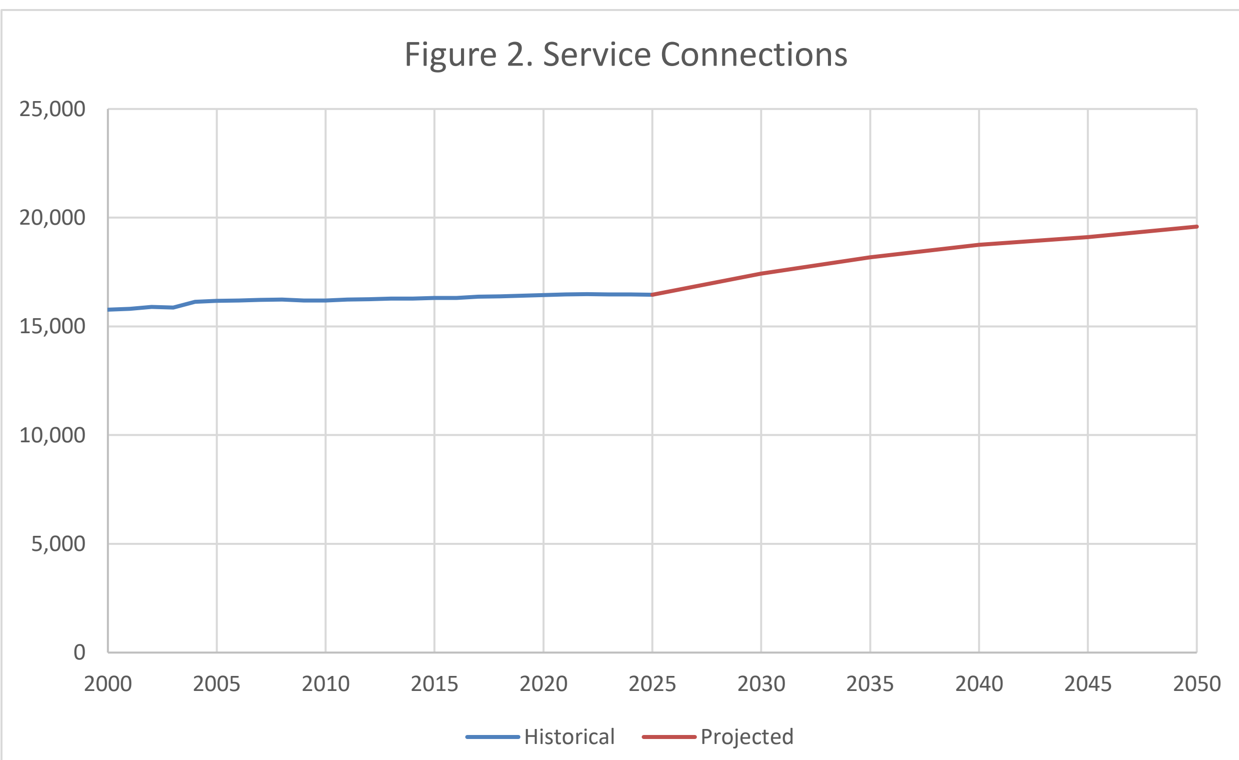


Figure 2. Service Connections
25,000
20,000
15,000
10,000
5,000
0
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
Historical
Projected

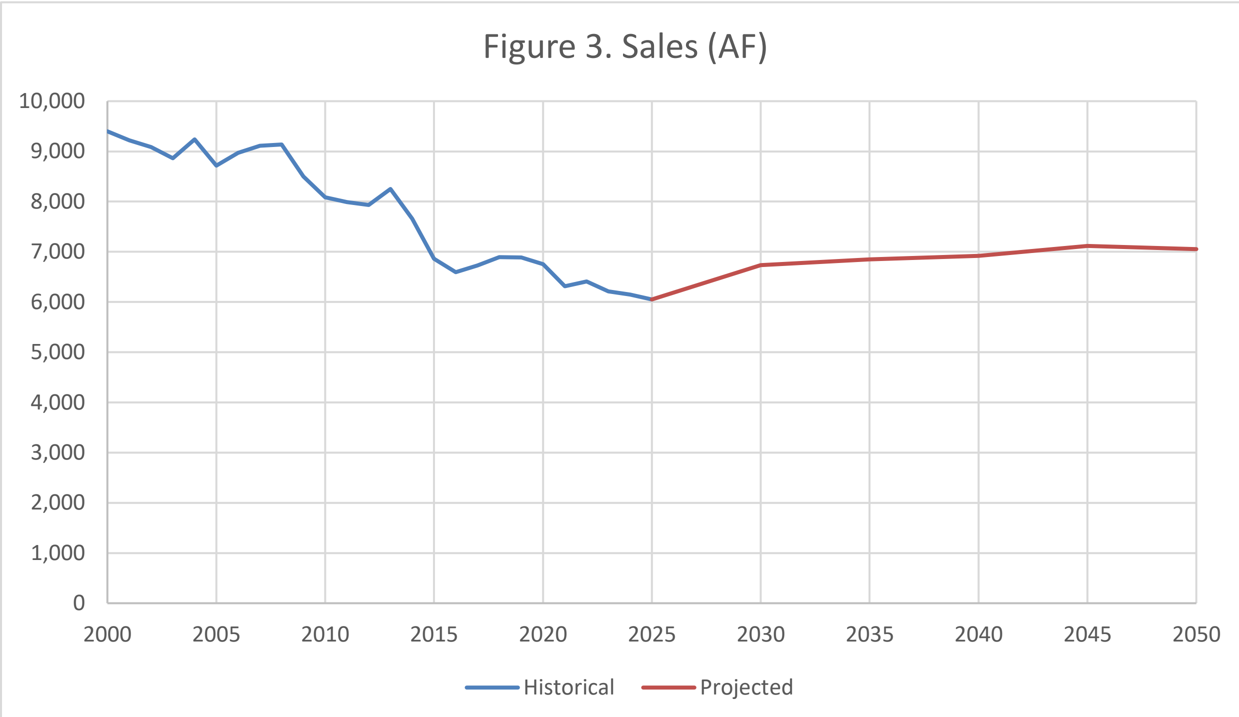


Figure 3. Sales (AF)
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
Historical
Projected

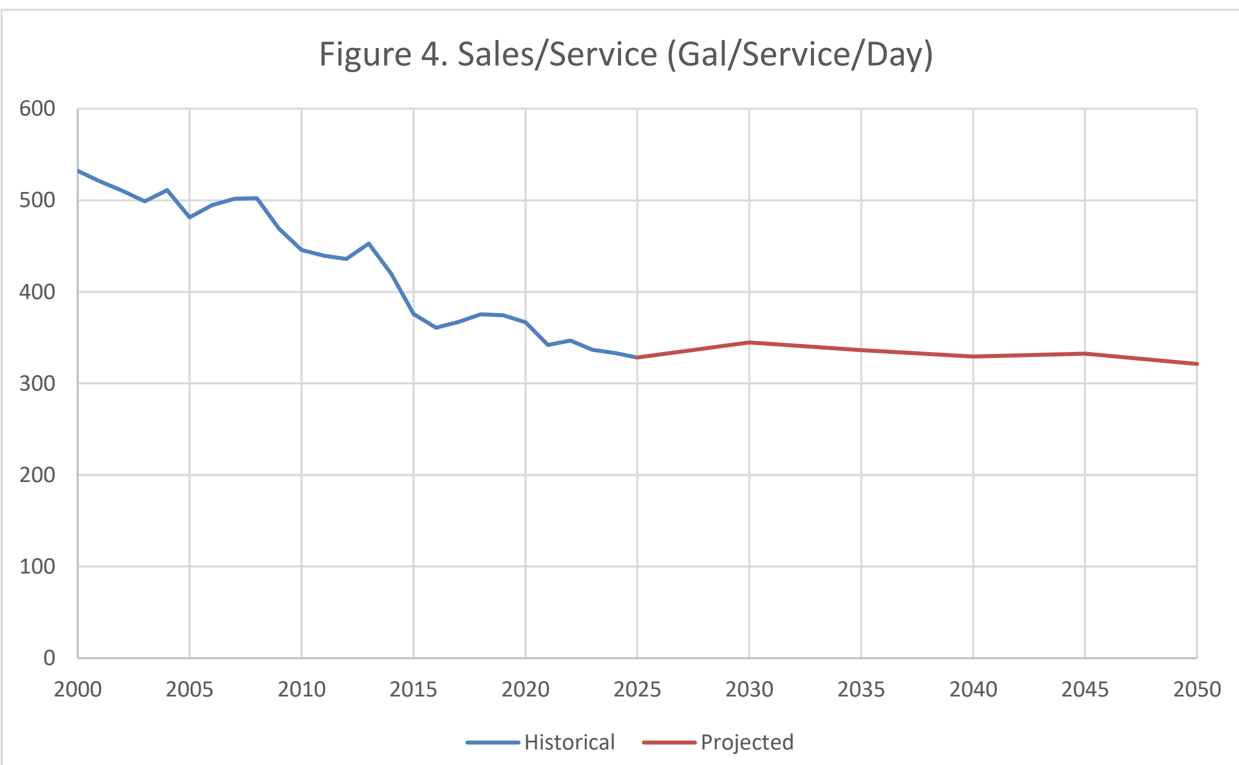
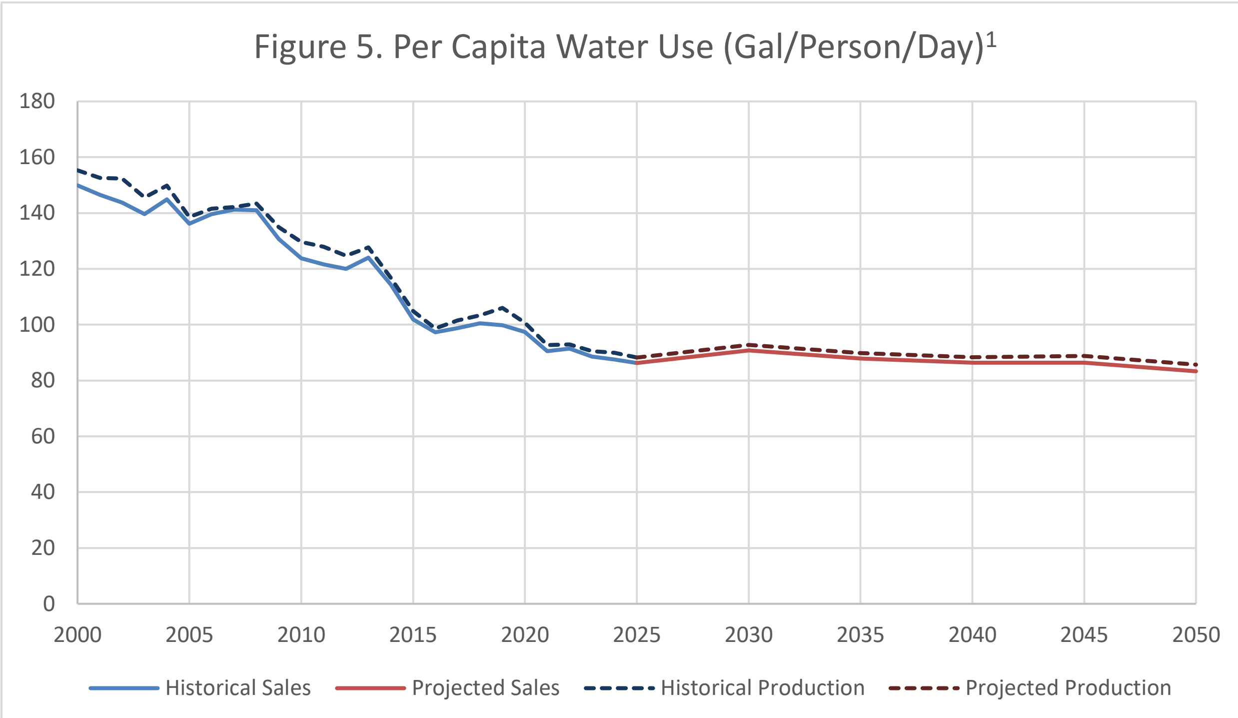
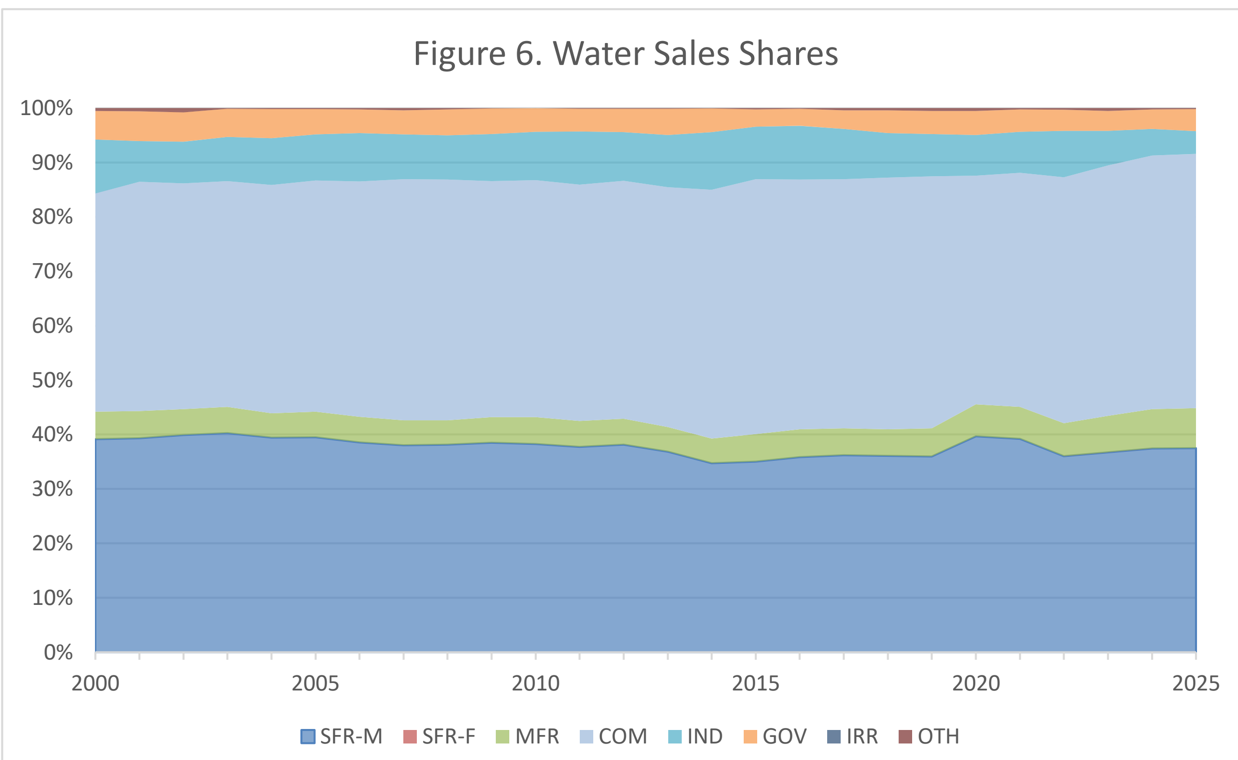


Figure 4. Sales/Service (Gal/Service/Day)
600
500
400
300
200
100
0
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
Historical
Projected





SFR-M = Single-Family Metered	COM = Commercial	IRR = Irrigation
SFR-F = Single-Family Unmetered (Flat Service)	IND = Industrial	OTH = Other/Miscellaneous
MFR = Multi-Family	GOV = Government	REC = Recycled

[1]Difference between the production and sales data series in Figure 5 is non-revenue water.

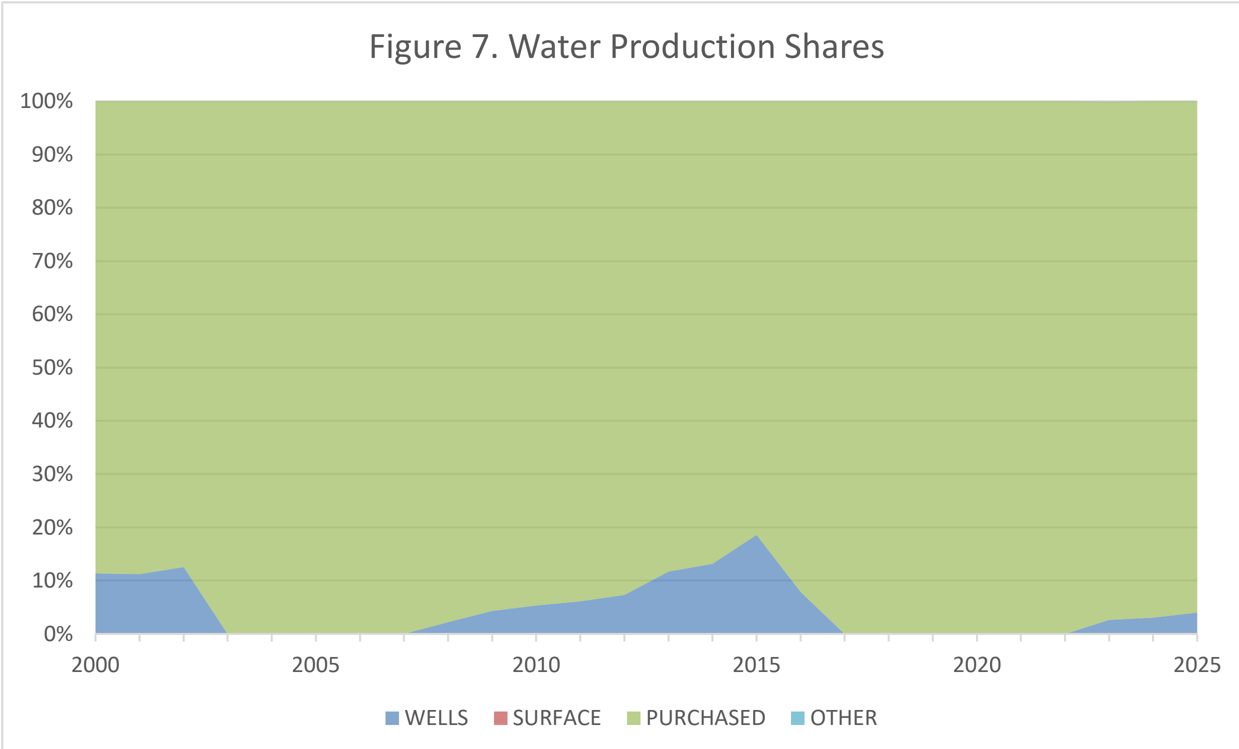


Figure 7. Water Production Shares
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2000
2005
2010
2015
2020
2025
WELLS
SURFACE
PURCHASED
OTHER

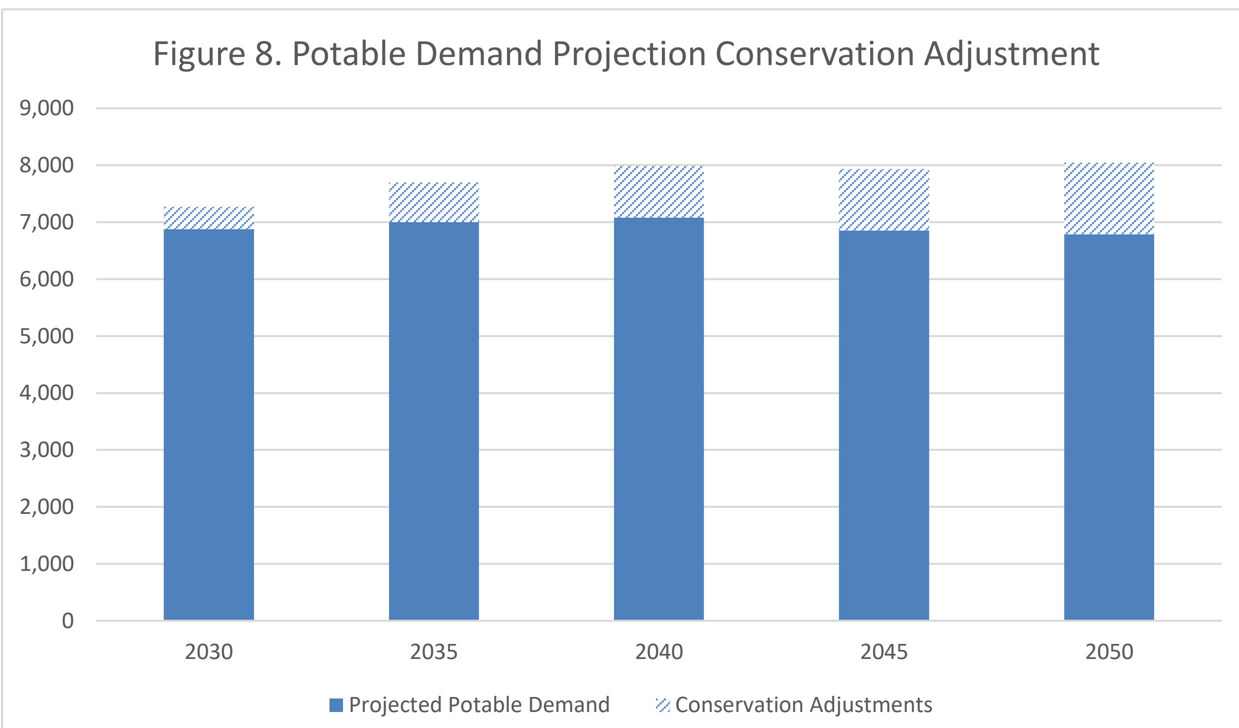


Figure 8. Potable Demand Projection Conservation Adjustment
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
2030
2035
2040
2045
2050
Projected Potable Demand
Conservation Adjustments

Water Supply Assessment (WSA) Information

Table 15. WSA Demand Treated as Additive to Regional Growth Projections

WSA	% of WSA Demand Added to Projection[1]
121 East Grand Avenue Project	50%
175 Sylvester Project	50%
4399 Eccles Avenue Project	50%
573 Forbes Boulevard Project	50%
691 & 695 Gateway Boulevard Project	50%
800 Dubuque Avenue Project	50%
Baylands Specific Plan	50%
Health Peak Vantage Project	50%
Infinite 101 Project	50%
Infinite 131 Project	50%
Oyster Point Specific Plan	50%
Sierra Point Towers Project	50%
South San Francisco SFPUC Site	50%
Southline Specific Plan	50%

[1]Percent of WSA demand considered to be additive to regional growth forecast.

Compound Annual Growth Rates (CAGR)

Table 16. Historical Service Growth

Class	2020 to 2025	2015 to 2025	2010 to 2025	2005 to 2025
SFR[1]	0.0%	0.1%	0.1%	0.1%
MFR	0.7%	1.2%	1.4%	1.1%
COM	0.2%	0.3%	0.1%	0.2%
IND	-0.9%	-1.5%	-1.5%	-1.8%
GOV	-0.4%	-0.5%	-0.6%	-0.5%
IRR	0.0%	0.0%	0.0%	-100.0%
OTH	-13.2%	-3.7%	1.5%	-2.1%
REC	0.0%	0.0%	0.0%	0.0%

[1]Total metered and unmetered single-family services

Table 17. Historical Growth between Decennial Censuses

Series	2010 to 2020	2000 to 2020	1990 to 2020
Population	0.60%	0.51%	0.73%
Total Housing Units	0.61%	0.60%	0.57%
Occupied Housing Units	0.64%	0.53%	0.55%

Table 18. Regional Growth Forecasts from Land Use Planning Entities

Source: ABAG PBA50 TAZ Forecasts
Range: 2015-2050

Series	CAGR
Population	0.20%
Housing	0.58%
Employment	0.12%

Compound Annual Growth Rates (CAGR) Used in Demand Projections

Table 19. Historical Service Growth

Time Series	Basis	Projection CAGR	Override CAGR[1]
Population	Land Use Entity Regional Housing Forecast CAGR	0.58%	
Services			
SFR	Land Use Entity Regional Housing Forecast CAGR	0.58%	
MFR	Land Use Entity Regional Housing Forecast CAGR	0.58%	
COM	Land Use Entity Regional Employment Forecast CAGR	0.12%	
IND	Land Use Entity Regional Employment Forecast CAGR	0.12%	
GOV	Land Use Entity Regional Employment Forecast CAGR	0.12%	
IRR	Land Use Entity Regional Employment Forecast CAGR	0.12%	
OTH	Land Use Entity Regional Population Forecast CAGR	0.20%	
REC	Land Use Entity Regional Population Forecast CAGR	0.20%	

SFR = Single-Family; IND = Industrial; OTH = Other/Miscellaneous
MFR = Multi-Family; GOV = Government; REC = Recycled
COM = Commercial; IRR = Irrigation

[1]If value is present, then the demand model uses this value instead of the Basis value.

Appendix F: Climate Change Studies – Executive Summaries

- Potential Climate Change Impacts on the Water Supplies of California Water Service
- Climate Change – Water Resource Monitoring and Adaptation Plan – Phase 1 and Phase 2

Potential Climate Change Impacts on the Water Supplies of California Water Service

Prepared by

Gary Fiske and Associates, Inc.
Balance Hydrologics, Inc.

January 2016

Executive Summary

Introduction

California Water Service Company (Cal Water) provides water service to roughly 478,000 customers – about 1.7 million people – located in 83 state-wide communities in 24 service districts. Cal Water's districts rely on a variety of supply sources, including local groundwater, local surface water, and imported supplies. It is critical for Cal Water to gain a better understanding of the potential impacts of climate change on the availability of those supplies. Impacts are inherently uncertain, but Cal Water believes that the only responsible course is to carefully incorporate climate change into its ongoing water supply planning.

The present project and report represent a first step in that path. In order for Cal Water to determine how its long-term water supply planning should reflect climate change impacts, it must first have an understanding of what the impacts of climate change on its supply sources might be. That is the purpose of this study.

The work reported on here focuses on the sample of Cal Water districts highlighted in Figure ES-1. These districts account for 85% of Cal Water's total 2014 production and reflect the diversity of all Cal Water districts, including geographic, hydrologic, and climatic conditions and primary and secondary supply sources.

Changes in climate can affect the availability of local groundwater and surface water supplies, as well as purchased imported supplies. This study separately addresses the impacts on each of these for each sample district. It relies on the best available projections of changes in climate (temperature and precipitation) through the end of the century. It then uses the climate projections to examine how surface water flows and groundwater recharge rates may change.

For imported supplies, this study relies on studies already completed by wholesale providers where possible. Where no such studies have been done or where the data from such studies was unavailable, other approaches were developed to estimate climate change impacts on these supplies.

The results reported here provide an integrated view of how projected climate changes may affect water supply availability for Cal Water's service districts. The results also represent a first step in integrating potential future climate change impacts into Cal Water's ongoing supply planning. Because of the inherent uncertainties, a nuanced risk assessment may be needed to guide the incorporation of these results into long-range planning. Beyond the Company's supply/infrastructure planning, the results also can affect the Company's triennial General Rate Cases; they may also have potential operational implications.

Figure ES- 1. Cal Water Service Districts with Sample Districts Highlighted

Estimating Changes in Climate

Climate change is primarily driven by increased concentrations of greenhouse gases (GHGs) in the atmosphere. The trajectory of future climate change is a function of the rate at which those concentrations are projected to increase and the manner in which the atmosphere and oceans respond to increased concentrations. Both are difficult to model. Thus, while the scientific community overwhelmingly agrees that climate change will occur (and indeed may already have begun), the trajectory of those changes is very uncertain.

The projections of temperature and precipitation that underlie this study are based on 40 of the latest Global Circulation Models (GCMs) run as part of the Coupled Model Intercomparison Project Phase 5 (CMIP5). Generally speaking, this type of approach is termed an ensemble analysis, for which the downscaled climate projections for any particular Cal Water Service District were based on the median of the 40 downscaled GCM datasets. The GCMs used by the analysis are driven by two GHG emission pathways that bound the possible trajectories of GHG concentrations.

Impacts of Climate Change on Water Supplies

The supplies for each district consist of a mix of local surface water, local groundwater, and/or purchased imports. Climate change impacts were estimated for each of these components. The approaches used for each are described below. Based on the breakdown of district production among the supply sources, Table ES-1 shows the ranges of projected overall climate change impacts on available supply, relative to the historic average.[1] Table ES-2 groups this vulnerability into 4 categories of expected change, and Figure ES-2 maps the end-of-century vulnerability.

[1] The historical averages used here, and elsewhere in this report, are based on the entire range of historical data available for the district-specific analyses. These ranges vary across districts, and are specified within the district-specific technical memoranda.

Table ES- 1. Projected Changes in Available Supply due to Climate Change

District		Percentage Change in Supply		
		2020	2050	2100
BK	Minimum	-10%	-10%	-12%
	Maximum	-12%	-16%	-20%
VIS	Minimum	-7%	-8%	-8%
	Maximum	-9%	-10%	-14%
KRV	Minimum	-13%	-16%	-19%
	Maximum	-16%	-21%	-31%
MPS/SSF/BG	Minimum	0%	-2%	-6%
	Maximum	0%	-7%	-15%
LAS	Minimum	-3%	-3%	-10%
	Maximum	-4%	-18%	-28%
CH	Minimum	2%	2%	0%
	Maximum	3%	1%	-3%
ORO	Minimum	0%	8%	5%
	Maximum	0%	-8%	-7%
DOM/HR/PV	Minimum	0%	0%	-1%
	Maximum	0%	-2%	-3%
STK	Minimum	0%	0%	-8%
	Maximum	0%	-14%	-17%
SLN	Minimum	-6%	-6%	-6%
	Maximum	-7%	-7%	-7%

Table ES- 2. Categories of Projected Supply Vulnerability

District	Supply Vulnerability		
	2020	2050	2100
KRV	3	4	4
BK	3	3	4
LAS	1	3	4
VIS	2	2	3
STK	1	2	3
SLN	2	2	2
MPS/SSF/BG	1	1	3
DOM/HR/PV	1	1	1
ORO	1	1	1
CH	1	1	1

Districts in Category 1 expect <5% reduction in supply. Category 2 indicates a reduction of 5-10%. Category 3 indicates an expected reduction of 10-15%. Category 4 reductions exceed 15%.

Figure ES- 2. Cal Water 2100 Vulnerability to Climate Change

Vulnerability levels:
Green = Low
Yellow = Moderate
Light Red = High
Dark Red = Very High

Estimating Climate Change Impacts on Local Surface Supplies

For those Cal Water districts that obtain a portion of their water supplies from local surface water, projected average annual precipitation in each of three forecast years (2020, 2050, 2100) were compared to historical precipitation to estimate the projected average annual discharge for that forecast year. Table ES-3 shows the estimated percent changes in surface water availability compared to historical averages.

Table ES- 3. Estimated Impacts on Local Surface Supply Availability

District		Percent Change in Runoff		
		2020	2050	2100
BK	Minimum Impact	-17%	-18%	-19%
	Maximum Impact	-18%	-19%	-23%
KRV	Minimum Impact	-17%	-18%	-19%
	Maximum Impact	-18%	-19%	-23%
MPS/SSF/BG	Minimum Impact	+3%	+6%	+12%
	Maximum Impact	+3%	+5%	+6%

Of the three districts, the two in the southern San Joaquin Valley are projected to experience significant reductions in their local surface supplies. In contrast, the Bear Gulch district surface supply is forecast to increase.

Estimating Climate Change Impacts on Local Groundwater Supplies

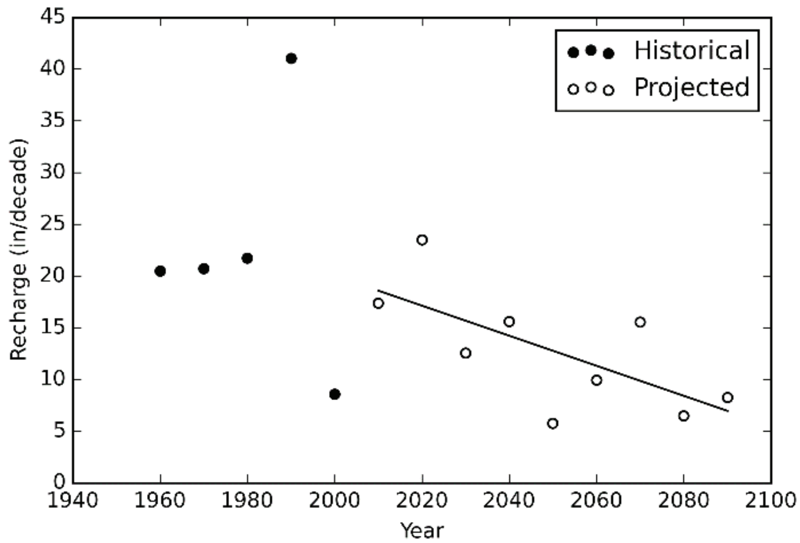
Climate change impacts on Cal Water's local groundwater supplies result from changes in projected groundwater recharge. The three groundwater recharge components include:

- Local river sources;
- Direct recharge from precipitation on the groundwater basin; and
- Recharge from agricultural and urban deep percolation.

The analysis first estimated the split of local recharge among these three components using geographic and geologic data, geochemical markers, and previously published reports and other supporting information. The climate change impacts on each component were then estimated, consolidated into overall projections of recharge impacts, and compared to estimated historical recharge rates.

Estimates of impacts on river recharge used the methodology for local surface supply described above. For the purposes of this phase of work, it was assumed that the change in recharge from the river is proportional to the change in total annual discharge. The estimated amount of water that will recharge directly into a groundwater basin from rain (or snow) is based on a balance of evapotranspiration (ET), precipitation rates, and soil water capacity. Recharge is estimated using both historical and projected precipitation and temperature data. Decadal averages in projected recharge are then used to calculate long-term trends. This is illustrated in Figure ES-3 for Kern River Valley.

Figure ES- 3. Historic and Projected Decadal Direct-Precipitation Recharge for Kern River Valley



A quantitative projection of recharge from deep percolation beneath irrigated fields and urban areas is beyond the scope of this phase. Instead, districts for which a significant proportion of recharge is from agricultural and urban water are identified and expected trends under climate change of this water source for those districts are estimated. At-risk service areas with decreasing agricultural and urban water sources can be explored further in future work.

The estimated percentage impacts on each of the recharge components are multiplied by the expected fractions that each component is of total recharge to calculate the range of expected recharge reductions. Table ES-4 shows those results for each district, excluding the impacts of urban/agricultural applied water percolation.

Actual impacts on Cal Water's ability to pump groundwater may be less than these recharge reductions because the storage volumes in different basins have differing degrees of responsiveness to changes in recharge. The degree to which changes in recharge volumes translate into available groundwater supply is a function of the hydrogeologic attributes of the basin. A detailed understanding of those characteristics would require a level of modeling that is well beyond the scope of this phase of work. Instead, the estimates of basin responsiveness were based on the historical record of how the basin's water level has varied with recent climate variability. For some districts, the basin appears to be highly responsive, while for others changes in climate do not have much impact.

Table ES- 4. Projected Changes in Average Annual Groundwater Recharge

District		Percentage Change in Recharge		
		2020	2050	2100
BK	Minimum	-14%	-15%	-15%
	Maximum	-14%	-15%	-18%
VIS	Minimum	-9%	-10%	-11%
	Maximum	-9%	-10%	-14%
KRV	Minimum	-13.4%	-19%	-23%
	Maximum	-15%	-22%	-35%
MPS/SSF/BG	Minimum	-2%	-4%	-6%
	Maximum	-2%	-6%	-12%
LAS	Minimum	-7%	-8%	-13%
	Maximum	-8%	-18%	-25%
CH	Minimum	6%	4%	1%
	Maximum	6%	2%	-4%
ORO	Minimum	0%	0%	0%
	Maximum	0%	0%	0%
DOM/HR/PV	Minimum	0%	0%	0%
	Maximum	0%	0%	0%
STK	Minimum	-2%	-3%	-6%
	Maximum	-2%	-4%	-7%
SLN	Minimum	-7%	-7%	-7%
	Maximum	-7%	-7%	-7%

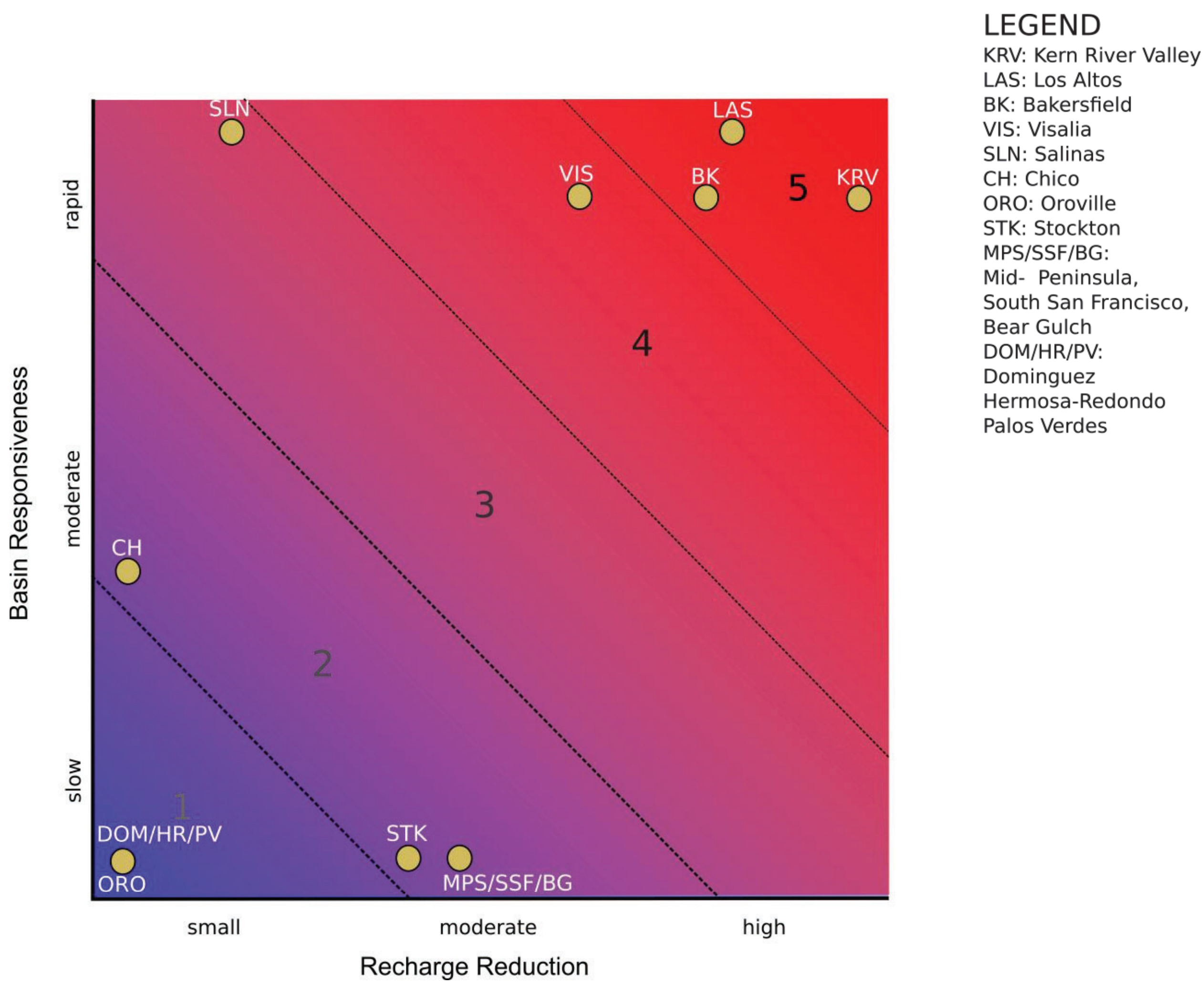
The overall risk to Cal Water's groundwater supplies for each district is based on the expected recharge reductions and the expected responsiveness of basin water level to those reductions. Table ES-5 rates each district's groundwater supply risk on a 1-5 scale, with 1 indicating little or no risk and 5 indicating high risk. Figure ES-4 is a visual depiction of these ratings.

Generally speaking, the groundwater supply impacts are large for the districts in the southern San Joaquin Valley. The Los Altos District also shows a high impact, largely because a significant portion of its recharge is from imported supplies, which are forecast to decrease significantly. Further north in the Central Valley, groundwater supplies are less affected. The Bay Area and Los Angeles Basin districts also show relatively smaller impacts.

Table ES- 5. District Groundwater Risk Ratings

District	Rating
BK	5
KRV	5
LAS	5
VIS	4
SLN	3
CH	2
MPS/SSF/BG	2
STK	2
ORO	1
DOM/HR/PV	1

Figure ES- 4. Groundwater Risk Ratings



Impacts of Climate Change on Imported Water Supplies

About half of Cal Water's supply is imported water that is purchased from wholesale suppliers. The supply and delivery systems of these suppliers are generally very complex and it is impossible within the confines of this project to independently model the impacts of climate change on those systems. The analysis therefore relied on available data, including the results of any climate change modeling that these suppliers themselves have done and other indicators of climate change impacts.

As a result, the climate change scenarios on which the estimates of impacts on different wholesale supplies are based will differ from one another and from the approach described above for the analysis of local supply impacts. The time frames of the results also differ. However, despite those limitations, important information about potential future climate change impacts on wholesale water supply availability was developed. Table ES-6 compares summary measures of central tendency for the potential district-specific climate change impacts on the availability of imported supplies.

Table ES- 6. Projected Climate Change Impacts on Imported Supplies

District	Source	Mid-Century	Late-Century
BK	SWP	-7%	-17%
LAS	SWP, CVP	-9%	-21%
ORO	SWP	-1%	-3%
MPS/SSF/BG	SFPUC	-10%	-20%
DOM/HR/PV	MWD	-1% to -2%	-2% to -5%
STK	USBR	-5%	-10%

Conclusions and Next Steps

The study results indicate significant risks for some districts. This points to the need for Cal Water to account for these risks in its future water supply planning if it is to minimize the adverse effects on its customers. The sole focus of this effort was to assess the potential climate change impacts on Cal Water's supplies. That is an important first step in integrating climate change into supply planning, but this study was not designed to:

- Analyze the impacts of these future supply limitations on Cal Water's ability to serve future customer demands. This is a function of such factors as water rights and contractual arrangements, how future demands are forecast to grow, how water conservation programming will affect those demands, and how Cal Water might modify the manner in which it operates its system.

- Develop mitigation plan to evaluate how potential supply and infrastructure investments and/or acquisition of new supplies might address any adverse impacts on water supply reliability.

- Formally assess alternative approaches to incorporating climate change in Cal Water's supply planning.

Possible next steps for Cal Water include:

- Methodological enhancements to reduce some of the uncertainties in the results reported herein;

- Development and acquisition of better and more complete data;

- Extending this study to other Cal Water districts;

- Developing a plan to mitigate anticipated climate change impacts on supply; and

- Integrating climate change into the Company's ongoing water supply planning.

Despite the study's limitations and uncertainties, three critical messages emerge:

- Cal Water supplies in the 21st century are likely to be adversely affected by climate change.

- These impacts will vary considerably across districts, depending on geography and source mix. For some districts, the impacts can be significant; for others, little or no impacts are projected.

- The impacts will generally increase over time. Anticipated late-century impacts are forecast to be significantly higher in some districts than impacts at mid-century. Moreover, during the period that climate change is forecast to increasingly constrain supplies, demands are also generally forecast to increase, further exacerbating the adverse impacts on water supply reliability.

Climate Change-Water Resource Monitoring and Adaptation Plan – Phase 1

December 17, 2020

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San Jose, CA 95112

Submitted by:
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Executive Summary

Shifts in the frequency and severity of natural hazards resulting from climate change, often referred to as climate hazards, increasingly threaten water resources in California. These relevant climate hazards include reductions to snowpack, greater concentrations of precipitation in both a shorter rain season and isolated atmospheric river events, and more volatility between wet and dry water years.

To identify and prepare for impacts from these hazards, California Water Service (Cal Water) is seeking to identify climate change vulnerabilities to water supplies, operations and facilities, and to develop adaptation strategies to address those vulnerabilities through a Climate Change Water Resources Monitoring and Adaptation Plan. This body of work is intended to provide Cal Water with information to inform decisions on water system/asset management and resource planning to better prepare for and respond to current and projected changes to climate. This work represents a forward-looking approach in addressing climate risks for California utilities, as the large majority of water wholesaler and utilities have not completed climate vulnerability and adaptation plans.

In the first phase of this effort, the ICF team collaborated with Cal Water to conduct a literature and tools review as the foundation for subsequent phases of work. In Phase 2 of this project, the ICF team and Cal Water will undertake a vulnerability assessment of Cal Water's facilities and operations by developing an assessment approach that evaluates climate impacts to Cal Water, identifies asset vulnerabilities, and prioritizes climate risks. Phase 3 will focus on an assessment of climate-driven impacts to water supply resources and demand. This first phase of research and assessment will provide Cal Water with a clear "lay of the land" in understanding available methodologies and lessons learned in conducting vulnerability assessments and developing adaptation plans in the water sector. This work can provide key insights for Cal Water, industry practitioners, and Cal Water customers on best practices and needs in climate vulnerability and adaptation efforts.

This first phase will also act as a foundation for Cal Water to build on in subsequent phases of work. ICF and Cal Water will build on research and findings developed in Phase 1 to define the scope of Phases 2 and 3.

In Phase 1, the ICF team undertook three areas of review:

1) Literature and tools related to adaptation planning by water suppliers and other relevant organizations
2) Methods and data in Cal Water's 2016 Vulnerability Study "Potential Climate Change Impacts on the Water Supplies of California Water Service"
3) Climate change impact assessments and adaptation plans beyond Cal Water (wholesalers, state agencies) that could affect Cal Water's vulnerability or adaptive capacity

In the first part of our assessment, the studies we reviewed conclude that there is high certainty of climate-driven reductions to snowpack, wetter winter months, and more volatility between wet and dry water years. While California water systems are designed to operate under a wide range of hydrologic conditions, they are not designed to absorb and adapt to the projected levels of change, which could have impacts on historical supplies from reservoir systems and groundwater systems. These studies also revealed a suite of potential approaches to vulnerability assessment and risk assessment that are applicable to Phases 2 and 3.

Key studies that the ICF team referenced include Brown and Caldwell's "Impacts of Climate Change on Honolulu Water Supplies and Planning Strategies for Mitigation", the Water Research Foundation's (WRF)'s "Mapping Climate Exposure and Climate Information Needs to Water Utility Business Functions", the Metropolitan Water District's (MWD)'s "2015 Integrated Water Resources Plan" and "2015 Urban Water Management Plan", and the U.S. Environmental Protection Agency's (EPA's) Climate Resilience Evaluation and Awareness Toolkit (CREAT).

In the second part of our review, we found that Cal Water's 2016 Climate Change Vulnerability Study undertook a high-level investigation of impacts of climate change on water supply, including surface water, groundwater, and imported water throughout Cal Water service areas. However, the study did not use uniform metrics across water suppliers, was unable to apply the currently available downscaled climate projections, and did not consider the full suite of potential climate impacts to Cal Water's systems, including impacts of compounding climate hazards and impacts on Cal Water facilities and operations.

In the third part of this work, the ICF team researched and assessed existing climate vulnerability assessments and adaptation efforts that have an impact on Cal Water's ability to mitigate impacts from climate change. This included efforts by water supply wholesalers connected to Cal Water's system, and state agencies that regulate Cal Water's supplies, operations, and planning efforts. This will allow Cal Water to build on existing actions and avoid recreating adaptation efforts that are planned or have been implemented.

Cal Water has undertaken key steps toward adaptation planning since the 2016 Vulnerability Study, such as this work to provide additional vulnerability analysis, working locally to identify and prepare to meet Sustainable Groundwater Management Act (SGMA) requirements, and coordinating with wholesalers on their identified climate-driven vulnerabilities. Phases 2 and 3 of this work will further frame system vulnerabilities within an adaptation planning context for a flexible and anticipatory response.

The ICF team's literature review focused on identifying approaches for assessing water utility vulnerabilities of assets and water resources, and adaptation planning needs (summarized in Table 1). To identify these priority approaches, the team reviewed a list of publications with input from Cal Water on key sources. We reviewed and analyzed the relevant literature for applicability to Cal Water, the advantages and fit within a robust plan for assessment, and the potential disadvantages. We highlighted those approaches in the sections on key takeaways and the applicability of approaches to Cal Water. Table 1 provides important considerations raised by the ICF team during this process.

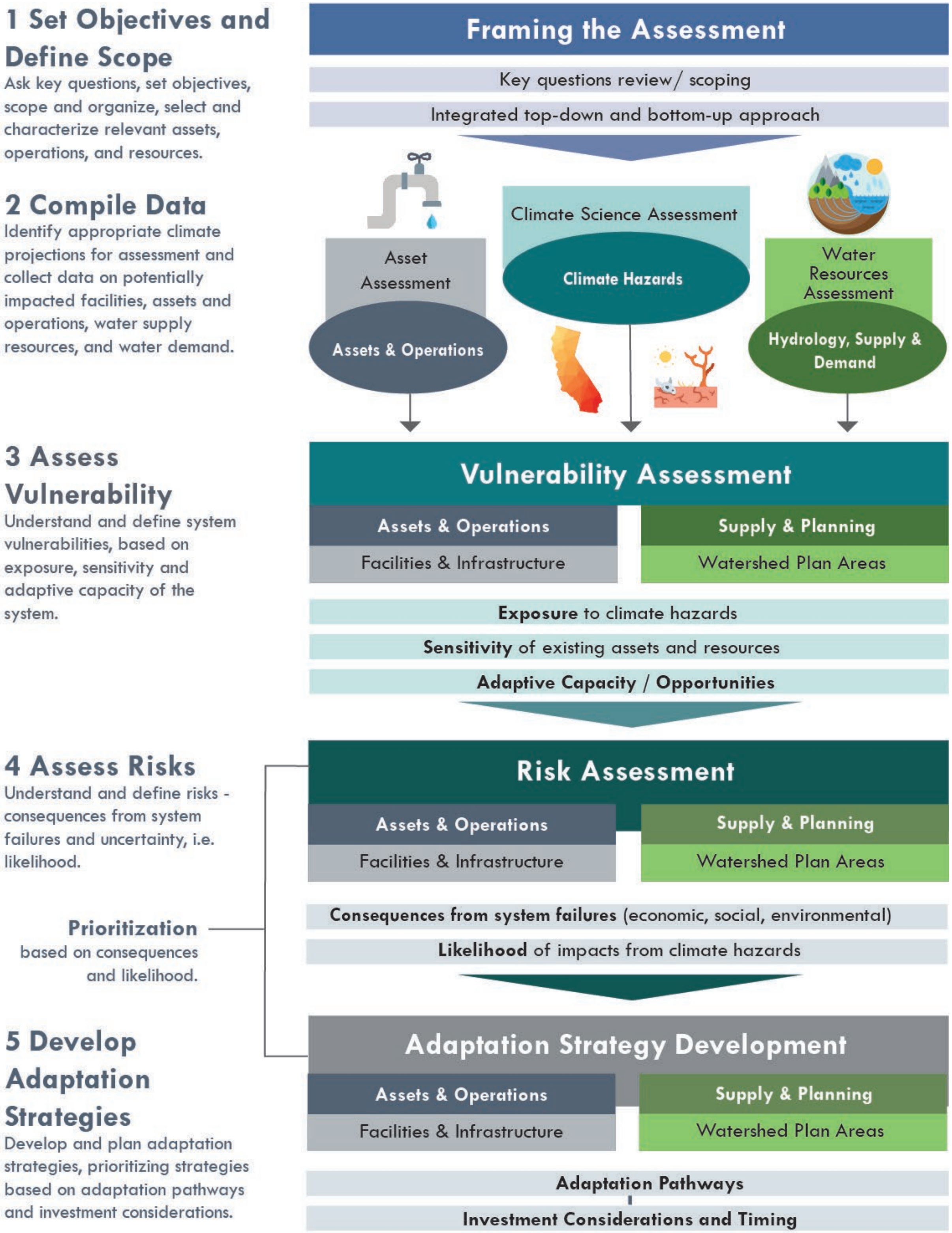
Table 1: Advantages and disadvantages of identified approaches

Identified Approach	Advantages	Disadvantages
Integrated resource-level (i.e., top-down) and asset-level (i.e., bottom-up) approaches to vulnerability assessment	• Allows for matching available information with appropriate methodologies • Supports evaluation of vulnerabilities in both water supply resources and physical systems: an integrated approach can help to address gaps in either area	• Bottom-up approaches can require extensive historical data and asset-level data • Integration of climate projections into hydrological models can be challenging. For example, data inputs for hydrological models and the outputs from climate projections may be incompatible or require additional data processing
Robust Decision-Making	• Supports identification of decisions for response under a range of potential climate futures • Supports alignment between climate impacts and operating units/business functions • Ensures the scope focuses on critical services, assets, and resources • Supports the development of adaptation pathways and measures • Provides a framework for information that can signal the need for critical decisions on adaptation	• Involves significant investment of time to identify performance metrics, business functions, and key variables • Even with significant time invested on the front end, scope can change and require rescoping later in the effort • Requires a strong understanding of utility decision-making
Applying climate projections to hydrologic modeling, future demand and planning scenarios	• Generates better understanding of impacts of extreme scenarios, snowpack loss, drought, increased temperatures, precipitation whiplash, and other hydrologic changes in water supply resources and downstream demands • Allows for modeling of a range of climate scenarios to better account for uncertainties in resource management and climate outcomes • Integrates climate projections with scaled historical time series data	• Can require substantial data, and may introduce bias (due to selected climate scenarios) • It is necessary to identify performance metrics and thresholds related to available climate variables; these can be difficult to identify and thresholds may not exist • Relies on necessary simplifying assumptions to model complex hydrologic systems
Stress testing and scenarios	• Supports management of uncertainty, especially in the absence of data • Allows for understanding of climate impacts on system performance within a risk framework	• Can require refined climate information (e.g. hydrological variables) and detailed asset information • Can require the integration of climate information into hydrological models, which may require

Identified Approach	Advantages	Disadvantages
	• Supports identification of major performance metrics and their potential for failure • Helps in understanding how the severity of impacts varies for facilities, operations, and water supplies under different climate change conditions.	significant data processing to be compatible with one another • Can result in qualitative or directional findings that don't provide straightforward adaptation responses
Engaging staff in climate change vulnerability assessments and adaptation plans	• Provides perspective for setting study parameters • Provides targeted input and data into assessment • Identifies existing data gaps and actions to address gaps • Supports development of institutional capacity for monitoring impacts, adaptation planning, and implementation	• Can be time-consuming for team members attending workshops and interviews; requires a targeted approach to ensure efficiency and that the right data is captured • Requires cross-team coordination that may be outside of "normal" communication pathways, e.g. between engineers and policy specialists
Evaluating costs of inaction	• Helps to prioritize adaptation planning needs • Creates a better understanding of the risks to Cal Water	• Requires scaling information on past costs without clear data on future impacts, creating uncertainties in estimates
Use of Flexible Adaptation Pathways	• Helps to select appropriate timing (including lead time from planning to implementation) and application of adaptation measures • Considers and compares multiple strategies in adaptation planning • Includes triggers that signal when decision-makers should decide on switching to another pathway • Allows for adaptive decisions under uncertainty by integrating points for re-assessing pathway and actions • Considers alternative external developments over time	• Does not provide a fixed timeline for actions • This approach is relatively new and may require coordination with budget cycles and external policy updates, since actions evolve over time • May push decision burden onto future decision-makers who did not develop original pathway

Our team synthesized these identified methodologies, findings, and insights into an overarching approach for characterizing climate vulnerabilities and planning for adaptation at both an asset level and water supply planning level to suit Cal Water's needs in addressing climate change impacts, shown in Figure 1.

Figure 1: Climate Assessment Framework

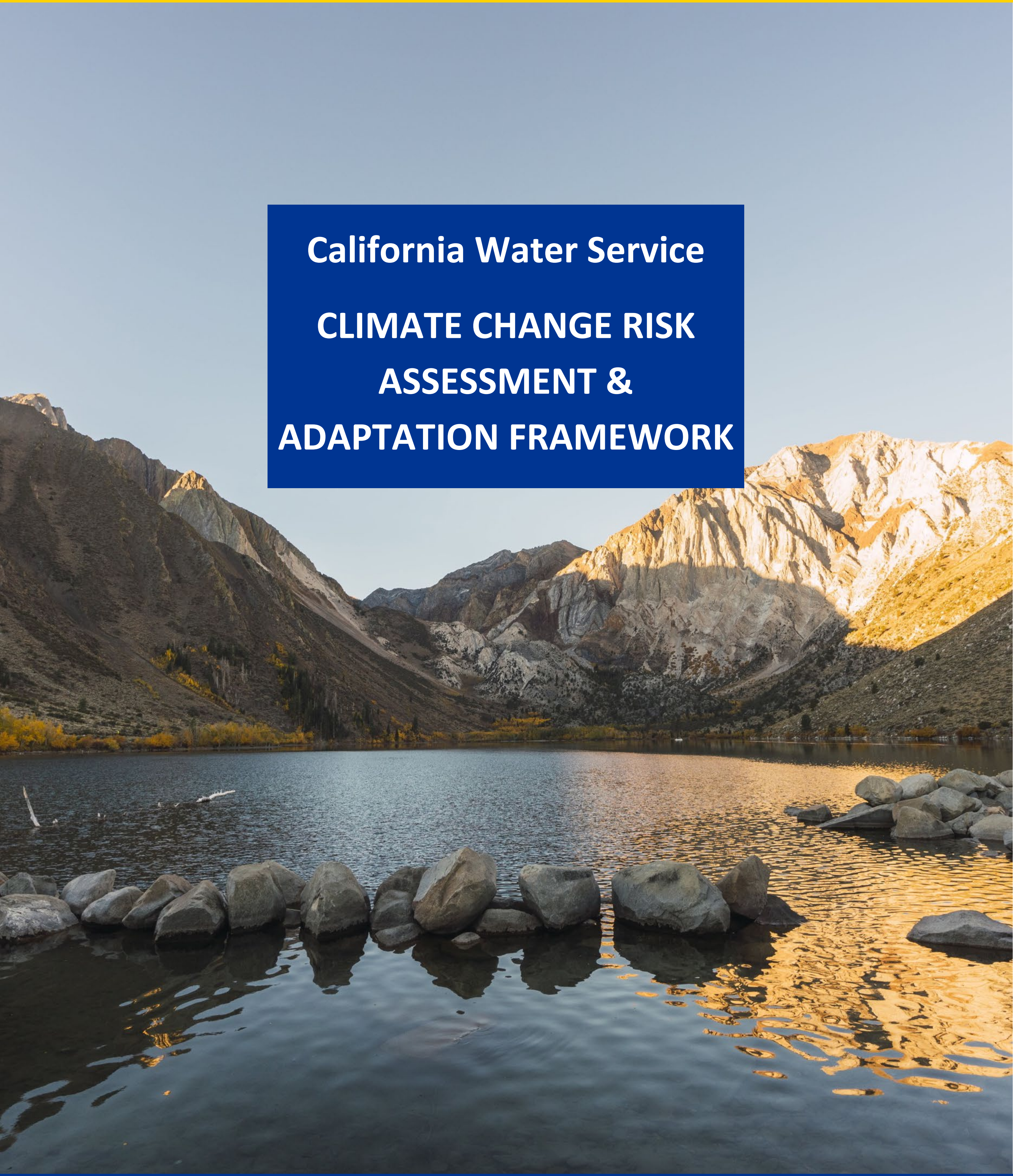


Source: Silvestrum Climate Associates, October 2020

Based on this review, the ICF team is making the following key recommendations for guiding Cal Water's efforts in identifying climate vulnerabilities and planning for adaptation:

- **Apply a standard conceptual framework to vulnerability assessment which integrates both top-down analysis and bottom-up analysis (see Figure 1).** The standard conceptual framework for assessing climate vulnerabilities and risks includes understanding exposure, sensitivity, and adaptive capacity, and potential impacts as components of vulnerability, and consequence and likelihood as components of risk. Top-down analysis would begin by applying downscaled Global Climate Model (GCM) projections to assess impacts on water supply resources and the bottom-up analysis would begin by identifying system sensitivities to climate hazards. These analyses are complementary.
- **Use a robust decision making (RDM) framework for vulnerability assessment and adaptation planning** by seeking to identify decisions for response under a range of potential climate futures, mapping impacts on operating units/business functions, and ensuring that the scope focuses on critical services, assets, and resources. A robust decision-making framing will support the development of adaptation pathways and measures by monitoring information that signals the need for critical decisions on adaptation.
- **Engage staff and key stakeholders in the planning process** to gain a holistic planning perspective for setting study parameters, providing targeted input into assessment and plan development, and supporting institutional capacity for adaptation.
- **Build off of the 2016 Cal Water Climate Change Impact study by applying updated climate models and projections for additional hydrologic variables** to hydrologic modeling, future demand and planning scenarios, and scaled historical time series data to better understand impacts of extremes, precipitation whiplash, and other hydrologic changes in water supply resources. We recommend presentation of this with uniform metrics for more actionable findings.
- **Assess climate impact consequence by stress-testing key water system performance metrics.** This includes developing a range of impact scenarios to understand how the severity of impacts varies for facilities, operations, and water supplies under different climate change conditions.
- **Evaluating the order of magnitude cost of inaction.** We recommend communicating consequences in terms of direct costs to Cal Water and customers without adaptation actions to prioritize adaptation response.
- **Follow a step-by-step, iterative process to adaptive management which fully aligns with potential exposure to climate hazards and vulnerabilities**, including:
    - Utilizing Flexible Adaptation Pathways in planning for selecting appropriate timing and application of adaptation measures
    - Planning for monitoring and evaluation
    - Evaluating adaptation investment decisions

During Phases 2 and 3 in which Cal Water and the ICF team will further assess vulnerability, we will frame the study outputs within a decision-making context for compatibility with adaptation planning concepts and eventual investment in adaptation measures.



California Water Service

CLIMATE CHANGE RISK ASSESSMENT & ADAPTATION FRAMEWORK

December 2021

Summary for Decision Makers

Study Purpose

California Water Service already faces climate risks — wildfire, increasing temperatures, sea level rise, flooding, and drought — and seeks to address these risks by identifying them and taking action. This Study works to (1) identify and prioritize climate-driven risks to Cal Water's supply reliability, operations, and assets and (2) project and assess changes to the supply of and demand for Cal Water resources. This Study is intended to assist in understanding climate change risk across all Cal Water's districts, spanning its future supply and demand as well as its key operations and assets. The report identifies primary risks to Cal Water across the districts as well as top risks to individual districts.

Using this study and the proposed adaptation framework, Cal Water can continuously monitor and address the following types of risks:

- Immediate risks given near-term threat and low risk tolerance
- Actions to take when a trigger is reached (e.g., when information becomes available or there is external opportunity for an adaptation strategy)
- District-specific risks requiring targeted management attention
- Risks to disadvantaged and vulnerable communities

Policy Context for Climate Risk Assessment and Adaptation Planning

Various state agencies are expected to develop requirements on water utilities for incorporating climate change adaptation into their planning and operations including conducting vulnerability assessments as a starting point. These policy frameworks and requirements include:

1. The California Public Utilities Commission (CPUC) Order Instituting Rulemaking (OIR) R.18-04-019 to Consider Strategies and Guidance for Climate Change Adaptation (2020). The statutory deadline for finalizing requirements for Phase II, expected to apply to water utilities, has been extended to December 2022.
2. The California Coastal Commission (CCC) Critical Infrastructure at Risk: Sea Level Rise Planning Guidance for California's Coastal Zone (Draft, November 2021).
3. The California Natural Resources Agency (CNRA) 2021 Climate Adaptation Strategy (Draft, October 2021).
4. The 2020 Water Resilience Portfolio in response to Governor's Executive Order N-10-19.
5. The State Water Resources Control Board's 2017 Comprehensive Response to Climate Change.

6. The [Task Force on Climate-Related Financial Disclosures (TCFD)]() from the Financial Stability Board recommend that organizations to describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term. Furthermore, it recommends that asset managers describe how climate-related risks and opportunities are factored into relevant products or investment strategies.

Summary of Findings of Climate Change Risks

All districts face climate change risks, and all districts face at least 6 of the top identified risks to Cal Water. Factors that affect district vulnerability include groundwater dependency, State Water Project (SWP) dependency, limited supply diversity, and location in coastal or wildfire-prone areas.

Risks to Supply Reliability

Without action, Cal Water may face significant water supply reliability and operational impacts that will challenge its ability to meet the water needs of its customers by mid-century due to changes to State Water Project deliveries, decreasing groundwater recharge, increasing duration, intensity, and frequency of droughts, and increasing outdoor demands.

Annual State Water Project (SWP) deliveries are likely to decrease in average years and the driest years may result in no deliveries. Average climate models project a decrease of 15% while the driest models project an average annual decrease of up to 36%. The Antelope Valley and Livermore districts are at particularly high risk.

Groundwater recharge is expected to decrease in some basins. Up to 20% decrease in average annual groundwater recharge is expected due to decreases in average precipitation, streamflow, and/or water available for managed recharge. Decreased recharge could limit sustainable yield from groundwater basins and lead to supply shortages. The King City and Visalia districts show the greatest average groundwater recharge decline.

Decreased surface water supply availability is expected due to longer, more severe, and more frequent droughts. The driest climate scenarios include megadroughts of 10 to 20+ years in duration, with districts in Southern California more at risk than districts in Northern California. The driest climate models project dry year precipitation decreases of 45 to 70%, with the Antelope Valley, Los Altos, and Livermore districts at the highest risk of large supply availability decreases during the driest years. Central tendency models project that dry year frequency may increase up to 10%. Decreased local and imported surface water supplies could lead to supply shortages.

Outdoor demands will increase due to increased evapotranspiration (ET) and longer, more frequent, and more severe droughts. Increased demands could lead to shortages and/or challenges to operations. The Antelope Valley, Bear Gulch, Chico-Hamilton, and Visalia districts are at particularly high risk of increased demands.

Risks to Operations

Without action, major risks to operations include surface water quality from increasing temperatures and wildfire could further limit the ability to deliver water to customers and significantly increase treatment costs. Wildfire will also continue to threaten Cal Water workforce and operations throughout the century, including disruption of operations due to smoke.

Water quality will decrease due to high temperatures and low rainfall. A 24–36% increase in number of hot days with no precipitation could increase algal blooms, cyanotoxins, sediments, and eutrophication. This may increase water treatment costs and potentially impact supply availability. Multiple districts are at high risk. By mid-century Antelope Valley, Redwood Valley, and Stockton, could experience high impacts.

Water quality will also decrease due to increased wildfire risk and frequency of intense rainfall. Based on downscaled wildfire projections, districts may see an increase of 4–122% over historical averages of annual area burned by wildfire. An increase of 10–12% in extreme precipitation events could alter vegetation cover and infiltration rates, resulting in greater quantities of debris and pollutants that enter waterways after fire events. Post-fire debris flows may also disrupt operations, increase water treatment costs, and reduce water available for distribution. Multiple districts are at particularly high risk. Some districts, such as Oroville, may face higher consequences due to limited supply alternatives.

Worker health and safety will be endangered due to wildfire. A 4–122% increase in wildfire risk could increase the amount of smoke, threatening the safety of outdoor workers. All districts are likely to experience an increase in wildfire risk and are highly vulnerable to experiencing impacts to worker health and safety, including from wildfire smoke.

Natural snowpack storage may decrease due to declining snowpack due to temperature increases. A 17–57% decrease in April 1st snowpack is projected for the watersheds that provide surface water supplies for Cal Water's districts. This decrease in snowpack storage could lead to overall reduced supply and force Cal Water (or reservoir managers) to adjust reservoir storage facilities and operations to adapt to decreased surface flows. All districts are at high risk except those with supply not influenced by snowpack.

Risks to Assets

Without action, riverine and urban flooding poses a serious threat to Cal Water's assets, including pumps and treatment facilities**.** Rising groundwater and sea level rise present a risk to coastal assets, especially pressurized mains. Wildfire will continue to threaten assets, with an increase in areas burned in some districts and surrounding areas.

More frequent and severe riverine and urban flooding can result in service disruption and infrastructure damage due to loss of access to assets, damage to electrical components, long recovery time from disruption, and difficulty in moving or replacing fixed assets**.** Flooding could also occur from urban stormwater runoff. The most vulnerable assets are pumps, intakes, valves, wells, treatment facilities and radio sites. About half of all districts are vulnerable, particularly Chico-Hamilton.

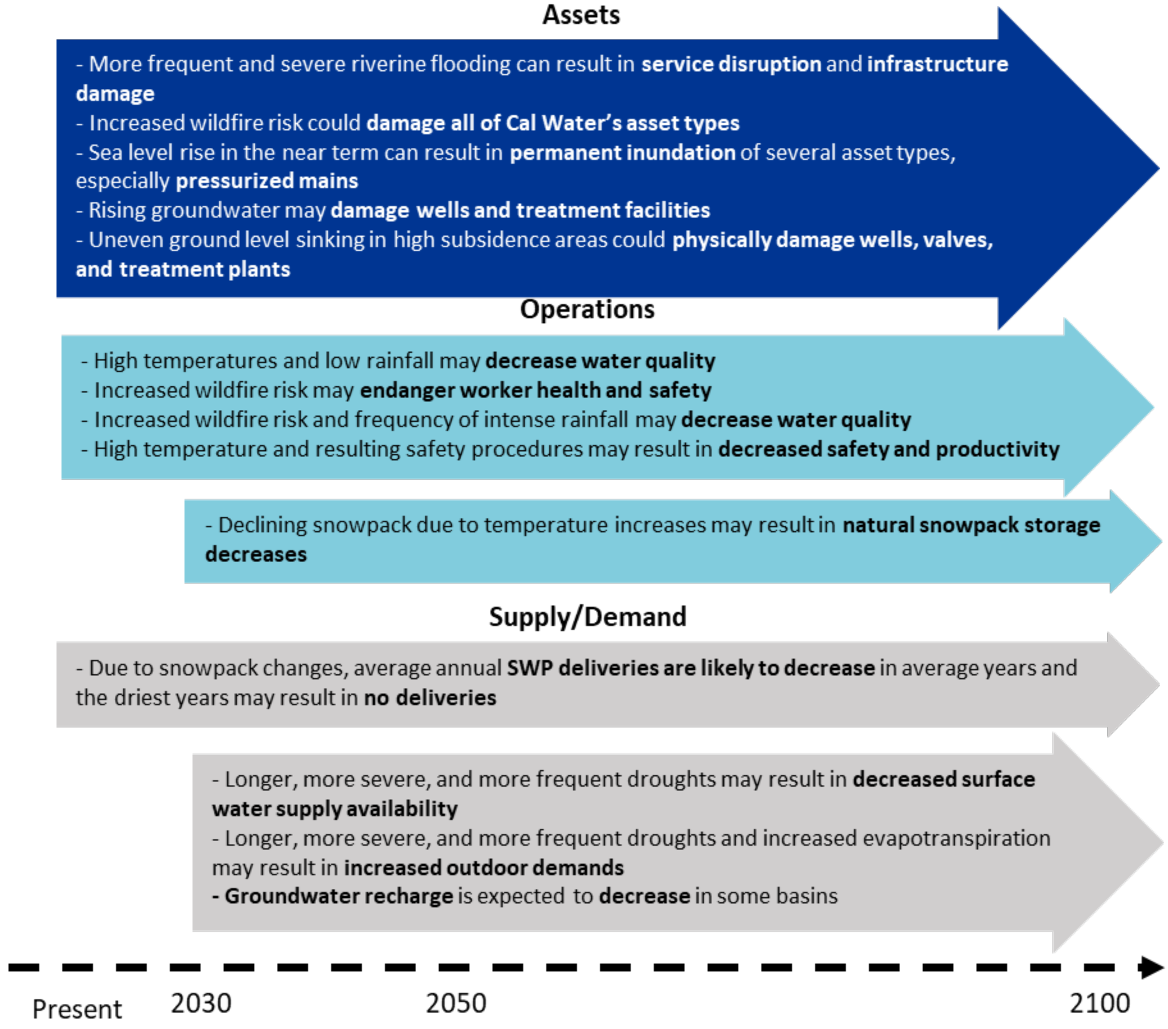
Sea level rise can result in permanent inundation of several asset types, especially pressurized mains. Assets located along low-lying coastal shorelines are most vulnerable to sea level rise. South San Francisco and Hermosa Redondo districts are at particularly high risk.

Rising groundwater due to sea level rise may affect wells and treatment facilities. Sea level rise can flood wells and treatment facilities or cause saltwater intrusion in wells, affecting operations, water quality, or preventing access to facilities. Portions of Redwood Valley, Salinas, South San Francisco, Hermosa Redondo, and Dominguez districts are at particularly high risk.

Increased wildfire risk could affect all of Cal Water's asset types. Cal Water's most vulnerable assets include pressurized mains, radio sites, and treatment facilities, which may see elevated impacts. All districts have assets in CALFIRE threat areas of High and above.

Figure 1 below summarizes climate-related risks over the short, medium, and long term. Across all Cal Water districts, many of these risks are already present, though severity of the risk will differ district by district. District profiles accompanying this report identify those risks by district.

Figure 1: Summary of climate-related risks to Cal Water over the short, medium, and long term. Timing of risks will differ by district.



Addressing Priority Risks

An adaptation framework is provided to assist Cal Water in incorporating the outcomes of this study into further analysis of investment decision making over time.

The primary steps of the adaptation framework are summarized below in Figure 2.

Figure 2: The Adaptation Framework follows 8 steps and is an iterative process for adaptation planning

Identify Issues	Develop Responses	Evaluate Responses	Advance Options & Reassess Risk
• **Step 1.** Following risk assessment, prioritize among risks. • **Step 2.** Refine understanding of the priorty risks that Cal Water seeks to address.	• **Step 3.** Determine willingness to accept risk to determine need for new management strategies (adaptation measures). • **Step 4.** Identify adaptation options for risks that require new management strategies.	• **Step 5.** Evaluate timing of adaptation options using an *adaptation pathways* approach. • **Step 6.** Evaluate effectiveness of adaptation options using stress tests.	• **Step 7.** Plan for investment in near-term actions identified in the adaptation pathway • **Step 8.** Reassess risks to Cal Water and Cal Water's risk tolerance to any newly identified risks or non-priority risks.

The departments primarily affected by climate risks include Water Resource Sustainability; Water Quality; Operations; and Engineering. District Management will be affected by vulnerabilities in those districts (see Climate District Profiles available for each district).

Cal Water will need to address vulnerabilities exacerbated by climate change to prepare its systems for continued operation and to continue to meet established level of service goals. Changing climate conditions may change the historical balance between supply and demand and increase management requirements of assets and operations. Adaptation options should be developed and evaluated for major identified risks. Given that supply availability is dictated by many factors outside of Cal Water's control, it may be important for Cal Water to seek adaptation measures in collaboration with wholesalers and local and federal water management agencies.

Appendix G: SFPUC and BAWSCA Common Language

- Technical Memorandum 2: Demand, Supply, and Reliability Technical Assessment, dated March 25, 2026

March 25, 2026

MEMORANDUM

To: Danielle McPherson (Bay Area Water Supply and Conservation Agency [BAWSCA])
Negin Ashoori (BAWSCA)

From: Andree Lee (EKI Environment & Water [EKI])
Vanessa De Anda (EKI)
Jean Hirayama (EKI)
Tatum Petti (EKI)

Subject: Technical Memorandum 2: Demand, Supply, and Reliability Technical Assessment (EKI C30119.01)

The Bay Area Water Supply and Conservation Agency (BAWSCA) has retained EKI Environment & Water, Inc. (EKI) to develop the 2050 Long-Term Reliable Water Supply Strategy (Strategy 2050), which will identify the water supply and demand management needs and opportunities for the BAWSCA region and establish a framework to collectively support water reliability and resilience. As part of Strategy 2050, BAWSCA is streamlining and summarizing initial findings related to water demand, supply, and reliability to facilitate the preparation of individual 2025 Urban Water Management Plans (UWMPs) for its member agencies (collectively the "BAWSCA Agencies" or "Wholesale Customers").[1]

This Technical Memorandum (TM #2) presents common language that aligns with 2025 UWMP requirements for BAWSCA Agencies to use within their respective UWMPs as provided by BAWSCA, San Franscico Public Utilities Commission (SFPUC), and Strategy 2050.[2] The common language provided in this TM #2 covers key elements of a UWMP, including the following sections of the California Department of Water Resources' (DWR) 2025 UWMP Guidebook:[3]

[1] Several BAWSCA Agencies do not meet the definition of an "urban water supplier" and, thus, are not required to prepare UWMPs. Regardless, this TM #2 includes relevant tables and content for all BAWSCA Agencies and may be used for UWMPs and/or internal planning purposes. Per California Water Code (CWC) §10617, "urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually.

[2] DWR released the Draft 2025 UWMP Guidebook in November 2025. It assumed that the Final 2025 UWMP Guidebook will be available by early 2026. Significant updates are not anticipated between the draft and final versions.

[3] https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

- DWR Section 2: Plan Preparation, including UWMP preparation and coordination
- DWR Section 3: Service Area Description, including a description of the Regional Water System (RWS)
- DWR Section 4: Water Use Characterization, including projected RWS water demand
- DWR Section 6: Normal-Year Water Supply Characterization, including projected RWS supply
- DWR Section 5: SB X7-7 Baselines, 2020 Targets, and 2025 Reporting
- DWR Section 7: Water Service Reliability and Drought Risk Assessment, including RWS supply reliability
- DWR Section 8: Water Shortage Contingency Plan
- DWR Section 9: Demand Management Measures, including regional water use efficiency/conservation programs administered by BAWSCA for BAWSCA Agencies
- DWR Section 10: Plan Adoption, Submittal, and Implementation, including public hearing notice and template

The draft 2025 UWMP tables referenced below are included in **Attachment A** as provided by DWR. Where applicable, tables have been populated for each individual agency with relevant information from BAWSCA and/or SFPUC.

DWR SECTION 2 PLAN PREPARATION

DWR Section 2.4.1 Wholesale and Retail Coordination (BAWSCA Common Language)

BAWSCA provides regional water reliability planning and conservation programming for the benefit of its 26 member agencies (collectively the “Wholesale Customers” or “BAWSCA Member Agencies”) that purchase wholesale water supplies from the San Francisco Public Utilities Commission (SFPUC). Collectively, the Wholesale Customers deliver water to over 1.8 million residents and nearly 40,000 commercial, industrial and institutional accounts in Alameda, San Mateo and Santa Clara Counties.

BAWSCA also represents the collective interests of the Wholesale Customers on all significant technical, financial, and policy matters related to the operation and improvement of the SFPUC’s Regional Water System (RWS).

BAWSCA’s role in the development of the 2025 Urban Water Management Plan (UWMP) updates is to work with its Member Agencies and the SFPUC to seek consistency among UWMP documents.

DWR Section 2.6.2 Coordination with Other Agencies and the Community

[A sample notification letter to other agencies is provided in Attachment B]

DWR SECTION 3 SERVICE AREA DESCRIPTION

DWR Section 3.4.1 Service Area Population

[Agency] estimates its historical and current service area population using [cite data source] for current service area population. In 2020, [Agency's] service area population was XX. It is estimated that [Agency's] service area population was XX in 2025, an increase/a decrease of X%.

Projected population from 2030 and 2050 is based on the 2025 BAWSCA Regional Water Demand and Conservation Projections Report (Demand Study; described in further detail in DWR Section 4.2.5) [along with Agency provided inputs, if applicable]. It is anticipated that [Agency's] overall service area population will [describe trend]. By 2050, the total population within [Agency's] service area is expected to be XX, which represents a X% annual growth rate compared to the 2025 population.

DWR Table 3-1R Population - Current and Projected [See Attachment A]

Population Served	**2025**	**2030**	**2035**	**2040**	**2045**	**2050 (Opt)**
NOTES:						

DWR SECTION 4 WATER USE CHARACTERIZATION

DWR Section 4.2.5 Projected Water Use

Regional Water Demand and Conservation Projections (BAWSCA Common Language)

In December 2025, BAWSCA completed the Regional Water Demand and Conservation Projections Report (Demand Study).[4] The goal of the Demand Study was to develop transparent, defensible, and uniform demand and conservation savings projections for each Wholesale Customer using a common methodology to support both regional and individual agency planning efforts and compliance with the new statewide water efficiency targets required by Assembly Bill (AB) 1668 and Senate Bill (SB) 606.

Through the Demand Study process, BAWSCA and the Wholesale Customers (1) quantified the total average-year water demand for each Wholesale Customer through 2050, (2) quantified passive and active conservation water savings potential for each individual Wholesale Customer through 2050, and (3) identified conservation programs with high water savings potential and/or BAWSCA Member Agency interest. Implementation of these conservation measures, along with passive conservation, is anticipated to yield an additional 16.14 million gallons per day (mgd) of water savings by 2050. Based on the revised water demand projections, the identified water conservation savings, increased development and use of other local supplies by the Wholesale Customers, and other actions, the collective purchases of the BAWSCA Member Agencies from the SFPUC are projected to stay below 184 mgd through 2050.

As part of the Demand Study, each Wholesale Customer was provided with a demand model that can be used to support ongoing demand and conservation planning efforts, including UWMP preparation.

[4] https://bawsca.org/water/use/2025_Demand_Study

DWR Table 4-2R Total Uses of Potable, and Non-Potable Water – Projected [See Attachment A]

Use Type	Additional Description	Projected Water Use (*units*)					
		Level of Treatment When Delivered (Opt)	2030	2035	2040	2045	2050 (Opt)
Single Family							
Multi-Family							
Commercial							
Industrial							
Institutional/ Governmental							
Landscape							
Distribution System Water Loss							
Other (Opt)							
		Subtotal Potable					
		Subtotal Non-Potable					
		Total					
NOTES:							

DWR Table 4-3R Inclusion in Water Use Projections [See Attachment A]

Are Future Water Savings Included in Projections?	
If "Yes" to above: State the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found. **OPTIONAL** Suppliers may complete DWR Optional Submittal Table 4-4 R to quantify the expected savings.	
Are Lower Income Residential Demands Included In Projections?	Yes
OPTIONAL If the method for accounting Lower Income Residential Demands has been included, provide page number where this accounting can be found.	
NOTES: All of [Agency]'s residential customers, regardless of income level, are metered and thus the demands of residential customers with lower incomes are part of the single- and multi-family water uses shown in DWR Table 4-2 and DWR Table 4-6.	

DWR Table 4-4R Passive Water Savings Projections

Description (Codes, Standards, Ordinances, or Plans)	Passive Savings (*Units*)				
	2030	2035	2040	2045	2050 (opt)
NOTES:					

DWR Section 4.2.5.6 Climate Change Considerations

Climate Change Impacts on Demand

Hotter and drier weather may lead to an increased demand in landscape irrigation. [Agency's] Demand Study demand model reflects the historical relationship of the [Agency's] water demand with weather and then incorporates modeled weather under future climate change conditions into the Demand Study demand projections. Therefore, the demand projections presented in Section 4.2 include considerations of climate change. A description of the weather and climate change data incorporated into [Agency's] demand model is provided in Section 5.4 of the BAWSCA Demand Study (BAWSCA, 2025). Downscaled CMIP5 data were obtained from CalAdapt's Local Climate Change Snapshot tool. Climate projection data, including annual precipitation and maximum temperature, was collected for the three counties that overlay BAWSCA's member agencies, including Alameda, San Mateo, and Santa Clara counties. Modeled temperatures from the CalAdapt CMIP5 RCP 4.5 and RCP 8.5 datasets were processed annually for 2025 – 2050 and included as potential inputs to the demand model. Table 5-3 summarizes the estimated increases in temperature between 2025 and 2050.

Table 5-3: Average Annual Maximum Temperature Increases in 2050 (Relative to 2025) Derived from CalAdapt CMIP5 RCP 4.5 and RCP 8.5

County	RCP 4.5	RCP 8.5
Alameda	1.20 °F	2.03 °F
Santa Clara	1.25 °F	2.05 °F
San Mateo	1.06 °F	1.77 °F

DWR SECTION 5 SB X7-7 BASELINES, 2020 TARGETS, AND 2025 REPORTING

DWR Section 5.2.6 Nexus to Urban Water Use Objectives

In July 2024, California enacted the *Making Conservation a California Way of Life* (MCCWL) regulation (implementing SB 606 and AB 1668) to support long-term water conservation and drought resilience. MCCWL established annual Urban Water Use Objectives (UWUO) for water suppliers and introduced Performance Measures for commercial, industrial, and institutional (CII) water users.

The UWUO is a water-budget-based framework tailored to each supplier. It consists of the following components:

1. Residential indoor water use standard,
2. Residential outdoor water budget,
3. CII landscape outdoor water use standard (for landscapes with dedicated irrigation meters),
4. Water loss standard,
5. Variance, and
6. Potable reuse bonus.

Beginning in 2027, suppliers must annually assess whether the sum of their regulated water uses (i.e., residential indoor and outdoor, dedicated irrigation meter use, and water loss) is at or below their UWUO. The state standards for residential indoor and outdoor water use and for CII outdoor use will become increasingly stringent over time, potentially requiring additional conservation efforts to achieve compliance.

Urban retail water suppliers must report annually to the state on their water use relative to their UWUOs. Because compliance with the UWUO requirements falls under the authority of the State Water Resources Control Board (SWRCB), UWUO compliance projections are not required as part of an UWMP per the 2025 UWMP Guidebook. Therefore, UWUO projections are not included herein.

DWR SECTION 6 NORMAL-YEAR WATER SUPPLY CHARACTERIZATION

DWR Section 6.2.1 Purchased or Imported Water

Description of SFPUC RWS (SFPUC Common Language)

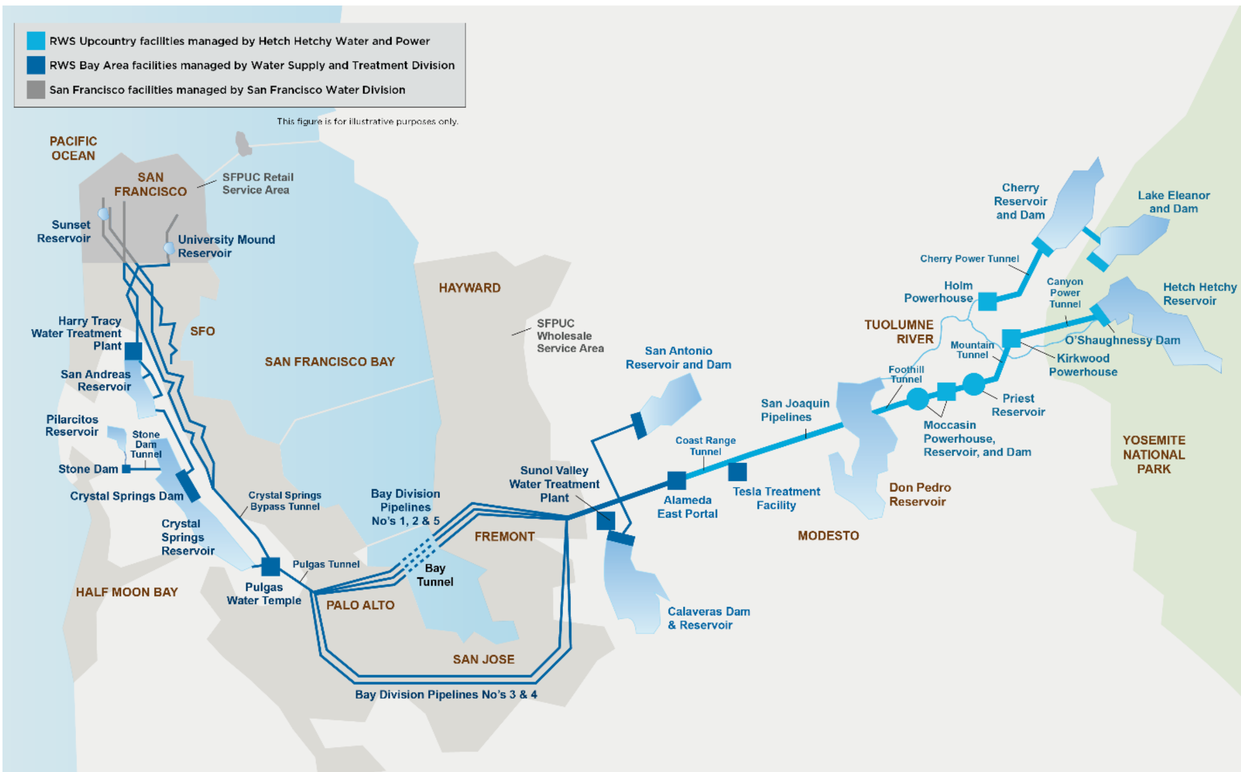
Over 2.7 million people and thousands of businesses in the San Francisco Bay Area rely on water supplied by the SFPUC, a department of the City and County of San Francisco, to meet their daily water needs. The San Francisco-owned and operated RWS, which serves both retail and wholesale customers, supplies 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.

RWS Distribution

The RWS, shown in [Figure 6-1], consists of more than 280 miles of pipelines, 60 miles of tunnels, 11 reservoirs, five pump stations, two water filtration plants, and two treatment facilities for pH adjustment and/or disinfection. It includes the Hetch Hetchy Water and Power (HHWP) Project and the Bay Area water system facilities. The HHWP Project is generally composed of the reservoirs, hydroelectric generation and transmission facilities, and water transmission facilities from the Hetch Hetchy Valley west to the Alameda East Portal of the Coast Range Tunnel in Sunol Valley. Water system components of the HHWP Project are also referred to as the Hetch Hetchy System. The local Bay Area water system is comprised of two parts—the Alameda System and the Peninsula System—generally consisting of the facilities west of the Alameda East Portal of the Coast Range Tunnel, including the 63,000-acre Alameda and Peninsula watersheds, storage reservoirs, two water filtration plants, and the distribution system that delivers water to both retail and wholesale customers. The Hetch Hetchy, Alameda, and Peninsula Systems are described in more detail below.

- **Hetch Hetchy System:** In the Hetch Hetchy System, water is diverted from the Tuolumne River watershed into the Hetch Hetchy Reservoir and is then transported in a series of tunnels and aqueducts from the Sierra Nevada to the San Joaquin Pipelines that cross the San Joaquin Valley to the Coast Range Tunnel, which connects to the Alameda System at the Alameda East Portal. Hetch Hetchy System water is disinfected at the Tesla Treatment Facility.
- **Alameda System:** The Alameda System includes two reservoirs, San Antonio Reservoir and Calaveras Reservoir, which collect water from the San Antonio Creek, Upper Alameda Creek, and Arroyo Hondo watersheds in Alameda County. San Antonio Reservoir also receives water from the Hetch Hetchy System. Conveyance facilities in the Alameda System connect the Hetch Hetchy System and Alameda System to the Peninsula System. The Bay Division Pipelines cross the South Bay to the Peninsula System delivering water to customers along the pipeline route. The Sunol Valley Water Treatment Plant (SVWTP) filters and disinfects water supplied from San Antonio Reservoir and Calaveras Reservoir. The Sunol Valley Chloramination Facility treats Hetch Hetchy supplies with aqueous ammonia to form chloramines and with sodium hydroxide to adjust pH, then blended in the Alameda Siphons for delivery to Bay Area customers via the Irvington Tunnels.

- **Peninsula System**: The Peninsula System includes conveyance facilities connecting the Bay Division Pipelines to the distribution system in San Francisco and to other customers on the Peninsula. Two reservoirs, Crystal Springs Reservoir and San Andreas Reservoir, collect runoff from the San Mateo Creek watershed. Crystal Springs Reservoir also receives water from the Hetch Hetchy System. A third reservoir, Pilarcitos Reservoir, collects runoff from the Pilarcitos Creek watershed and directly serves one of SFPUC's Wholesale Customers, the Coastside County Water District (which includes the City of Half Moon Bay), along with delivering water to Crystal Springs and San Andreas Reservoirs. The Harry Tracy Water Treatment Plant (HTWTP) filters and disinfects water supplied from Crystal Springs Reservoir and San Andreas Reservoir before it is delivered to customers on the Peninsula and in San Francisco.



[Figure 6-1]   Regional Water System and Main Facilities

Water Treatment

The Hetch Hetchy Reservoir is the largest unfiltered water supply on the West Coast and one of only a few large unfiltered municipal water supplies in the nation. The water originates from well-protected wilderness areas in Yosemite National Park and flows down the Tuolumne River to Hetch Hetchy Reservoir. This water meets or exceeds all federal and State of California (State) criteria for watershed protection. Water from Hetch Hetchy Reservoir, which is protected in pipes and tunnels as it is conveyed to the Bay Area, requires pH adjustment to control pipeline corrosion and disinfection for bacteria control. Based on the SFPUC's disinfection treatment practice, extensive bacteriological quality monitoring, and high operational standards, the U.S. Environmental Protection Agency (USEPA) and the SWRCB Division of Drinking Water (DDW) determined that the Hetch Hetchy water source meets federal and State drinking water quality requirements without the need for filtration.

The Tesla Treatment Facility was a key component of the SFPUC's Water System Improvement Program and enhances the high-quality water from the RWS. The facility has a capacity of 315 mgd, making it the third largest ultraviolet drinking water disinfection facility in the United States.

The SFPUC treats all water derived from sources other than Hetch Hetchy Reservoir at one of two water filtration facilities: the SVWTP or the HTWTP. The SVWTP primarily treats water from the Alameda System reservoirs and has a design capacity of 160 mgd. Treatment processes include powder activated carbon treatment for taste and odor control, coagulation, flocculation, sedimentation, filtration, disinfection, fluoridation, corrosion control treatment, and chloramination. The nearby Sunol Valley Chloramination Facility can also provide fluoridation, chloramination, and corrosion control treatment for Hetch Hetchy System and blending with water treated from the SVWTP. The HTWTP treats water from the Peninsula System reservoirs and has a design capacity of 140 mgd. Treatment processes at SVWTP include ozonation, coagulation, flocculation, filtration, disinfection, fluoridation, corrosion control treatment, and chloramination. The SFPUC completed major upgrades to the SVWTP in 2013 and to the HTWTP in 2015.

Water Storage

Most of the water delivered by the SFPUC is supplied by runoff from the upper Tuolumne River watershed on the western slope of the central Sierra Nevada. Three major reservoirs collect runoff: Hetch Hetchy, Cherry (also known as Lake Lloyd), and Lake Eleanor. The storage capacity of these three reservoirs is included in [Table 1]. A "water bank" in Don Pedro Reservoir is also integrated into RWS operations.[5] Don Pedro Reservoir, which is jointly owned and operated by Modesto Irrigation District and Turlock Irrigation District (the Districts), is located on the Tuolumne River downstream of the Hetch Hetchy System.

San Francisco generates hydroelectric power through the HHWP Project as a by-product of water delivery and water supply management. Water released from Hetch Hetchy Reservoir is used for hydroelectric generation and provides instream flows when released downstream. Normally, only Hetch Hetchy Reservoir water supplies are exported to the Bay Area, while releases from Lake Eleanor and Cherry Reservoir are used to provide instream flows, satisfy the Districts' Raker Act allocations, and produce hydroelectric power. The HHWP Project includes four hydroelectric powerhouses along the Tuolumne River—Holm, Kirkwood, Moccasin, and Moccasin Low Head—that have a collective generating capacity of nearly 400 megawatts.

In the Bay Area, the SFPUC utilizes the local Peninsula and Alameda watersheds. Crystal Springs, San Andreas, and Pilarcitos Reservoirs, located in San Mateo County, capture local runoff in the Peninsula watershed, and Calaveras and San Antonio Reservoirs, located in Alameda County, capture local runoff in

[5] The Turlock Irrigation District and Modesto Irrigation District (the Districts) have senior water rights compared to those held by the City and County of San Francisco for the Tuolumne River water diversions and are provided the first increment of flow in the Upper Tuolumne River watershed according to the apportionment set forth in the Raker Act of 1913 (38 Stat. 242). The water bank at Don Pedro Reservoir provides a credit and debit system, which allows the City and County of San Francisco to divert water upstream while meeting its obligations to the Districts. Through this agreement, the SFPUC may pre-deliver the Districts' Raker Act and contractual allocations and credit the water bank so that at other times the SFPUC may retain water upstream that would otherwise be allocated to the Districts while the Districts debit the water bank.

the Alameda watershed. In addition to capturing local runoff, San Andreas, San Antonio, and Crystal Springs Reservoirs provide storage for water conveyed to the Bay Area from the Hetch Hetchy System. These five local reservoirs are an important water supply source in the event there is an interruption to Hetch Hetchy System deliveries. The storage capacity of each of these Bay Area reservoirs is included in [Table 6-1].

Prior to 2019, Calaveras Reservoir had been operating at one-third of its capacity due to restrictions imposed by the California Department of Water Resources Division of Safety of Dams (DSOD). The Calaveras Dam Replacement Project, which took place from 2011 to 2019, involved the construction of a new dam downstream of the then-existing dam. The DSOD restrictions on filling Calaveras Reservoir to full capacity have since been removed, and Calaveras Reservoir reached full capacity during the 2022-2023 winter season when it was refilled completely in January 2023 following the dam replacement project.

Table 6-1 Regional Water System Storage Capacity

RWS Reservoir	Storage Capacity in Acre-Feet (AF)	Storage Capacity in Billions of Gallons (BG)
Upcountry (a)		
Hetch Hetchy	360,360	117.4
Cherry (b)	273,500	89.1
Lake Eleanor	27,100	8.8
Water Bank (c)	570,000	185.7
Subtotal Upcountry	**1,230,960**	**401.0**
Local		
Calaveras (Alameda)	96,800	31.5
San Antonio (Alameda)	50,500	16.5
Crystal Springs (Peninsula) (d)	69,300	22.6
San Andreas (Peninsula) (e)	19,000	6.2
Pilarcitos (Peninsula) (f)	3,100	1.0
Subtotal Local	**238,700**	**77.8**
Total Regional Water System Storage (g)	**1,469,660**	**478.8**

a) Three other regulating reservoirs are also part of the RWS: Early Intake, Priest, and Moccasin Reservoirs.
b) Storage capacity shown includes flashboards, which are structures placed in a spillway to increase the capacity of a reservoir.
c) The SFPUC may draw against a credit of up to 740,000 AF in storage in a water bank account in Don Pedro Reservoir; 170,000 AF of this water bank storage is only available under certain

circumstances and for a limited time. For this reason, the SFPUC considers 570,000 AF in contributing to total storage for planning purposes.

d) Crystal Springs Reservoir has a maximum storage capacity of 22.6 BG (at 294.6 feet). Based on permit conditions, the reservoir is currently operated at 286.6 feet (8 feet below capacity).

e) San Andreas Reservoir has a maximum storage capacity of 6.2 BG (at 451.8 feet). Since August 2020, in response to safety concerns about the seismic stability of the dam and a directive from the Division of Safety of Dams, the SFPUC has held the maximum water level at approximately 447.8 feet (4 feet below capacity).

f) Pilarcitos Reservoir has a maximum storage capacity of 1.0 BG (at 696.5 feet). Since April 2025, in response to safety concerns about the seismic stability of the dam and a directive from the Division of Safety of Dams, the SFPUC has held the maximum water level at approximately 681.5 feet (15 feet below capacity).

g) For planning purposes, the total RWS storage is 1,469,660 AF. This includes 63,700 AF in dead storage (i.e., the volume in a reservoir below the lowest controllable level).

Wholesale Water Contractual Obligations (SFPUC Common Language)

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), the SFPUC sells water to 26 wholesale customers (collectively referred to as the Wholesale Customers). The SFPUC has associated individual water sales contracts with each Wholesale Customer, as well. Collectively, the Wholesale Customers receive over two-thirds of the RWS's annual deliveries, with the remaining approximately one-third provided to the SFPUC's retail customers located inside and outside of San Francisco (collectively referred to as the Retail Customers). Of the 26 Wholesale Customers, 10 rely on the SFPUC for 100% of their total supply. The remaining 16 Wholesale Customers rely on the SFPUC for a significant portion of their water supply needs, but also use other local and imported supplies to meet their retail water customers' demands, including, but not limited to, local groundwater and surface water, recycled water, and, in some cases, purchases from the Santa Clara Valley Water District and the State Water Project.

The WSA became effective on July 1, 2009, as its predecessor agreement, the 1984 Settlement Agreement and Master Water Sales Contract between the SFPUC and the Wholesale Customers (1984 Agreement), expired. The WSA, as amended and restated in 2025, describes the current contractual relationship between the SFPUC and the Wholesale Customers.

The WSA carries forward many components of the 1984 Agreement, including the SFPUC's "Supply Assurance" of 184 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.

The Supply Assurance is shared among 24 of the 26 Wholesale Customers (all Wholesale Customers, which have "permanent" status, except the cities of San Jose and Santa Clara, which are "temporary, interruptible" customers). Twenty-three of these 24 Wholesale Customers have an "Individual Supply Guarantee" (ISG), which represents their dedicated individual share of the 184 mgd Supply Assurance. The ISGs are also perpetual and survive the expiration of the WSA. The City of Hayward is the 24th Wholesale Customer that shares in the Supply Assurance, but it does not have an ISG due to the terms of its 1962 individual water supply contract with the SFPUC that did not contain a fixed allocation of water. The City of Hayward's unspecified water supply allocation is included in the Supply Assurance as the difference between 184 mgd and the sum of the other 23 permanent Wholesale Customers' ISGs (22.1 mgd). If Hayward's water purchases from the RWS exceed 22.1 mgd over a period of three consecutive fiscal years (an event that has not occurred to date and is not projected to occur before 2050), the 23 Wholesale Customers with ISGs would be required to reduce their individual ISGs to accommodate the demands of Hayward.

Each Wholesale Customer also has an individual water sales contract with the SFPUC that describes the service area of the customer, identifies the location and size of service connections between the RWS and the customer's distribution systems, and in some instances contains additional specific provisions unique to the customer. The individual water sales contracts may be amended from time to time by the SFPUC and the applicable Wholesale Customer pursuant to the terms of the WSA.

[Agency's] ISG is [__] mgd.

Future Water Supply Decisions (SFPUC Common Language)

In the 2009 WSA, the SFPUC committed to make two decisions before the end of 2018 regarding future water supplies, with the prerequisite of the SFPUC having completed any necessary California Environmental Quality Act (CEQA) review relevant to those decisions:

- Whether or not to make the cities of San Jose and Santa Clara permanent customers of the RWS, if the SFPUC determines that RWS long-term water supplies are available to support their permanent status, and
- Whether or not to increase the Supply Assurance above 184 mgd to meet future Wholesale Customer demands.

Prior to 2018, the SFPUC determined that it was prudent to defer these decisions due to uncertainty about water supply availability and future growth patterns in the Bay Area, as well as unprecedented reductions in demands on the RWS, which indicated that total Wholesale Customer demands (including the demands of San Jose and Santa Clara, who do not share in the 184 mgd Supply Assurance) would be 173.9 mgd in 2040. Accordingly, the SFPUC and the Wholesale Customers amended the WSA in 2018, deferring the future water supply decisions to the end of 2028 to allow the SFPUC to conduct further water supply planning, including a reevaluation of RWS demands and supply options, and any necessary CEQA analysis. Based on current projections, Wholesale Customer demands (including the demands of San Jose and Santa Clara) will continue to be less than the 184 mgd Supply Assurance through the year 2050.

The SFPUC's planning efforts to support its decision regarding the status of San Jose and Santa Clara are a part of the SFPUC's Alternative Water Supply Program (see DWR Section 6.2.10).

DWR Section 6.1.2 Special Considerations

DWR Section 6.1.2.1 Climate Change Effects (SFPUC Common Language)

Climate change has become an important factor in water resources planning in California and is frequently considered in urban water management planning, although the extent and precise effects of climate change remain uncertain. Increasing concentrations of greenhouse gases have caused and will likely continue to cause a rise in temperatures around the world, which will result in a wide range of changes in climate patterns. Moreover, observational data show that a warming trend occurred during the latter part of the 20th century, the first quarter of the 21st century, and will likely continue through the end of the 21st century. Numerous studies have been conducted to determine the potential impacts of climate change on water resources. These climate change impacts are likely to affect both the Tuolumne River watershed and local watersheds in the Bay Area and include the following:

- Reductions in the average Sierra Nevada annual snowpack due to a rise in the snowline elevation and a shallower snowpack at lower elevations, and a shift in snowmelt runoff to earlier in the year;
- Changes in the timing, annual average, intensity, and variability of precipitation, and an increased amount of precipitation falling as rain instead of as snow;
- Long-term changes in watershed vegetation and increased incidence of wildfires that could affect water quality and quantity;
- Sea level rise and an increase in saltwater intrusion;
- Increase in water temperatures with accompanying potential adverse effects on some fisheries and water quality;
- Increases in evaporation and concomitant increase in irrigation need; and
- Changes in urban and agricultural water demand.

SFPUC Climate Change Studies

The SFPUC views assessment of the effects of climate change as an ongoing need that requires regular updating to reflect improvements in climate science, atmospheric/ocean modeling, observations, and human response to the threat of greenhouse gas emissions. Climate change research by the SFPUC began in 2009 and continues to be refined.

The SFPUC partnered with The Water Research Foundation to develop the Long Term Vulnerability Assessment (LTVA) of the RWS. The study was conducted by the University of Massachusetts Amherst Hydrosystems Research Group with input from National Center for Atmospheric Research, other climate scientists, and Deltares. The goal of the LTVA is to help quantitatively and qualitatively assess to what extent climate change will be a threat to the RWS in comparison to, or in combination with, other external drivers of change over the next 50 years (2020-2070). The LTVA assessed the potential effects of climate change on RWS water supply using a wide range of plausible increases in temperature and changes in precipitation to address the wide uncertainty in climate projections over the planning horizon. There are many uncertain factors, such as climate change, changing regulations, water quality, growth and economic cycles, that may create vulnerabilities for the RWS's ability to meet Levels of Service. The uncertainties associated with the degree to which these factors will occur and how much risk they present to the water system are difficult to predict but were considered in this study. To address this planning challenge, the LTVA used a vulnerability-based planning approach to explore a range of future conditions to identify vulnerabilities, and to assess the risks associated with these vulnerabilities, that could lead to developing an adaptation plan that is flexible and robust to a wide range of future outcomes. The LTVA was completed in 2021 and the University of Massachusetts Amherst and The Water Research Foundation amended it in 2024.

The key findings of the LTVA are:

- Climate change exacerbates impacts from other external drivers of change and is not the single most important driver of vulnerability for the RWS.
- The RWS at a baseline demand of 227 MGD is resilient to changes in climate and other external drivers.
- The RWS water supply performance declines with reductions in mean precipitation but is mostly insensitive to increases in temperature.
- The RWS is more vulnerable to changes in demand and instream flow requirements than changes in mean annual temperature and precipitation.
- The RWS is vulnerable to changes to mean climate when demand or regulatory instream flow requirements increase.

Further results and conclusions from the LTVA and its amendment are provided below:

- According to climate projections and expert elicitations, there is a central tendency of warming of +2°C and +4°C by 2040 and 2070 (Representative Concentration Pathway [RCP] 8.5), respectively, with no clear direction of change in mean annual precipitation over the planning horizon.
- In the upcountry region, by 2040, most projections and elicitations of warming estimate between +1°C and +4°C, and precipitation changes range between -5% and +5%, compared to historical baseline; and by 2070, estimates of warming range between +3°C and +6°C, and precipitation changes range between -15% and +15% (RCP8.5).
- Changes in hydrology due to climate change affect the RWS's ability to meet water supply targets. At 227 MGD baseline demand, the RWS can sustain up to +4°C and -5% precipitation change before failing to meet targets for delivery reliability, frequency of 20% rationing, storage reliability, and duration of rationing.
- Precipitation change is an important driver for RWS performance. A decrease by 10% or more will cause RWS water supply targets to be missed. The climate projections and expert elicitations show that such a change in precipitation is possible by 2040, although unlikely. The likelihood of this change increases toward 2070.
- The RWS shows minor sensitivity to temperature change for the metrics evaluated in this study. Most metrics stay above target under warming conditions. However, warming conditions often magnify the loss in system performance if precipitation or demand change.
- Demand change appears to be a major driver of future RWS performance. An increase in demand by 15% (265 MGD) will lead to failure to meet rationing frequency targets under current climate

conditions. At 265 MGD demand, the rationing frequency targets would be met if there is an increase in precipitation of 10%. If demand increases by 30%, the rationing target cannot be met even when precipitation increases by 40%, which is believed plausible but unlikely over the planning horizon.

- The RWS is particularly vulnerable to the state-amended new instream flow requirements below Don Pedro Dam, which represents a huge reduction in water available. Under all demand and climate scenarios the system reliability, defined as frequency of years without rationing, remains below 5%.

- The RWS is also vulnerable to the draft Tuolumne voluntary agreement new instream flow requirements below Don Pedro Dam, which represents a large reduction in water available, although significantly less than for the state-amended new instream flow releases. The implementation of the draft Tuolumne voluntary agreement under current climate and demand conditions would reduce the system reliability to 75%, which corresponds to the effects of a reduction in average rainfall by 20% under the current Federal Energy Regulatory Commission agreement.

DWR Section 6.1.2.2 Regulatory Conditions and Project Development (EKI Team)

Emerging regulatory conditions (e.g., issues surrounding the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary [Bay-Delta Plan]) may affect planned future projects and the characterization of future water supply availability and analysis. A detailed description of the potential impacts of Bay-Delta Plan implementation on RWS supply reliability is included in Section 7. If the [Agency] moves forward with any plans to develop supply projects, emerging regulatory conditions will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

DWR Section 6.1.2.3 Other Locally Applicable Criteria (EKI Team)

Other locally applicable criteria may affect characterization and availability of an identified water supply (e.g., changes in regional water transfer rules may alter the availability of a water supply that had historically been readily available). Reliability of the RWS supply is further discussed in Section 7. If the [Agency] moves forward with any plans to develop supply projects, locally applicable criteria will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

DWR Section 6.9 Summary of Existing and Planned Sources of Water

DWR Table 6-9R Water Supplies – Projected (BAWSCA to provide table listing each agency's allocation based on the Tier 2 model/equal cutbacks for regional shortages over 20%) [See Attachment A]

Water Supply	Additional Detail on Water Supply	Water Type (after treatment if treated) (Opt)	Projected Water Supply (*units*)									
			2030		2035		2040		2045		2050 (opt)	
			Reasonably Available Volume	Total Entitlement (Opt)	Reasonably Available Volume	Total Entitlement (Opt)	Reasonably Available Volume	Total Entitlement (Opt)	Reasonably Available Volume	Total Entitlement (Opt)	Reasonably Available Volume	Total Entitlement (Opt)
Subtotal Potable												
Subtotal Non-Potable												
Total												
NOTES:												

DWR SECTION 7 WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

DWR Section 7.1 Constraints of Water Sources Considerations (for RWS)

Water Supply – All Year Types (SFPUC Common Language)

Constraints on Supplies [Water Code Sections 10634(b)(1), 10635(b)(2)]

The SFPUC has identified potential constraints on its water supplies. The list below summarizes the legal, environmental, water quality, climatic, and other factors potentially resulting in inconsistent supply.

- **RWS**: There may be shortfalls of RWS supplies in dry years as a result of several factors, including required instream flow releases (further discussed in the "Bay-Delta Plan Amendment Updates" section below) as well as climate change (see "DWR Section 6.1.2.1 Climate Change Effects" section).

The 2018 adoption of the Bay-Delta Plan Amendment may significantly impact the supply available from the RWS. The SFPUC recognizes that the Bay-Delta Plan Amendment has been adopted and that, given that it is now state law, the SFPUC must plan for a future in which it is fully implemented. The SFPUC also acknowledges that the plan is not self-implementing and therefore does not automatically go into effect. Similarly, there is active litigation at the appellate level regarding the Bay-Delta Plan Amendment. The SFPUC is also pursuing a voluntary agreement, known as the Healthy Rivers and Landscapes Program (HRL). The HRL is currently undergoing evaluation at the SWRCB. In fall of 2025, the SWRCB released a Scientific Basis Report evaluating the biological benefits of the Tuolumne River component of the HRL. The next step is for SWRCB to finalize this report including scientific peer review. At the same time, the SWRCB is undergoing CEQA evaluation of the Tuolumne HRL. No timeline has been provided for when the HRL will be considered for adoption by the SWRCB.

Because of the uncertainty surrounding implementation of the Bay-Delta Plan Amendment, the following water supply reliability assessment includes a set of tables for two future supply scenarios: (1) a scenario in which the Bay-Delta Plan Amendment is implemented and (2) a scenario that considers the SFPUC system's current conditions without implementation of the Bay-Delta Plan Amendment. The two scenarios provide a bookend for the possible future scenarios regarding RWS supplies. The Bay-Delta Plan Amendment implementation start date is unknown, for the purposes of the supply reliability analysis, it is included in the 2030 modeling scenarios. The standardized tables associated with this UWMP contain the future scenario that assumes implementation of the Bay-Delta Plan Amendment.

There are additional factors that could affect the availability of water supply regarding the SWRCB curtailments and agreements with Turlock and Modesto Irrigation Districts pertaining to instream flow obligations on the Tuolumne River. The following describes these and how they were incorporated into the water supply reliability analysis.

- During the last two drought periods, 2013-2016 and 2021-2023, the SWRCB implemented curtailments through emergency regulations and curtailment orders that attempted to limit diversions from Central Valley watersheds including the Tuolumne River at certain times. Due to the uncertain legality of the SWRCB's curtailment actions as well as the uncertainties regarding any potential future curtailment actions against San Francisco, the SFPUC's RWS supply reliability analyses do not assume curtailments are in effect.

- Through a 1966 agreement with the Modesto and Turlock Irrigation Districts (Districts), who are more senior downstream appropriative water rights holders on the Tuolumne River, San Francisco may become responsible for up to approximately 51.7% of any flow releases the Federal Energy Regulatory Commission (FERC) may require through issuance of a new license for the Districts' Don Pedro Hydropower Project. The exact flow contribution for which San Francisco may become responsible is highly uncertain and may depend on multiple currently unknown factors, including an anticipated Endangered Species Act biological opinion from the National Marine Fisheries Service and a Clean Water Act section 401 water quality certification from the SWRCB. San Francisco's potential responsibility for FERC-ordered flows may further depend on San Francisco's ability to enter into a new or extended agreement with the Districts to offset a portion of San Francisco's flow contributions in exchange for payment. Due to the high levels of uncertainty surrounding the Districts' FERC-relicensing process, as well as the unknown timing for license issuance, the SFPUC's RWS water supply reliability analyses do not assume additional water supply losses from any potential new FERC-ordered flow releases.
- The simulation of the Bay-Delta Plan Amendment scenario assumes that a 1996 agreement between San Francisco and the Districts (the Side Agreement), which allows San Francisco to pay the Districts in lieu of contributing a portion of current FERC-ordered flow releases, remains in effect, and that the San Francisco share of flows in excess of and not covered by the Side Agreement is approximately 51.7%. These assumptions were made for the purpose of completing the modeling for the UWMP update, and they do not represent a commitment by San Francisco or the Districts to any future agreement or of San Francisco accepting responsibility for any future FERC-ordered flow releases.

Water Quality of RWS Supplies [Water Code Section 10634]

Surface water supplies available to the RWS include the Tuolumne River and local Bay Area reservoirs. Most of the water supply originates in the upper Tuolumne River watershed high in the Sierra Nevada, where the watershed is protected from development and pollution. Water from Hetch Hetchy Reservoir is conveyed to the Bay Area through a system of pipes and tunnels and requires only primary disinfection, ultraviolet light disinfection at the Tesla Treatment Facility, and pH adjustment for corrosion control.

The USEPA and SWRCB Division of Drinking Water have approved the use of this drinking water source without filtration. In contrast, water from the SFPUC's local watersheds requires filtration to meet drinking water quality standards. The SFPUC blends filtered and treated local water with water from Hetch Hetchy Reservoir, and most customers receive this blended supply. The SFPUC continuously monitors and tests both raw and treated water to ensure that water delivered to customers meets or exceeds federal and state drinking water and public health requirements. The SFPUC expects to continue relying on these high-quality water sources and does not anticipate future degradation of water quality.

Each spring, the SFPUC publishes an annual water quality report (Consumer Confidence Report), available at **www.sfpuc.gov/waterqualityreport**.

Reliability of the RWS (SFPUC Common Language)

Initiated in 2008, SFPUC's Water System Improvement Program (WSIP) is a $4.8 billion, multi-year capital program to upgrade the RWS as well as the SFPUC's local water system. The program is delivering capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water in an environmentally sustainable manner to its Retail and Wholesale Customers. The SFPUC structured WSIP to cost-effectively meet water quality requirements, improve seismic and delivery reliability goals through the year 2030, and fulfill water supply objectives through the year 2018. The SFPUC completed the San Francisco portion of WSIP in October 2020. As of June 30, 2025, the regional portion of WSIP was 99.3% complete, having repaired, replaced, and seismically upgraded crucial portions of the RWS; only two regional projects remain in planning and construction, while 49 regional projects have been completed or are in close-out. The SFPUC forecasts that the overall WSIP will be complete in June 2032.

The SFPUC undertook the WSIP to ensure the ability of the RWS to meet Level of Service (LOS) Goals and Objectives for water quality, seismic reliability, delivery reliability, and water supply. The Water Supply LOS goal, stated in the WSIP and adopted in 2008, is to meet customer water needs in non-drought and drought periods. The SFPUC amended and updated the LOS Goals and Objectives in November 2023. The SFPUC's current LOS Goals and Objectives related to water supply include the following:

- Meet an average annual water demand of 265 mgd from the SFPUC watersheds for Retail and Wholesale Customers during non-drought years consistent with the Water Supply Agreement between San Francisco and its Wholesale Customers in Alameda, San Mateo, and Santa Clara Counties.
- Meet dry-year delivery needs while limiting rationing to a maximum 20 percent system-wide reduction in water service during extended droughts.
- Diversify and improve use of new water sources and drought management, including groundwater, recycled water, conservation, transfers, storage expansion, purified water, desalinated water, and technological innovations that can increase supply and/or water use efficiency.
- Maintain San Francisco retail residential potable water use below 45 gallons per capita per day.
- Realize annual Real Water Losses of less than 10% of water supplied to San Francisco.
- Meet 80% of San Francisco's Recreation and Parks Department irrigation demands with recycled water by December 31, 2025.

Bay-Delta Plan Amendment Updates (SFPUC Common Language)

In December 2018, the SWRCB adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) to establish water quality objectives for the San Francisco Bay-Delta watershed. The SWRCB is required by law to regularly review this plan. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the San Francisco Bay-Delta. The Bay-Delta Plan Amendment requires the release of 30-50% of the "unimpaired flow"[6] on the three tributaries from February through June in every year type. In SFPUC modeling of the new flow standard, it is assumed that the required release is 40% of unimpaired flow.

If the Bay-Delta Plan Amendment is implemented, the SFPUC will be able to meet the projected water demands presented in this 2025 UWMP in normal years but is expected to experience supply shortages in single dry years or multiple dry years. Implementation of the Bay-Delta Plan Amendment could require rationing in all single dry years and multiple dry years.

Implementation of the Bay-Delta Plan Amendment remains uncertain for multiple reasons.

- Over a dozen lawsuits have been filed in both state and federal courts challenging the SWRCB's adoption of the Bay-Delta Plan Amendment, including a legal challenge filed by the federal government at the request of the U.S. Department of Interior, Bureau of Reclamation. This litigation is currently at the appellate level.
- The Bay-Delta Plan Amendment is not self-implementing and does not automatically allocate responsibility for meeting its new flow requirements to San Francisco or any other water rights holders. Rather, the Bay-Delta Plan Amendment merely provides a regulatory framework for implementing water quality objectives, which must be accomplished by other regulatory and/or adjudicatory proceedings, such as a comprehensive water rights adjudication or, in the case of the Tuolumne River, may be implemented through the water quality certification process set forth in section 401 of the Clean Water Act as part of the Federal Energy Regulatory Commission's licensing proceedings for the Don Pedro and La Grange hydroelectric projects. It is currently unclear when the license amendment process is expected to be completed. This process and the other regulatory and/or adjudicatory proceedings may face legal challenges and have lengthy timelines, and quite possibly could result in a different assignment of flow responsibility (and therefore a different water supply impact on the RWS).

In recognition of the obstacles to implementation of the Bay-Delta Plan Amendment, the SWRCB Resolution No. 2018-0059 adopting the Bay-Delta Plan Amendment directed staff to help complete a "Delta watershed-wide agreement, including potential flow measures for the Tuolumne River," and to incorporate such agreements as an "alternative" for a future amendment to the Bay-Delta Plan to be presented to the SWRCB "as early as possible after December 1, 2019." On March 26, 2019, the SFPUC adopted Resolution No. 19-0057 to support the SFPUC's participation in the Voluntary Agreement negotiation process. To date, those negotiations are ongoing under the California Natural Resources Agency and the leadership of the Newsom administration.[7] On November 10, 2022, the SFPUC along with the Modesto and Turlock Irrigation Districts signed a Memorandum of Understanding Advancing the Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan

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[6] "Unimpaired flow represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds." (Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Dec. 12, 2018) p.17, fn. 14, available at https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf.)

[7] California Natural Resources Agency, "Voluntary Agreements to Improve Habitat and Flow in the Delta and its Watersheds," available at https://files.resources.ca.gov/voluntary-agreements/.

and Other Actions. Voluntary Agreements are now referred to as the Agreements to Support Healthy Rivers and Landscapes and negotiations remain ongoing.

Because of the uncertainty surrounding implementation of the Bay-Delta Plan Amendment, the water service reliability assessment in the 2025 UWMP looks at two future supply scenarios: (1) implementation of the Bay-Delta Plan Amendment and (2) SFPUC system's current conditions without implementation of the Bay-Delta Plan Amendment.

Tier One Drought Allocations (SFPUC Common Language)

Tier One Drought Allocations

The WSA between the SFPUC and the Wholesale Customers, discussed above, includes as "Attachment H" a Water Shortage Allocation Plan (WSAP), also known as the Tier 1 Shortage Plan. This plan describes the method for allocating water from the RWS between the SFPUC's Retail Customers, on the one hand, and the Wholesale Customers collectively, on the other, during system-wide shortages caused by drought. The Tier 1 Shortage Plan applies only when the SFPUC determines that a system-wide water shortage due to drought exists, as set forth in a declaration of water shortage emergency by the SFPUC Commission; in the absence of such a declaration, the SFPUC also may opt to request voluntary cutbacks from its Retail and Wholesale Customers to achieve water use reductions. The SFPUC and the Wholesale Customers most recently amended the Tier 1 Shortage Plan in 2025.

The SFPUC allocates water under the Tier 1 Shortage Plan when it determines that the projected available water supply is less than projected system-wide water purchases for the upcoming Supply Year, defined as the period from July 1 through June 30. The following table shows the Retail Customers' share and the Wholesale Customers' share of the annual water supply available during shortages depending on the level of system-wide reduction in water use that is required. If the SFPUC determines that the level of system-wide reduction required during a shortage is greater than 20 percent, the SFPUC and the Wholesale Customers will meet to discuss the appropriate Retail and Wholesale Customers' shares of available water. The Retail and Wholesale Customers' shares of available water are also known as the Retail and Wholesale Customers' Tier 1 Allocations. The Wholesale Customers' Tier 1 Allocation will be apportioned among the individual Wholesale Customers based on a separate methodology, known as the Tier 2 Drought Response Implementation Plan (Tier 2 Plan), which is separately adopted by all the Wholesale Customers without the SFPUC's involvement as discussed further below.

Level of System-Wide Reduction in Water Use Required	**Share of Available Water**	
	SFPUC Share	**Wholesale Customers Share**
5% or less	35.5%	64.5%
6% through 10%	36.0%	64.0%
11% through 15%	37.0%	63.0%
16% through 20%	37.5%	62.5%

The Tier 1 Shortage Plan allows for voluntary transfers of shortage allocations between the SFPUC and any Wholesale Customer as well as between Wholesale Customers themselves. In addition, voluntary transfers of water "banked" by the SFPUC or a Wholesale Customer, through reductions in usage greater than required, may occur.

Under the Tier 1 Shortage Plan, as amended in 2018, if the Retail Customers' Tier 1 Allocation results in the Retail Customers receiving a "positive allocation" (i.e., a supply of additional water rather than a required reduction in water use), then the excess percentage for Retail is re-allocated to the Wholesale Customers' Tier 1 Allocation. The Retail Customers are also required to conserve a minimum of 5% for any level of reduction in system-wide water use. The additional water conserved by Retail Customers up to the minimum 5% level is deemed as remaining in RWS storage for inclusion in the calculation of projected available water in future successive dry years.

The Tier 1 Shortage Plan will expire at the end of the term of the WSA in 2034, unless the SFPUC and the Wholesale Customers mutually agree to revise or terminate it prior to that date.

Tier Two Drought Allocations

The Wholesale Customers have negotiated and adopted the Tier 2 Plan, referenced above, which allocates the Wholesale Customer Tier 1 Allocation from the Tier 1 Shortage Plan among each of the 26 Wholesale Customers. These Tier 2 Allocations are based on a formula that takes into account multiple factors for each Wholesale Customer including:

- Residential population;
- Non-residential "base" (i.e., indoor) use;
- Seasonal uses;
- Total RWS purchases in recent non-drought years; and
- Individual Supply Guarantee;

The Tier 2 Plan employs a structured, sequential, five-step method to allocate water to each Wholesale Customer. The allocations are constrained by minimum and maximum cutbacks, which establish the maximum final allocation and minimum guaranteed final allocation, respectively. No agency's final allocation can fall outside of these bounds. The allocation then proceeds by prioritizing indoor uses.

The subsequent steps systematically allocate the remaining available water based on different customer demands. First focusing on indoor demand, water is allocated based on an agency's residential population and the State residential efficient indoor standard (47 gallons per person per day (GPCD) in 2025), followed by an allocation based on non-residential "base" (i.e., indoor) use. A limited amount of water is allocated based on seasonal use (e.g., cooling towers and irrigation). Finally, the remaining supply is allocated based on a weighted share of two-thirds RWS purchases in the recent non-drought years and one-third ISG.

The result of the Tier 2 Plan is each Wholesale Customers' proportion, expressed as a percentage, of the available Tier 1 Allocation (Allocation Factor).

The Tier 2 Plan requires that the Allocation Factors be calculated by BAWSCA each year in preparation for a potential water shortage emergency. As the Wholesale Customers change their water use characteristics (e.g., increases or decreases in RWS purchases and use of other water sources, changes in monthly water use patterns, or changes in population), the Allocation Factor for each Wholesale Customer will also change. However, for long-term planning purposes, each Wholesale Customer may use as its Allocation Factor, the value identified in the Tier 2 Plan when adopted.

The Tier 2 Plan was renegotiated and adopted by all Wholesale Customers in 2025.

DWR Section 7.2.1 Water Supply Reliability Assessment Year-Type Characterization (for RWS)

SFPUC Supply Modeled RWS Dry Year Supply Availability

The SFPUC used its Hetch Hetchy and Local Simulation Model (HHLSM) to perform the water supply analyses for the supply reliability assessment and the drought risk assessment within the 2025 UWMP. HHLSM combines a historical record of hydrology from 1920 through 2025 with a current representation of RWS infrastructure and operations. The simulated operations include decisions on water supply rationing during droughts. The use of those results is described below.

A key input for the HHLSM model is the anticipated level of demand on the RWS. Supply modeling results presented in the 2025 UWMP reflect an input of projected demands on the RWS consisting of (1) projected Retail Customer demands on the RWS (total Retail Customer demands minus local groundwater and recycled water supplies), and (2) projected Wholesale Customer purchases. The SFPUC has estimated total RWS demands for 2030 through 2050 and used these estimates in HHLSM simulations of RWS water supply reliability. The SFPUC has a Level of Service objective of meeting an average annual water demand of 265 mgd from the SFPUC watersheds for Retail and Wholesale Customers during non-drought years consistent with the WSA, under which the SFPUC has a contractual obligation to supply up to 184 mgd to the Wholesale Customers. Therefore, the SFPUC has also conducted modeling that assumes Wholesale Customer demand is 184 mgd to facilitate planning that supports meeting this Level of Service objective and contractual obligation.

In a normal year the SFPUC can provide up to 265 mgd of supply from the RWS. However, within the context of this document, normal year RWS supply is defined as the supply that will be used to meet the full demands on the RWS in a non-drought year.

DWR Table 7-1R Basis of Water Year Data - RWS Wholesale Supply Availability During Normal and Dry Years (SFPUC to provide total, BAWSCA to provide individual BAWSCA Agency) [See Attachment A]

Year Type	Base Year	Available Supplies if Year Type Repeats	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location X
		Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available (*unit*)	% of Average Supply
Average Year			
Single-Dry Year			
Consecutive Dry Years 1st Year			
Consecutive Dry Years 2nd Year			
Consecutive Dry Years 3rd Year			
Consecutive Dry Years 4th Year			
Consecutive Dry Years 5th Year			
NOTES:			

DWR Section 7.2.2 Service Reliability – Supply and Demand Comparison (for RWS)

Guidance for completing DWR Tables 7-2 through 7-4 (SFPUC to provide)

DWR Table 7-2R Normal Year Supply and Use Comparison (SFPUC to provide total, BAWSCA to provide individual BAWSCA Agency; with and without Bay Delta Plan) [See Attachment A]

	2030	2035	2040	2045	2050 (Opt)
Supply totals					
Use totals					
Surplus/(shortfall)					
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
NOTES: Volumes are in units of X.					

DWR Table 7-3R Single Dry Year Supply and Use Comparison (SFPUC to provide total, BAWSCA to provide individual BAWSCA Agency; with and without Bay Delta Plan) [See Attachment A]

	2030	2035	2040	2045	2050 (Opt)
Supply totals					
Use totals					
Surplus/(shortfall)					
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
NOTES: Volumes are in units of X.					

DWR Table 7-4R Multiple Dry Years Supply and Use Comparison (SFPUC to provide total, BAWSCA to provide individual BAWSCA Agency; with and without Bay Delta Plan) [See Attachment A]

		2030	2035	2040	2045	2050 (Opt)
First year	Supply totals					
	Use totals					
	Surplus/(shortfall)					
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Second year	Supply totals					
	Use totals					
	Surplus/(shortfall)					
	OPTIONAL WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Third year	Supply totals					
	Use totals					
	Surplus/(shortfall)					

	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fourth year	Supply totals					
	Use totals					
	Surplus/(shortfall)					
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fifth year	Supply totals					
	Use totals					
	Surplus/(shortfall)					
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
NOTES: Volumes are in units of X.						

DWR Section 7.2.3 Water Supply Reliability Assessment Description of Management Tools and Options (BAWSCA Common Language)

[include Agency-specific management tools and options]. [Agency] has also been implementing, and plans to continue to implement, the demand management measures described in DWR Section 9. Further, to address potential future dry year supply shortfalls, [Agency] has developed a robust WSCP that systematically identifies ways in which [Agency] can reduce water demands.

At a regional level, [Agency] maintains active involvement in the efforts led by SFPUC and BAWSCA to optimize the use of regional water supplies and pursue additional supplies.

Strategy 2050 Future Water Supply Projects and Programs

[Agency] is supporting BAWSCA in the development of its Long-Term Reliable Water Supply Strategy 2050 (Strategy 2050), a regional assessment of Member Agencies' water supply needs. Strategy 2050 will identify the water supply and demand management needs and opportunities for the BAWSCA region and establish a framework to collectively support water reliability and resilience. The main objectives of Strategy 2050 include:

- Providing a comprehensive picture of the region's supply and demand management needs and options;
- Establishing a framework for collectively maintaining and improving regional water supply reliability and resilience;
- Elevating awareness of and supporting the region's interests in new and emerging regulations that impact water supply and demand management;
- Expanding regional dialogue and collaboration to collectively address common needs;
- Closing the gap on funding needed for water supply resilience and reliability; and
- Supporting availability of affordable water supplies and demand management strategies to all customers.

Strategy 2050 is actively evaluating opportunities to enhance water supply reliability in the BAWSCA region, including projects involving physical infrastructure and actions involving non-infrastructure interventions, such as policies, programs, and/or contractual agreements. A total of 70 local and regional projects and actions (P&As) will be considered, including stormwater capture projects, technical assistance programs for onsite reuse, groundwater banking partnerships, new and replacement well projects, and interties development and optimization, among others. Strategy 2050 will evaluate these the water reliability of under the range of potential future conditions and make recommendations on priorities and next steps for implementation.

Strategy 2050 plan is anticipated to be completed by 2027. From 2027 onward, the Strategy 2050 effort is anticipated to involve implementing the actions identified in the plan, tracking and reporting on the progress, and incorporating the findings from the implementation activities into BAWSCA's following fiscal year Work Plan.

WSIP Dry Year Water Supply Projects (SFPUC Common Language)

With WSIP, the SFPUC has undertaken several water supply projects to meet dry-year demands. Those projects include the following:

- **Calaveras Dam Replacement Project.** Calaveras Dam is in the East Bay near a seismically active fault zone, and following the Loma Prieta earthquake in 1989, it was determined to be seismically vulnerable. To address the dam's vulnerability, the SFPUC constructed a new dam of equal height downstream of the existing dam. This project was completed in 2022. Calaveras Reservoir was completely refilled in 2023 and is now operating at full capacity.
- **Alameda Creek Recapture Project.** The Alameda Creek Recapture Project includes new facilities in and around an existing quarry pit in Sunol Valley to recover the loss of water supply associated with instream flow release and bypass requirements related to the Calaveras Dam Replacement Project. The project is anticipated to be completed in 2032.
- **Lower Crystal Springs Dam Improvements.** The Lower Crystal Springs Dam Improvements Project was completed in May 2012. The related joint San Mateo County/SFPUC Bridge Replacement Project to replace the bridge across the Lower Crystal Springs Dam was completed in January 2019.

- **Regional Groundwater Storage and Recovery Project.** The Regional Groundwater Storage and Recovery (RGSR) Project is a strategic partnership between the SFPUC and three Wholesale Customers in San Mateo County: the California Water Service Company (serving South San Francisco and Colma), the City of Daly City, and the City of San Bruno. The project sustainably manages groundwater and surface water resources to provide the RWS with additional supplies during times of drought. During years of normal or heavy rainfall, the SFPUC provides additional surface water from the RWS to the three agencies in northern San Mateo County, allowing them to reduce the amount of groundwater that they pump from the southern Westside Groundwater Basin. Over time, the reduced pumping allows the aquifer to naturally recharge and result in increased groundwater storage of up to 61,000 acre-feet of new water supply available during dry years. As of December 2025, the SFPUC had accumulated approximately 14 billion gallons of groundwater storage credits (about 43,093 acre-feet) through the project.

  The RGSR project has two phases. Phase 1, which included building thirteen production wells and treatment facilities, is complete. Phase 2 design began in early 2020 and covers rehabilitating and reinstalling well pumps, installing two new variable frequency drivers, and conducting start-up testing and well disinfection. Pumps at the Hickey, Southwood Drive, and Mission well were rehabilitated, packed, and stored due to staff shortages, operational challenges, and elevated ammonia levels at the Southwood Drive well; they may be reinstalled later. Construction on Phase 2B began in 2024 and would transport groundwater from SFPUC South San Francisco Main Well to California Water Service Company Treatment Station in South San Francisco. The project will make improvements at the existing well site which includes mechanical, electrical, structural, and corrosion protection upgrades. The SFPUC also prepared a conceptual engineering report and initiated design work for additional treatment to address the high ammonia levels at the South Spruce Lane Well and Treatment Facility. Minor amounts of groundwater pumping from RGSR wells have occurred during start-up testing and monthly maintenance.

- **Regional Groundwater Treatment Improvements Project.** The SFPUC approved this new project in the 10-Year Water Enterprise Capital Improvement Program for FY 2021-2030. The project includes treatment facilities for several of the RGSR project wells to address groundwater quality issues that have emerged since the wells were constructed.

- **Water Transfers.** During the planning and implementation of the WSIP, the SFPUC pursued a long-term agreement to transfer 2 mgd from Modesto irrigation District to the SFPUC in drought years. Negotiations with Modesto Irrigation District ended in 2012 when an agreement could not be reached. The dry-year transfer project is now being included as part of the new SFPUC Alternative Water Supply Program and is described in further detail below.

Alternative Water Supply Program (SFPUC Common Language)

In 2019, the SFPUC established the Alternative Water Supply (AWS) Program to identify and plan water supply and storage projects and actions that increase the dry-year reliability of the RWS. Based on the 2045 planning horizon that the SFPUC applied in its February 2024 AWS Plan, the SFPUC anticipates a water supply gap will occur in future dry years. The AWS Program aims to help fill the gap through local and regional capital projects. The February 2024 AWS Plan identified six regional projects that might partially address the future water supply gap and the priorities for this planning effort. Since the development of that plan, three projects have been deferred (Daly City Recycled Water Expansion, Alameda County Water District-Union Sanitary District Purified Water, and Calaveras Reservoir Expansion) and one project has been canceled (Los Vaqueros Reservoir Expansion). The AWS Program is continuing to pursue the following two projects:

- **PureWater Peninsula**. PureWater Peninsula (formerly known as the Crystal Springs Purified Water Project) is a purified water project that could provide 6 mgd of additional potable water supply to the RWS through surface water augmentation at the SFPUC's Crystal Springs Reservoir. The currently proposed project involves treating wastewater effluent from Silicon Valley Clean Water at a new advanced purified water facility located on the Peninsula and transmitting that purified water to Crystal Springs Reservoir, where it would blend with RWS surface water supplies before the SFPUC treats it again at Harry Tracy Water Treatment Plant. A future phase could provide an additional 6 mgd of additional potable water supply to the RWS. Project partners include the SFPUC, Silicon Valley Clean Water, BAWSCA, Mid-Peninsula Water District, California Water Service Company, City of Redwood City, City of Foster City, and City of San Mateo.
- **South Bay Purified Water**. In 2023, the SFPUC, the City of San Jose, and the City of Santa Clara completed an initial feasibility study for the South Bay Purified Water project, envisioned as a 10 mgd purified water project that would serve the local demands of San Jose and Santa Clara during all types of water years and deliver an additional volume of water supply to the RWS in dry years. Currently, Santa Clara Valley Water District (Valley Water) is working with San Jose and Santa Clara to design a larger project to meet broader regional needs. The SFPUC's participation in this project will be based on the regional benefits to the RWS customers. This project may also assist the SFPUC with its decision regarding San Jose and Santa Clara's status as RWS customers, discussed above.

If both AWS projects that SFPUC staff has identified through the current planning process can be implemented, there would still be a supply shortfall to meet projected needs associated with implementation of the Bay-Delta Plan Amendment. Furthermore, both alternative water supply options are in the planning phase and are subject to changes in institutional structure and design. Given the limited availability of water supply alternatives, unless the supply risks are significantly reduced, the SFPUC will continue to plan, develop, and implement all potential projects that can help bridge the anticipated water supply gap during droughts.

Outside of the AWS Program, the following additional regional projects are included in the Agreements to Support Healthy Rivers and Landscapes discussed in the Bay-Delta Plan Amendment section above. Progress on these water supply options will be guided by scientific monitoring and collaborative decision making.

- **Groundwater Banking.** Groundwater banking projects in the Modesto Irrigation District and Turlock Irrigation District service areas could provide the SFPUC with some additional water supply to meet instream flow releases in dry years, reducing water supply impacts on the RWS. A feasibility study of this option is included in the Agreements to Support Healthy Rivers and Landscapes.
- **Inter-Basin Collaborations.** Inter-Basin Collaborations could include establishing a partnership between interests on the Tuolumne River (such as the SFPUC) and those on the Stanislaus River, which would allow responsibility for streamflow to be assigned variably based on the annual hydrology. The Tuolumne system tends to spill more excess flow in wetter years than the Stanislaus system, and this excess flow could be shaped and credited to meet Stanislaus system

requirements, while New Melones Reservoir in the Stanislaus system is refilling. Then the stored water could be partially used to provide required streamflow to meet Stanislaus and Tuolumne requirements in future dry years.

- **Dry-Year Transfers.** The SFPUC initiated discussions with irrigation districts under WSIP to secure a dry-year transfer (see WSIP Dry-Year Water Supply Projects section above). While no transfer was secured, the SFPUC continues to engage in discussions with irrigation districts to explore potential transfer opportunities.

The SFPUC's AWS Plan published in February 2024 included a planning framework for the SFPUC to consider water supply needs and related tradeoffs; guide the decisions to proceed with environmental review; and continue the development of projects that can best meet anticipated water supply needs. In June 2025, the SFPUC prepared a progress report that provided status updates on the AWS projects. In 2027, the SFPUC plans to review and revise its Alternative Water Supply Plan based on updated information.

DWR Section 7.3 Drought Risk Assessment (EKI Team)

In addition to the long-term water service reliability assessment presented above, the Drought Risk Assessment (DRA) evaluates [Agency's] supply risks under a severe drought period lasting for the next five consecutive years after the assessment is completed (i.e., from 2026 through 2030). The DRA is intended to inform the demand management measures and water supply projects and programs to be included in the UWMP (see DWR Sections 6 and 9). Suppliers may conduct an interim update or updates to this DRA within the five-year cycle of its UWMP update (i.e., before the 2030 UWMP).

DWR Section 7.3.1 DRA Data, Methods, and Basis for Water Shortage Condition

As a first step to the DRA, [Agency] estimated unconstrained water demand for the next five years. Unconstrained water demand is the expected water use in the absence of drought water use restrictions. The characteristic five-year water demand is from the 2025 Demand Study, a uniform demand and conservation savings projection for each Member Agency developed by BAWSCA and further described in DWR Section 4.2.5.

DWR Section 7.3.2 DRA Individual Water Source Reliability

The available water supplies assumed in the DRA are based upon the same methodology and assumptions used for the long-term water service reliability assessment, provided in DWR Section 7.2, and relies on information provided by SFPUC and BAWSCA.

The data and methods used to determine the RWS supply for the DRA dry-year sequence are the same as those described in the "SFPUC Supply Modeled RWS Dry Year Supply Availability" section. The SFPUC used the HHLSM with the design drought sequence to perform the water supply analyses and simulate the water supply shortage conditions over the five-year drought period.

Because the start date of the implementation of the Bay-Delta Plan Amendment is unknown, the DRA considers the supply scenario without the implementation of the Bay-Delta Plan Amendment.

DWR Section 7.3.3 DRA Total Water Supply and Use Comparison

DWR Table 7-5 provides a comparison of [Agency's] water supply and demand for an assumed five-year drought period from 2026 through 2030 for the scenario without implementation of the Bay-Delta Plan Amendment since the start date of implementation is unknown. Under this scenario, [Agency's] supply is expected to *[describe results shown in table below]* in the event of a five-year drought starting in 2026.

DWR Table 7-5R Five Year Drought Risk Assessment (SFPUC to provide total, BAWSCA to provide individual BAWSCA Agency) [See Attachment A]

2026	**Total**
Total Water Use	
Total Supplies	
Surplus/Shortfall without WSCP Action	
OPTIONAL Planned WSCP Actions	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
2027	**Total**
Total Water Use	
Total Supplies	
Surplus/Shortfall without WSCP Action	
OPTIONAL Planned WSCP Actions	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
2028	**Total**
Total Water Use	
Total Supplies	
Surplus/Shortfall without WSCP Action	
OPTIONAL Planned WSCP Actions	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
2029	**Total**
Total Water Use	
Total Supplies	

Surplus/Shortfall without WSCP Action	
OPTIONAL Planned WSCP Actions	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
2030	**Total**
Total Water Use	
Total Supplies	
Surplus/Shortfall without WSCP Action	
OPTIONAL Planned WSCP Actions	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
NOTES: Volumes are in units of X.	

DWR SECTION 8 WATER SHORTAGE CONTINGENCY PLAN

DWR Section 8.2 Annual Water Supply and Demand Assessment Procedures

[The language below can be attached as an appendix to the Member Agencies' Water Shortage Contingency Plan]

Annual Water Supply and Demand Assessment Procedures (SFPUC Common Language)

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.

Demand Assessment [Water Code Section 10632(A)(2)(B)(I)]

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 Community Services District, its other two wholesale customers for the purposes of its UWMP, that are not parties to the WSA and are not BAWSCA Member Agencies as it does the demands of its Retail Customers: 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.

Supply Assessment [Water Code Sections 10632(A)(2)(B)(II) and 10632(A)(2)(B)(V)]

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 ever 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 San Francisco 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 condition. 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.

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 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 between the Retail Customers and Wholesale Customers as follows:

- Retail supply allocation: 81 mgd
- Wholesale supply allocation: 184 mgd

[Table 8-1] shows the availability of RWS supplies for the SFPUC's retail Customers and wholesale customers in normal years. [Table 8-2] 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 8-1] Regional Water System Supply Availability in Normal Years (mgd)

RWS Supply Allocation	Projected				
	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

Notes:
(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 Community Services District (GCSD) as a wholesale customer in its UWMP, but the SFPUC otherwise considers GCSD a Retail Customer and includes GCSD'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 it 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 8-2] Regional Water System Supply Utilized in Normal Years (mgd)

RWS Supply Allocation	Projected				
	2030	2035	2040	2045	2050
Retail Customers (a)(b)	62.7	61.2	61.9	64.0	66.7
Wholesale Customers (c)(d)	133.92	136.32	140.53	144.12	148.36
Total RWS Supplies	196.62	197.52	202.43	208.12	215.1

Notes:
(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 may be used in normal years.
(b) The SFPUC reports Groveland Community Services District (GCSD) as a wholesale customer in its UWMP, but the SFPUC otherwise considers GCSD a Retail Customer and includes GCSD'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 it 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).

Infrastructure Considerations [Water Code Section 10632(A)(2)(B)(III)]

On an ongoing basis, three groups with 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.

System Modeling [Water Code Section 10632(A)(2)(B)(IV)]

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 use of 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.

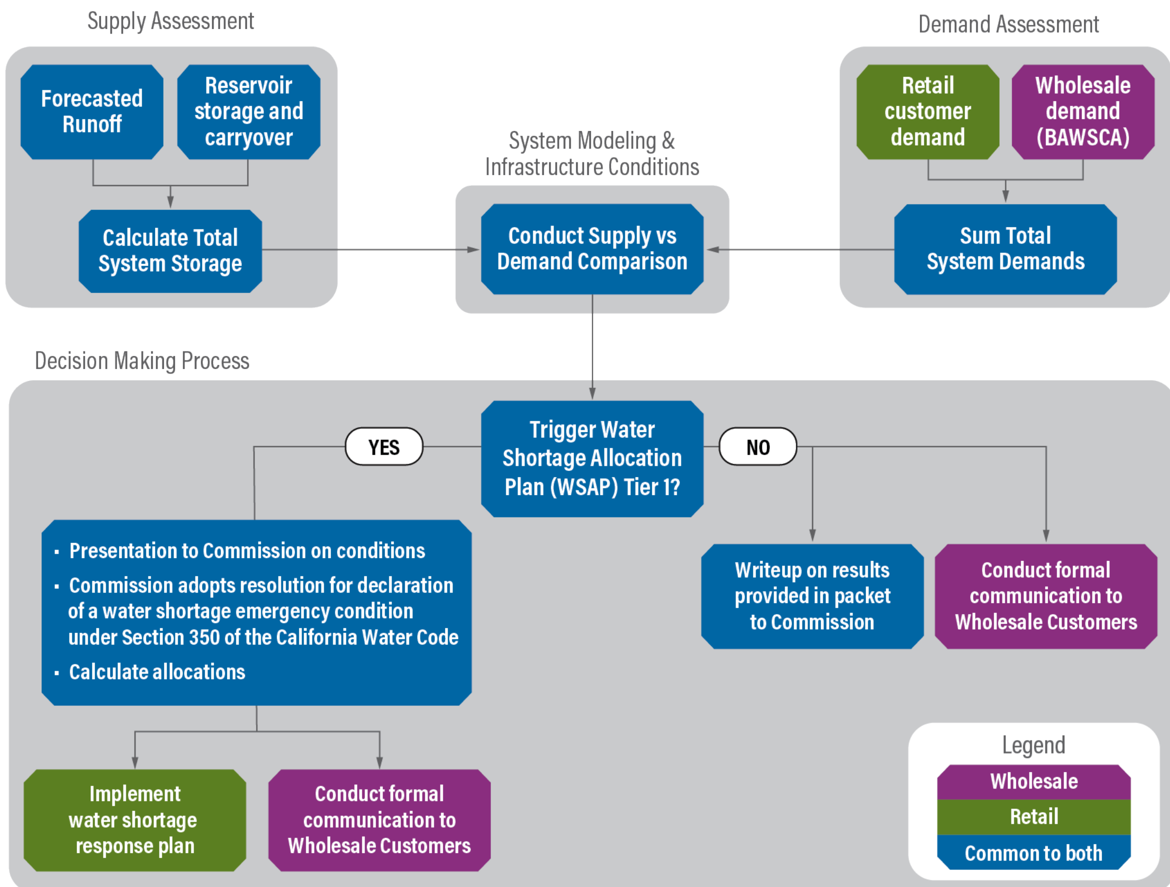
Decision-Making Process [Water Code Section 10632(A)(2)(A)]

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 previously, the SFPUC also 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. A Wholesale Customer Annual 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 issues a final estimate of available water supply and determines 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. 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 8-1] 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 the next section.

[Figure 8-1] Water Supply and Demand Assessment Process



DWR Section 8.4.5 Emergency Response Plan (SFPUC Common Language)

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: (1) Emergency Preparedness Plans, (2) Emergency Drinking Water Planning, and (3) Power Outage Preparedness and Response. The Seismic Risk Assessment and Mitigation Plan section that follows this section 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).

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 and County of San Francisco's Emergency Response Plan, which was prepared by the Department of Emergency Management and most recently updated in 2017. Specifically, the purpose of the SFPUC EOP is to describe the SFPUC's emergency management organization, roles and responsibilities, and emergency policies and procedures. 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.

In addition, the SFPUC's enterprises each have their own emergency plans (in alignment with the SFPUC EOP), which detail that entity's specific emergency management organization, roles and responsibilities, and emergency policies and procedures. The SFPUC EOP functions as a front end for the SFPUC's enterprise EOPs, covering emergency response at the department level; while each 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 through real-world response. 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 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

Emergency Drinking Water Planning

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

- Completion of many WSIP projects and other capital upgrades to improve security, detection, and communication (see the Seismic Risk Assessment and Mitigation Plan section);
- Development of public information and educational materials for residents and businesses;
- 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 and County of San Francisco 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 the 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 public. The plan treats water quality issues as potential or actual supply problems, which fall under the emergency response structure of the SFPUC EOP.

Power Outage Preparedness and Response

The SFPUC's water transmission system is primarily gravity fed from Hetch Hetchy Reservoir to San Francisco. Within San Francisco's 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 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 HTWTP 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 an emergency water supply connection with Valley Water, known as the Valley Water 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.

DWR Section 8.4.6 Seismic Risk Assessment and Mitigation Plan

Seismic Risk Assessment and Mitigation Plan (SFPUC Common Language)

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.

The Levels of Service (LOS) Goals and Objectives for seismic reliability 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 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:

- An intertie that may transfer up to 30 mgd between the SFPUC and East Bay Municipal Utilities District (EBMUD) systems, allowing EBMUD to serve the City of Hayward (an SFPUC Wholesale Customer) and/or supply the SFPUC directly (and vice versa);
- An intertie that may transfer up to 40 mgd between the SFPUC and Valley Water systems; and,
- An intertie between the SFPUC the South Bay Aqueduct that the SFPUC used in 1991-1992 and may upgrade to enable the SFPUC 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 for 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 and County of San Francisco also have a Hazards and Climate Resilience Plan[8] which was last updated in July 2025. This plan is a roadmap to minimizing 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 it 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.

[8] The 2025 Hazards and Climate Resilience Plan may be accessed at https://www.onesanfrancisco.org/hazards-and-climate-resilience-plan.

DWR SECTION 9 DEMAND MANAGEMENT MEASURES

DWR Section 9.1.6 Wholesale Supplier Assistance Programs

Regional Water Conservation - BAWSCA Conservation Programs (BAWSCA Common Language)

BAWSCA manages a Regional Water Conservation Program comprised of several programs and initiatives that support and augment Member Agencies' and customers' efforts to use water more efficiently. These efforts extend limited water supplies that are available to meet both current and future water needs; increase drought reliability of the existing water system; and save money for both the Member Agencies and their customers.

The implementation of the Regional Water Conservation Program builds upon the Demand Study (completed in December of 2025). These efforts include both Core Programs (implemented regionally throughout the BAWSCA service area) and Subscription Programs (funded by individual Member Agencies that elect to participate and implement them within their respective service areas).

BAWSCA's Core Conservation Programs include organizing classes focused on sustainable and water-efficient landscape design, assistance related to automated metering infrastructure, and other associated programs that work to promote smart water use and practices. BAWSCA's Subscription Programs include numerous rebate programs, educational programs that can be offered to area schools, technical assistance to Member Agencies in evaluating water loss, and programs that use data analytics to provide customized water-saving recommendations to customers. In total, BAWSCA offers 24 programs to its Member Agencies and that number continues to grow over time.

Each fiscal year, BAWSCA prepares an Annual Water Conservation Report that documents several conservation program metrics exemplifying the benefits of the Regional Water Conservation Program to all 26 of BAWSCA Member Agencies. Additionally, the report highlights how all 26 Member Agencies participate in one or more of the Subscription Programs offered by BAWSCA, such as rebates, water loss management and large landscape audits. The Demand Study indicates that through a combination of active and passive conservation, 16.14 mgd will be conserved by BAWSCA's Member Agencies by 2050.

The Core Programs provided as a part of the Regional Water Conservation Program include conservation measures that benefit from regional implementation and provide overall regional benefit and are funded through the annual BAWSCA budget. The Subscription Programs are conservation measures that individual agencies must elect to participate in and whose benefits are primarily realized within individual water agency service areas. As such, the Subscription Programs are funded by individual member agencies, based on their participation level. [Agency] is actively participating in the following Subscription Programs:

[Member Agency to list Subscription Programs they participate in, if applicable]

DWR SECTION 10 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

DWR Section 10.2 Notice of Public Hearing

[A sample notification letter to other agencies is provided in Attachment B]

ATTACHMENTS AND REFERENCES

Attachments

ATTACHMENT A: DWR Table Template (*Excel workbook will be provided in the near term*)
ATTACHMENT B: Sample Notification Letter

References

BAWSCA, 2018. Bay Area Water Supply & Conservation Agency's "Making Conservation a Way of Life" Strategic Plan – Phase 1. Dated September 17, 2018. https://bawsca.org/uploads/userfiles/files/BAWSCA_Conservation%20Strategic%20Plan%20Phase%201_Final_9-17-18.pdf

BAWSCA, 2022. BAWSCA Annual Water Conservation Report FY 2020-21. https://bawsca.org/uploads/userfiles/files/BAWSCA%20Annual%20Conservation%20Programs%20Report%20FY2020-21_FINAL.pdf

BAWSCA, 2024a. Statement from Nicole Sandkulla, Chief Executive Officer for the Bay Area Water Supply and Conservation Agency (BAWSCA), Regarding the recent Court Decision in the State Water Board Cases related to the State Water Resources Control Board's (State Water Board) Bay-Delta Updated Plan (Plan). Dated March 20, 2024. https://bawsca.org/uploads/news/2024_0320_BAWSCA%20Statement%20re%20Court%20Decision%20in%20State%20Water%20Board%20Cases_ns.pdf

BAWSCA, 2024b. Statement from Nicole Sandkulla, Chief Executive Officer for the Bay Area Water Supply and Conservation Agency (BAWSCA), Regarding an Appeal of the recent Court Decision in the State Water Board Cases related to the State Water Resources Control Board's (State Water Board) Updated Bay-Delta Plan (Plan). Dated May 10, 2024.https://bawsca.org/uploads/news/2024_0510_BAWSCA%20Statement%20re%20State%20Water%20Board%20Cases%20Appeal_FINAL.pdf

CA Department of Water Resources (DWR), 2026. 2025 Urban Water Management Plan (UWMP) Guidebook. Dated January 2026. Available at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

San Francisco Public Utilities Commission (SFPUC), 2021. 2020 Urban Water Management Plan for the City and County of San Francisco, prepared by the SFPUC. Dated June 2021.

ATTACHMENT A

DWR TABLE TEMPLATE (*EXCEL WORKBOOK WILL BE PROVIDED IN THE NEAR TERM*)

ATTACHMENT B

SAMPLE NOTIFICATION LETTER AND NOTICE OF PUBLIC HEARING

SAMPLE NOTIFICATION LETTER (ON AGENCY LETTERHEAD)

<Date>
<Recipient's Address>

Re: Review of <Agency's> Urban Water Management Plan and Water Shortage Contingency Plan

Dear <City/County/BAWSCA/Water or Sanitation Agency>,

This letter is to notify you that <Agency> will be reviewing and considering amendments and changes to its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). We invite your agency's participation in this process.

<Agency's> draft 2025 UWMP and WSCP can be viewed at <link>. Our revision schedule is as follows:

<Insert schedule if available>

<Agency> will make revisions to its UWMP and WSCP available for public review and will hold a public hearing later this year. <City/County/BAWSCA/Water or Sanitation Agency> will be given notice of the <Agency's City Council or Board of Directors> meeting in which the UWMP update and WSCP will be considered.

If you have any questions about <Agency's> UWMP or WSCP, please contact <name>,
<title>, at <phone and/or email>.

Sincerely,

<Agency>

SAMPLE NOTICE OF PUBLIC HEARING (FOR PUBLICATION ONCE A WEEK FOR TWO SUCCESSIVE WEEKS)

<Agency Name>
PUBLIC HEARING ON UPDATE OF URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

California law requires <Agency Name> review and update its Urban Water Management Plan (UWMP) every five years. Additionally, the California Department of Water Resources has imposed new requirements for urban water suppliers to adopt a Water Shortage Contingency Plan (WSCP). The <City Council/Board of Directors> will hold a public hearing to consider proposed revisions and updates to its UWMP for 2020- 2025 and its WSCP on:

<date, time virtual location (include access instructions for virtual meetings)>

<Agency's> draft 2025 UWMP and WSCP can be viewed at <link>.
Our revision schedule is as follows: <Insert schedule if available>
If you have any questions about <Agency's> UWMP or WSCP, please contact <name>, <title>, at <phone and/or email>.

Date: , 2026

SAMPLE ADVERTISEMENT

<AGENCY NAME>

UPDATE OF URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

<Agency Name> will be reviewing and updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) in 2026. The UWMP was last updated in 2021. We encourage all of our customers to participate in this review process. We will make revisions to the UWMP and the WSCP available for public review and will hold a public hearing on both plans in 2026. The current UWMP is available here: <link>. If you would like to learn more about the UWMP and WSCP, the schedule for revising and adopting these plans, or how to participate in the process, please contact:

<Name of contact person>
<Address>
<Telephone number>
< Facsimile number>
<Email address>

Appendix H: San Francisco Regional Water System Supply Reliability for 2025 Urban Water Management Plans

- Memorandum on Regional Water System Supply Reliability and 2025 UWMPs, dated March 11, 2026
  - Attachment A: 2025 UWMP Supply Reliability Letter, dated March 11, 2026
  - Attachment B: 2025 UWMP Wholesale Customer Dry Year Allocations

Bay Area Water Supply & Conservation Agency

March 11, 2026

TO: BAWSCA Member Agencies

FROM: Danielle McPherson, Senior Water Resources Specialist
Tom Francis, Water Resources Manager

SUBJECT: San Francisco Regional Water System Supply Reliability for 2025 Urban Water Management Plans

On March 11, 2026, the San Francisco Public Utilities Commission (SFPUC) provided a letter with analysis on the Regional Water System (RWS) supply reliability for use in your 2025 Urban Water Management Plans (UWMPs). This memorandum transmits that letter (Attachment A) and provides additional context regarding individual agency cutbacks outlined in Attachment B.

Regulatory and Demand Scenarios

To account for the ongoing uncertainty surrounding the State Water Resources Control Board's Bay-Delta Plan Amendment, the SFPUC modeled water supply reliability under two regulatory scenarios and two demand scenarios:

- **Regulatory Scenarios:**
  1. With implementation of the Bay-Delta Plan Amendment.
  2. Without implementation of the Bay-Delta Plan Amendment.

- **Demand Scenarios:**
  1. Projected SFPUC retail demand and Wholesale Customer purchases for 2030-2050.
  2. Projected SFPUC retail demand for 2050 and the Wholesale Customer Supply Assurance of 184 MGD.

Key Findings and Impacts on Allocation

Attachment B provides specific cutbacks for each agency based on Demand Scenario 1 (projected RWS demand). Please note the following critical impacts on how these shortages are managed:

- **Extreme Shortages Under Bay-Delta Implementation:** Under the "With Bay-Delta Plan" scenario, system-wide cutbacks exceed the SFPUC's Level of Service Goal to limit system-wide cutbacks to 20% or less. In these instances, the Water Supply Agreement (WSA) allows for negotiated allocations between retail and Wholesale Customers collectively. In the absence of a negotiated agreement, SFPUC has applied the Tier 1 split for a system-wide cutback up to 20%.

- **Application of the Tier 2 Plan:** The Tier 2 Drought Response Implementation Plan only applies during system-wide shortages of 20% or less. Because the "With Bay-Delta Plan" scenario results in wholesale cutbacks ranging from 31% to 48%, the Tier 2 Plan cannot be applied.
- **BAWSCA Recommendation:** In the absence of a negotiated approach for allocating RWS supply among the Wholesale Customers during shortages exceeding 20%, BAWSCA suggests that agencies apply these cutbacks equally across all agencies for their 2025 UWMPs.
- **"Without Bay-Delta" Scenario:** The SFPUC analyses do not anticipate any cutbacks during the required five-year drought sequence under the "Without Bay-Delta Plan" scenario.

Guidance for 2025 UWMP Reporting
For the 2020 UWMPs, most member agencies utilized the "With Bay-Delta Plan" scenario for their standard tables and included the "Without Bay-Delta Plan" scenario in supplemental tables or appendices. BAWSCA understands that the SFPUC intends to follow this same approach for its own 2025 UWMP.

Note on Future Modeling (HRL Program)
While the SFPUC previously indicated it would model the Tuolumne River Healthy Rivers and Landscapes Program (HRL), they have not provided that modeling at this time due to significant implementation uncertainties.

Enclosed: Attachment A – 2025 UWMP Supply Reliability Letter_2026-03-11
Attachment B – 2025 UWMP Wholesale Customer Dry Year Allocations

cc: Tom Smegal
Allison Schutte

San Francisco
Water Power Sewer
Operator of the Hetch Hetchy Regional Water System

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San Francisco, CA 94102
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March 11, 2026

Danielle McPherson
Senior Water Resources Specialist
Bay Area Water Supply and Conservation Agency
155 Bovet Road, Suite 650
San Mateo, CA 94402

Dear Ms. McPherson,

This letter contains the supply reliability of the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS) that the SFPUC has prepared for the 2025 Urban Water Management Plan (UWMP), which the Wholesale Customers may also use in their respective 2025 UWMPs. The SFPUC has assessed the RWS's supply reliability under the following planning scenarios:

1. Projected supply reliability for years 2030 through 2050, assuming total demand is equivalent to the sum of the projected retail and wholesale demands on the RWS, which includes Wholesale Customer purchase projections provided to the SFPUC by BAWSCA on March 4, 2026 (refer to Table 1 below).
2. Projected supply reliability for 2050, assuming total demand is equivalent to the sum of the projected retail demands on the RWS and the Wholesale Customers' Supply Assurance of 184 MGD.
3. Under each of the above demand conditions, projected supply reliability for the following scenarios: (a) with implementation of the 2018 amendments to the Bay-Delta Water Quality Control Plan (Bay-Delta Plan Amendment) and (b) without implementation of the Bay-Delta Plan Amendment.

Table 1. Retail and Wholesale RWS Demand Assumptions Used for Supply Reliability Modeling (MGD)

	2025[1]	2030	2035	2040	2045	2050
Retail	61.1	62.7	61.2	61.9	64.0	66.7
Wholesale[2]	130.1	133.9	136.3	140.6	144.1	148.4
Total	**191.2**	**196.6**	**197.5**	**202.5**	**208.1**	**215.1**

[1] 2025 demands are from the FY 2024-25 Table J-1 water use calculations, prepared pursuant to the Water Supply Agreement between the SFPUC and the Wholesale Customers.
[2] 2030 through 2050 Wholesale Customer purchase projections were provided to the SFPUC by BAWSCA on March 4, 2026, and include demands for the cities of San Jose and Santa Clara.

The total amount of water the SFPUC can deliver to the Retail and Wholesale Customers from the RWS depends on several factors, including (1) the amount of water that is available to the SFPUC from natural runoff, (2) the amount of water in reservoir storage, and (3) the amount of water that the SFPUC releases from the RWS for purposes other than customer deliveries (e.g., instream flow releases below RWS reservoirs). For planning purposes, the SFPUC “average year” or “normal year” is based on historical hydrology under conditions that allow the RWS reservoirs to be filled over the course of the snowmelt season, allowing full deliveries to customers. For “dry-year” supply scenarios, the SFPUC plans its water deliveries using a water-supply planning methodology with reference to a simulated 8.5-year design drought.

In each demand scenario for 2030 through 2050, the SFPUC estimated RWS deliveries using the standard SFPUC procedure, which includes adding increased levels of rationing as needed in dry years to balance the demands on the RWS with available water supply. The five consecutive dry-year sequence shown in the tables below represent years 2 through 6 of the design drought. The SFPUC chose this sequence because year 2 is the first year in which system-wide water use reductions could take effect, as the design drought sequence generally begins year 1 with full reservoirs. All simulations that the SFPUC has prepared for its 2025 UWMP have increased levels of rationing in the final years of the design drought sequence. The SFPUC has presented the results in the standardized format prescribed by DWR.

Assumptions about the status of the dry-year water supply projects included in the SFPUC’s Water System Improvement Program (WSIP) are provided below in Table 2 titled “WSIP Project Assumptions for RWS Supply Modeling.” The table reflects instream flow requirements at San Mateo and Alameda Creeks, as described in the UWMP “common language” that the SFPUC provided to BAWSCA and the Wholesale Customers separately from this letter.

The SFPUC utilized the Water Shortage Allocation Plan (WSAP) that is incorporated in the Water Supply Agreement between the SFPUC and the Wholesale Customers to allocate the RWS supply available during dry years between the Retail Customers and the Wholesale Customers in the 2025 UWMP supply reliability analysis. The WSAP, also known as the Tier 1 Plan, defines the method for allocating between the Retail Customers collectively and Wholesale Customers collectively the available RWS supplies during system-wide shortages. The SFPUC and the Wholesale Customers most recently amended the WSAP in 2025. Also in 2025, the Wholesale Customers adopted an updated Tier 2 Plan, which allocates the collective Wholesale Customers’ share of available RWS supplies from the Tier 1 Plan among each of the 26 Wholesale Customers. The WSAP addresses shortages that require a system-wide reduction in water use of 20% or less, consistent with the SFPUC’s Level of Service Goal. For any shortage scenario requiring a system-wide reduction in water use above 20% in the supply reliability analysis, the SFPUC applied the Tier 1 Plan’s allocation of supplies between the Retail Customers and Wholesale Customers for a shortage requiring a system-wide reduction in water use of 16-20%.

Because of the uncertainty surrounding implementation of the Bay-Delta Plan Amendment, the RWS supply reliability assessment evaluates two future supply scenarios: (1) with implementation of the Bay-Delta Plan Amendment, and (2) without implementation of the Bay-Delta Plan Amendment. It is unknown when implementation may begin on the Bay-Delta Plan Amendment; for the purposes of the 2025 UWMP analysis, the SFPUC included it beginning in the 2030 modeling scenarios (see Tables 4a-4g and 6).

The SFPUC incorporated additional modeling assumptions in the 2025 UWMP analysis regarding the State Water Resources Control Board curtailments and assumptions regarding agreements with Turlock and Modesto Irrigation Districts pertaining to instream flow obligations.

1. During the last two drought periods, 2013-2016 and 2021-2023, the State Water Resources Control Board implemented curtailments through emergency regulations and curtailment orders that attempted to limit diversions from Central Valley watersheds including the Tuolumne River at certain times. Due to the uncertain legality of the State Water Resources Control Board’s curtailment actions as well as the

uncertainties regarding any potential future curtailment actions against San Francisco, the SFPUC's RWS supply reliability analyses do not assume curtailments are in effect.

2. Through a 1966 agreement with the Modesto and Turlock Irrigation Districts (Districts), who are more senior downstream appropriative water rights holders on the Tuolumne River, San Francisco may become responsible for up to approximately 51.7% of any flow releases the Federal Energy Regulatory Commission (FERC) may require through issuance of a new license for the Districts' Don Pedro Hydropower Project. The exact flow contribution for which San Francisco may become responsible is highly uncertain and may depend on multiple currently unknown factors, including an anticipated Endangered Species Act biological opinion from the National Marine Fisheries Service and a Clean Water Act section 401 water quality certification from the State Water Resources Control Board. San Francisco's potential responsibility for FERC-ordered flows may further depend on San Francisco's ability to enter into a new or extended agreement with the Districts to offset a portion of San Francisco's flow contributions in exchange for payment. Due to the high levels of uncertainty surrounding the Districts' FERC-relicensing process, as well as the unknown timing for license issuance, the SFPUC's RWS water supply reliability analyses do not assume additional water supply losses from any potential new FERC-ordered flow releases.
3. The simulation of the Bay-Delta Plan Amendment scenario assumes that a 1996 agreement between San Francisco and the Districts (the Side Agreement), which allows San Francisco to pay the Districts in lieu of contributing a portion of current FERC-ordered flow releases, remains in effect, and that the San Francisco share of flows in excess of and not covered by the Side Agreement is approximately 51.7%. These assumptions were made for the purpose of completing the modeling for the UWMP update, and they do not represent a commitment by San Francisco or the Districts to any future agreement or of San Francisco accepting responsibility for any future FERC-ordered flow releases.

Based on current projected demands, supply modeling for the two future supply scenarios shows significantly different supply reliability projections for the RWS:

- <u>With implementation of the Bay-Delta Plan Amendment</u>: Under this scenario, using the demand assumptions shown in Table 1, RWS supplies are expected to range from full availability in an average year

(100%) to as low as 57% in multiple dry years when compared to water supplies in an average year. In other words, RWS supplies could be reduced by up to 43% in a multi-year drought. See Tables 4a-4g and 6.

- Without implementation of the Bay-Delta Plan Amendment: Under this scenario, using demand assumptions shown in Table 1, there are no anticipated shortages of RWS supplies. See Tables 5a-5g and 7.

Table 8 below provides the Wholesale Customer purchase projections and Wholesale Customer allocation of RWS supply for the five-year drought risk assessment from 2026 to 2030. The supply projections for 2026 to 2030 are based on a linear growth from 2025 to 2030 levels of demand as calculated by BAWSCA. This table does not assume implementation of the Bay-Delta Plan Amendment because the start of implementation remains uncertain.

In the forthcoming 2025 UWMP, the SFPUC acknowledges that it has a Level of Service objective to meet an average annual water demand of 265 MGD from the SFPUC watersheds for Retail and Wholesale Customers during non-drought years, as well as a contractual obligation to supply 184 MGD to the Wholesale Customers, subject to reduction under certain conditions. The SFPUC will, accordingly, include the results of modeling based on a Wholesale Customer demand of 184 MGD to facilitate planning that supports meeting this Level of Service objective and its contractual obligations. The results of this modeling will be in an appendix to the 2025 UWMP prepared by the SFPUC. The RWS supply projections shown in the tables below are more accurately characterized as supplies that will be used to meet projected Retail and Wholesale Customer demands.

It is our understanding that you will pass this information on to the Wholesale Customers. If you have any questions or need additional information, please do not hesitate to contact Jennifer Lee at jenlee@sfwater.org or (415) 551-4563.

Sincerely,

Steven R. Ritchie

Steven R. Ritchie
Assistant General Manager, Water Enterprise

Table 2: WSIP Project Assumptions for RWS Supply Modeling

Projects	Base Year 2025	Base Year 2030 and Beyond	Base Year 2040 and Beyond
Lower Crystal Springs Dam Improvements	Crystal Springs storage not fully restored	Crystal Springs storage not fully restored	Crystal Springs storage not fully restored
Regional Groundwater Storage and Recovery (GSR) Project	GSR account partially filled at spring 2020 level of 43,000 AF; GSR recovery rate of 5.2 MGD[a]	GSR account fully filled; GSR recovery rate of 5.2 MGD[a]	GSR account fully filled; GSR recovery rate of 6.2 MGD[a]
Alameda Creek Recapture Project	Project not built	Project built and operating	Project built and operating
Dry-Year Transfers	Not in effect	Not in effect	Not in effect

a. The GSR Project was intended to provide 7.2 MGD over 7.5 years, however current limitations on the number of wells available will result in deliveries less than 7.2 MGD over 7.5 years.

Table 3: Projected Total Regional Water System Supply Utilized and Portion of Regional Water System Supply Utilized by Wholesale Customers in Normal Years [For Table 6-9]:

RWS Supply	2030	2035	2040	2045	2050
RWS Supply Utilized (MGD)	196.6	197.5	202.5	208.1	215.1
RWS Supply Utilized by Wholesale Customers[a] (MGD)	133.9	136.3	140.6	144.1	148.4

a. RWS supply utilized by Wholesale Customers from 2030 through 2050 is equivalent to Wholesale Customer purchase projections provided to the SFPUC by BAWSCA on March 4, 2026, and includes demands for the cities of San Jose and Santa Clara.

Basis of Water Supply Data: With Implementation of the Bay-Delta Plan Amendment

Table 4a: Basis of Water Supply Data [For Table 7-1], Base Year 2030, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2030	196.6	100%	133.9	
Single dry year	2030	147.5	75%	92.2	At shortages 20% or greater, wholesale allocation is assumed to be 62.5% and retail allocation is 37.5%.
Consecutive 1st dry year	2030	147.5	75%	92.2	Same as above.
Consecutive 2nd dry year	2030	123.9	63%	77.4	Same as above.
Consecutive 3rd dry year	2030	123.9	63%	77.4	Same as above.
Consecutive 4th dry year	2030	123.9	63%	77.4	Same as above.
Consecutive 5th dry year	2030	123.9	63%	77.4	Same as above.

Table 4b: Basis of Water Supply Data [For Table 7-1], Base Year 2035, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2035	197.5	100%	136.3	
Single dry year	2035	146.2	74%	91.3	At shortages 20% or greater, wholesale allocation is assumed to be 62.5% and retail allocation is 37.5%.
Consecutive 1st dry year	2035	146.2	74%	91.3	Same as above.
Consecutive 2nd dry year	2035	124.4	63%	77.8	Same as above.
Consecutive 3rd dry year	2035	124.4	63%	77.8	Same as above.
Consecutive 4th dry year	2035	124.4	63%	77.8	Same as above.
Consecutive 5th dry year	2035	124.4	63%	77.8	Same as above.

Table 4c: Basis of Water Supply Data [For Table 7-1], Base Year 2040, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2040	202.5	100%	140.6	
Single dry year	2040	145.8	72%	91.1	At shortages 20% or greater, wholesale allocation is assumed to be 62.5% and retail allocation is 37.5%.
Consecutive 1st dry year	2040	145.8	72%	91.1	Same as above.
Consecutive 2nd dry year	2040	123.5	61%	77.2	Same as above.
Consecutive 3rd dry year	2040	123.5	61%	77.2	Same as above.
Consecutive 4th dry year	2040	123.5	61%	77.2	Same as above.
Consecutive 5th dry year	2040	123.5	61%	77.2	Same as above.

Table 4d: Basis of Water Supply Data [For Table 7-1], Base Year 2045, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2045	208.1	100%	144.1	
Single dry year	2045	145.7	70%	91.0	At shortages 20% or greater, wholesale allocation is assumed to be 62.5% and retail allocation is 37.5%.
Consecutive 1st dry year	2045	145.7	70%	91.0	Same as above.
Consecutive 2nd dry year	2045	122.8	59%	76.7	Same as above.
Consecutive 3rd dry year	2045	122.8	59%	76.7	Same as above.
Consecutive 4th dry year	2045	122.8	59%	76.7	Same as above.
Consecutive 5th dry year	2045	122.8	59%	76.7	Same as above.

Table 4e: Basis of Water Supply Data [For Table 7-1], Base Year 2050, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2050	215.1	100%	148.4	
Single dry year	2050	146.2	68%	91.4	At shortages 20% or greater, wholesale allocation is assumed to be 62.5% and retail allocation is 37.5%.
Consecutive 1st dry year	2050	146.2	68%	91.4	Same as above.
Consecutive 2nd dry year	2050	122.6	57%	76.6	Same as above.
Consecutive 3rd dry year	2050	122.6	57%	76.6	Same as above.
Consecutive 4th dry year	2050	122.6	57%	76.6	Same as above.
Consecutive 5th dry year	2050	122.6	57%	76.6	Same as above.

Table 4f: Basis of Water Supply Data [For Table 7-1], Base Year 2050, With Bay-Delta Plan Amendment <u>and Wholesale Demands at 184 MGD Supply Assurance</u>

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2050	250.7	100%	184.0	
Single dry year	2050	145.4	58%	90.9	At shortages 20% or greater, wholesale allocation is assumed to be 62.5% and retail allocation is 37.5%.
Consecutive 1st dry year	2050	145.4	58%	90.9	Same as above.
Consecutive 2nd dry year	2050	120.3	48%	75.2	Same as above.
Consecutive 3rd dry year	2050	120.3	48%	75.2	Same as above.
Consecutive 4th dry year	2050	120.3	48%	75.2	Same as above.
Consecutive 5th dry year	2050	120.3	48%	75.2	Same as above.

Table 4g: Projected RWS Supply Availability [Alternative to Table 7-1], Years 2030-2050, With Bay-Delta Plan Amendment

Year Type	2030	2035	2040	2045	2050	2050 (with 184 MGD Supply Assurance)
Average year	100%	100%	100%	100%	100%	100%
Single dry year	75%	74%	72%	70%	68%	58%
Consecutive 1st dry year	75%	74%	72%	70%	68%	58%
Consecutive 2nd dry year	63%	63%	61%	59%	57%	48%
Consecutive 3rd dry year	63%	63%	61%	59%	57%	48%
Consecutive 4th dry year	63%	63%	61%	59%	57%	48%
Consecutive 5th dry year	63%	63%	61%	59%	57%	48%

Basis of Water Supply Data: Without Implementation of the Bay-Delta Plan Amendment

Table 5a: Basis of Water Supply Data [For Table 7-1], Base Year 2030, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2030	196.6	100%	133.9	
Single dry year	2030	196.6	100%	133.9	
Consecutive 1st dry year	2030	196.6	100%	133.9	
Consecutive 2nd dry year	2030	196.6	100%	133.9	
Consecutive 3rd dry year	2030	196.6	100%	133.9	
Consecutive 4th dry year	2030	196.6	100%	133.9	
Consecutive 5th dry year	2030	196.6	100%	133.9	

Table 5b: Basis of Water Supply Data [For Table 7-1], Base Year 2035, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2035	197.5	100%	136.3	
Single dry year	2035	197.5	100%	136.3	
Consecutive 1st dry year	2035	197.5	100%	136.3	
Consecutive 2nd dry year	2035	197.5	100%	136.3	
Consecutive 3rd dry year	2035	197.5	100%	136.3	
Consecutive 4th dry year	2035	197.5	100%	136.3	
Consecutive 5th dry year	2035	197.5	100%	136.3	

Table 5c: Basis of Water Supply Data [For Table 7-1], Base Year 2040, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2040	202.5	100%	140.6	
Single dry year	2040	202.5	100%	140.6	
Consecutive 1st dry year	2040	202.5	100%	140.6	
Consecutive 2nd dry year	2040	202.5	100%	140.6	
Consecutive 3rd dry year	2040	202.5	100%	140.6	
Consecutive 4th dry year	2040	202.5	100%	140.6	
Consecutive 5th dry year	2040	202.5	100%	140.6	

Table 5d: Basis of Water Supply Data [For Table 7-1], Base Year 2045, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2045	208.1	100%	144.1	
Single dry year	2045	208.1	100%	144.1	
Consecutive 1st dry year	2045	208.1	100%	144.1	
Consecutive 2nd dry year	2045	208.1	100%	144.1	
Consecutive 3rd dry year	2045	208.1	100%	144.1	
Consecutive 4th dry year	2045	208.1	100%	144.1	
Consecutive 5th dry year	2045	208.1	100%	144.1	

Table 5e: Basis of Water Supply Data [For Table 7-1], Base Year 2050, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2050	215.1	100%	148.4	
Single dry year	2050	215.1	100%	148.4	
Consecutive 1st dry year	2050	215.1	100%	148.4	
Consecutive 2nd dry year	2050	215.1	100%	148.4	
Consecutive 3rd dry year	2050	215.1	100%	148.4	
Consecutive 4th dry year	2050	215.1	100%	148.4	
Consecutive 5th dry year	2050	215.1	100%	148.4	

Table 5f: Basis of Water Supply Data [For Table 7-1], Base Year 2050, Without Bay-Delta Plan Amendment <u>and Wholesale Demands at 184 MGD Supply Assurance</u>

Year Type	Base Year	RWS Volume Available (MGD)	% of Average Supply	Wholesale Volume Available (MGD)	Notes on Calculation of Wholesale Allocation of RWS
Average year	2050	250.7	100%	184.0	
Single dry year	2050	225.6	90%	158.9	At 10% shortage, wholesale allocation is 64% (144.4 MGD) and retail allocation is 36% (81.2 MGD). Retail allocations above 66.7 MGD are re-allocated to Wholesale Customers, per the Water Supply Agreement. Therefore, 14.5 MGD is added to wholesale allocation, bringing it to 158.9 MGD.
Consecutive 1st dry year	2050	225.6	90%	158.9	Same as above.
Consecutive 2nd dry year	2050	225.6	90%	158.9	Same as above.
Consecutive 3rd dry year	2050	225.6	90%	158.9	Same as above.
Consecutive 4th dry year	2050	225.6	90%	158.9	Same as above.
Consecutive 5th dry year	2050	225.6	90%	158.9	Same as above.

Table 5g: Projected RWS Supply [Alternative to Table 7-1], Years 2030-2050, Without Bay-Delta Plan Amendment

Year Type	2030	2035	2040	2045	2050	2050 (with 184 MGD Supply Assurance)
Average year	100%	100%	100%	100%	100%	100%
Single dry year	100%	100%	100%	100%	100%	90%
Consecutive 1st dry year	100%	100%	100%	100%	100%	90%
Consecutive 2nd dry year	100%	100%	100%	100%	100%	90%
Consecutive 3rd dry year	100%	100%	100%	100%	100%	90%
Consecutive 4th dry year	100%	100%	100%	100%	100%	90%
Consecutive 5th dry year	100%	100%	100%	100%	100%	90%

Supply Projections for Consecutive Five Dry Year Sequences

Table 6: Projected Multiple Dry Years RWS Wholesale Allocation [For Table 7-4], With Bay-Delta Plan Amendment

	2030	2035	2040	2045	2050	2050 (with 184 MGD Supply Assurance)
First year	92.2	91.3	91.1	91.0	91.4	90.9
Second year	77.4	77.8	77.2	76.7	76.6	75.2
Third year	77.4	77.8	77.2	76.7	76.6	75.2
Fourth year	77.4	77.8	77.2	76.7	76.6	75.2
Fifth year	77.4	77.8	77.2	76.7	76.6	75.2

Table 7: Projected Multiple Dry Years RWS Wholesale Allocation [For Table 7-4], Without Bay-Delta Plan Amendment

	2030	2035	2040	2045	2050	2050 (with 184 MGD Supply Assurance)
First year	133.9	136.3	140.6	144.1	148.4	158.9
Second year	133.9	136.3	140.6	144.1	148.4	158.9
Third year	133.9	136.3	140.6	144.1	148.4	158.9
Fourth year	133.9	136.3	140.6	144.1	148.4	158.9
Fifth year	133.9	136.3	140.6	144.1	148.4	158.9

Table 8: Projected RWS Supply for 5-Year Drought Risk Assessment [For Table 7-5]

Year	2026	2027	2028	2029	2030
Wholesale Purchase Projections[a] (MGD)	130.9	131.6	132.4	133.2	133.9
RWS Supply Utilized by Wholesale Customers[b] (MGD)	130.9	131.6	132.4	133.2	133.9

a. Wholesale Purchase Projections for 2026-2030 assume a linear growth between 2025 actual demands and 2030 projections, as calculated by BAWSCA.
b. This table does not assume implementation of the Bay-Delta Plan Amendment because the start of implementation remains uncertain.

Basis for SFPUC's Water Supply Reliability Modeling

Actual (2025) and Projected (2030-2050) RWS Purchases

Agency	ISG	2025[1]	2030	2035	2040	2045	2050
Alameda CWD	13.76	10.08	11.25	11.56	12.00	12.45	13.76
Brisbane / GVMID	0.98	0.68	0.94	0.95	0.97	0.97	0.97
Burlingame	5.23	3.23	3.92	3.99	4.15	4.30	4.44
Coastside CWD	2.18	1.01	1.17	1.16	1.16	1.16	1.16
CWS Total	35.68	29.50	27.04	26.89	26.93	26.80	26.89
Daly City	4.29	3.55	4.29	4.29	4.29	4.29	4.29
East Palo Alto	3.46	1.72	1.19	1.19	1.19	1.18	1.19
Estero MID	5.90	3.78	3.90	3.92	3.93	3.91	3.90
Hayward	22.09	13.66	14.74	15.66	16.82	18.14	19.71
Hillsborough	4.09	2.32	2.09	2.08	2.09	2.11	2.12
Menlo Park	4.46	2.72	2.58	2.64	2.71	2.76	2.83
Mid-Peninsula WD	3.89	2.34	2.82	2.97	3.18	3.39	3.43
Millbrae	3.15	1.81	1.91	1.99	2.09	2.18	2.29
Milpitas	9.23	4.68	5.30	5.35	5.41	5.46	5.52
Mountain View	12.46	7.69	7.87	8.12	8.59	9.04	9.55
North Coast CWD	3.84	2.58	2.23	2.29	2.37	2.36	2.36
Palo Alto	16.58	9.31	8.30	8.20	8.15	8.15	8.18
Purissima Hills WD	1.63	1.51	1.36	1.35	1.36	1.36	1.37
Redwood City	10.93	7.43	6.84	6.54	6.73	6.91	7.09
San Bruno	3.25	1.03	1.85	2.27	2.68	2.68	2.68
San Jose		3.99	4.50	4.50	4.50	4.50	4.50
Santa Clara		2.91	4.50	4.50	4.50	4.50	4.50
Stanford	3.03	1.59	1.77	1.96	2.02	2.07	2.13
Sunnyvale	12.58	10.28	10.72	11.15	11.92	12.58	12.58
Westborough WD	1.32	0.70	0.82	0.80	0.84	0.88	0.91
Total	**184.00**	**130.1**	**133.9**	**136.3**	**140.6**	**144.1**	**148.3**

[1] **Source: FY 2024-25 J-Table**

Basis for SFPUC's Water Supply Reliability Modeling

Actual (2025) and Projected (2026-2030) RWS Purchases

Agency	2025	2026	2027	2028	2029	2030
Alameda CWD	10.08	10.32	10.55	10.78	11.02	11.25
Brisbane / GVMID	0.68	0.73	0.78	0.83	0.89	0.94
Burlingame	3.23	3.36	3.50	3.64	3.78	3.92
Coastside CWD	1.01	1.05	1.08	1.11	1.14	1.17
CWS Total	29.50	29.00	28.51	28.02	27.53	27.04
Daly City	3.55	3.70	3.85	4.00	4.14	4.29
East Palo Alto	1.72	1.62	1.51	1.40	1.30	1.19
Estero MID	3.78	3.80	3.83	3.85	3.88	3.90
Hayward	13.66	13.87	14.09	14.31	14.53	14.74
Hillsborough	2.32	2.27	2.23	2.18	2.14	2.09
Menlo Park	2.72	2.69	2.67	2.64	2.61	2.58
Mid-Peninsula WD	2.34	2.44	2.53	2.63	2.73	2.82
Millbrae	1.81	1.83	1.85	1.87	1.89	1.91
Milpitas	4.68	4.80	4.93	5.05	5.18	5.30
Mountain View	7.69	7.73	7.76	7.80	7.83	7.87
North Coast CWD	2.58	2.51	2.44	2.37	2.30	2.23
Palo Alto	9.31	9.11	8.91	8.71	8.50	8.30
Purissima Hills WD	1.51	1.48	1.45	1.42	1.39	1.36
Redwood City	7.43	7.32	7.20	7.08	6.96	6.84
San Bruno	1.03	1.20	1.36	1.52	1.69	1.85
San Jose	3.99	4.09	4.20	4.30	4.40	4.50
Santa Clara	2.91	3.23	3.54	3.86	4.18	4.50
Stanford	1.59	1.62	1.66	1.70	1.73	1.77
Sunnyvale	10.28	10.37	10.46	10.55	10.63	10.72
Westborough WD	0.70	0.72	0.75	0.77	0.80	0.82
Total	**130.1**	**130.9**	**131.6**	**132.4**	**133.2**	**133.9**

For UWMP Tables 7-1 through Table 7-4

Base Year	2025
Scenario	With BDP

Basis of Water Supply Data

Consecutive Dry Year	2026	2027	2028	2029	2030
Wholesale RWS Demand	130.12	130.88	131.64	132.40	133.16
Wholesale RWS Supply	130.12	130.88	131.64	132.40	133.16
Percent Cutback	0%	0%	0%	0%	0%

		Projected Supply by Year Type				
Agency	**2025 RWS Purchases**	**2026**	**2027**	**2028**	**2029**	**2030**
Alameda CWD	10.08	10.08	11.25	11.56	12.00	12.45
Brisbane / GVMID	0.68	0.68	0.68	0.68	0.68	0.68
Burlingame	3.23	3.23	3.23	3.23	3.23	3.23
Coastside CWD	1.01	1.01	1.01	1.01	1.01	1.01
CWS Total	29.50	29.50	29.50	29.50	29.50	29.50
Daly City	3.55	3.55	3.55	3.55	3.55	3.55
East Palo Alto	1.72	1.72	1.72	1.72	1.72	1.72
Estero MID	3.78	3.78	3.78	3.78	3.78	3.78
Hayward	13.66	13.66	13.66	13.66	13.66	13.66
Hillsborough	2.32	2.32	2.32	2.32	2.32	2.32
Menlo Park	2.72	2.72	2.72	2.72	2.72	2.72
Mid-Peninsula WD	2.34	2.34	2.34	2.34	2.34	2.34
Millbrae	1.81	1.81	1.81	1.81	1.81	1.81
Milpitas	4.68	4.68	4.68	4.68	4.68	4.68
Mountain View	7.69	7.69	7.69	7.69	7.69	7.69
North Coast CWD	2.58	2.58	2.58	2.58	2.58	2.58
Palo Alto	9.31	9.31	9.31	9.31	9.31	9.31
Purissima Hills WD	1.51	1.51	1.51	1.51	1.51	1.51
Redwood City	7.43	7.43	7.43	7.43	7.43	7.43
San Bruno	1.03	1.03	1.03	1.03	1.03	1.03
San Jose	3.99	3.99	3.99	3.99	3.99	3.99
Santa Clara	2.91	2.91	2.91	2.91	2.91	2.91
Stanford	1.59	1.59	1.59	1.59	1.59	1.59
Sunnyvale	10.28	10.28	10.28	10.28	10.28	10.28
Westborough WD	0.70	0.70	0.70	0.70	0.70	0.70
Total	**130.12**	**130.12**	**131.28**	**131.59**	**132.03**	**132.48**

For UWMP Tables 7-1 through Table 7-4

Base Year	2030
Scenario	With BDP

Basis of Water Supply Data

Consecutive Dry Year	1st/Single	2nd	3rd	4th	5th
Wholesale RWS Demand	133.9	133.9	133.9	133.9	133.9
Wholesale RWS Supply	92.2	77.4	77.4	77.4	77.4
Percent Cutback	31%	42%	42%	42%	42%

		Projected Supply by Year Type				
Agency	2030 Proj. RWS	1st/Single Dry Year	2nd Dry Year	3rd Dry Year	4th Dry Year	5th Dry Year
Alameda CWD	11.25	7.75	6.50	6.50	6.50	6.50
Brisbane / GVMID	0.94	0.65	0.54	0.54	0.54	0.54
Burlingame	3.92	2.70	2.27	2.27	2.27	2.27
Coastside CWD	1.17	0.81	0.68	0.68	0.68	0.68
CWS Total	27.04	18.61	15.63	15.63	15.63	15.63
Daly City	4.29	2.95	2.48	2.48	2.48	2.48
East Palo Alto	1.19	0.82	0.69	0.69	0.69	0.69
Estero MID	3.90	2.69	2.25	2.25	2.25	2.25
Hayward	14.74	10.15	8.52	8.52	8.52	8.52
Hillsborough	2.09	1.44	1.21	1.21	1.21	1.21
Menlo Park	2.58	1.78	1.49	1.49	1.49	1.49
Mid-Peninsula WD	2.82	1.94	1.63	1.63	1.63	1.63
Millbrae	1.91	1.31	1.10	1.10	1.10	1.10
Milpitas	5.30	3.65	3.06	3.06	3.06	3.06
Mountain View	7.87	5.42	4.55	4.55	4.55	4.55
North Coast CWD	2.23	1.54	1.29	1.29	1.29	1.29
Palo Alto	8.30	5.72	4.80	4.80	4.80	4.80
Purissima Hills WD	1.36	0.94	0.79	0.79	0.79	0.79
Redwood City	6.84	4.71	3.95	3.95	3.95	3.95
San Bruno	1.85	1.27	1.07	1.07	1.07	1.07
San Jose	4.50	3.10	2.60	2.60	2.60	2.60
Santa Clara	4.50	3.10	2.60	2.60	2.60	2.60
Stanford	1.77	1.22	1.02	1.02	1.02	1.02
Sunnyvale	10.72	7.38	6.20	6.20	6.20	6.20
Westborough WD	0.82	0.57	0.48	0.48	0.48	0.48
Total	**133.92**	**92.2**	**77.4**	**77.4**	**77.4**	**77.4**

For UWMP Tables 7-1 through Table 7-4

Base Year	2035
Scenario	With BDP

Basis of Water Supply Data

Consecutive Dry Year	1st/Single	2nd	3rd	4th	5th
Wholesale RWS Demand	136.32	136.32	136.32	136.32	136.32
Wholesale RWS Supply	91.3	77.8	77.8	77.8	77.8
Percent Cutback	33%	43%	43%	43%	43%

		Projected Supply by Year Type				
Agency	**2035 Proj. RWS**	**1st/Single Dry Year**	**2nd Dry Year**	**3rd Dry Year**	**4th Dry Year**	**5th Dry Year**
Alameda CWD	11.56	7.74	6.60	6.60	6.60	6.60
Brisbane / GVMID	0.95	0.64	0.54	0.54	0.54	0.54
Burlingame	3.99	2.67	2.28	2.28	2.28	2.28
Coastside CWD	1.16	0.78	0.66	0.66	0.66	0.66
CWS Total	26.89	18.01	15.35	15.35	15.35	15.35
Daly City	4.29	2.87	2.45	2.45	2.45	2.45
East Palo Alto	1.19	0.80	0.68	0.68	0.68	0.68
Estero MID	3.92	2.63	2.24	2.24	2.24	2.24
Hayward	15.66	10.49	8.93	8.93	8.93	8.93
Hillsborough	2.08	1.39	1.19	1.19	1.19	1.19
Menlo Park	2.64	1.77	1.51	1.51	1.51	1.51
Mid-Peninsula WD	2.97	1.99	1.69	1.69	1.69	1.69
Millbrae	1.99	1.33	1.14	1.14	1.14	1.14
Milpitas	5.35	3.58	3.05	3.05	3.05	3.05
Mountain View	8.12	5.44	4.63	4.63	4.63	4.63
North Coast CWD	2.29	1.53	1.31	1.31	1.31	1.31
Palo Alto	8.20	5.49	4.68	4.68	4.68	4.68
Purissima Hills WD	1.35	0.90	0.77	0.77	0.77	0.77
Redwood City	6.54	4.38	3.73	3.73	3.73	3.73
San Bruno	2.27	1.52	1.30	1.30	1.30	1.30
San Jose	4.50	3.01	2.57	2.57	2.57	2.57
Santa Clara	4.50	3.01	2.57	2.57	2.57	2.57
Stanford	1.96	1.31	1.12	1.12	1.12	1.12
Sunnyvale	11.15	7.47	6.36	6.36	6.36	6.36
Westborough WD	0.80	0.54	0.46	0.46	0.46	0.46
Total	**136.32**	**91.3**	**77.8**	**77.8**	**77.8**	**77.8**

For UWMP Tables 7-1 through Table 7-4

Base Year	2040
Scenario	With BDP

Basis of Water Supply Data

Consecutive Dry Year	1st/Single	2nd	3rd	4th	5th
Wholesale RWS Demand	140.57	140.57	140.57	140.57	140.57
Wholesale RWS Supply	91.1	77.2	77.2	77.2	77.2
Percent Cutback	35%	45%	45%	45%	45%

		Projected Supply by Year Type				
Agency	**2040 Proj. RWS**	**1st/Single Dry Year**	**2nd Dry Year**	**3rd Dry Year**	**4th Dry Year**	**5th Dry Year**
Alameda CWD	12.00	7.78	6.59	6.59	6.59	6.59
Brisbane / GVMID	0.97	0.63	0.53	0.53	0.53	0.53
Burlingame	4.15	2.69	2.28	2.28	2.28	2.28
Coastside CWD	1.16	0.75	0.64	0.64	0.64	0.64
CWS Total	26.93	17.45	14.79	14.79	14.79	14.79
Daly City	4.29	2.78	2.36	2.36	2.36	2.36
East Palo Alto	1.19	0.77	0.65	0.65	0.65	0.65
Estero MID	3.93	2.54	2.16	2.16	2.16	2.16
Hayward	16.82	10.90	9.24	9.24	9.24	9.24
Hillsborough	2.09	1.35	1.15	1.15	1.15	1.15
Menlo Park	2.71	1.75	1.49	1.49	1.49	1.49
Mid-Peninsula WD	3.18	2.06	1.75	1.75	1.75	1.75
Millbrae	2.09	1.35	1.15	1.15	1.15	1.15
Milpitas	5.41	3.51	2.97	2.97	2.97	2.97
Mountain View	8.59	5.57	4.72	4.72	4.72	4.72
North Coast CWD	2.37	1.53	1.30	1.30	1.30	1.30
Palo Alto	8.15	5.28	4.48	4.48	4.48	4.48
Purissima Hills WD	1.36	0.88	0.75	0.75	0.75	0.75
Redwood City	6.73	4.36	3.69	3.69	3.69	3.69
San Bruno	2.68	1.74	1.47	1.47	1.47	1.47
San Jose	4.50	2.92	2.47	2.47	2.47	2.47
Santa Clara	4.50	2.92	2.47	2.47	2.47	2.47
Stanford	2.02	1.31	1.11	1.11	1.11	1.11
Sunnyvale	11.92	7.73	6.55	6.55	6.55	6.55
Westborough WD	0.84	0.55	0.46	0.46	0.46	0.46
Total	**140.57**	**91.1**	**77.2**	**77.2**	**77.2**	**77.2**

Attachment B: 2025 UWMP Wholesale Customer Dry Year Allocations

For UWMP Tables 7-1 through Table 7-4

Base Year	2045
Scenario	With BDP

Basis of Water Supply Data

Consecutive Dry Year	1st/Single	2nd	3rd	4th	5th
Wholesale RWS Demand	144.11	144.11	144.11	144.11	144.11
Wholesale RWS Supply	91	76.7	76.7	76.7	76.7
Percent Cutback	37%	47%	47%	47%	47%

		Projected Supply by Year Type				
Agency	**2045 Proj. RWS**	**1st/Single Dry Year**	**2nd Dry Year**	**3rd Dry Year**	**4th Dry Year**	**5th Dry Year**
Alameda CWD	12.45	7.86	6.63	6.63	6.63	6.63
Brisbane / GVMID	0.97	0.61	0.52	0.52	0.52	0.52
Burlingame	4.30	2.72	2.29	2.29	2.29	2.29
Coastside CWD	1.16	0.73	0.62	0.62	0.62	0.62
CWS Total	26.80	16.92	14.26	14.26	14.26	14.26
Daly City	4.29	2.71	2.28	2.28	2.28	2.28
East Palo Alto	1.18	0.75	0.63	0.63	0.63	0.63
Estero MID	3.91	2.47	2.08	2.08	2.08	2.08
Hayward	18.14	11.45	9.65	9.65	9.65	9.65
Hillsborough	2.11	1.33	1.12	1.12	1.12	1.12
Menlo Park	2.76	1.75	1.47	1.47	1.47	1.47
Mid-Peninsula WD	3.39	2.14	1.80	1.80	1.80	1.80
Millbrae	2.18	1.38	1.16	1.16	1.16	1.16
Milpitas	5.46	3.45	2.91	2.91	2.91	2.91
Mountain View	9.04	5.71	4.81	4.81	4.81	4.81
North Coast CWD	2.36	1.49	1.26	1.26	1.26	1.26
Palo Alto	8.15	5.14	4.34	4.34	4.34	4.34
Purissima Hills WD	1.36	0.86	0.72	0.72	0.72	0.72
Redwood City	6.91	4.36	3.68	3.68	3.68	3.68
San Bruno	2.68	1.69	1.43	1.43	1.43	1.43
San Jose	4.50	2.84	2.40	2.40	2.40	2.40
Santa Clara	4.50	2.84	2.40	2.40	2.40	2.40
Stanford	2.07	1.31	1.10	1.10	1.10	1.10
Sunnyvale	12.58	7.94	6.70	6.70	6.70	6.70
Westborough WD	0.88	0.55	0.47	0.47	0.47	0.47
Total	**144.11**	**91.0**	**76.7**	**76.7**	**76.7**	**76.7**

For UWMP Tables 7-1 through Table 7-4

Base Year	2050
Scenario	With BDP

Basis of Water Supply Data

Consecutive Dry Year	1st/Single	2nd	3rd	4th	5th
Wholesale RWS Demand	148.35	148.35	148.35	148.35	148.35
Wholesale RWS Supply	91.4	76.6	76.6	76.6	76.6
Percent Cutback	38%	48%	48%	48%	48%

		Projected Supply by Year Type				
Agency	**2050 Proj. RWS**	**1st/Single Dry Year**	**2nd Dry Year**	**3rd Dry Year**	**4th Dry Year**	**5th Dry Year**
Alameda CWD	11.25	7.67	6.43	6.43	6.43	6.43
Brisbane / GVMID	0.94	0.60	0.50	0.50	0.50	0.50
Burlingame	3.92	2.65	2.22	2.22	2.22	2.22
Coastside CWD	1.17	0.71	0.60	0.60	0.60	0.60
CWS Total	27.04	16.51	13.84	13.84	13.84	13.84
Daly City	4.29	2.64	2.22	2.22	2.22	2.22
East Palo Alto	1.19	0.73	0.61	0.61	0.61	0.61
Estero MID	3.90	2.41	2.02	2.02	2.02	2.02
Hayward	14.74	11.18	9.37	9.37	9.37	9.37
Hillsborough	2.09	1.30	1.09	1.09	1.09	1.09
Menlo Park	2.58	1.70	1.43	1.43	1.43	1.43
Mid-Peninsula WD	2.82	2.09	1.75	1.75	1.75	1.75
Millbrae	1.91	1.34	1.13	1.13	1.13	1.13
Milpitas	5.30	3.36	2.82	2.82	2.82	2.82
Mountain View	7.87	5.57	4.67	4.67	4.67	4.67
North Coast CWD	2.23	1.45	1.22	1.22	1.22	1.22
Palo Alto	8.30	5.02	4.21	4.21	4.21	4.21
Purissima Hills WD	1.36	0.84	0.70	0.70	0.70	0.70
Redwood City	6.84	4.26	3.57	3.57	3.57	3.57
San Bruno	1.85	1.65	1.38	1.38	1.38	1.38
San Jose	4.50	2.77	2.32	2.32	2.32	2.32
Santa Clara	4.50	2.77	2.32	2.32	2.32	2.32
Stanford	1.77	1.28	1.07	1.07	1.07	1.07
Sunnyvale	10.72	7.75	6.50	6.50	6.50	6.50
Westborough WD	0.82	0.54	0.45	0.45	0.45	0.45
Total	**133.92**	**88.8**	**74.4**	**74.4**	**74.4**	**74.4**

For UWMP Tables 7-1 through Table 7-4

Base Year	2026
Scenario	Without BDP

Basis of Water Supply Data

Consecutive Dry Year	2026	2027	2028	2029	2030
Wholesale RWS Demand	130.1	130.9	131.6	132.4	133.2
Wholesale RWS Supply	130.1	130.9	131.6	132.4	133.2
Percent Cutback	0%	0%	0%	0%	0%

		Projected Supply by Year Type				
Agency	**2025 RWS Purchases**	**2026**	**2027**	**2028**	**2029**	**2030**
Alameda CWD	10.08	10.08	11.25	11.56	12.00	12.45
Brisbane / GVMID	0.68	0.68	0.68	0.68	0.68	0.68
Burlingame	3.23	3.23	3.23	3.23	3.23	3.23
Coastside CWD	1.01	1.01	1.01	1.01	1.01	1.01
CWS Total	29.50	29.50	29.50	29.50	29.50	29.50
Daly City	3.55	3.55	3.55	3.55	3.55	3.55
East Palo Alto	1.72	1.72	1.72	1.72	1.72	1.72
Estero MID	3.78	3.78	3.78	3.78	3.78	3.78
Hayward	13.66	13.66	13.66	13.66	13.66	13.66
Hillsborough	2.32	2.32	2.32	2.32	2.32	2.32
Menlo Park	2.72	2.72	2.72	2.72	2.72	2.72
Mid-Peninsula WD	2.34	2.34	2.34	2.34	2.34	2.34
Millbrae	1.81	1.81	1.81	1.81	1.81	1.81
Milpitas	4.68	4.68	4.68	4.68	4.68	4.68
Mountain View	7.69	7.69	7.69	7.69	7.69	7.69
North Coast CWD	2.58	2.58	2.58	2.58	2.58	2.58
Palo Alto	9.31	9.31	9.31	9.31	9.31	9.31
Purissima Hills WD	1.51	1.51	1.51	1.51	1.51	1.51
Redwood City	7.43	7.43	7.43	7.43	7.43	7.43
San Bruno	1.03	1.03	1.03	1.03	1.03	1.03
San Jose	3.99	3.99	3.99	3.99	3.99	3.99
Santa Clara	2.91	2.91	2.91	2.91	2.91	2.91
Stanford	1.59	1.59	1.59	1.59	1.59	1.59
Sunnyvale	10.28	10.28	10.28	10.28	10.28	10.28
Westborough WD	0.70	0.70	0.70	0.70	0.70	0.70
Total	**130.12**	**130.12**	**131.28**	**131.59**	**132.03**	**132.48**

For UWMP Tables 7-1 through Table 7-4

Base Year	2030
Scenario	Without BDP

Basis of Water Supply Data

Consecutive Dry Year	1st/Single	2nd	3rd	4th	5th
Wholesale RWS Demand	133.9	133.9	133.9	133.9	133.9
Wholesale RWS Supply	133.9	133.9	133.9	133.9	133.9
Percent Cutback	0%	0%	0%	0%	0%

		Projected Supply by Year Type				
Agency	**2030 Proj. RWS**	**1st/Single Dry Year**	**2nd Dry Year**	**3rd Dry Year**	**4th Dry Year**	**5th Dry Year**
Alameda CWD	11.25	11.25	11.25	11.25	11.25	11.25
Brisbane / GVMID	0.94	0.94	0.94	0.94	0.94	0.94
Burlingame	3.92	3.92	3.92	3.92	3.92	3.92
Coastside CWD	1.17	1.17	1.17	1.17	1.17	1.17
CWS Total	27.04	27.04	27.04	27.04	27.04	27.04
Daly City	4.29	4.29	4.29	4.29	4.29	4.29
East Palo Alto	1.19	1.19	1.19	1.19	1.19	1.19
Estero MID	3.90	3.90	3.90	3.90	3.90	3.90
Hayward	14.74	14.74	14.74	14.74	14.74	14.74
Hillsborough	2.09	2.09	2.09	2.09	2.09	2.09
Menlo Park	2.58	2.58	2.58	2.58	2.58	2.58
Mid-Peninsula WD	2.82	2.82	2.82	2.82	2.82	2.82
Millbrae	1.91	1.91	1.91	1.91	1.91	1.91
Milpitas	5.30	5.30	5.30	5.30	5.30	5.30
Mountain View	7.87	7.87	7.87	7.87	7.87	7.87
North Coast CWD	2.23	2.23	2.23	2.23	2.23	2.23
Palo Alto	8.30	8.30	8.30	8.30	8.30	8.30
Purissima Hills WD	1.36	1.36	1.36	1.36	1.36	1.36
Redwood City	6.84	6.84	6.84	6.84	6.84	6.84
San Bruno	1.85	1.85	1.85	1.85	1.85	1.85
San Jose	4.50	4.50	4.50	4.50	4.50	4.50
Santa Clara	4.50	4.50	4.50	4.50	4.50	4.50
Stanford	1.77	1.77	1.77	1.77	1.77	1.77
Sunnyvale	10.72	10.72	10.72	10.72	10.72	10.72
Westborough WD	0.82	0.82	0.82	0.82	0.82	0.82
Total	**133.92**	**133.92**	**133.92**	**133.92**	**133.92**	**133.92**

For UWMP Tables 7-1 through Table 7-4

Base Year	2035
Scenario	Without BDP

Basis of Water Supply Data

Consecutive Dry Year	1st/Single	2nd	3rd	4th	5th
Wholesale RWS Demand	136.3	136.3	136.3	136.3	136.3
Wholesale RWS Supply	136.3	136.3	136.3	136.3	136.3
Percent Cutback	0%	0%	0%	0%	0%

		Projected Supply by Year Type				
Agency	**2035 Proj. RWS**	**1st/Single Dry Year**	**2nd Dry Year**	**3rd Dry Year**	**4th Dry Year**	**5th Dry Year**
Alameda CWD	11.56	11.56	11.56	11.56	11.56	11.56
Brisbane / GVMID	0.95	0.95	0.95	0.95	0.95	0.95
Burlingame	3.99	3.99	3.99	3.99	3.99	3.99
Coastside CWD	1.16	1.16	1.16	1.16	1.16	1.16
CWS Total	26.89	26.89	26.89	26.89	26.89	26.89
Daly City	4.29	4.29	4.29	4.29	4.29	4.29
East Palo Alto	1.19	1.19	1.19	1.19	1.19	1.19
Estero MID	3.92	3.92	3.92	3.92	3.92	3.92
Hayward	15.66	15.66	15.66	15.66	15.66	15.66
Hillsborough	2.08	2.08	2.08	2.08	2.08	2.08
Menlo Park	2.64	2.64	2.64	2.64	2.64	2.64
Mid-Peninsula WD	2.97	2.97	2.97	2.97	2.97	2.97
Millbrae	1.99	1.99	1.99	1.99	1.99	1.99
Milpitas	5.35	5.35	5.35	5.35	5.35	5.35
Mountain View	8.12	8.12	8.12	8.12	8.12	8.12
North Coast CWD	2.29	2.29	2.29	2.29	2.29	2.29
Palo Alto	8.20	8.20	8.20	8.20	8.20	8.20
Purissima Hills WD	1.35	1.35	1.35	1.35	1.35	1.35
Redwood City	6.54	6.54	6.54	6.54	6.54	6.54
San Bruno	2.27	2.27	2.27	2.27	2.27	2.27
San Jose	4.50	4.50	4.50	4.50	4.50	4.50
Santa Clara	4.50	4.50	4.50	4.50	4.50	4.50
Stanford	1.96	1.96	1.96	1.96	1.96	1.96
Sunnyvale	11.15	11.15	11.15	11.15	11.15	11.15
Westborough WD	0.80	0.80	0.80	0.80	0.80	0.80
Total	**136.32**	**136.32**	**136.32**	**136.32**	**136.32**	**136.32**

For UWMP Tables 7-1 through Table 7-4

Base Year	2040
Scenario	Without BDP

Basis of Water Supply Data

Consecutive Dry Year	1st/Single	2nd	3rd	4th	5th
Wholesale RWS Demand	140.6	140.6	140.6	140.6	140.6
Wholesale RWS Supply	140.6	140.6	140.6	140.6	140.6
Percent Cutback	0%	0%	0%	0%	0%

		Projected Supply by Year Type				
Agency	2040 Proj. RWS	1st/Single Dry Year	2nd Dry Year	3rd Dry Year	4th Dry Year	5th Dry Year
Alameda CWD	12.00	12.00	12.00	12.00	12.00	12.00
Brisbane / GVMID	0.97	0.97	0.97	0.97	0.97	0.97
Burlingame	4.15	4.15	4.15	4.15	4.15	4.15
Coastside CWD	1.16	1.16	1.16	1.16	1.16	1.16
CWS Total	26.93	26.93	26.93	26.93	26.93	26.93
Daly City	4.29	4.29	4.29	4.29	4.29	4.29
East Palo Alto	1.19	1.19	1.19	1.19	1.19	1.19
Estero MID	3.93	3.93	3.93	3.93	3.93	3.93
Hayward	16.82	16.82	16.82	16.82	16.82	16.82
Hillsborough	2.09	2.09	2.09	2.09	2.09	2.09
Menlo Park	2.71	2.71	2.71	2.71	2.71	2.71
Mid-Peninsula WD	3.18	3.18	3.18	3.18	3.18	3.18
Millbrae	2.09	2.09	2.09	2.09	2.09	2.09
Milpitas	5.41	5.41	5.41	5.41	5.41	5.41
Mountain View	8.59	8.59	8.59	8.59	8.59	8.59
North Coast CWD	2.37	2.37	2.37	2.37	2.37	2.37
Palo Alto	8.15	8.15	8.15	8.15	8.15	8.15
Purissima Hills WD	1.36	1.36	1.36	1.36	1.36	1.36
Redwood City	6.73	6.73	6.73	6.73	6.73	6.73
San Bruno	2.68	2.68	2.68	2.68	2.68	2.68
San Jose	4.50	4.50	4.50	4.50	4.50	4.50
Santa Clara	4.50	4.50	4.50	4.50	4.50	4.50
Stanford	2.02	2.02	2.02	2.02	2.02	2.02
Sunnyvale	11.92	11.92	11.92	11.92	11.92	11.92
Westborough WD	0.84	0.84	0.84	0.84	0.84	0.84
Total	**140.57**	**140.57**	**140.57**	**140.57**	**140.57**	**140.57**

For UWMP Tables 7-1 through Table 7-4

Base Year	2045
Scenario	Without BDP

Basis of Water Supply Data

Consecutive Dry Year	1st/Single	2nd	3rd	4th	5th
Wholesale RWS Demand	144.1	144.1	144.1	144.1	144.1
Wholesale RWS Supply	144.1	144.1	144.1	144.1	144.1
Percent Cutback	0%	0%	0%	0%	0%

		Projected Supply by Year Type				
Agency	**2045 Proj. RWS**	**1st/Single Dry Year**	**2nd Dry Year**	**3rd Dry Year**	**4th Dry Year**	**5th Dry Year**
Alameda CWD	12.45	12.45	12.45	12.45	12.45	12.45
Brisbane / GVMID	0.97	0.97	0.97	0.97	0.97	0.97
Burlingame	4.30	4.30	4.30	4.30	4.30	4.30
Coastside CWD	1.16	1.16	1.16	1.16	1.16	1.16
CWS Total	26.80	26.80	26.80	26.80	26.80	26.80
Daly City	4.29	4.29	4.29	4.29	4.29	4.29
East Palo Alto	1.18	1.18	1.18	1.18	1.18	1.18
Estero MID	3.91	3.91	3.91	3.91	3.91	3.91
Hayward	18.14	18.14	18.14	18.14	18.14	18.14
Hillsborough	2.11	2.11	2.11	2.11	2.11	2.11
Menlo Park	2.76	2.76	2.76	2.76	2.76	2.76
Mid-Peninsula WD	3.39	3.39	3.39	3.39	3.39	3.39
Millbrae	2.18	2.18	2.18	2.18	2.18	2.18
Milpitas	5.46	5.46	5.46	5.46	5.46	5.46
Mountain View	9.04	9.04	9.04	9.04	9.04	9.04
North Coast CWD	2.36	2.36	2.36	2.36	2.36	2.36
Palo Alto	8.15	8.15	8.15	8.15	8.15	8.15
Purissima Hills WD	1.36	1.36	1.36	1.36	1.36	1.36
Redwood City	6.91	6.91	6.91	6.91	6.91	6.91
San Bruno	2.68	2.68	2.68	2.68	2.68	2.68
San Jose	4.50	4.50	4.50	4.50	4.50	4.50
Santa Clara	4.50	4.50	4.50	4.50	4.50	4.50
Stanford	2.07	2.07	2.07	2.07	2.07	2.07
Sunnyvale	12.58	12.58	12.58	12.58	12.58	12.58
Westborough WD	0.88	0.88	0.88	0.88	0.88	0.88
Total	**144.11**	**144.11**	**144.11**	**144.11**	**144.11**	**144.11**

For UWMP Tables 7-2 through Table 7-4

Base Year	2050
Scenario	Without BDP

Basis of Water Supply Data

Consecutive Dry Year	1st/Single	2nd	3rd	4th	5th
Wholesale RWS Demand	148.3	148.3	148.3	148.3	148.3
Wholesale RWS Supply	148.3	148.3	148.3	148.3	148.3
Percent Cutback	0%	0%	0%	0%	0%

		Projected Supply by Year Type				
Agency	**2050 Proj. RWS**	**1st/Single Dry Year**	**2nd Dry Year**	**3rd Dry Year**	**4th Dry Year**	**5th Dry Year**
Alameda CWD	11.25	12.45	12.45	12.45	12.45	12.45
Brisbane / GVMID	0.94	0.97	0.97	0.97	0.97	0.97
Burlingame	3.92	4.30	4.30	4.30	4.30	4.30
Coastside CWD	1.17	1.16	1.16	1.16	1.16	1.16
CWS Total	27.04	26.80	26.80	26.80	26.80	26.80
Daly City	4.29	4.29	4.29	4.29	4.29	4.29
East Palo Alto	1.19	1.18	1.18	1.18	1.18	1.18
Estero MID	3.90	3.91	3.91	3.91	3.91	3.91
Hayward	14.74	18.14	18.14	18.14	18.14	18.14
Hillsborough	2.09	2.11	2.11	2.11	2.11	2.11
Menlo Park	2.58	2.76	2.76	2.76	2.76	2.76
Mid-Peninsula WD	2.82	3.39	3.39	3.39	3.39	3.39
Millbrae	1.91	2.18	2.18	2.18	2.18	2.18
Milpitas	5.30	5.46	5.46	5.46	5.46	5.46
Mountain View	7.87	9.04	9.04	9.04	9.04	9.04
North Coast CWD	2.23	2.36	2.36	2.36	2.36	2.36
Palo Alto	8.30	8.15	8.15	8.15	8.15	8.15
Purissima Hills WD	1.36	1.36	1.36	1.36	1.36	1.36
Redwood City	6.84	6.91	6.91	6.91	6.91	6.91
San Bruno	1.85	2.68	2.68	2.68	2.68	2.68
San Jose	4.50	4.50	4.50	4.50	4.50	4.50
Santa Clara	4.50	4.50	4.50	4.50	4.50	4.50
Stanford	1.77	2.07	2.07	2.07	2.07	2.07
Sunnyvale	10.72	12.58	12.58	12.58	12.58	12.58
Westborough WD	0.82	0.88	0.88	0.88	0.88	0.88
Total	**133.92**	**144.11**	**144.11**	**144.11**	**144.11**	**144.11**

Appendix I: Bay-Delta Plan Correspondence

- Comments on the Substitute Environmental Document Concerning the Sacramento-San Joaquin Bay Delta Water Quality Control Plan, dated March 17, 2017
- Comments on the 2018 Final Draft of the Proposed Amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and Final Substitute Environmental Document, dated July 27, 2018

CALIFORNIA WATER SERVICE
1720 North First Street
San Jose, CA 95112-4598 Tel: (408) 367-8200

March 17, 2017

The Honorable Felicia Marcus, Chair
The Honorable Tam Doduc, Hearing Officer
Ms. Jeanine Townsend, Clerk of the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Re: Comments on the Substitute Environmental Document Concerning the Sacramento-San Joaquin Bay Delta Water Quality Control Plan

Dear Chair Marcus & Board Member Doduc:

As you know, California Water Service (Cal Water) is the largest water utility regulated by the California Public Utilities Commission (Commission). We serve approximately 2 million Californians through 500,000 individual service connections. Our service areas span the state, from Chico in the north to the Palos Verdes Peninsula in the south.

Cal Water sincerely appreciates the time and effort the State Water Resources Control Board (Board) has put into not only preparing the Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the Bay-Delta (SED), but also undertaking an extensive public outreach effort related to the SED. Further, Cal Water understands the need to protect the water quality of the Sacramento-San Joaquin Bay Delta, and we recognize the importance of reliable, high-quality water to the state's health and economy.

Across our service areas, we rely on a combination of surface water and groundwater to provide safe, reliable, and high-quality service to our customers. As both a purchaser of wholesale water from various suppliers and a water rights holder, Cal Water has interests in areas of origin, exports from the Delta, and locally derived supplies. For example, Cal Water relies on locally derived supplies to provide water to about 250,000 residents of the San Francisco Bay area, and because of certain restrictions under federal law, a reduction in water supply to the Hetch Hetchy water system could significantly impact our ability to serve our customers.

As is the case with many water utilities, Cal Water is reliant, in many of its service areas, on the supplies made available by local wholesale agencies. For example, we utilize significant amounts of what from our wholesale partners to serve approximately 170,500 people who live

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in or around the City of Stockton. In those areas where we are unable to rely on groundwater to supplement the water we receive from local wholesalers, any water supply shortages will directly impact our customers. This is also true in those service areas where the future use of local groundwater supplies may be limited by rules and regulations established pursuant to the Sustainable Groundwater Management Act.

You are aware of the concerns addressed by many wholesalers that the proposed changes to the Bay-Delta Water Quality Control Plan would have devastating effects on their ability to meet customer demands and that the SED has some scientific infirmities. Our wholesale partners share these concerns. Given our reliance on wholesale supplies, we urge you to continue to work toward a solution that will not ultimately harm the customers we are committed to serving.

We truly appreciate the Board making the decision to provide a two-month extension to the 120-day public comment period on the SED. With negotiations regarding a potential solution ongoing and in light of the seriousness of the potential negative consequences of the proposal laid out in the SED, Cal Water respectfully requests that the Board consider further extending the comment period. It is our hope that this additional time will increase the likelihood of negotiating parties reaching a sustainable and equitable solution.

Cal Water stands ready to work with the Board, parties to the negotiations, and others to reach such a solution. If there is anything we can do to assist you or if you have any questions, please do not hesitate to get in touch with us.

Sincerely,

Robert Kuta
Vice President, Engineering

Cc: Mr. Scott Moody, General Manager, Stockton East Water District
Mr. Harlan Kelly, General Manager, San Francisco Public Utilities District
Ms. Nicole Sandkulla, CEO, Bay Area Water Supply & Conservation Agency
Mr. Rami Kahlon, Director, Water Division, California Public Utilities Commission

CALIFORNIA WATER SERVICE

July 27, 2018

The Honorable Felicia Marcus, Chair
The Honorable Tam Doduc, Hearing Officer
Ms. Jeanine Townsend, Clerk of the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Re: Comments on the 2018 Final Draft of the Proposed Amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary and Final Substitute Environmental Document

Dear Chair Marcus & Board Member Doduc:

California Water Service (Cal Water) is the largest water utility regulated by the California Public Utilities Commission and a proud steward of the environment that strongly supports sustainability efforts to ensure a safe and adequate supply of drinking water. Since 1926, we have provided millions of Californians with safe, reliable, and high-quality water utility service. Today, we serve about two million residents in service areas across the state that covers a vast array of California's footprint from Chico in the north to the Palos Verdes Peninsula in the south.

Our comments today are in addition to the comments Cal Water submitted on March 17, 2017. Cal Water sincerely appreciates the time and effort the State Water Resources Control Board (Board) has put into not only preparing the Supplemental Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the Bay-Delta (SED), but also undertaking an extensive public outreach effort related to the SED. Further, Cal Water understands the need to protect the water quality of the Sacramento-San Joaquin Bay Delta, and we recognize the importance of reliable, high-quality water to our state's health and continued economic growth.

Cal Water is proud to be at the forefront of a number of the state's efforts to ensure that all Californians continue to have safe and dependable potable water supplies. For example, during California's historic drought, Cal Water built upon its industry-leading water conservation program, and developed a customer first drought response effort that provided customers with the information and tools they needed to meet the aggressive water use targets established by the Governor and State Water Resources Control Board.

Additionally, Cal Water is one of the only water utilities in California that has supported the establishment of a Safe and Affordable Drinking Water Fund, as championed by Senator Bill Monning in his Senate Bill 623. In our view, efforts like these will do much to protect the health and safety of millions of Californians and to help those who have been under-served or without access to safe drinking water.

We take our responsibility for providing reliable, affordable water supply to our customers and communities very seriously. In light of this responsibility, we must communicate our concerns with the SED. Across our service areas, we rely on a combination of surface water and groundwater. As both a purchaser of wholesale water from various suppliers and a water rights holder, Cal Water has interests in "areas of origin," exports from the Delta, and locally derived supplies. For example, Cal Water relies on locally derived supplies to provide water to approximately 257,000 people in our Bayshore and Bear Gulch service areas, which are in the San Francisco Bay Area. Because of certain restrictions under federal law, a reduction in water supply to the Hetch Hetchy Regional Water System could significantly impact our ability to serve these customers.

As is the case with many water utilities, Cal Water is reliant in many of our service areas on the supplies made available by local wholesale agencies. For example, we utilize significant imported water from our wholesale partners to serve approximately 171,000 people who live in and around the City of Stockton. In those areas where we are unable to rely on groundwater to supplement the water we receive from local wholesalers, any water supply shortages will directly impact us and our ability to serve our customers. This is also true in service areas where the future use of local groundwater supplies may be limited by rules and regulations established pursuant to the Sustainable Groundwater Management Act. Further, as a retail agency within the service area of the Metropolitan Water District of Southern California, we are well aware of the needs for maintaining drinking water quality and reliability that sources from the Bay-Delta system.

We respectfully ask that the Board give due consideration to the very limited flexibility of urban water suppliers to meet their responsibilities in providing safe and reliable service at a reasonable cost. The Board appears to attribute more flexibility and opportunity for enhancing water supplies from other sources and arrangements than are realistically achievable.

We would like to commend the Board's flexibility through its allowance for a range of potential flows rather than rigid, real-time adherence to a specific percent of unimpaired flow. We urge the Board to consider proposals that focus on functional flows combined with habitat

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improvements that meet clearly defined objectives regarding timing, temperature and other specified criteria to improve fish production and the overall environment.

Finally, Cal Water believes that a negotiated solution is in the best interests of all parties. Water agencies have proven on many occasions that they are capable of reaching agreement with regulators and other interested parties concerning far-reaching regulatory programs, including the Bay-Delta. We urge the Water Board to continue to provide the water users the opportunity to work with the regulatory agencies to develop long lasting plans to improve the sustainability of our water system ecosystem and address the needs of all interests.

Cal Water stands committed and ready to work with the Board, parties to the negotiations, and others to reach such a solution that meets the long-term needs of our state. If there is anything we can do to assist you or if you have any questions, please do not hesitate to call on us for support.

Sincerely,

Robert Kuta

Vice President, Engineering

Cc: Marty Kropelnicki, President and Chief Executive Officer, Cal Water

Tim Treloar, VP Water Quality & Chief Utility Operations Officer, Cal Water

Michael Hurley, Water Resource Manager, Cal Water

Nicole Sandkulla, Chief Executive Officer/General Manager, BAWSCA

Scott Moody, District Manager, Stockton East Water District

Appendix J: Water Shortage Contingency Plan

Water Shortage Contingency Plan 2025 Update

South San Francisco District

June 2026

Chapter 1
Introduction

☑ ***CWC § 10640***

(a) Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

☑ ***CWC § 10632.3***

It is the intent of the Legislature that, upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the board defer to implementation of locally adopted water shortage contingency plans to the extent practicable.

This document describes the Water Shortage Contingency Plan (WSCP) for the California Water Service (Cal Water) South San Francisco District (also referred to herein as the “District”). The WSCP includes the levels of response to a water shortage caused by drought or by supply interruptions caused by infrastructure failure, regulatory mandate, or catastrophic human-caused or natural events. The primary objective of the WSCP is to ensure that the District has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions.

Specifically, this WSCP includes the following chapters:

Chapter 1 - Introduction

Chapter 2 - Water Supply Reliability Analysis

Chapter 3 - Annual Water Supply and Demand Assessment Procedures

Chapter 4 - Water Shortage Levels

Chapter 5 - Shortage Response Actions

Chapter 6 - Communication Protocols

Chapter 7 - Compliance and Enforcement

Chapter 8 - Legal Authorities

Chapter 2
Water Supply Reliability Analysis

☑ **CWC § 10632** *(a) (1) The analysis of water supply reliability conducted pursuant to Section 10635.*

As described in Chapter 6 of the South San Francisco District's 2025 Urban Water Management Plan (UWMP or Plan), the District currently purchases treated imported surface water from the San Francisco Public Utilities Commission (SFPUC). In addition, the District pumps groundwater from the Westside Basin (also referred to herein as the "Basin"; California Department of Water Resources [DWR] Basin No. 2-35). The Basin is not adjudicated and, in its recent evaluation of California groundwater basins, DWR determined that the Basin is not in a condition of critical overdraft and designated it as very-low priority.[1]

Chapter 7 of the District's 2025 UWMP indicates the potential of future water supply shortages in single-dry and multiple-dry years. This WSCP addresses potential water shortage conditions resulting from such future droughts as well as other causes (e.g., impacted distribution system infrastructure, regulatory-imposed shortage restrictions, catastrophic events, etc.).

[1] DWR, 2020. Sustainable Groundwater Management Act 2019 Basin Prioritization, dated May 2020.

Chapter 3
Annual Water Supply and Demand Assessment Procedures

☑ ***CWC § 10632 (a) (2)***

The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

☑ ***CWC § 10632.1***

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

☑ ***CWC § 10632.2***

An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision (a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.

On an annual basis, the District will conduct an Annual Water Supply and Demand Assessment (AWSDA) to identify whether there is likely to be a water shortage condition in the coming year, assuming it is dry. Each element of the AWSDA is described below.

1. Evaluation Criteria

The Evaluation Criteria that will be used to identify whether the District is likely to experience a water shortage in the coming year include:

a. Purchased Water Availability - Because the District's primary source of potable water supply is from the SFPUC, the evaluation of District supplies for a particular year will be based largely on information provided by the SFPUC or the Bay Area Water Supply and Conservation Agency (BAWSCA). The SFPUC AWSDA Procedures are included as **Attachment A** of this WSCP.

i. Should the District not receive information from SFPUC by June 1st of each year, the District will assume supply availability in line with prior recent drought year availability.

b. Supply Well Operational Constraints - A comparison of groundwater level elevations to well operational depths to identify the need to: (1) lower pump depths or (2) site and drill additional supply wells.

c. Treatment and Distribution System Constraints - An assessment of the probabilities of facility and infrastructure outages and the degree to which they could limit Cal Water's ability to access, convey, or treat adequate supplies, including any planned maintenance or capital improvements over the next year that could affect its ability to provide sufficient supply to meet demands.

d. Local Regulatory Conditions - Evaluation of (1) any changes to the Agreement for Groundwater Storage and Recovery from the Southern Portion of the Westside Basin that could trigger a change in groundwater volume available for pumping[2], or (2) any new limitations on well permitting that could limit the ability to deepen existing supply wells or drill new supply wells.

e. State Regulatory Conditions - Evaluation of any state-mandated drought or water use restrictions.

In the spring prior to the submittal date, these Evaluation Criteria will be assessed by Cal Water staff, including District staff with detailed knowledge of District operations, well conditions, and SFPUC activities. The data used to support the AWSDAs may include, but are not limited to, supply capacity, supply and pump capacity, firm capacities, tank storage capacity, groundwater level measurements, water quality, system demand, and zone demand.

[2] San Francisco Public Utilities Commission (SFPUC), City of Daly City, City of San Bruno, and California Water Service Company (Cal Water), 2014. Agreement for Groundwater Storage and Recovery from the Southern Portion of the Westside Basin by and among the San Francisco Public Utilities Commission, the City of Daly City, the City of San Bruno, and California Water Service Company, dated 2014

2. Water Supply

   The District obtains its supplies from purchases (SFPUC) and pumped groundwater from the Basin. As discussed in Chapter 7 of the District's 2025 UWMP, there is the potential of future water supply shortages in single-dry and multiple-dry years due to constrained SFPUC supplies. The potential constraints on water supply therefore include purchased supply limitations, operational limitations and/or potential local regulatory conditions identified in the Evaluation Criteria above.

3. Unconstrained Customer Demand

   The demand forecast described in Chapter 4 of the District's 2025 UWMP yields the anticipated annual unconstrained water demand (i.e. the expected water use in the absence of shortage-caused reductions in water use) to support the AWSDA. During a drought cycle, unconstrained demand typically increases due to higher-than-normal air temperatures and lower-than-normal precipitation. The supply reliability analysis and Drought Risk Assessment presented in Chapter 7 of the District's 2025 UWMP accounts for this anticipated shift in unconstrained water demand, and as discussed above, with these increases in demand the available supply (i.e., purchased water and groundwater) may not be sufficient to meet demands given uncertainties around purchased water supply availability.

4. Planned Water Use for Current Year Considering Dry Subsequent Year

   Cal Water will evaluate the anticipated supplies for the current year, based in large part on SFPUC's assessment of available supplies, assuming that the following year will be dry, as defined above, using the identified Evaluation Criteria. Barring changes in supply availability per the Evaluation Criteria, the assumed dry subsequent year is not expected to affect the manner in which the District will utilize its available supplies in the current year, and the planned water use for the current year will equal the unconstrained demand.

5. Infrastructure Considerations

   As part of its triennial General Rate Case applications to the California Public Utilities Commission (CPUC), Cal Water prepares a Supply-Demand Analysis (CPUC SD Analysis) for each of its districts. The CPUC SD Analysis is an inventory of water production and pump assets that provide direct and indirect sources of supply to meet customer demands in accordance with CPUC General Order 103-A and California Code of Regulations (CCR) Title 22 Waterworks Standards. This CPUC SD Analysis is based on a combination of regulatory requirements, professional consultant recommendations, and industry standard practices, including those from the American Water Works Association

(AWWA) and American Society of Civil Engineers (ASCE). It identifies specific vulnerabilities in different pressure zones within the system and evaluates the system against performance criteria that meet regulatory requirements and ensure operationally adequate levels of service.

This analysis will guide Cal Water's evaluation of operational treatment/distribution constraints that could potentially limit the availability of supplies. This evaluation of supply operational constraints and treatment and distribution constraints will assess potential impacts on supply availability. If such constraints are identified, Cal Water will develop a plan to address these constraints, mitigate potential effects, and implement the appropriate water Shortage Level of action per Chapter 5, below.

6. Other Factors

As identified under the Evaluation Criteria above, local regulatory conditions could potentially limit the availability of supplies. Therefore, Cal Water will evaluate the development of new regulatory constraints in the Spring of each year and assess their potential impacts on supply availability or related factors (e.g., mandated demand reductions). If such constraints are identified, Cal Water will develop a plan to address these constraints and mitigate potential effects and implement the appropriate water Shortage Level of action per Chapter 5, below.

Consistent with California Water Code (CWC) § 10632.1, Cal Water will complete and submit an AWSDA to DWR by July 1st of each year.

Chapter 4
Water Shortage Levels

☑ ***CWC § 10632***

(a)(3)(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

Consistent with the requirements of CWC § 10632(a)(3), the WSCP is based on the six water Shortage Levels shown in **Table 4-1**. These Shortage Levels are intended to address shortage caused by any condition, including the catastrophic interruption of water supplies.

Table 4-1. Water Shortage Contingency Plan Levels (DWR Table 8-1)

☒	Check the box if the Supplier uses the Standard six levels of water shortage.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%		
2	Up to 20%		
3	Up to 30%		
4	Up to 40%		
5	Up to 50%		
6	>50%		
Notes:			

Shortage response actions for each of these Shortage Levels are identified and discussed in Chapter 5.

Chapter 5
Shortage Response Actions

☑ ***CWC § 10632***

(a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

This chapter describes the response actions Cal Water will take to deal with the shortages associated with each of the six Shortage Levels enumerated in Chapter 4. These shortages may be due to drought, or they may be associated with state mandates, local regulatory changes, or catastrophic events. Whatever the cause, it is important to carefully identify and describe the anticipated necessary actions.

5.1 Demand Reduction

The combinations of demand-reduction actions required to resolve the shortages associated with each of the six Shortage Levels are based on Cal Water's experience in dealing with past drought-related shortages and also include other actions deemed appropriate to achieve the required demand reductions. In order to evaluate and ensure that the right actions would be implemented with the proper level of intensity, Cal Water employed the Drought Response Tool (DRT), an Excel spreadsheet model developed by EKI Environment and Water, Inc. (EKI).

The DRT provides a quantitative framework that allows Cal Water to systematically estimate the monthly and cumulative annual demand reductions expected to result from particular combinations of drought response actions and associated implementation rates. Data inputs to the DRT include total production, sector-specific water use, population, and assumptions regarding the split between indoor and outdoor water use for each customer sector (class).

For each drought response action, the user specifies:

- The customer class(es) and end use(s) that are affected;

- The percent savings for those end use(s) for each account that implements the action based on evaluations reported in the literature, or where such studies are not available, on best estimates based on Cal Water experience; and,
- The percentage of accounts assumed to implement the action, which is presumed to be the result of the intensity level of Cal Water program implementation, including but not limited to marketing and enforcement activities.

Based on the foregoing inputs, the DRT calculates the resulting monthly savings. Cal Water adjusted the combination of actions and implementation levels to achieve the targeted savings levels at each of the six Shortage Levels.

In order to evaluate the robustness of the DRT model, Cal Water modeled the actions implemented during the height of the last drought for a subset of its districts, and found that the modeled water shortage reductions were generally consistent with the observed responses. In short, the DRT is a robust, transparent tool that can be used to tie a particular set of shortage-response actions to an expected reduction in demand.

For each of the six Shortage Levels, the modeling targeted the maximum demand reduction, ergo:

- 10% for Shortage Level 1,
- 20% for Shortage Level 2,
- 30% for Shortage Level 3,
- 40% for Shortage Level 4,
- 50% for Shortage Level 5, and
- 60% for Shortage Level 6.

The key DRT inputs and outputs for each of the Shortage Levels are reproduced in **Attachment B**.

Table 5-1 shows the water shortage reduction actions, savings assumptions, and implementation rates that are required for the District to achieve the targeted annual demand reductions for each of the Shortage Levels. At each Shortage Levels, there are two types of demand-reduction actions identified:

- Restrictions on customer water usage; and,
- Consumption reduction actions by Cal Water to encourage decreased water usage.

The total demand reductions are governed by a set of user-specified constraints to ensure that usage levels do not endanger health and safety or result in unacceptable economic impacts. The DRT will not permit estimated usage reductions to violate these constraints, regardless of the demand reduction actions selected. For most districts, the following default constraints are used:

- A minimum residential indoor per capita daily usage of 25 gallons;

- A maximum residential outdoor usage reduction of 100%;

- A maximum Commercial, industrial, and institutional (CII) indoor usage reduction of 30%; and,

- A maximum CII outdoor usage reduction of 100%.

For the South San Francisco District, the necessary demand reductions in Shortage Level 5 and Shortage Level 6 cannot be achieved with these constraints. In such cases, Cal Water will have to balance the attainment of reductions to ensure health and safety and/or impacts to economic activity. As noted at the bottom of **Table 5-1**, the savings shown for Shortage Level 5 assume that the maximum CII indoor usage reduction has been increased to 50% and for Shortage Level 6 the minimum residential indoor usage has been reduced to 19 gallons per capita per day (GPCD) and the maximum CII indoor usage reduction has been increased to 55%.

Many actions are implemented across a number of Shortage Levels, some at increasing implementation levels. Therefore the actions are listed as a row under the first Shortage Level at which they are implemented, and the implementation rate is shown under each Shortage Level column heading at the right. The unit savings represent a percentage savings of the end uses indicated in the table.

Because of the DRT logic described above, the format of **Table 5-1** differs from that of the default DWR table.

5.1.1 Defining Water Features

☑ ***CWC § 10632 (b)***

For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

As required by CWC §10632, Cal Water distinguishes between “decorative water features” such as ponds, lakes, and fountains that are artificially supplied with water and “recreational water features” such as swimming pools and spas. Prohibitions on water use for decorative water features are listed separately from those for recreational water features (see **Table 5-1**).

Table 5-1. Demand Reduction Actions to Achieve Required Savings (DWR Table 8-3)

Water Shortage Response Action	End Use(s)	End Use Savings	Implementation by Shortage Level						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Shortage Level 1: Minimal Shortage									
Water Use Restriction (a)									
Landscape - Limit landscape irrigation to specific times	Irrigation	**10%**	80%						Yes
Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Leaks	**100%**	35%	75%	75%	75%	75%	75%	Yes
Landscape - Restrict or prohibit runoff from landscape irrigation	Irrigation	**3%**	15%	65%	65%	50%	75%	75%	Yes
Prohibit application of potable water to outdoor landscapes within 48 hours of measurable rainfall (*Landscape - Other landscape restriction or prohibition*)	Irrigation	**20%**	30%	65%	65%	100%	100%		Yes
Other - Prohibit use of potable water for washing hard surfaces	Misc. Outdoor	**17%**	15%	65%	65%	50%	75%	75%	Yes
Other - Require automatic shut-off hoses (*Other - Require automatic shut of hoses*)	Misc. Outdoor	**17%**	50%	75%	75%	75%	75%	75%	Yes
CII - Lodging establishments must offer opt out of linen service	Fixtures & Appliances	**0.5%**	75%	75%	75%	75%	75%	75%	Yes
CII - Restaurants may only serve water upon request	Fixtures & Appliances	**0.5%**	75%	75%	75%	75%	75%	75%	Yes

Water Shortage Response Action	End Use(s)	End Use Savings	Implementation by Shortage Level						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
No watering of landscape of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission, the Department of Housing and Community Development, or other State agency (*Landscape - Other landscape restriction or prohibition*)	Irrigation	**50%**	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	Yes
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water (*Water Features - Restrict water use for decorative water features, such as fountains*)	Misc. Outdoor	**50%**	50%	75%	75%	75%	75%	75%	Yes
Consumption Reduction									
Expand Public Information Campaign	All	**0.5%**	50%	75%	75%	75%	75%	75%	No
Water Bill Inserts *(Improve Customer Billing)*	All	**0.5%**	100%	100%	100%	100%	100%	100%	No
Promote online water waste reporting *(Expand Public Information Campaign)*	All	**10%**	0.1%	0.2%	0.3%	0.4%	0.5%	0.5%	No
Expand Rebates or Giveaways of Plumbing Fixtures and Devices *(Provide Rebates or Giveaways of Plumbing Fixtures and Devices)*	All	**10%**	1%	1%	2%	4%	5%	5%	No
Expand Rebates for Landscape Irrigation Efficiency (*Provide Rebates for Landscape Irrigation Efficiency*)	All	**10%**	1%	1%	2%	4%	5%	5%	No

Water Shortage Response Action	End Use(s)	End Use Savings	Implementation by Shortage Level						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Offer CII Water Use Surveys *(Offer Water Use Surveys)*	All CII uses	**5%**	1%	1%	2%	2%	2%	2%	No
Offer Res Water Use Surveys *(Offer Water Use Surveys)*	All Residential Uses	**5%**	1%	1%	2%	2%	2%	2%	No
Shortage Level 2: Moderate Shortage									
Restrictions									
Landscape - Limit landscape irrigation to specific days	Irrigation	**15%-79%** [(b)]		50%	60%	75%	55%		Yes
Prohibit the use of non-recirculating systems in all new conveyer car wash and commercial laundry systems (*Other)*	Fixtures & Appliances	**50%**		See note (c)	See note (c)	See note (c)	See note (c)	See note (c)	Yes
Consumption Reduction									
Water Efficiency Workshops, Public Events *(Other)*	All Residential Uses	**5%**		25%	25%	25%	50%	50%	No
Shortage Level 3: Severe Shortage									
Restrictions									
Other - Prohibit use of potable water for construction and dust control	Misc. Outdoor	**100%**			1%	1%	1%	1%	Yes
Prohibit use of potable water for street washing (*Other - Prohibit use of potable water for washing hard surfaces*)	Misc. Outdoor	**100%**			1%	1%	1%	1%	Yes

Water Shortage Response Action	End Use(s)	End Use Savings	Implementation by Shortage Level						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Prohibit Filling Ornamental Lakes or Ponds (*Water Features - Restrict water use for decorative water features, such as fountains*) (*Other water feature or swimming pool restriction*)	Misc. Outdoor	**100%**			1%	1%	1%	1%	Yes
Consumption Reduction									
Home or Mobile Water Use Reports (*Expand Public Information Campaign*)	All	**5%**			25%	50%	50%	50%	No
Decrease Frequency and Length of Line Flushing (*Decrease Line Flushing*)	Non Revenue Water	**25%**			50%	50%	75%	75%	No
Reduce System Water Loss	Non Revenue Water	**100%**			20%	20%	20%	20%	No
Increase Water Waste Patrols/Enforcement (*Increase Water Waste Patrols*)	All	**10%**			2%	4%	5%	5%	No
Implement Drought Rate Structure and Customer Water Budgets (Res) (*Implement or Modify Drought Rate Structure or Surcharge*)	All Residential Uses	**30%-60%** [c]			65%	75%	75%	80%	Yes
Implement Drought Rate Structure and Customer Water Budgets (CII) (*Implement or Modify Drought Rate Structure or Surcharge*)	All CII uses	**10%-30%** [d]			65%	75%	75%	80%	Yes

Water Shortage Response Action	End Use(s)	End Use Savings	Implementation by Shortage Level						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Shortage Level 4: Critical Shortage									
Water Use Restrictions									
Prohibit vehicle washing except with recirculated water or low-volume systems (*Other - Prohibit vehicle washing except at facilities using recycled or recirculating water*)	Misc. Outdoor	**10%**				50%	50%	50%	Yes
Prohibit use of water for recreational purposes such as water parks and the filling of pools (*Other water feature or swimming pool restriction*)	Misc. Outdoor	**100%**				1%	1%	1%	Yes
Shortage Level 5: Emergency Shortage (f)									
Water Use Restrictions									
Require net zero demand increase on new water service connections (*Moratorium or Net Zero Demand Increase on New Connections*)	All	**100%**					0.7%	0.7%	Yes
Prohibit single-pass cooling systems (*Other*)	Cooling	**50%**					20%	20%	Yes
Consumption Reduction Actions									
Require Pool Covers (*Pools and Spas - Require covers for pools and spas*)	Misc. Outdoor	**28%**					10%	10%	Yes

Water Shortage Response Action	End Use(s)	End Use Savings	Implementation by Shortage Level						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Shortage Level 6: Extreme Shortage (g)									
Water Use Restrictions									
Moratorium on new water service connections (*Moratorium or Net Zero Demand Increase on New Connections*)	All	**100%**						0.7%	Yes
Landscape - Prohibit all landscape irrigation	Irrigation	**100%**						75%	Yes
		Cumulative Annual Savings	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	

Notes:

(a) In certain cases water use restrictions and consumption reduction actions implemented by Cal Water are not specifically called out in DWR's provided demand reduction actions list. The appropriate DWR provided demand reduction action is included in italics in parenthesis.
(b) Watering restricted to no more than 3 days/week in Shortage Level 2 and Shortage Level 3; no more than 2 days/week in Shortage Level 4; no more than 1 day/week in Shortage Level 5.
(c) Implementation rates are not currently well understood and are therefore not presented. These rates will be evaluated through additional study of this water use restriction.
(d) Residential water budgets of up to 30% for Shortage Level 3, up to 40% for Shortage Level 4, up to 50% for Shortage Level 5, up to 60% for Shortage Level 6.
(e) CII water budgets of up to 10% for Shortage Level 3, up to 20% for Shortage Level 4, up to 30% for Shortage Levels 5 and 6.
(f) In Shortage Level 5 CII reduction constraint increased to 50%.
(g) In Shortage Level 6 minimum residential indoor usage constraint decreased to 19 GPCD and CII reduction constraint increased to 55%.

5.2 Supply Augmentation

As indicated in **Table 5-2**, Cal Water has not identified any specific supply augmentation actions to assist in resolving future District water shortages but are currently assessing potential options. As identified in Chapter 3, Cal Water may consider drilling new wells if necessary due to declining groundwater levels or requesting additional water from SFPUC. However, Cal Water considers these actions to be operational changes (described in Section 5.3), rather than accessing a new supply source.

Table 5-2. Supply Augmentation and Other Actions (DWR Table 8-3)

☒	Is the Supplier completing this table using the standard six levels? (yes/no)			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)
		Volume or Percentage	Shortage Gap Reduction Value AF	
See note (a)	See note (a)	See note (a)	See note (a)	See note (a)
NOTES: (a) Cal Water evaluates water supply augmentation projects on an on-going basis. At this time, Cal Water does not have supply augmentation projects planned specifically to address water shortage conditions.				

5.3 Operational Changes

As discussed above in Chapter 3, the primary operational change that Cal Water will consider in the District is extracting groundwater from new wells following identification of this need as part of the AWSDA or related processes, or, for localized shortages (i.e., not due to SFPUC shortfalls) the District may also consider purchasing additional imported surface water supplies from SFPUC, as needed. As identified in **Table 5-1**, the District will also decrease the frequency and length of line flushing under Shortage Level 3 and beyond. The District will also evaluate the potential benefits of altering other maintenance cycles and expediting infrastructure repairs to improve system efficiency, to the extent feasible.

5.4 Mandatory Restrictions

The water shortage response actions included in **Table 5-1** include a variety of mandatory customer water use restrictions that will be necessary to achieve the targeted demand reductions for the different Shortage Levels. The types of restrictions and the manner and degree of enforcement for these restrictions vary by Shortage Level, and are discussed in Chapter 7.

5.5 Emergency Response Plan

Cal Water has an Emergency Response Plan (ERP) in place that coordinates the overall response to a disaster within the District.

The ERP addresses Cal Water's responsibilities in emergencies associated with natural disaster, human-caused emergencies, and technological incidents. It provides a framework for coordination of response and recovery efforts within Cal Water in cooperation with local, state, and federal agencies, as well as other public and private organizations. The ERP establishes an emergency organization to direct and control operations during a period of emergency by assigning responsibilities to specific personnel.

The ERP does the following:

- It conforms to the State mandated Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS), and it effectively structures emergency response at all levels in compliance with the Incident Command System (ICS).
- It establishes response policies and procedures, while providing Cal Water clear guidance related to emergency planning.
- It describes and details procedural steps necessary to protect lives and property.
- It outlines coordination requirements.
- It provides a basis for unified training and response exercises to ensure compliance.

The District has installed backup power generators at many of its well sites, booster sites, and pump storage sites that can be operated in the event of a system wide power outage. A complete loss of power has never been experienced, but the generators have been used in the past to overcome localized outages.

The District also has emergency interties with the following entities: one with the City of Brisbane, one with the City of San Bruno, and four with the City of Daly City, as discussed in Section 6.7.3 of the District's 2025 UWMP.

5.6 Seismic Risk Assessment and Mitigation Plan

☑ ***CWC § 10632.5***

(a) In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

Cal Water's ERP includes information on various hazards and a related fault map overlying the District. The San Mateo County Multi-Jurisdictional Local Hazard Mitigation Plan, which includes additional discussion of area earthquake risk and mitigation, can be found at:

https://cmo.smcgov.org/multijurisdictional-local-hazard-mitigation-plan.

5.7 Shortage Response Action Effectiveness

Table 5-1 above shows the effectiveness of the specific demand-reduction actions and implementation levels necessary for the District to achieve the targeted savings for each Shortage Level. The bottom row indicates the total annual cumulative savings expected to be reached at each water Shortage Level. Additional details, including anticipated savings on a month-by-month basis are provided in the DRT inputs and outputs included in **Attachment B**.

Chapter 6
Communication Protocols

☑ ***CWC § 10632 (a) (5)***

Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

(C) Any other relevant communications.

Cal Water intends to escalate communication to customers and stakeholders, as needed, throughout any water shortage situation to help ensure they are aware of current conditions, any water use restrictions that are in effect, and the many ways Cal Water can help them reduce their water use. Cal Water's outreach efforts may include multiple channels, including bill messages, bill inserts, direct mail, email, letters, social media, print, radio, music streaming services, TV, over-the-top media, movie theatre advertising, and group presentations.

These efforts will expand on current Cal Water outreach efforts and will be customized to the needs at the time of the shortage to ensure a proper channel mix so that the maximum audience is reached as efficiently as possible.

Chapter 7
Compliance and Enforcement

☑ ***CWC § 10632 (a) (6)*** *For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.*

Schedule 14.1 includes specific Enforcement provisions that take effect upon activation. When Schedule 14.1 is activated, its Enforcement section supersedes the Enforcement provisions in Rule 14.1, and enforcement of the applicable requirements will be administered in accordance with the enforcement procedures described in Schedule 14.1 for the period it remains in effect.

7.1 Water Use Restrictions

In accordance with Rule 14.1, Cal Water is currently authorized to take the following actions to enforce the water use restrictions:

First Violation: Cal Water shall provide the customer with a written notice of violation. In addition, Cal Water is authorized to take the following actions:

a) If the customer currently receives service through a metered connection, install a real-time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and on-going operating costs, may be billed to the customer, and nonpayment may result in discontinuation of service.

b) If the customer does not currently receive service through a metered connection, install a water meter on the customer's service line, charge the customer for water use pursuant to Cal Water's metered service tariffs and rules, and install a real-time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and ongoing operating costs, may be billed to the customer, and nonpayment may result in discontinuance of service.

Second Violation: If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the first violation, Cal Water shall provide the customer with a second written notice of violation and is authorized to install a flow-restricting device on the customer's service line. Cal Water shall not be held liable for any injuries, damages, and/or consequences arising from the installation of a flow-restricting device.

In June 2021, Cal Water submitted an update to Rule 14.1 and Schedule 14.1 to the CPUC for approval, to align with the restrictions identified in this WSCP. Rule 14.1 and Schedule 14.1 were approved by the CPUC in July 2021. Rule 14.1 and Schedule 14.1 are discussed in more detail in Chapter 8. The current versions of Rule 14.1 and Schedule 14.1 can be found on the Cal Water website.

The passage of Assembly Bill 1572 includes both regulatory responsibilities and customer-facing obligations relating to the prohibition of potable water for irrigating non-functional turf. Cal Water plans to submit a revised Rule 14.1 and Schedule 14.1 to the CPUC for approval prior to January 1, 2027, to be in compliance with the regulatory requirements and is developing communication materials and an outreach plan to be in compliance with the customer-facing obligations.

7.2 Non-Essential, Wasteful Uses

In the event that more stringent measures are needed, implementation of Schedule 14.1 would be requested from the CPUC. If implemented, Cal Water is currently authorized to take the following actions when its personnel verify a customer is using potable water for non-essential, wasteful uses.

First Violation: Cal Water shall provide the customer with a written notice of violation. In addition, Cal Water is authorized to take the following actions:

A. If the customer currently receives service through a metered connection, install a real- time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and ongoing operating costs, may be billed to the customer, and nonpayment may result in discontinuance of service.

B. If the customer does not currently receive service through a metered connection, install a water meter on the customer's service line, charge the customer for water use pursuant to Cal Water's metered service tariffs and rules, and install a real-time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and ongoing operating costs, may be billed to the customer, and nonpayment may result in discontinuance of service.

Second Violation: If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the first violation, Cal Water shall provide the customer with a second written notice of violation. In addition to the actions prescribed under the first violation above, Cal Water is authorized to take the following actions:

A. Apply the following waste of water penalties, which are in addition to any other charges authorized by this Schedule or other Cal Water tariffs.

   i. If Shortage Level 1 is in effect, $25
   ii. If Shortage Level 2 is in effect, $50
   iii. If Shortage Level 3 is in effect, $100
   iv. If Shortage Level 4 is in effect, $200
   v. If Shortage Level 5 is in effect, $400
   vi. If Shortage Level 6 is in effect, $800

B. At its sole discretion, waive the waste of water penalty if the customer participates in a water use evaluation provided by Cal Water and/or provides documentation to Cal Water proving that a drip irrigation system, micro spray irrigation system, high-efficiency sprinkler system, or properly programmed smart irrigation controller has been installed, after a notice of violation was delivered, and is in use at the customer's service address.

Third Violation: If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the second violation, Cal Water shall provide the first and second violations above, Cal Water is authorized to take the following actions:

A. A. Apply the following waste of water penalties, which are in addition to any other charges authorized by this Schedule or other Cal Water tariffs.

   i. If Shortage Level 1 is in effect, $50
   ii. If Shortage Level 2 is in effect, $100
   iii. If Shortage Level 3 is in effect, $200
   iv. If Shortage Level 4 is in effect, $400
   v. If Shortage Level 5 is in effect, $800
   vi. If Shortage Level 6 is in effect, $1,600

B. At its sole discretion, waive the waste of water surcharge if the customer participates in a water use evaluation provided by Cal Water and/or provides documentation to Cal Water proving that a drip irrigation system, micro spray irrigation system, high- efficiency sprinkler system, or properly programmed smart irrigation controller has been installed, after notice of violations have been delivered, and is in use at the customer's service address.

Fourth Violation: If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the third violation, Cal Water shall provide the customer with a fourth written notice of violation. In addition to actions set forth in previous violations prescribed above, Cal Water is authorized to install a flow-restricting device on the customer's service line.

Egregious Violations: Notwithstanding the foregoing framework for penalties, customers who Cal Water has verified are egregiously using potable water for non-essential, wasteful uses are subject to having a flow- restricting device installed on their service line. After providing the customer with one notice of egregious violation, either by direct mail or door hanger, which documents the egregious use of potable water for non-essential, wasteful uses and explains that failure to correct the violation may result in the installation of a flow-restricting device on the customer's service line, Cal Water is authorized to install a flow-restricting device on the customer's service line.

7.3 Drought Surcharges

Water budgets and associated drought surcharges are included as actions in **Table 5-1**. Cal Water may implement such actions through the implementation of Schedule 14.1.

Chapter 8
Legal Authorities

☑ ***CWC § 10632 (a) (7)***

(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

Cal Water is a public utility that is regulated by the CPUC. As such, it does not have the authority to adopt resolutions or ordinances. Rule 14.1, as filed with the CPUC, serves as Cal Water's restrictions on non-essential, wasteful uses of potable water. In the event that more stringent measures are required, Cal Water may request the addition of Schedule 14.1 which serves as Cal Water's WSCP and includes leveled mandatory reductions and drought surcharges. Cal Water shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency as defined in Section 8558 of the Government Code and to ensure consistency with local resolutions and ordinances.

On June 14, 2021, Cal Water filed its current Schedule 14.1 with the CPUC which became effective on July 14th, 2021.[3] The Schedule 14.1 lays out the leveled mandatory reductions and drought surcharges associated with Cal Water's WSCP. This filing is consistent with Resolution W-5034, adopted by the Commission on April 9, 2015, ordering compliance with requirements of the State Water Resources Control Board (SWRCB).

Schedule 14.1 is an extension of Rule 14.1. The compliance and enforcement information presented in Chapter 7 is based on the current versions of both Rule 14.1 and Schedule 14.1.

In the event of a determination of a water shortage Cal Water shall declare a water shortage emergency in accordance with the Water Code Chapter 3 (commencing with Section 350) of Division 1 and implement the WSCP at the appropriate Shortage Level.

[3] For reference, the current version of Rule 14.1 and Schedule 14.1 are included as **Attachment C**.

Chapter 9
Financial Consequences of WSCP

☑ ***CWC § 10632***

(a)(8) A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

In 2008, the CPUC approved the creation of a Water Revenue Adjustment Mechanism (WRAM) and Modified Cost Balancing Accounts (MCBA). The goals of the WRAM and MCBA are to sever the relationship between sales and revenue to remove the disincentive to reduce water use. The WRAM and MCBA are designed to be revenue neutral in order to ensure that both the utility and ratepayers are neither harmed nor benefitted.

In 2020, the CPUC ordered that regulated water utilities may not include the continuation of the WRAM and MCBA in their next general rate case filing but may propose the use of a Monterey-Style Revenue Adjustment Mechanism and Incremental Cost Balancing Account. As such, as of 2023 the WRAM and MCBA are no longer in place for Cal Water.

During a water shortage, Cal Water will file for a Drought Memorandum Account, or similar, to track incremental shortage-related expenses to be reviewed by the CPUC for future recovery in rates. Cal Water will also file for a Drought Lost Revenue Memorandum Account, or similar, to track reduced sales to be reviewed by the CPUC for future recovery in rates.

Both the Drought Memorandum Account and Drought Lost Revenue Memorandum Account are mechanisms that have been approved by the CPUC in previous droughts.

Chapter 10
Monitoring and Reporting

☑ ***CWC § 10632 (a) (9)*** *For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.*

During the period 2014-16, in order to effectively respond to the drought, Cal Water realigned its organizational structure to ensure sufficient resources were available to implement its WSCP. The day-to-day implementation was overseen by the Director of Drought Management & Conservation, with the assistance of the Drought Response Project Manager. The Director of Drought Management & Conservation reported to a team of Cal Water's Officers (Steering Committee), including the President & CEO, the Vice President of Corporate Communications & Community Affairs, the Vice President of Customer Service & Information Technology, the Vice President of Operations, and the Vice President of Continuous Improvement.

Reporting to the Director of Drought Management & Conservation was a team of functional leads, each responsible for managing individual portions of Cal Water's Plan. This team included the Director of Customer Service, the Water Conservation Manager, the Manager of Corporate Communications, the Water Supply Manager, and the Government & Community Relations Manager.

Cal Water will implement a similar structure to effectively manage future water shortages which will be overseen by the Vice President, Water Resources Planning and Sustainability.

This structure includes regular meetings with reporting on items such as:

- Aggregate customer demands,
- Customer compliance with water use restrictions,
- Current and projected water supply conditions,
- Customer outreach activities,
- Customer service inquiries, and
- Operations activities (e.g., water flushing activities, leak repairs, etc.).

Chapter 11
WSCP Refinement Procedures

☑ ***CWC § 10632***

(a) (10) Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

Cal Water's Drought Steering Committee utilizes an adaptive management process to regularly assess and determine adjustments and changes to the implementation of the WSCP. These refinements are overseen by the Vice President, Water Resources Planning and Sustainability through the team of functional leads.

Chapter 12
Plan Adoption, Submittal, and Availability

☑ ***CWC § 10632 (c)*** *The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.*

The deadline for public comments on the WSCP was June 5, 2026, three days after the public hearing. The final WSCP was formally adopted by Cal Water's Vice President, Water Resources Planning and Sustainability on June 26, 2026. The District's 2025 UWMP includes a copy of the signed Resolution of Plan Adoption and contains the following:

- Letters sent to and received from various agencies regarding the UWMP and WSCP; and,
- Correspondence between Cal Water and participating agencies.

The District's 2025 UWMP and WSCP were submitted to DWR within 30 days of adoption and by the July 1, 2026 deadline. The submittal was done electronically through DWR's Water Use Efficiency Data Portal, an online submittal tool. The adopted WSCP was also sent to the California State Library and to the cities and counties listed in Table 10-1 of the District's 2025 UWMP.

On May 1, 2026, electronic versions of the draft 2025 UWMP and WSCP were made available for review on Cal Water's website:
https://www.calwater.com/conservation/uwmp2025.

Attachment A

Section 2 Annual Water Supply and Demand Assessment Procedures from the Draft 2025 SFPUC Water Shortage Contingency Plan, dated March 2026

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 the purposes of its UWMP, that are not parties to the WSA and are not BAWSCA member agencies as it does the demands of its retail customers: 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.

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 between the Retail Customers and Wholesale Customers as follows:

- Retail supply allocation: 81 MGD
- Wholesale supply allocation: 184 MGD

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 use of 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

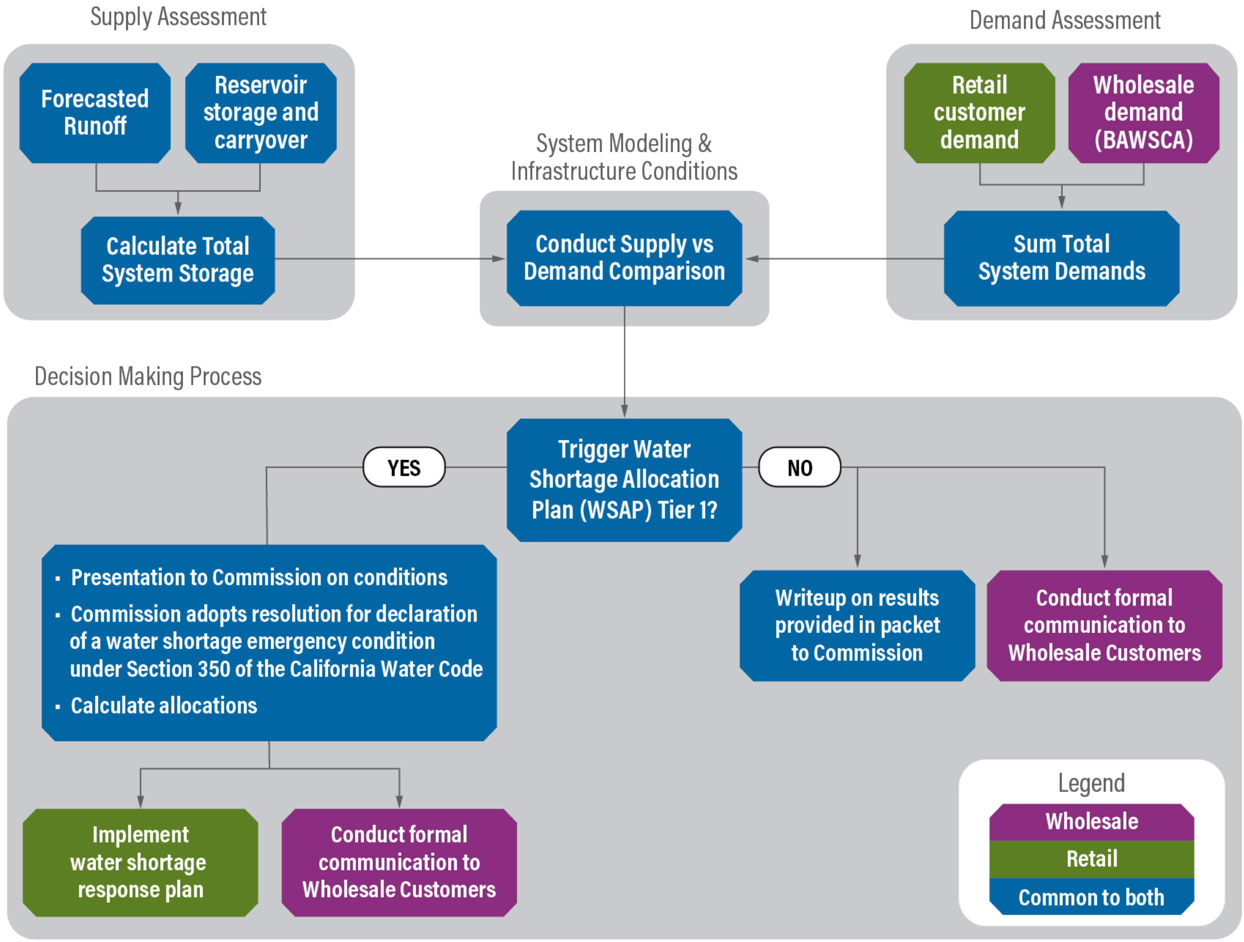
Regardless of the expectation of shortage conditions, as part of the normal course of business, the SFPUC provides a water supply condition update to its executive team every two weeks throughout the year. Pursuant to the Water Shortage Allocation Plan (WSAP), also known as the Tier 1 Shortage Plan, 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 through June 30) to its Wholesale Customers on February 1 every year. A Wholesale Customer Annual 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 issues a final estimate of available water supply and determines 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



Attachment B

Key Drought Response Tool Tables and Charts

Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

California Water Service - South San Francisco

Enter Agency Information	
Agency Name	South San Francisco
Total Population Served	63,369
Conservation Goal (%)	10%
Drought Shortage Level	Shortage Level 1
Number of Residential Accounts	14,252
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,212
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2024
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of CII Indoor Use During Minimum Month (%)	88%
Comments	

Navigation	
USER'S GUIDE	Download and read the guide before using this Tool
1 - HOME	Enter agency information
2 - INPUT BASELINE YEAR WATER USE	Enter Baseline Year production and use
3 - BASELINE YEAR WATER USE	Review and confirm entered information
4 - DROUGHT RESPONSE ACTIONS	Select Drought Response Actions and input estimated water savings and implementation rates.
5 - ESTIMATED WATER SAVINGS	Review estimated water production and compare estimated savings to conservation target.
6 - DROUGHT RESPONSE TRACKING	Track production and water savings against the conservation target.

1 - Home

California Water Service - South San Francisco

For questions about this tool or for additional information, contact:

Anona Dutton, P.G., C.Hg.
adutton@ekiconsult.com
(650) 292-9100

eki environment & water

3 - Baseline Year (2024) Water Use Profile

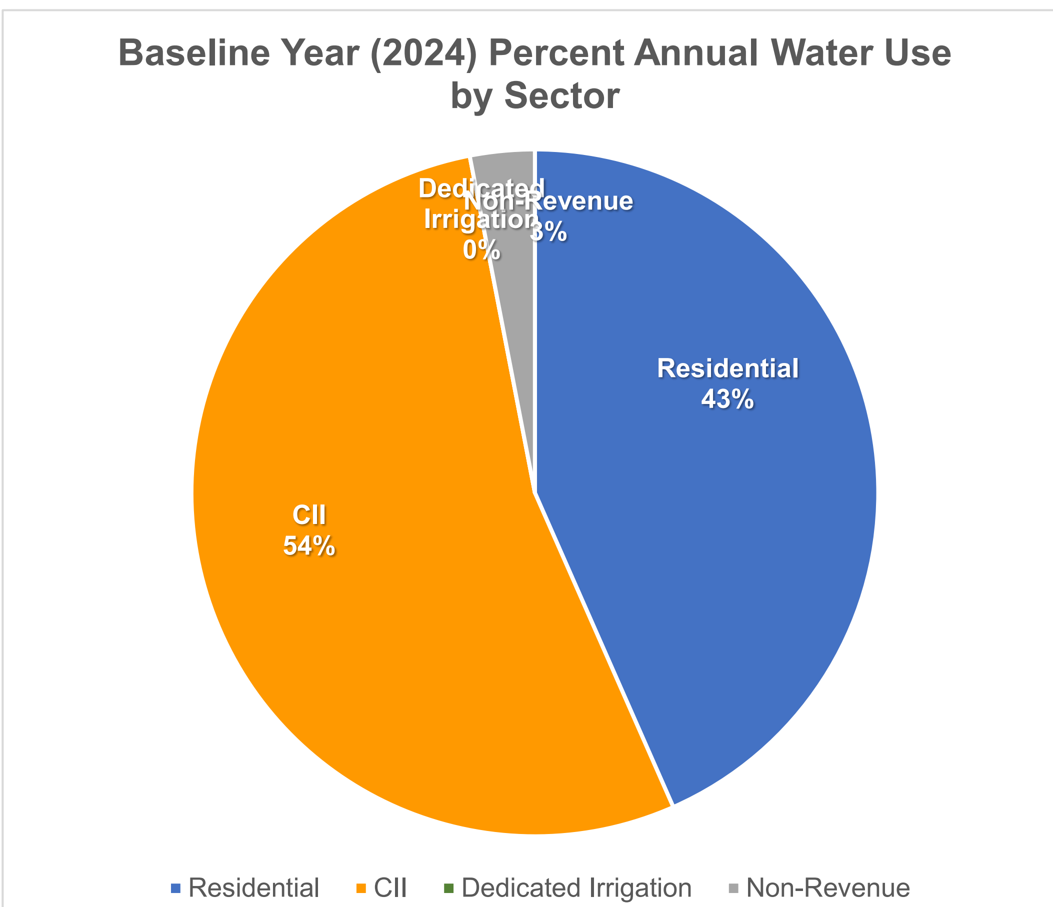
South San Francisco

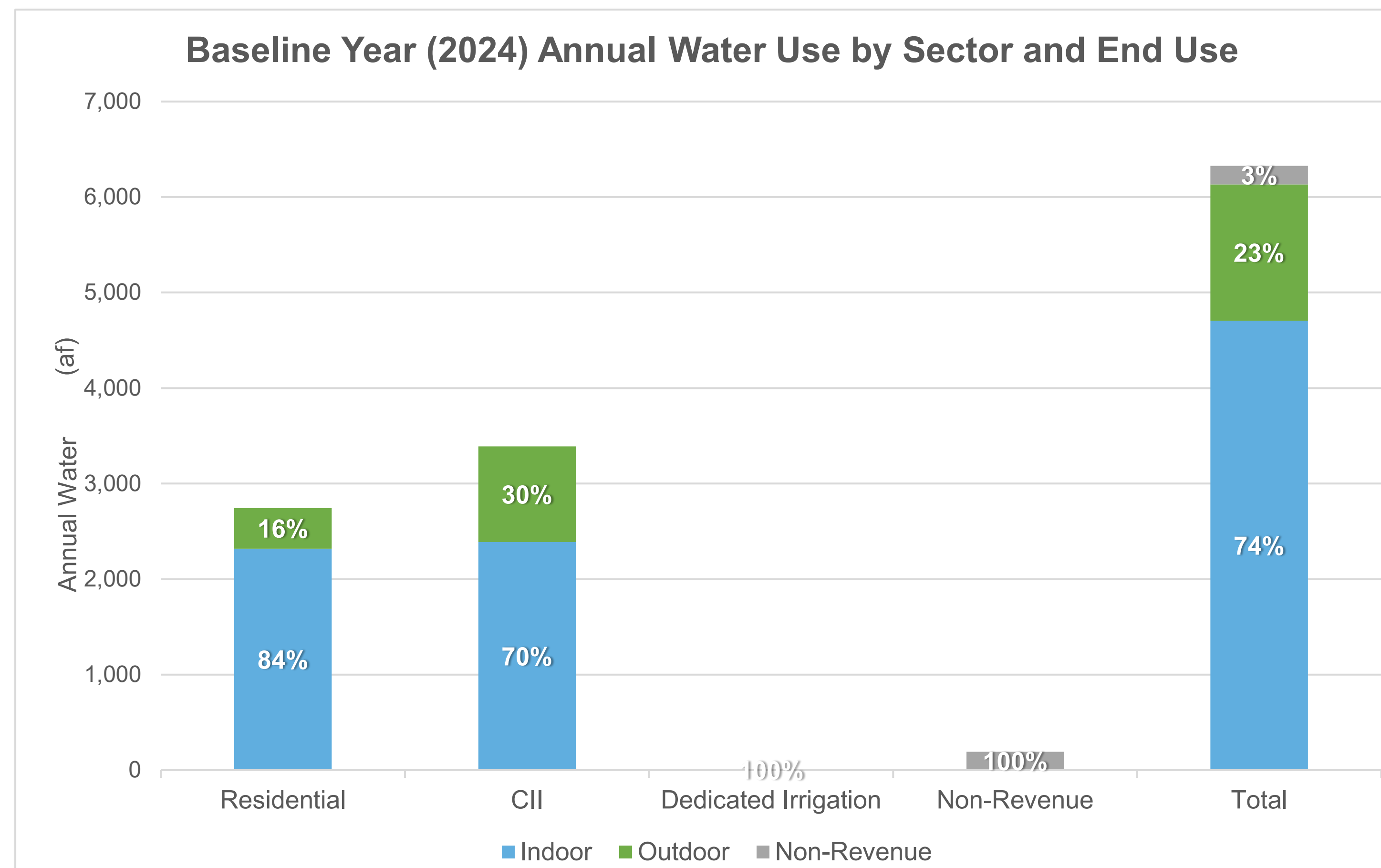
Baseline Year (2024) Annual Water Use Summary

Units: (af)

A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed.

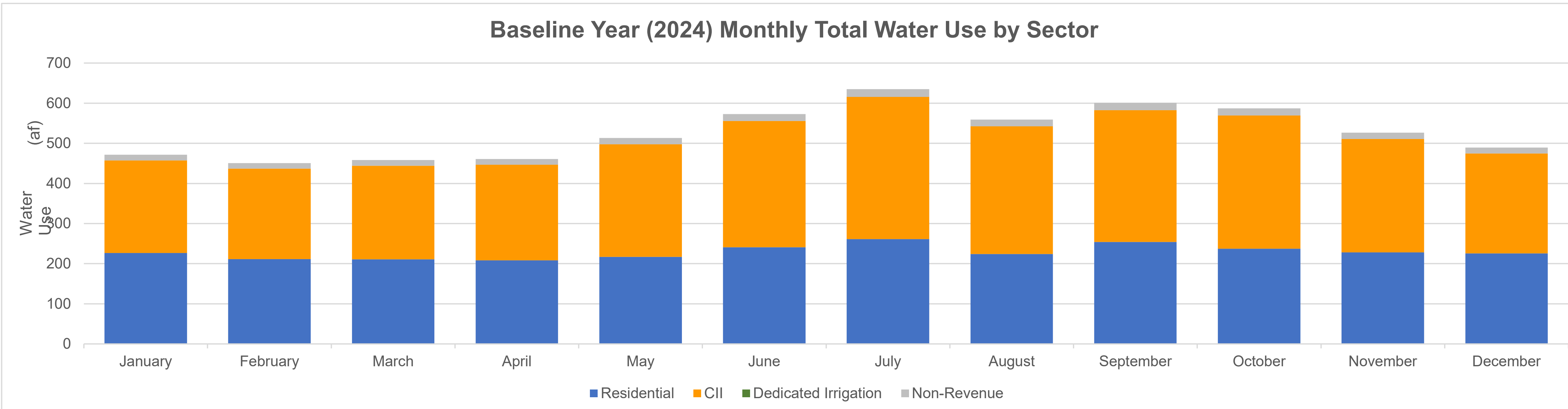
Water Use	Total Production (af)	Water Use (af)				Comments
		Residential	CII	Dedicated Irrigation	Non-Revenue	
Total	6,325	2,745	3,388	0	192	
Total Indoor	4,706	2,318	2,388	--	--	
Total Outdoor	1,427	427	1,000	0	--	
Total Non-Revenue	192	--	--	--	192	
Total Indoor %	74%	84%	70%	0%	--	
Total Outdoor %	23%	16%	30%	100%	--	
Total Non-Revenue %	3%	--	--	--	100%	

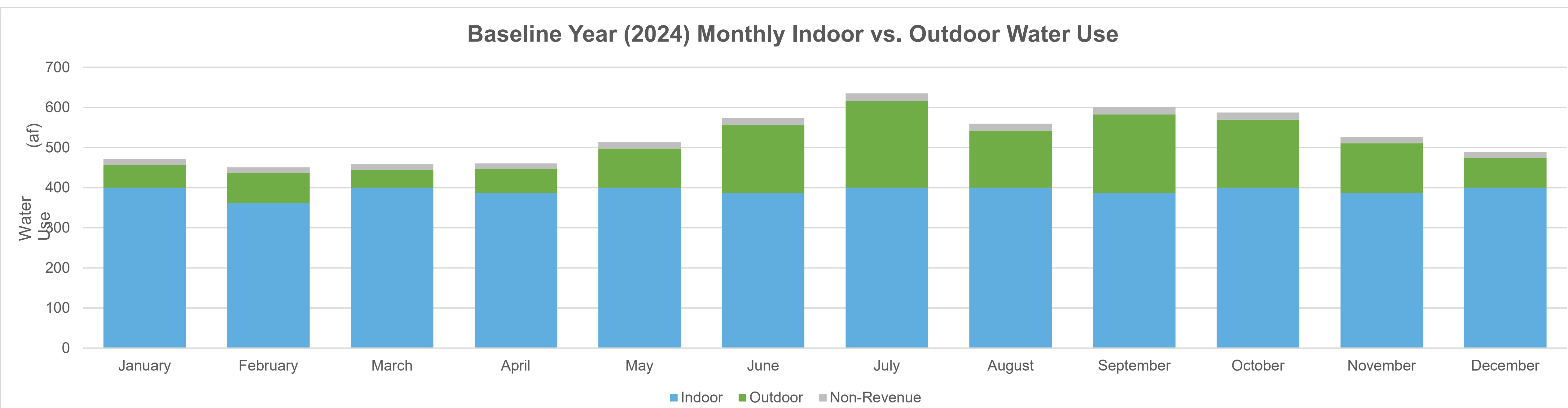




3 - Baseline Year (2024) Water Use Profile

South San Francisco





5 - Estimated Water Savings - Shortage Level 1

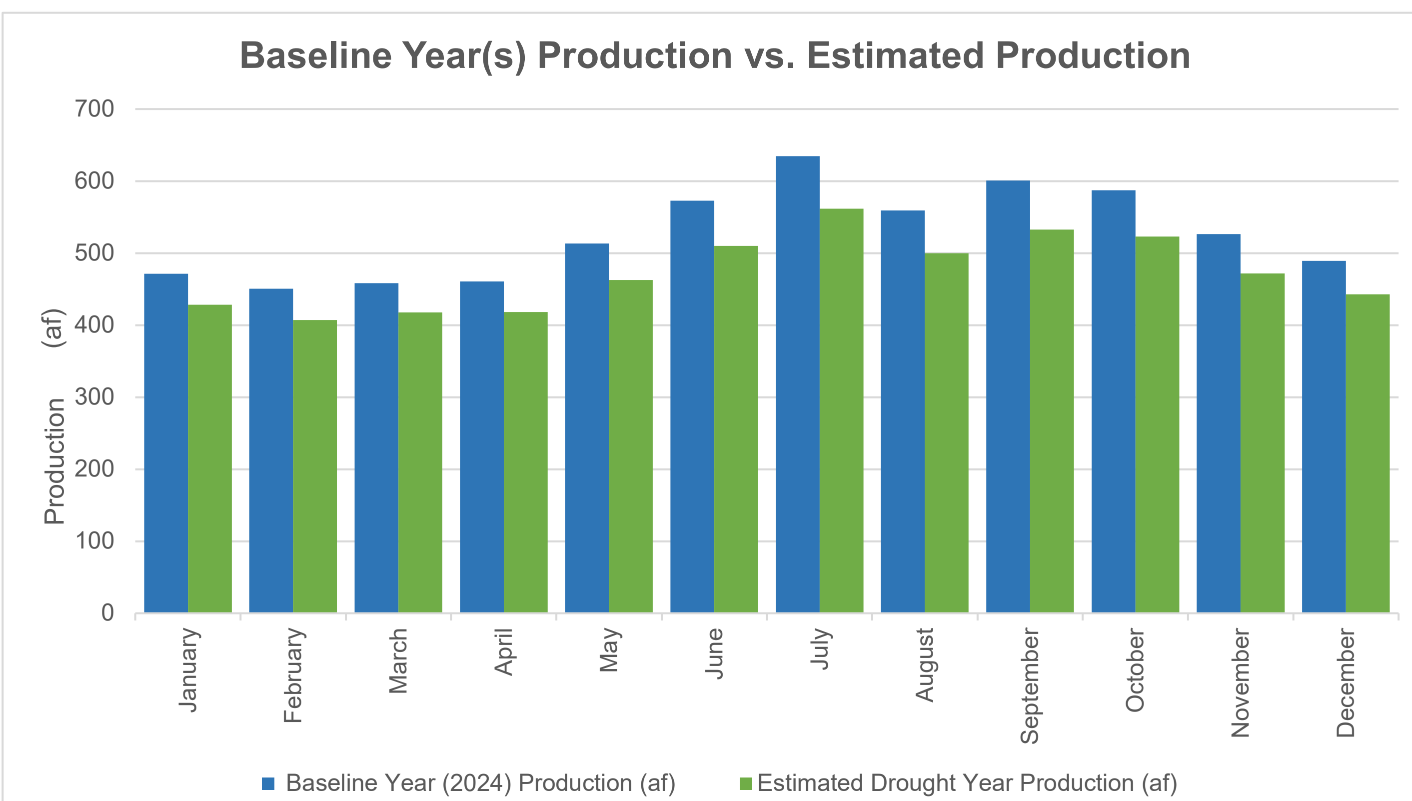
South San Francisco

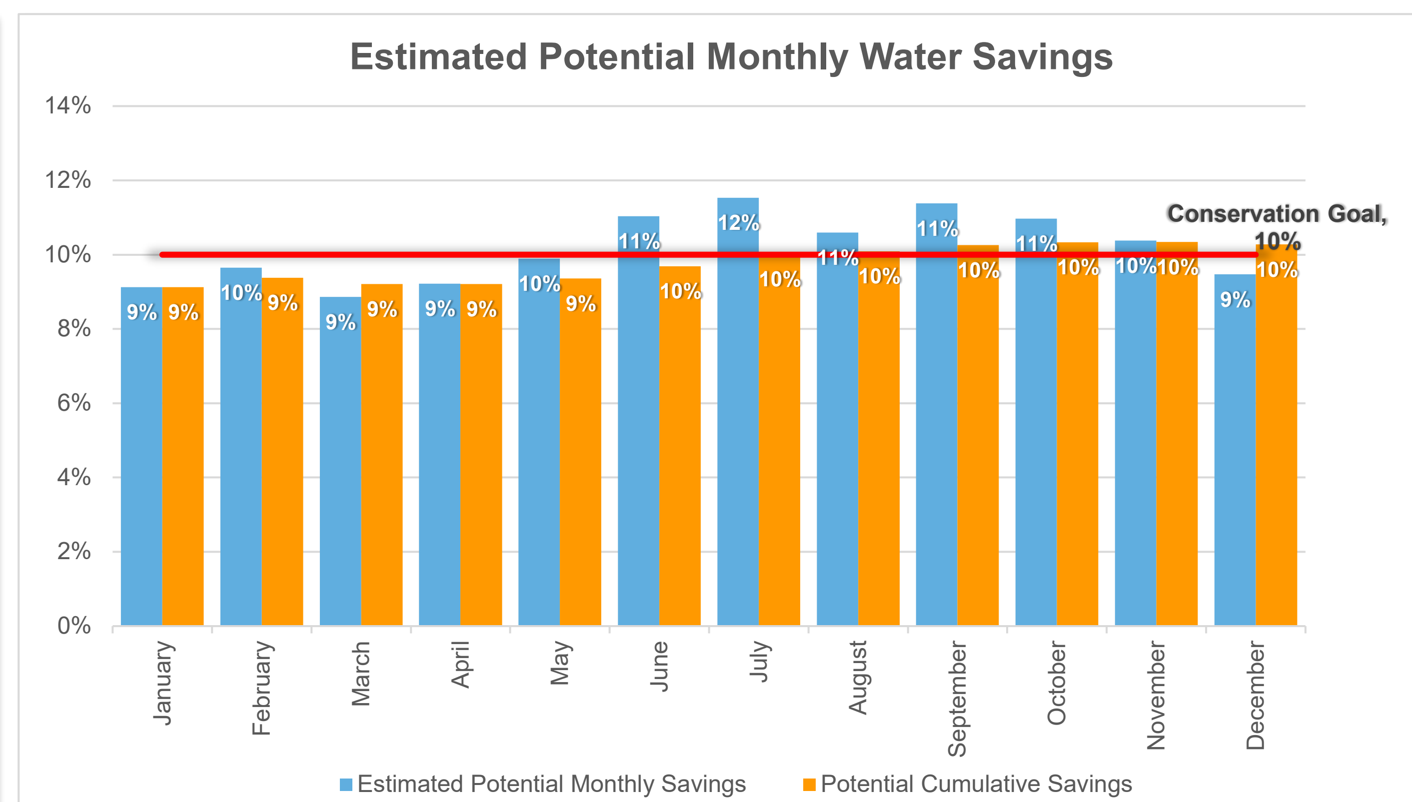
Estimated Monthly Water Use and Savings Summary

Units: (af)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2024) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	471	428	9%	9%	10%	
February	451	407	10%	9%	10%	
March	458	418	9%	9%	10%	
April	461	418	9%	9%	10%	
May	513	462	10%	9%	10%	
June	573	510	11%	10%	10%	
July	635	562	12%	10%	10%	
August	559	500	11%	10%	10%	
September	601	532	11%	10%	10%	
October	587	523	11%	10%	10%	
November	527	472	10%	10%	10%	
December	489	443	9%	10%	10%	





1 - Home

California Water Service - South San Francisco

Enter Agency Information	
Agency Name	South San Francisco
Total Population Served	63,369
Conservation Goal (%)	20%
Drought Shortage Level	Shortage Level 2
Number of Residential Accounts	14,252
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,212
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2024
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of CII Indoor Use During Minimum Month (%)	88%
Comments	

Navigation	
USER'S GUIDE	Download and read the guide before using this Tool
1 - HOME	Enter agency information
2 - INPUT BASELINE YEAR WATER USE	Enter Baseline Year production and use
3 - BASELINE YEAR WATER USE	Review and confirm entered information
4 - DROUGHT RESPONSE ACTIONS	Select Drought Response Actions and input estimated water savings and implementation rates.
5 - ESTIMATED WATER SAVINGS	Review estimated water production and compare estimated savings to conservation target.
6 - DROUGHT RESPONSE TRACKING	Track production and water savings against the conservation target.

5 - Estimated Water Savings - Shortage Level 2

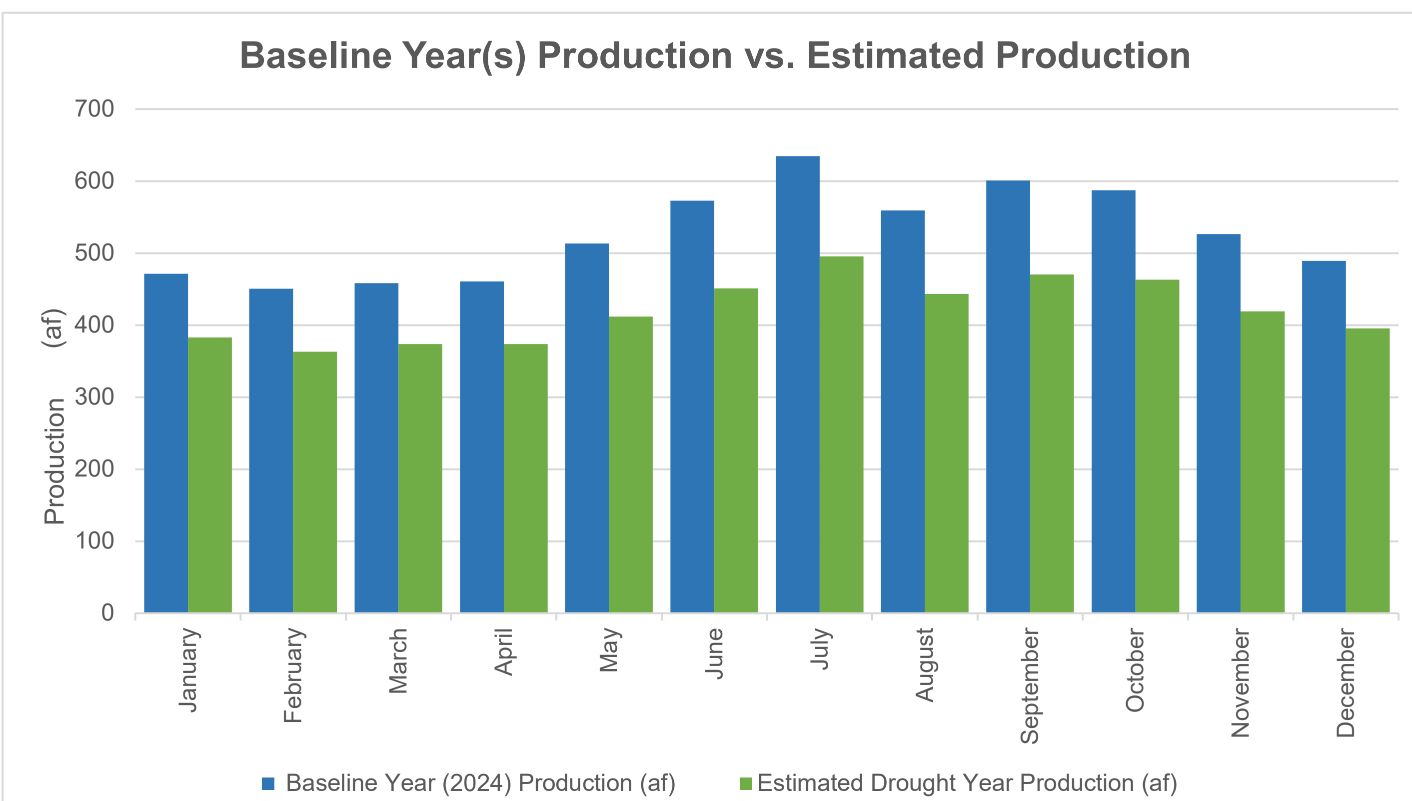
South San Francisco

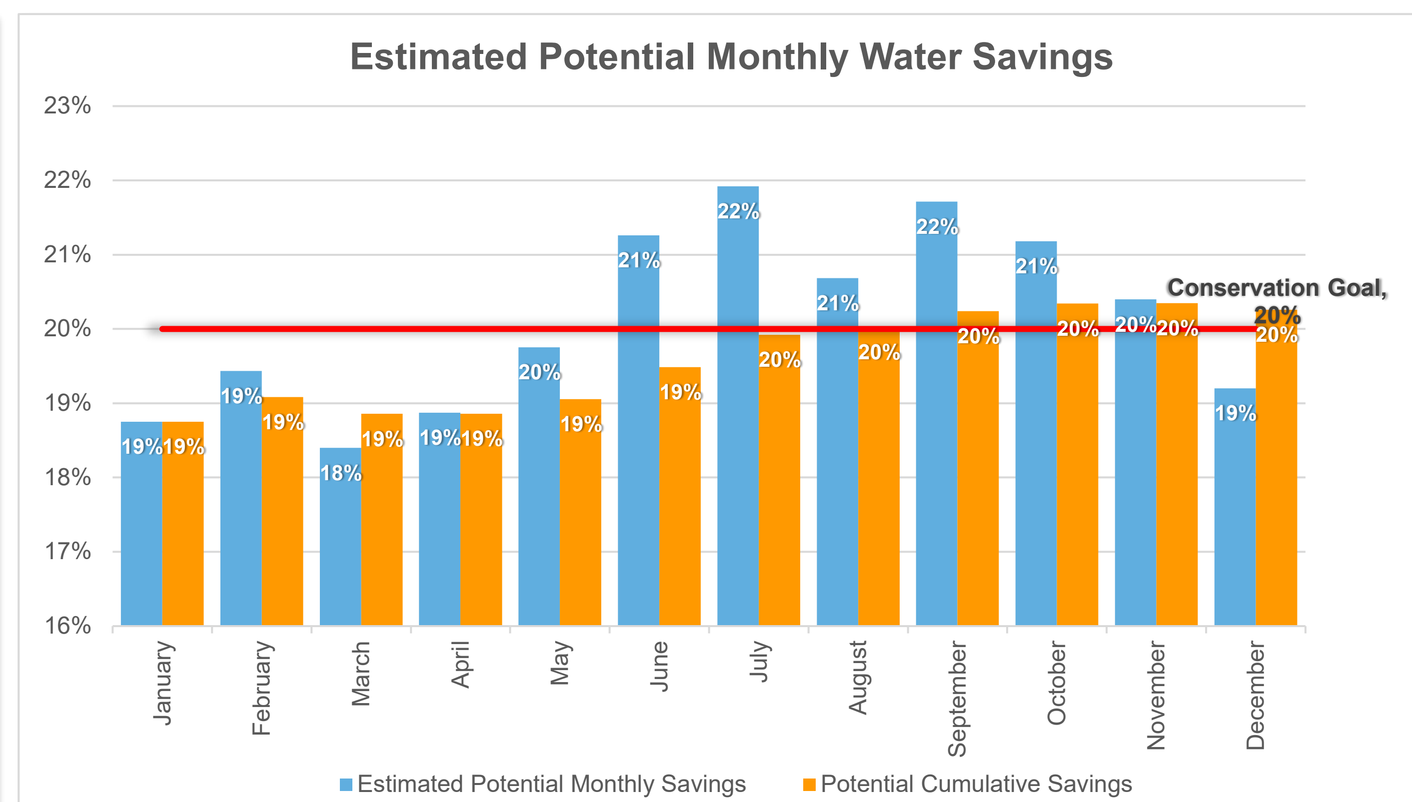
Estimated Monthly Water Use and Savings Summary

Units: (af)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2024) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	471	383	19%	19%	20%	
February	451	363	19%	19%	20%	
March	458	374	18%	19%	20%	
April	461	374	19%	19%	20%	
May	513	412	20%	19%	20%	
June	573	451	21%	19%	20%	
July	635	496	22%	20%	20%	
August	559	444	21%	20%	20%	
September	601	470	22%	20%	20%	
October	587	463	21%	20%	20%	
November	527	419	20%	20%	20%	
December	489	395	19%	20%	20%	





1 - Home

California Water Service - South San Francisco

Enter Agency Information	
Agency Name	South San Francisco
Total Population Served	63,369
Conservation Goal (%)	30%
Drought Shortage Level	Shortage Level 3
Number of Residential Accounts	14,252
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,212
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2024
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of CII Indoor Use During Minimum Month (%)	88%
Comments	

Navigation	
USER'S GUIDE	Download and read the guide before using this Tool
1 - HOME	Enter agency information
2 - INPUT BASELINE YEAR WATER USE	Enter Baseline Year production and use
3 - BASELINE YEAR WATER USE	Review and confirm entered information
4 - DROUGHT RESPONSE ACTIONS	Select Drought Response Actions and input estimated water savings and implementation rates.
5 - ESTIMATED WATER SAVINGS	Review estimated water production and compare estimated savings to conservation target.
6 - DROUGHT RESPONSE TRACKING	Track production and water savings against the conservation target.

5 - Estimated Water Savings - Shortage Level 3

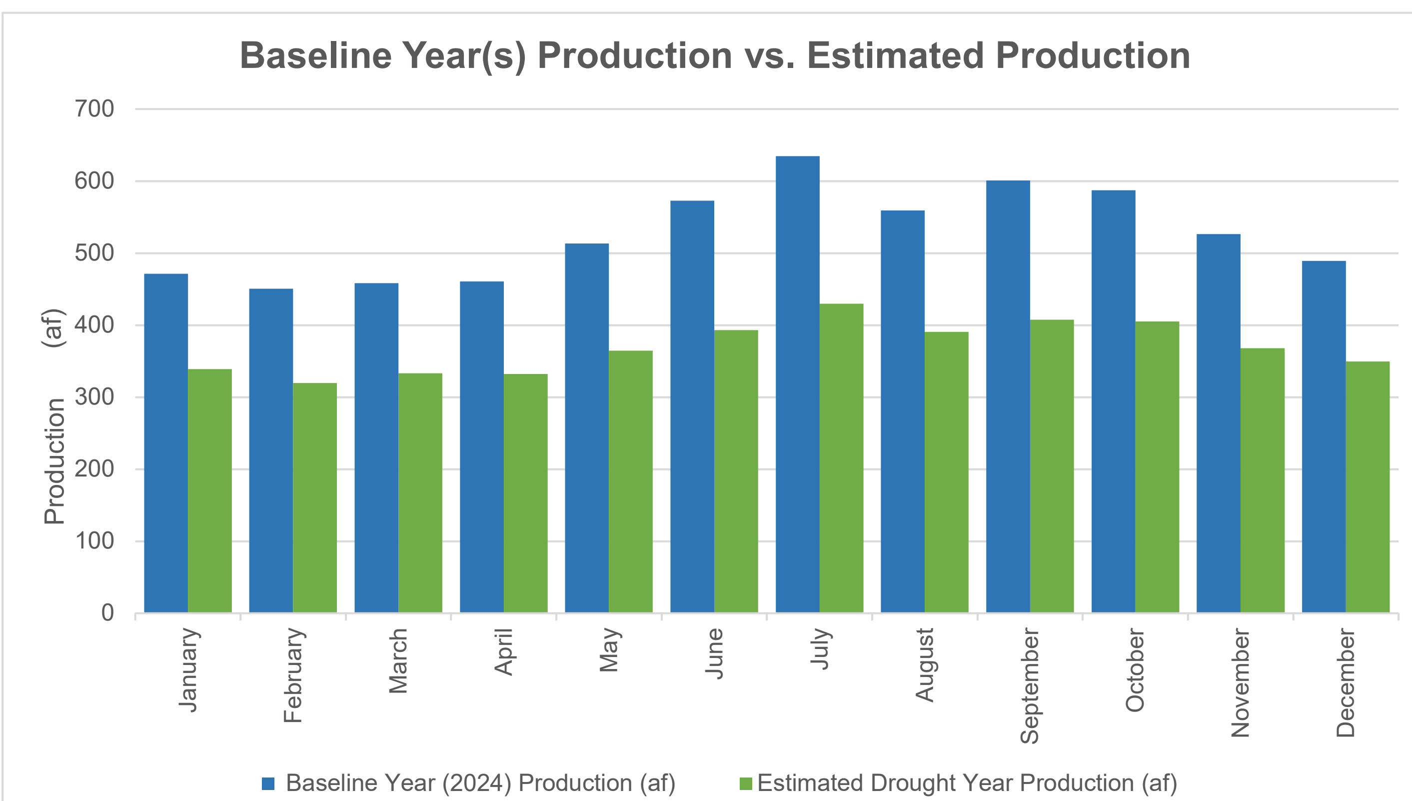
South San Francisco

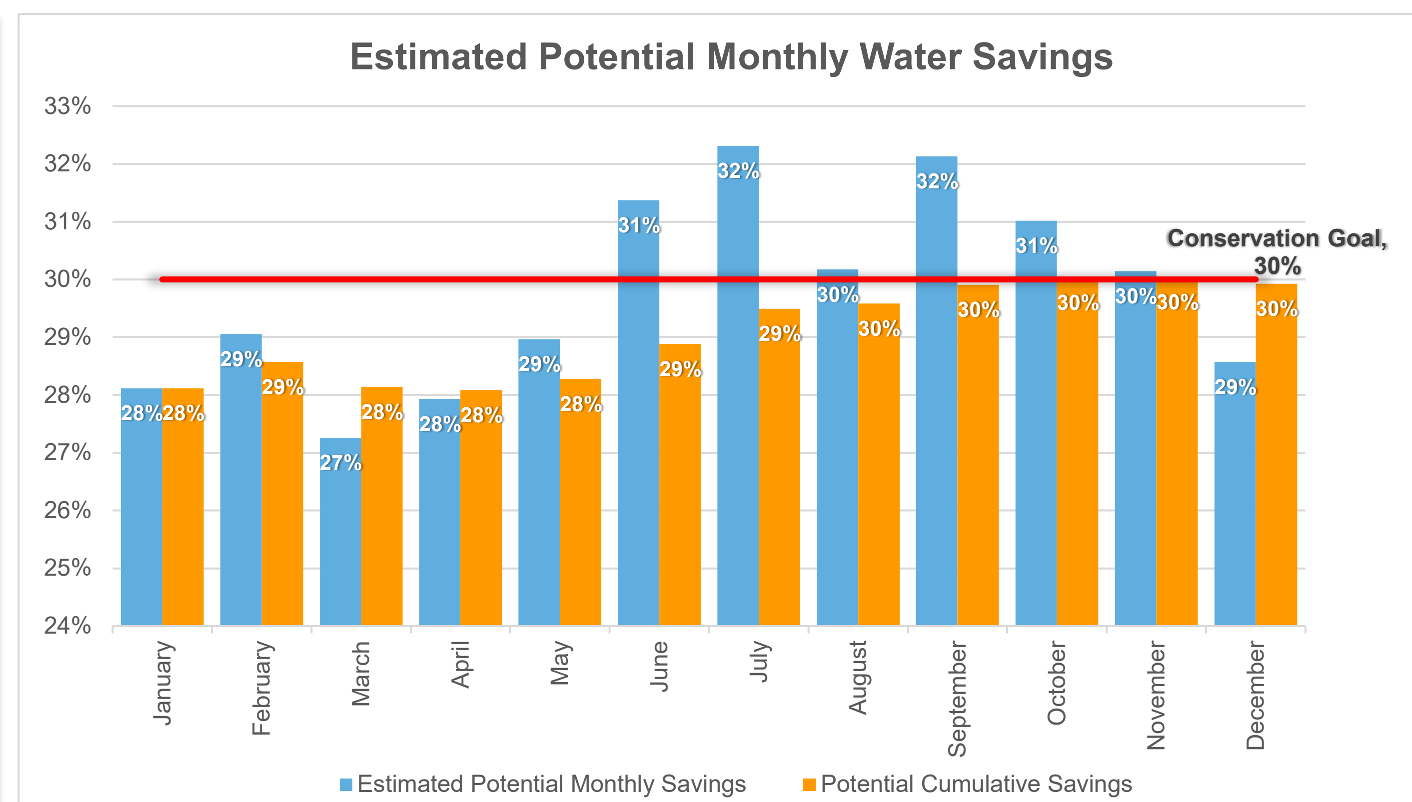
Estimated Monthly Water Use and Savings Summary

Units: (af)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2024) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	471	339	28%	28%	30%	
February	451	320	29%	29%	30%	
March	458	333	27%	28%	30%	
April	461	332	28%	28%	30%	
May	513	365	29%	28%	30%	
June	573	393	31%	29%	30%	
July	635	430	32%	29%	30%	
August	559	390	30%	30%	30%	
September	601	408	32%	30%	30%	
October	587	405	31%	30%	30%	
November	527	368	30%	30%	30%	
December	489	349	29%	30%	30%	





Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

California Water Service - South San Francisco

Enter Agency Information	
Agency Name	South San Francisco
Total Population Served	63,369
Conservation Goal (%)	40%
Drought Shortage Level	Shortage Level 4
Number of Residential Accounts	14,252
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,212
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2024
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of CII Indoor Use During Minimum Month (%)	88%
Comments	

Navigation	
USER'S GUIDE	Download and read the guide before using this Tool
1 - HOME	Enter agency information
2 - INPUT BASELINE YEAR WATER USE	Enter Baseline Year production and use
3 - BASELINE YEAR WATER USE	Review and confirm entered information
4 - DROUGHT RESPONSE ACTIONS	Select Drought Response Actions and input estimated water savings and implementation rates.
5 - ESTIMATED WATER SAVINGS	Review estimated water production and compare estimated savings to conservation target.
6 - DROUGHT RESPONSE TRACKING	Track production and water savings against the conservation target.

5 - Estimated Water Savings - Shortage Level 4

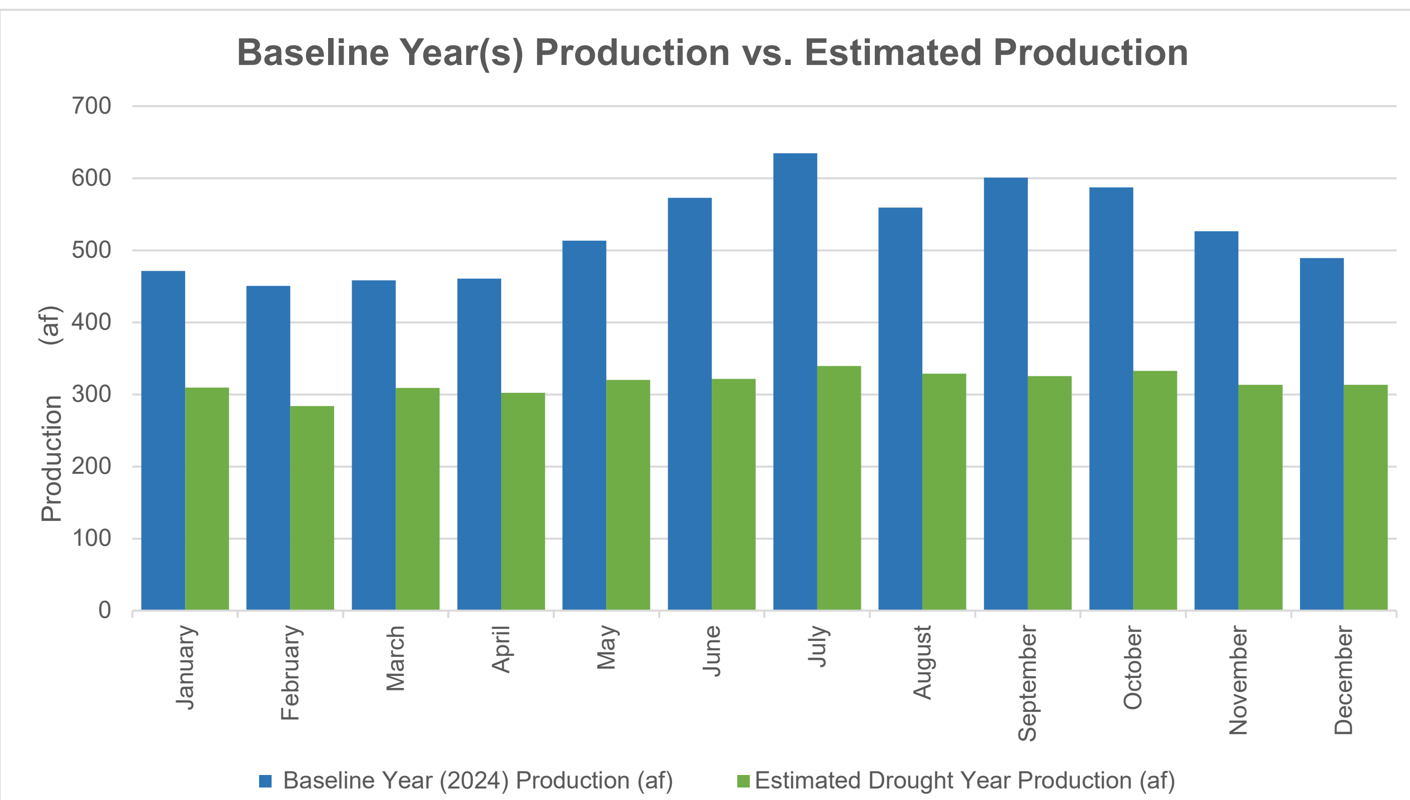
South San Francisco

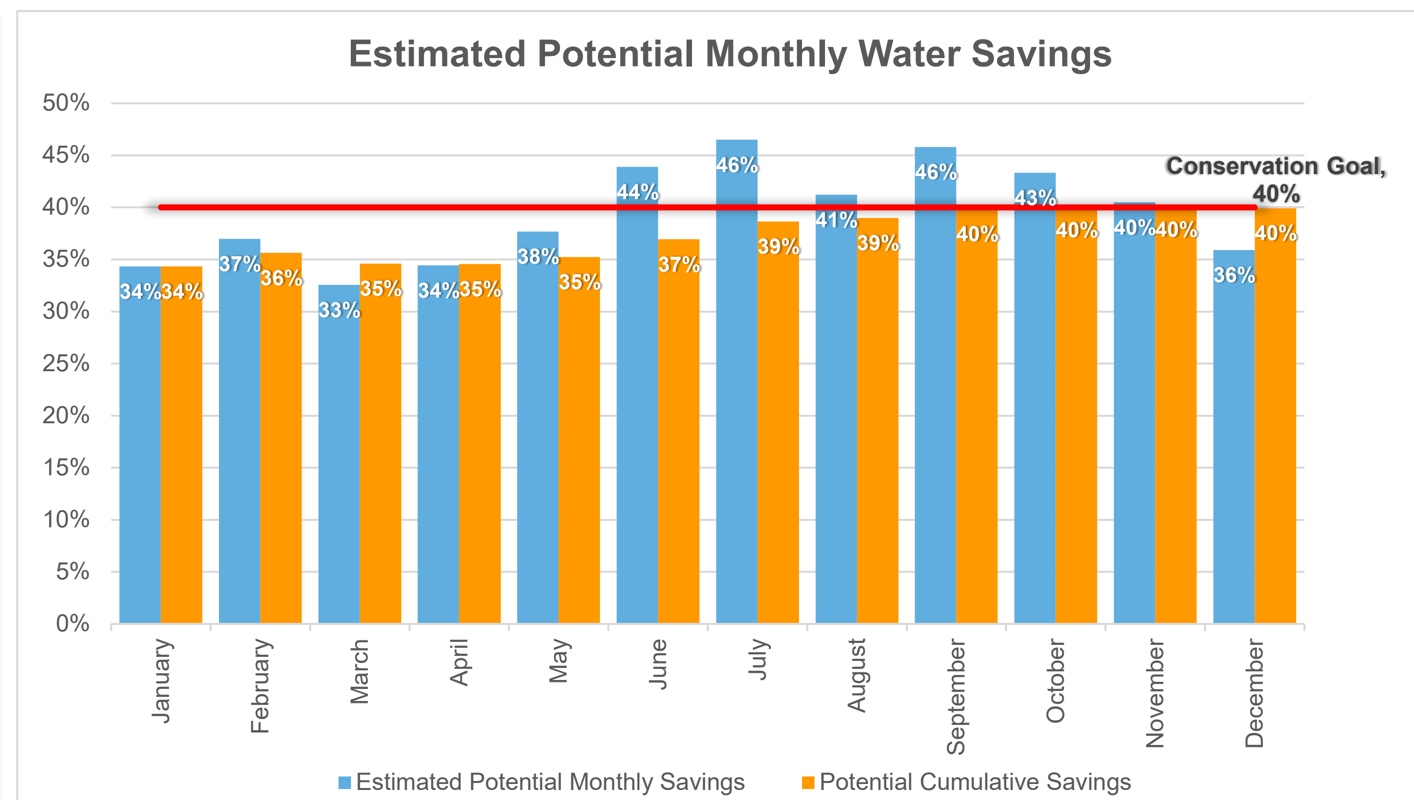
Estimated Monthly Water Use and Savings Summary

Units: (af)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2024) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	471	310	34%	34%	40%	
February	451	284	37%	36%	40%	
March	458	309	33%	35%	40%	
April	461	302	34%	35%	40%	
May	513	320	38%	35%	40%	
June	573	322	44%	37%	40%	
July	635	340	46%	39%	40%	
August	559	329	41%	39%	40%	
September	601	326	46%	40%	40%	
October	587	333	43%	40%	40%	
November	527	313	40%	40%	40%	
December	489	314	36%	40%	40%	





Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

California Water Service - South San Francisco

Enter Agency Information	
Agency Name	South San Francisco
Total Population Served	63,369
Conservation Goal (%)	50%
Drought Shortage Level	Shortage Level 5
Number of Residential Accounts	14,252
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,212
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2024
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of CII Indoor Use During Minimum Month (%)	88%
Comments	

Navigation	
USER'S GUIDE	Download and read the guide before using this Tool
1 - HOME	Enter agency information
2 - INPUT BASELINE YEAR WATER USE	Enter Baseline Year production and use
3 - BASELINE YEAR WATER USE	Review and confirm entered information
4 - DROUGHT RESPONSE ACTIONS	Select Drought Response Actions and input estimated water savings and implementation rates.
5 - ESTIMATED WATER SAVINGS	Review estimated water production and compare estimated savings to conservation target.
6 - DROUGHT RESPONSE TRACKING	Track production and water savings against the conservation target.

5 - Estimated Water Savings - Shortage Level 5

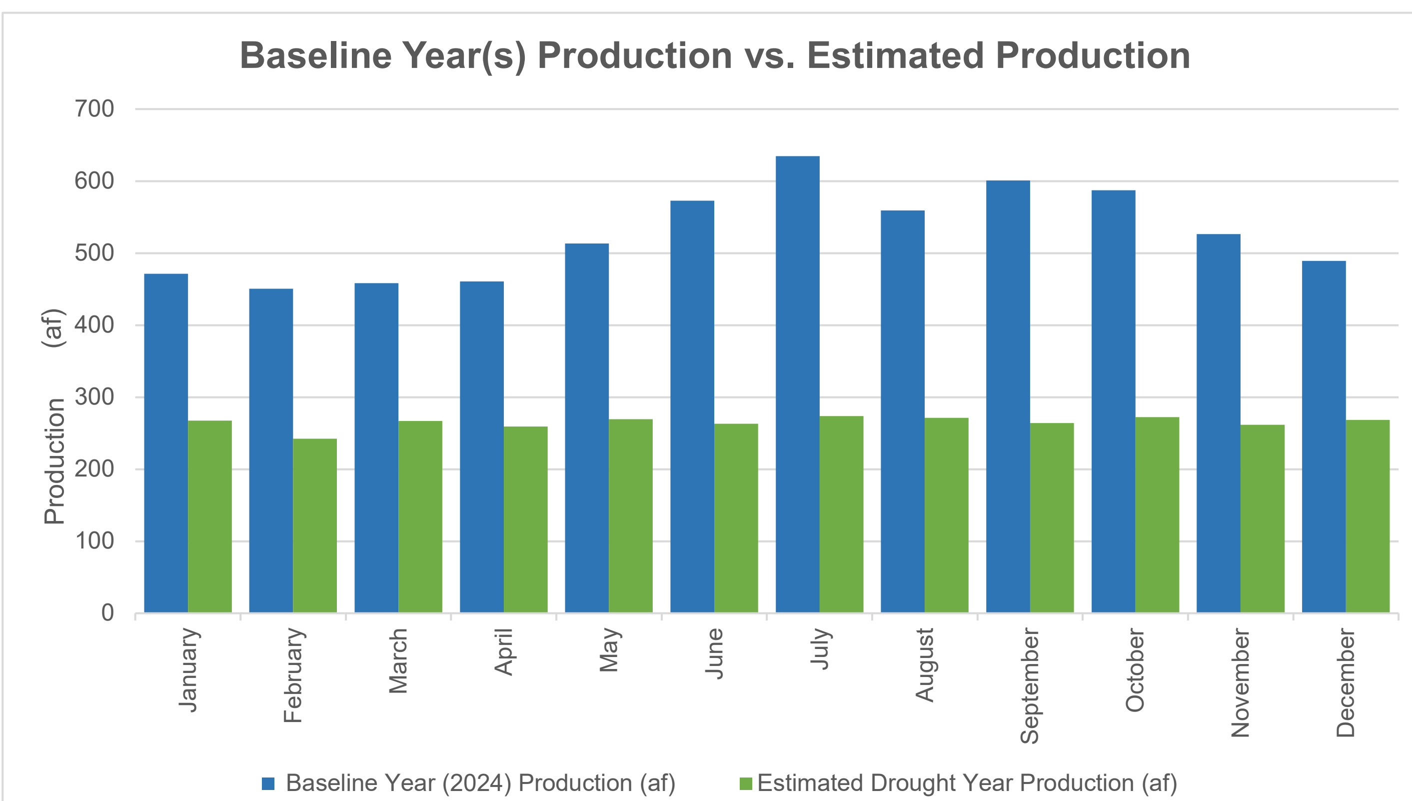
South San Francisco

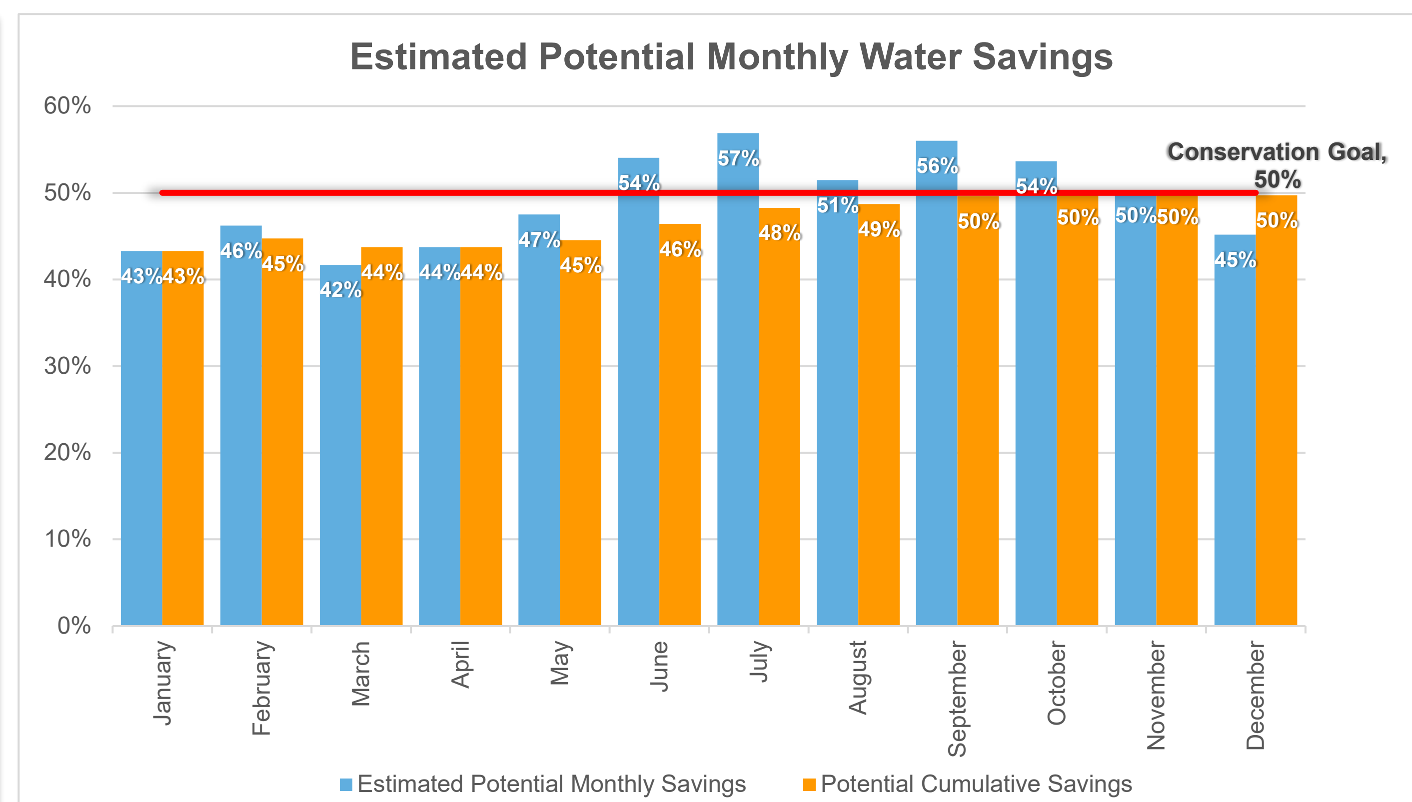
Estimated Monthly Water Use and Savings Summary

Units: (af)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2024) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	471	267	43%	43%	50%	
February	451	242	46%	45%	50%	
March	458	267	42%	44%	50%	
April	461	259	44%	44%	50%	
May	513	269	47%	45%	50%	
June	573	263	54%	46%	50%	
July	635	274	57%	48%	50%	
August	559	271	51%	49%	50%	
September	601	264	56%	50%	50%	
October	587	272	54%	50%	50%	
November	527	262	50%	50%	50%	
December	489	268	45%	50%	50%	





Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

California Water Service - South San Francisco

Enter Agency Information	
Agency Name	South San Francisco
Total Population Served	63,369
Conservation Goal (%)	60%
Drought Shortage Level	Shortage Level 6
Number of Residential Accounts	14,252
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,212
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2024
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of CII Indoor Use During Minimum Month (%)	88%
Comments	

Navigation	
USER'S GUIDE	Download and read the guide before using this Tool
1 - HOME	Enter agency information
2 - INPUT BASELINE YEAR WATER USE	Enter Baseline Year production and use
3 - BASELINE YEAR WATER USE	Review and confirm entered information
4 - DROUGHT RESPONSE ACTIONS	Select Drought Response Actions and input estimated water savings and implementation rates.
5 - ESTIMATED WATER SAVINGS	Review estimated water production and compare estimated savings to conservation target.
6 - DROUGHT RESPONSE TRACKING	Track production and water savings against the conservation target.

5 - Estimated Water Savings - Shortage Level 6

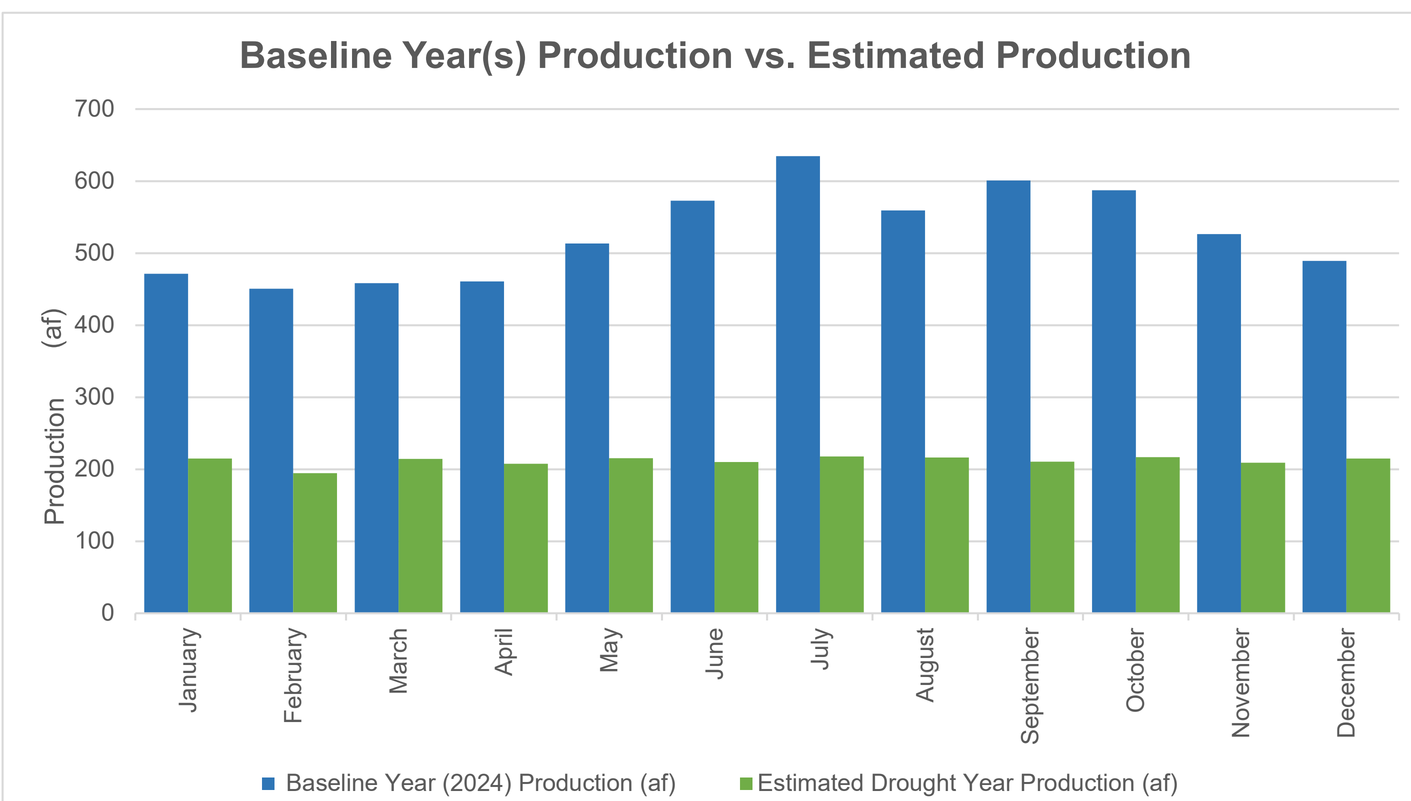
South San Francisco

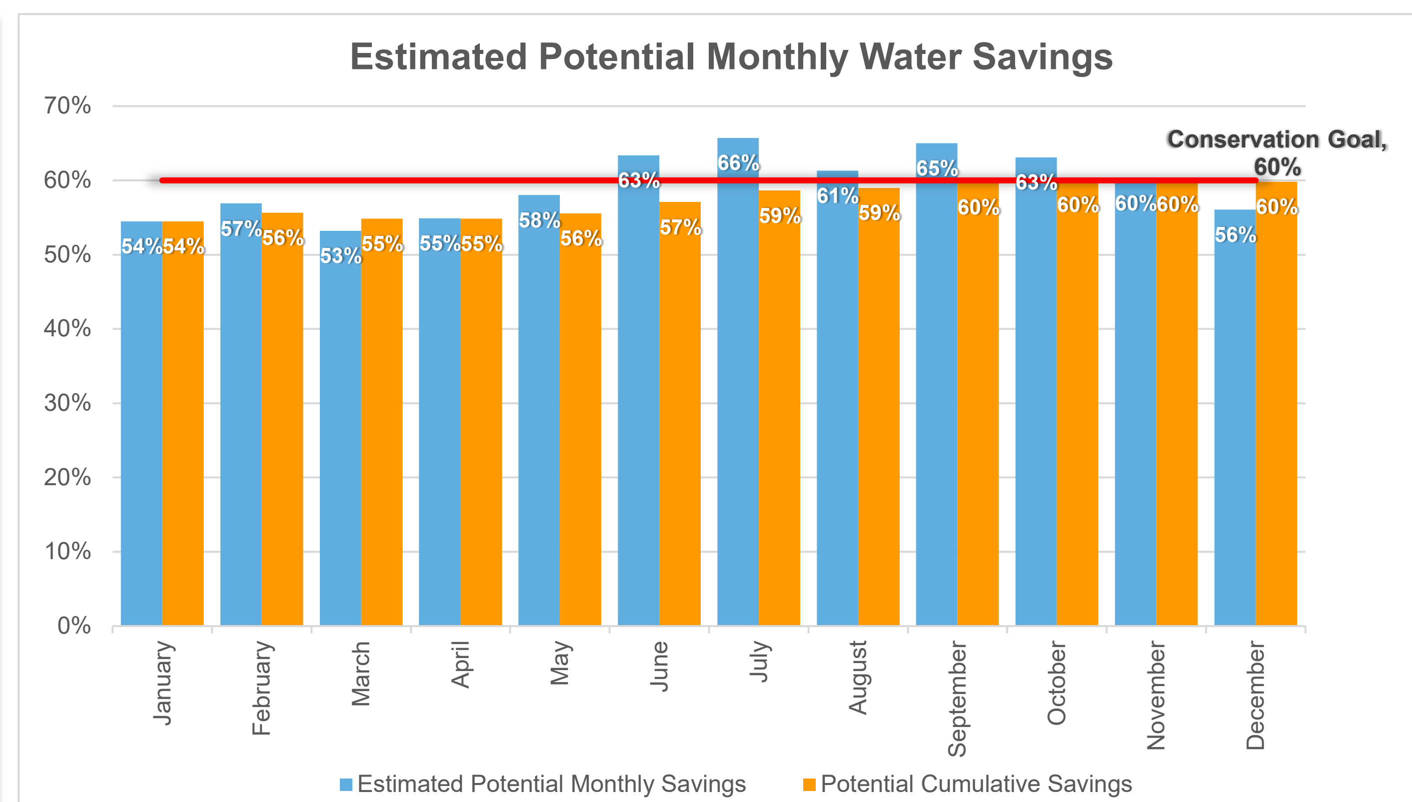
Estimated Monthly Water Use and Savings Summary

Units: (af)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2024) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	471	215	54%	54%	60%	
February	451	194	57%	56%	60%	
March	458	214	53%	55%	60%	
April	461	208	55%	55%	60%	
May	513	215	58%	56%	60%	
June	573	210	63%	57%	60%	
July	635	218	66%	59%	60%	
August	559	216	61%	59%	60%	
September	601	210	65%	60%	60%	
October	587	217	63%	60%	60%	
November	527	209	60%	60%	60%	
December	489	215	56%	60%	60%	





Attachment C

CPUC Rule and Schedule 14.1

Rule No. 14.1

NON-ESSENTIAL, WASTEFUL USES OF POTABLE WATER (C)

A) APPLICABILITY

1. This rule applies to all of California Water Service's regulated ratemaking areas in California, as well as Grand Oaks Water. (C) (L)

B) GENERAL INFORMATION

1. All expenses incurred by California Water Service to implement Rule 14.1, and Schedule 14.1, that have not been considered in a General Rate Case or other proceeding shall be accumulated by Cal Water in a separate memorandum account, authorized by the Commission, for disposition as directed or authorized from time to time by the Commission. (T) (T)

(D)

C) DEFINITIONS

For the purposes of this Rule, the following terms have the meanings set forth in this section.

1. "Commercial nursery" means the use of land, buildings or structures for the growing and/or storing of flowers, fruit, trees, ornamental trees, vegetable plants, shrubs, trees and similar vegetation for the purpose of transplanting, for use as stock or grafting, and includes the retail sale or wholesale distribution of such items directly from the premises/lot.
2. "Drip irrigation system" means a non-spray, low-pressure, and low volume irrigation system utilizing emission devices with a precipitation or flow rate measured in gallons per hour (GPH), designed to slowly apply small volumes of water at or near the root zone of plants or other landscaping.
3. "Flow rate" means the rate at which water flows through pipes, valves, and emission devices, measured in gallons per minute (GPM), gallons per hour (GPH), inches per hour (IPH), hundred cubic feet (Ccf), or cubic feet per second (CFS).
4. "Flow-restricting device" means valves, orifices, or other devices that reduce the flow of potable water through a service line, which are capable of providing the premise with a (C) minimum flow rate of 0.5 gallons per minute. (C)
5. "High-efficiency sprinkler systems" means an irrigation system with emission devices, such as sprinkler heads or nozzles, with a precipitation or flow rate no greater than on IPH.
6. "Irrigation" means the application of potable water by artificial means to landscape.

(L)

(Continued)

C) DEFINITIONS (continued) (L)

7. "Irrigation system" means the components of a system meant to apply water to an area for the purpose of irrigation, including, but not limited to, piping, fittings, sprinkler heads or nozzles, drip tubing, valves, and control wiring.
8. "Landscape" means all of the outdoor planting areas, turf areas, and water features at a particular location.
9. "Measurable rainfall" means any amount of precipitation of more than one-quarter of an inch (0.25"). (C)
10. "Micro spray irrigation system" means a low-pressure, low-volume irrigation system utilizing emission devices that spray, mist, sprinkle, or drip with a precipitation or flow rate measured in GPH, designed to slowly apply small volumes of water to a specific area.
11. "Ornamental landscape" means shrubs, bushes, flowers, ground cover, turf, lawns, and grass planted for the purpose of improving the aesthetic appearance of property, but does not include crops or other agricultural products or special landscape areas.
12. "Ornamental turf" means a ground cover surface of grass that can be mowed and is planted for the purpose of improving the aesthetic appearance of the property, but does not include crops or other agricultural products or special landscape areas.
13. "Plumbing fixture" means a receptacle or device that is connected to a water supply system, including, but not limited to, pipes, toilets, urinals, showerheads, faucets, washing machines, water heaters, tubs, and dishwashers.
14. "Potable water" means water supplied by Cal Water which conforms to the federal and state standards for human consumption.
15. "Properly programmed" means a smart irrigation controller that has been programmed according to the manufacturer's instructions and site-specific conditions.
16. "Real-time water measurement device" means a device or system that provides regularly updated electronic information regarding the customer's water use.
17. "Runoff" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape onto other areas.
18. "Smart irrigation controller" means an automatic device used to remotely control valves that operate an irrigation that has been tested by an American National Standards Institute accredited third-party certifying body or laboratory in accordance with the Environmental Protection Agency's WaterSense program (or an analogous successor program), and certified by such body or laboratory as meetings the performance and efficiency requirements of such program, or the more stringent performance and efficiency requirements of another similar program. (L)

(Continued)

Rule No. 14.1

NON-ESSENTIAL, WASTEFUL USES OF POTABLE WATER (C)

C) DEFINITIONS (continued) (L)

19. "Special landscape area" means an area of landscape dedicated solely to edible plants and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

20. "Turf" means a ground cover surface of grass that can be mowed.

21. "Water feature" means a design element where open, artificially supplied water performs an aesthetic or recreation feature, including, but not limited to, ponds, lakes, waterfalls, fountains, and streams.

22. "Water use evaluation" means an evaluation of the efficiency of indoor water-using devices, including, but not limited to, measurement of flow rates for all existing showerheads, faucets, and toilets, inspection for leaks, and providing written recommendations to improve the efficiency of the indoor water-using fixtures and devices and/or an evaluation of the performance of an irrigation system, including, but not limited to, inspection for leaks, reporting of overspray or runoff, and providing written recommendations to improve the performance of the irrigation system.

D) ENFORCEMENT

This Rule establishes certain restrictions on the use of potable water. Violating the (T)
restrictions set forth is declared a non-essential, wasteful use of potable water. Cal Water is (T)
authorized to take the following actions when its personnel verify a customer is using (C)
potable water for non-essential, wasteful uses. No person shall have any right or claim in law or in equity against Cal Water because of, or as a result of, any matter or thing done or threatened to be done pursuant to the restrictions on using potable water for non-essential, wasteful uses.

1. FIRST VIOLATION

Cal Water shall provide the customer with a written notice of violation. In addition, Cal Water is authorized to take the following actions: (N)

a) If the customer currently receives service through a metered connection, install a real-time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and on-going operating costs, may be billed to the customer, and nonpayment may result in discontinuation of service.

b) (L)(N)

(Continued)

D) ENFORCEMENT (continued) (L)

1. FIRST VIOLATION (continued)

b) If the customer does not currently receive service through a metered connection, install a water meter on the customer's service line, charge the customer for water use pursuant to Cal Water's metered service tariffs and rules, and install a real-time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and ongoing operating costs, may be billed to the customer, and nonpayment may result in discontinuance of service. (N)

2. SECOND VIOLATION

If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the first violation, Cal Water shall provide the customer with a second written notice of violation and is authorized to install a flow-restricting device on the customer's service line. Cal Water shall not be held liable for any injuries, damages, and/or consequences arising from the installation of a flow-restricting device.

3. NOTICES OF VIOLATION:

a) Unless otherwise specified, written notices of violation provided to customers pursuant to this Rule shall document the verified violation and alert the customer to the fact that future violations of the restricted uses of potable water may result in a real-time water measurement device being installed on the customer's service line at the customers expense, the installation of a flow-restricting device on the customer's service line, or the discontinuation of the customer's service. (T)

b) If Cal Water elects to install a flow-restricting device on a customer's service line, the written notice shall document the steps the customer must take in order for the flow-restricting device to be removed, and shall explain that after the flow-restricting device is removed, it may be reinstalled, without further notice, if the customer is again verified by Cal Water to be using potable water for non-essential, wasteful uses. (T)

4. FLOW RESTRICTING DEVICE CONDITIONS

The installation of a flow-restricting device on a customer's service line is subject to the following conditions: (L)

(Continued)

D) ENFORCEMENT (continued) (L)

4. FLOW RESTRICTING DEVICE CONDITIONS (continued)

a) The device shall be capable of providing the premise with a minimum flow rate of 0.5 gallons per minute. (C)

b) The device may only be removed by Cal Water, and only after a minimum three-day period has elapsed.

c) Any tampering with the device may result in the discontinuation of the customer's water service and the customer being charged for any damage to Cal Water's equipment or facilities and any required service visits.

d) After the removal of the device, if Cal Water's personnel verify that the customer is using potable water for non-essential, wasteful uses, Cal Water may install another flow-restricting device without prior notice. This device shall remain in place until water supply conditions warrant its removal. If, despite the installation of the device, Cal Water's personnel verifies that the customer is using potable water for non-essential, wasteful uses, then Cal Water may discontinue the customer's water service, as provided in its Rule No. 11. (T)

5. FLOW RESTRICTING DEVICE REMOVAL CHARGES

The charge to customers for removal of a flow-restricting device installed pursuant to this Rule is $100 during normal business hours, and $150 for the device to be removed outside of normal business hours.

E) WASTEFUL USES OF WATER

Except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency, customers are prohibited, at all times, from using potable water for the following actions, as each is declared a non-essential, wasteful use of water:

a) Outdoor Irrigation Restrictions (C)

(i) Irrigating ornamental landscape with potable water is prohibited during the hours between 8:00 a.m. and 6:00 p.m.

(ii) The foregoing irrigation restriction does not apply to:

(1) Landscape irrigation zones that exclusively use drip irrigation systems and/or micro spray irrigation systems;

(L) (C)

(Continued)

Rule No. 14.1

NON-ESSENTIAL, WASTEFUL USES OF POTABLE WATER (C)

E) WASTEFUL USES OF WATER (continued) (L)

a) Outdoor Irrigation Restrictions (continued)

(ii) The foregoing irrigation restriction does not apply to: (continued)

. . .

(2) Irrigating ornamental landscapes with the use of a hand-held bucket or similar container, with a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not it use or monitored, or for the express purpose of adjusting or repairing an irrigation system. (C)

b) Obligation to Fix Leaks, Breaks, or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixtures and/or irrigation system must be repaired within five (5) business days of written notification by Cal Water, unless other arrangements are made with Cal Water.

c) Prohibited Uses of Water: Customers are prohibited from using potable water for the following actions:

(i) The application of potable water to 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;

(ii) The use of a hose that dispenses potable water to wash vehicles, including cars, trucks, buses, boats, aircraft, and trailers, whether motorized or not, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;

(iii) The application of potable water to driveways and sidewalks;

(iv) The use of potable water in a water feature, except where the water is part of a recirculating system;

(v) The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall (see Definitions);

(vi) Irrigation outside of newly constructed homes and buildings with potable water in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission, the Department of Housing and Community Development, or other state agency.

(vii) The serving or drinking water other than upon request in eating and drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased; (L) (C)

(Continued)

E) WASTEFUL USES OF WATER (continued) (L)

d) Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language. (C)

e) Other duly adopted restrictions on the use of potable water as prescribed from time to time by the Commission or other authorized government agencies are incorporated herein by reference. (C)

(D)

F) ADOPTION OF SCHEDULE NO. 14.1 - STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (T)
(T)

1. Addition of Schedule No. 14.1

If, in the opinion of Cal Water, more stringent water conservation measures are required due to supply conditions or government directive, Cal Water may request the addition of Schedule No. 14.1 – Staged Mandatory Reductions and Drought Surcharges, via a Tier 2 advice letter. (T)

a) Cal Water may not activate Schedule No. 14.1 until it has been authorized to do so by the California Public Utilities Commission, as delegated to its Division of Water and Audits.

b) A Schedule No. 14.1 that has been authorized by the California Public Utilities Commission shall remain dormant until triggered by specific conditions detailed in the Schedule No. 14.1 tariff and Cal Water has requested and received authorization for activating a stage by the California Public Utilities Commission.

c) Notice of the Tier 2 advice letter and associated public participation hearing, if required, shall be provided to customers through a bill insert or a direct mailing, as set forth in Subsection 5 (Public Notice) below.

d) Cal Water shall comply with all requirements of Sections 350-358 of the California Water Code.

e) The Tier 2 advice letter requesting the addition of a Schedule No. 14.1 shall include, but not be limited to:

(i) A proposed Schedule No. 14.1 tariff, which shall include but not be limited to:

(1) Applicability;

(2) Territory applicable to; (L)

F) ADOPTION OF SCHEDULE NO. 14.1 - STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued) (L)

1. Addition of Schedule No. 14.1 (continued)

e) The Tier 2 advice letter requesting the addition of a Schedule No. 14.1 shall include, but not be limited to: (continued)

(i) A proposed Schedule No. 14.1 tariff, which shall include but not be limited to: (continued)

. . .

(3) A detailed description of each stage (the number of stages requested for a ratemaking area may vary depending on the specifics of the water shortage event); (T)

(4) A detailed description of the trigger(s) that activates each stage; (T)

(5) A detailed description of each water use restriction for each stage of water budgets;

(6) Water use violation levels, written warning levels, associated penalties, if applicable, and exception procedures; (T)

(7) Conditions for the installation of a flow-restricting device; (T)

(8) Charges for the removal of a flow-restricting device; and (T)

(9) Special conditions.

(ii) Justification for, and documentation and calculations in support of the water budgets.

2. Conditions for Activating Schedule No. 14.1

Cal Water may file a Tier 1 advice letter to request activation of a particular stage of Schedule No. 14.1 tariff if:

a) Cal Water, the California Public Utilities Commission, wholesale water supplier, or other government agency declares an emergency requiring mandatory water budgets, mandatory water rationing, or mandatory water allocations; or

b) A government agency declares a state of emergency in response to severe drought conditions, earthquake or other catastrophic event that severely reduces Cal Water's water supply; or

c) Water supplies are projected to be insufficient to meet normal customer demand by Cal Water; or (C)

d) A water supply shortage or threatened shortage exists; or

e) Cal Water is unable to achieve water conservation targets set by itself or a governing agency; or (L)(C)

(Continued)

F) ADOPTION OF SCHEDULE NO. 14.1 - STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued) (L)

2. Conditions for Activating Schedule No. 14.1 (continued)

. . .

f) Water conservation targets set by itself or a governing agency are insufficient; or (C)

g) Cal Water chooses to subsequently activate a different stage of the Schedule No. 14.1 tariff.

3. Activating Schedule No. 14.1

The Tier 1 advice letter requesting activation of a stage of the Schedule No. 14.1 tariff shall:

a) Include, but not be limited to, a justification for activating the particular stage of Staged Mandatory Reductions and Drought Surcharges, as well as the period during which the particular stage will be in effect. (C)

b) Be accompanied by the customer notification measures detailed in sub-section 5 (Public Notice) below.

4. De-Activating Schedule No. 14.1

When Schedule No. 14.1 is activated and Cal Water determines that water supplies are again sufficient to meet normal demands, and mandatory water use reductions are no longer necessary, Cal Water shall seek the approval of the California Public Utilities Commission, via a Tier 1 advice letter, to de-activate the particular stage of mandatory water use reductions that had been authorized.

5. Public Notice

a) When Cal Water requests the addition of Schedule No. 14.1 via a Tier 2 advice (T)
letter, it shall provide notice of the Tier 2 advice letter and associated public hearing (T)
to customers through bill inserts or direct mailing, and it shall comply with all (T)
requirements of Sections 350-358 of the California Water Code (CWC), including but not limited to the following:

(i) In order to be in compliance with both General Order 96-B and CWC, notice shall be provided via both newspaper and bill insert or direct mailing; (T)

(ii) One notice shall be provided for each advice letter filed that includes both notice of the filing of the Tier 2 advice letter as well as the details of the public hearing (date, time, place, etc.); (L)

(Continued)

F) ADOPTION OF SCHEDULE NO. 14.1 - STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued) (L)

5. Public Notice (continued)

a) When Cal Water requests the addition of Schedule No. 14.1 via a Tier 2 advice letter, it shall provide notice of the Tier 2 advice letter and associated public hearing to customers through bill inserts or direct mailing, and it shall comply with all requirements of Sections 350-358 of the California Water Code (CWC), including but not limited to the following: (continued)

. . .

(iii) The public meeting shall be held after the Tier 2 advice letter is filed, and before the Commission authorizes the addition of Schedule No. 14.1 to the tariff, except in cases of emergency water shortages approved by the Commission; (C)

(iv) Cal Water shall consult with Division of Water and Audits staff prior to filing advice letter, in order to determine details of the public meeting.

b) In the event that Schedule No. 14.1 is triggered, and Cal Water requests activation through the filing of a Tier 1 advice letter, Cal Water shall notify its customers and provide each customer with a summary of Schedule No. 14.1 by means of bill insert or direct mailing. Notification shall take place prior to imposing any penalties associated with this plan. If activation of Schedule No. 14.1 occurs one year or more since the public hearing associated with adding Schedule No. 14.1 to its tariffs, then Cal Water shall conduct a public hearing pursuant to California Water Code Section 351 prior to activating a stage of the tariff. (T) (T)

c) During the period that a stage of Schedule No. 14.1 is activated, Cal Water shall provide customers with updates in at least every other bill regarding its water supply status and the results of customers' conservation efforts. (L)

Appendix K: Conservation Master Plan

CONSERVATION MASTER PLAN 2026 – 2030

April 2026

South San Francisco District

California Water Service

Prepared by M.Cubed

Executive Summary

This Conservation Master Plan presents California Water Service's (Cal Water's) strategy for managing water demand in the South San Francisco District over the 2026–2030 planning period. The plan describes historical conservation performance, emerging regulatory and resource drivers, the District's conservation program framework, and the funding needed to support expanded conservation efforts.

Historical Progress

The South San Francisco District has achieved substantial and sustained reductions in water use over the past two decades. Per capita water use has declined significantly, enabling the District to comply with the Water Conservation Act of 2009 (SB X7-7) and consistently exceed the California Public Utilities Commission (CPUC) conservation goals for Class A water utilities. These reductions reflect the combined effects of universal metering, conservation-oriented pricing, customer conservation programs, and state and federal plumbing and appliance efficiency standards.

Need for Expanded Conservation

Looking ahead, the primary regulatory driver is the State's Making Conservation a California Way of Life (MCCWL) framework, which establishes increasingly stringent efficiency standards and reporting requirements beginning in 2027 and extending through 2035 and beyond. Under currently authorized programs and anticipated passive efficiency gains, the District is projected to remain below its Urban Water Use Objective (UWUO) and in compliance with the State's distribution system water loss performance standard throughout the planning horizon. Maintaining that position, however, will require continued program implementation, careful performance tracking, and periodic refinement of conservation strategies as standards evolve.

At the same time, the District relies heavily on imported supplies delivered through the San Francisco Public Utilities Commission's Regional Water System, including the Hetch Hetchy system. While SFPUC has invested significantly in system upgrades and seismic improvements, imported supplies remain subject to hydrologic variability, environmental and regulatory constraints, and infrastructure-related risks associated with a long conveyance system extending from the Sierra Nevada to the Bay Area. These factors introduce supply and cost uncertainty that reinforce the value of sustained demand management.

Conservation Program Strategy

Cal Water's conservation strategy integrates multiple demand-management tools within a centrally administered program framework designed to maximize consistency, cost-effectiveness, and regulatory compliance. Key elements include:

- Residential and non-residential conservation programs

- Increased emphasis on outdoor landscape efficiency and high-water-use customers
- Universal metering and conservation-oriented rate design
- Proactive water loss management
- Water waste prevention under CPUC Rule 14.1
- Ongoing program tracking, empirical savings evaluations, and regulatory reporting

Together, these components position conservation as a long-term resource strategy that supports compliance with state efficiency standards, water supply sustainability objectives, and cost-effective service delivery.

Budget and Implementation

Cal Water is proposing an increase of approximately 34 percent in the South San Francisco District's conservation budget in the 2024 General Rate Case. The requested budget reflects both an expansion and a reprioritization of resources, with a larger share directed toward direct customer program implementation. Although the District is projected to remain below its Urban Water Use Objective under baseline conditions, the expanded funding strengthens demand management, enhances reliability of supplies delivered through the SFPUC Regional Water System, and reduces exposure to imported water cost volatility.

Conclusion

Conservation is a core resource management function rather than a supplementary program. Continued investment in conservation will help the South San Francisco District meet evolving state requirements, support water supply reliability, and manage the cost of service for customers. This plan establishes the framework for achieving these objectives during the 2026–2030 period and provides the foundation for future program adjustments as regulatory requirements and water use conditions continue to evolve.

Table of Contents

List of Acronyms

AB	Assembly Bill
AF	Acre-feet (one AF equals 325,851 gallons)
AMI	Advanced metering infrastructure
AMR	Automatic meter reading
AWE	Alliance for Water Efficiency
BCR	Benefit Cost Ratio
BMP	Best Management Practice
CalWEP	California Water Efficiency Partnership
CII	Commercial, industrial, and institutional
CPUC	California Public Utilities Commission
CUWCC	California Urban Water Conservation Council
EO	Executive Order
GPCD	Gallons per capita per day
GPF	Gallons per flush
GPM	Gallons per minute
GRC	General Rate Case
HET	High efficiency toilet
HEU	High efficiency urinal
HEW	High efficiency clothes washer
IOU	Investor-owned utility
MaP	Maximum performance toilet testing program
MCCWL	Making Conservation a California Way of Life
MGD	Million gallons per day
MOU	Memorandum of Understanding Regarding Urban Water Conservation in California
SB	Senate Bill
SB X7-7	Senate Bill X7-7 Water Conservation Act of 2009
ULFT	Ultra low flow toilet
UWMP	Urban Water Management Plan
WF	Water Factor
WSCP	Water Shortage Contingency Plan

1 Introduction

1.1 Master Plan Scope and Objectives

Cal Water is committed to helping its customers use water efficiently and has developed a broad portfolio of water conservation programs to support this objective. To ensure that these programs represent an appropriate and cost-effective mix, Cal Water routinely conducts comprehensive conservation program analysis and planning. This planning is undertaken on a five-year cycle in coordination with the Urban Water Management Plan (UWMP). The results of this planning effort for the South San Francisco District are summarized in this report, which covers the period from 2026 through 2030.

New State regulations, rising water supply costs, and increasing competition for limited water supplies are driving the need for expanded conservation programs. Although Cal Water and its customers have made substantial progress in improving water-use efficiency and managing demand over the past two decades, additional conservation will be required going forward.

The recently adopted *Making Conservation a California Way of Life* (MCCWL) regulations establish a new set of conservation requirements and performance targets for urban water suppliers. At the same time, rising water supply costs in many parts of the State are making conservation an increasingly cost-effective means of narrowing the gap between water supply and demand.

Together, these regulatory and economic factors underscore the need to expand conservation programming in the South San Francisco District.

The primary purposes of this Conservation Master Plan are to:

- Serve as a high-level guidance document to inform annual conservation activities, including program implementation levels, staffing requirements, and budget needs, for both internal planning and stakeholder coordination.
- Summarize the portfolio of conservation measures that Cal Water plans to implement, including estimated water savings, program costs, and anticipated effects on water demand.
- Describe the evaluation process and criteria used to assess and select conservation measures.

- Provide an update to the 2016–2020 Conservation Master Plan as part of Cal Water's five-year review cycle, including an assessment of program performance and identification of any needed adjustments.

- Ensure that Cal Water districts are positioned to comply with the State's *Making Conservation a California Way of Life* (MCCWL) regulations.

1.2 Relationship to GRC and UWMP

Cal Water's operations are regulated by the California Public Utilities Commission (CPUC), which approves district-level budgets and rates through a triennial General Rate Case (GRC) proceeding. Conservation programs and associated expenditures are reviewed and authorized as part of each GRC.

The most recent completed GRC was initiated in 2021 and covered the three-year period from 2023 through 2025 (the 2021 GRC). Conservation programs and budgets reflected in this plan are those authorized under the 2021 GRC.

A subsequent GRC covering the period from 2026 through 2028 was initiated in 2024 (the 2024 GRC). In that proceeding, Cal Water has requested authorization for increased conservation program expenditures in the South San Francisco District to support compliance with state conservation regulations and supply reliability and cost issues. At the time this plan was prepared, a final decision in the 2024 GRC had not yet been issued. As a result, it remains uncertain whether the requested level of conservation program funding needed to support compliance with state conservation requirements will be approved.

This plan updates the Conservation Master Plan completed by Cal Water in 2021, which covered the 2021–2025 planning period. It serves as the primary source of information on the historical and planned implementation of conservation programs reported in the South San Francisco District's 2025 Urban Water Management Plan (UWMP). A copy of this Conservation Master Plan is included as an appendix to the UWMP.

1.3 Relationship to Water Shortage Contingency Plan

The Water Conservation Master Plan is distinct from Cal Water's Water Shortage Contingency Plan (WSCP), which is also included as part of each district's UWMP. The primary purpose of the WSCP is to provide a framework for responding to water shortage emergencies, such as those caused by drought or other events that temporarily disrupt water supplies.

In contrast, the purpose of the Water Conservation Master Plan is to establish a long-term framework for education, assistance, and incentive programs designed to help customers use water efficiently on an ongoing basis. Regardless of drought conditions, water in California is an increasingly scarce resource, and investments in water use efficiency have consistently been shown to be a cost-effective means of ensuring reliable water supplies over the long term.

While conservation programs become especially important during periods of water shortage, their primary objective is to support Cal Water's ability to reliably meet customer water needs well into the future.

1.4 Plan Organization

This Conservation Master Plan is organized to describe the context for conservation in the South San Francisco District, assess regulatory and resource drivers, outline the District's conservation strategy, and present the funding and implementation framework for the 2026–2030 planning period.

- **Section 2** describes the South San Francisco District service area, including population, customer characteristics, and historical water use trends.
- **Section 3** explains the need for expanded conservation, including new state efficiency requirements, supply reliability considerations, and the role of conservation in managing long-term cost of service.
- **Section 4** summarizes the District's performance relative to past and emerging conservation goals and regulatory targets, including SB X7-7, CPUC conservation goals, and Urban Water Use Objective (UWUO) requirements.
- **Section 5** presents the District's water conservation program strategy, including program administration, water waste prevention, metering and conservation pricing, water loss management, customer conservation programs, staffing, and program monitoring and reporting.
- **Section 6** describes the current and requested conservation budget, including budget components, proposed adjustments, and comparisons of authorized and requested funding levels.
- **Section 7** provides conclusions regarding the District's conservation progress, future needs, and the role of conservation as a long-term resource management strategy.

Together, these sections provide a comprehensive framework for understanding how conservation supports regulatory compliance, water supply reliability, and cost-effective water service in the South San Francisco District.

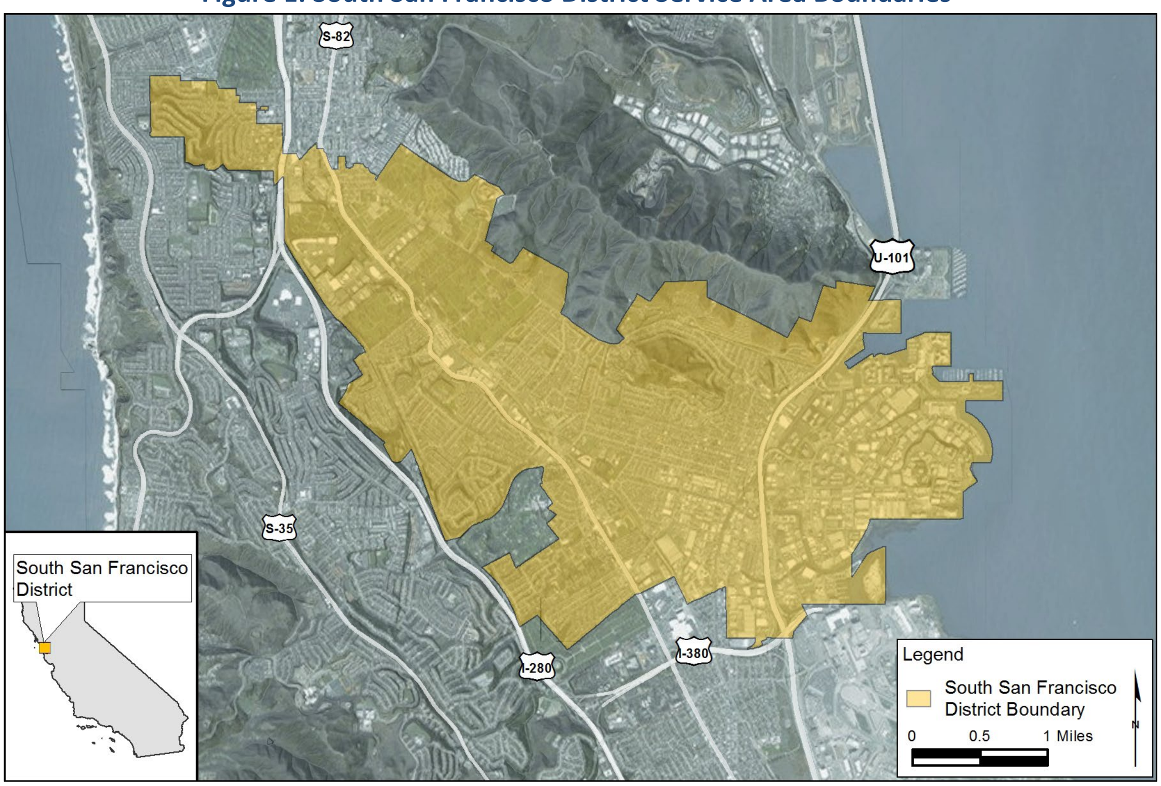
2 District Overview

District Quick Facts:

- Communities Served: South San Francisco, Colma, a small portion of Daly City, and Broadmoor
- Population served in 2025: 62,609
- Residential Customers: 87% of total services and 44% of total use
- Sources of Supply: imported surface water and local groundwater
- Average Annual Water Deliveries Last Five Years: 6,400 AF
- Average Per Capita Water Use Last Five Years: 91 GPCD

The South San Francisco District serves the communities of South San Francisco, Colma, a small portion of Daly City, and an unincorporated area of San Mateo County known as Broadmoor, which lies between Colma and Daly City. The District operates five groundwater wells, 21 booster pumps, 12 storage tanks, and 144 miles of pipeline. On average, the District delivers 5.7 million gallons of water per day to 16,500 service connections. A map of the service area boundaries is shown in Figure 1.

Figure 1. South San Francisco District Service Area Boundaries



Service area population has grown at an average annual rate of approximately 0.4 percent over the past decade, increasing from 60,118 in 2015 to 62,609 in 2025. The District provides water service to residential, commercial, industrial, and governmental customers. Residential customers account for approximately 87 percent of service connections and 44 percent of total water use within the District. The distribution of service connections and water sales by customer category is shown in Figures 2 and 3.

On a per capita basis, water use in the District has been steadily declining since the early 2000s. Between 2000 and 2025, water use per person decreased by 43 percent (Figure 4), falling from 155 gallons per capita per day (GPCD) to 88 GPCD. Despite service area population increasing 12 percent during this period, total demand decreased by 36 percent—from 9,738 AF in 2000 to 6,189 AF today.

Several factors have contributed to this long-term reduction in use. Tiered residential pricing was adopted in 2009, strengthening incentives for efficient household water use. Additionally, beginning in 2012, Cal Water tripled conservation program expenditures, expanding customer access to tools and resources that support water-use efficiency. Lastly, state and federal efficiency standards have significantly reduced water use from toilets, showers, clothes washers, and other plumbing fixtures.

Collectively, these actions have resulted in a sustained reduction in water use across the service area.

Figure 2. Share of Services in 2025 by Customer Category

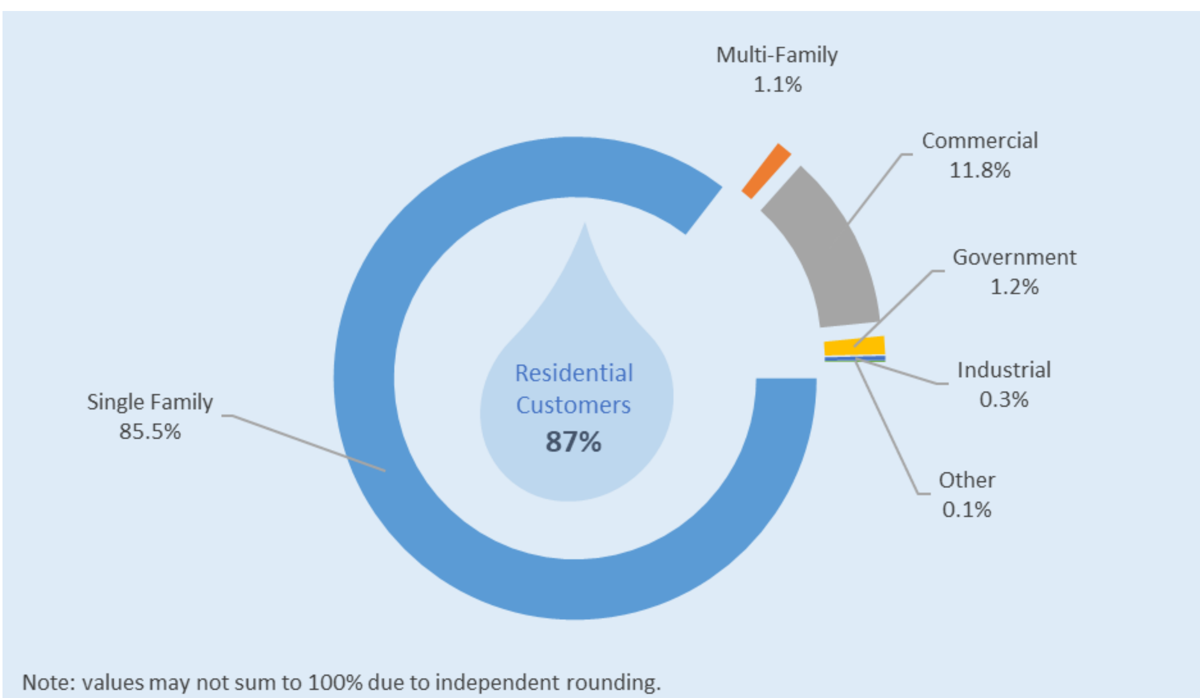
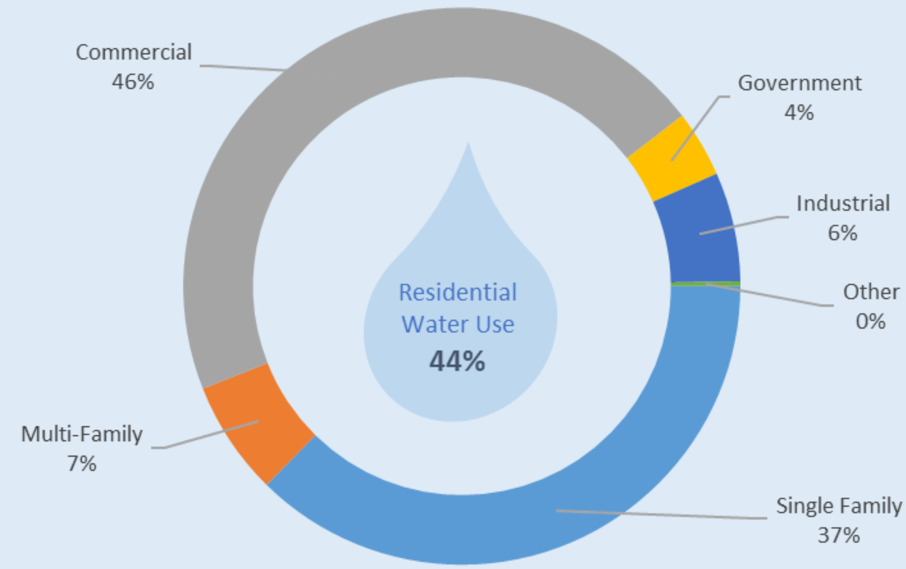
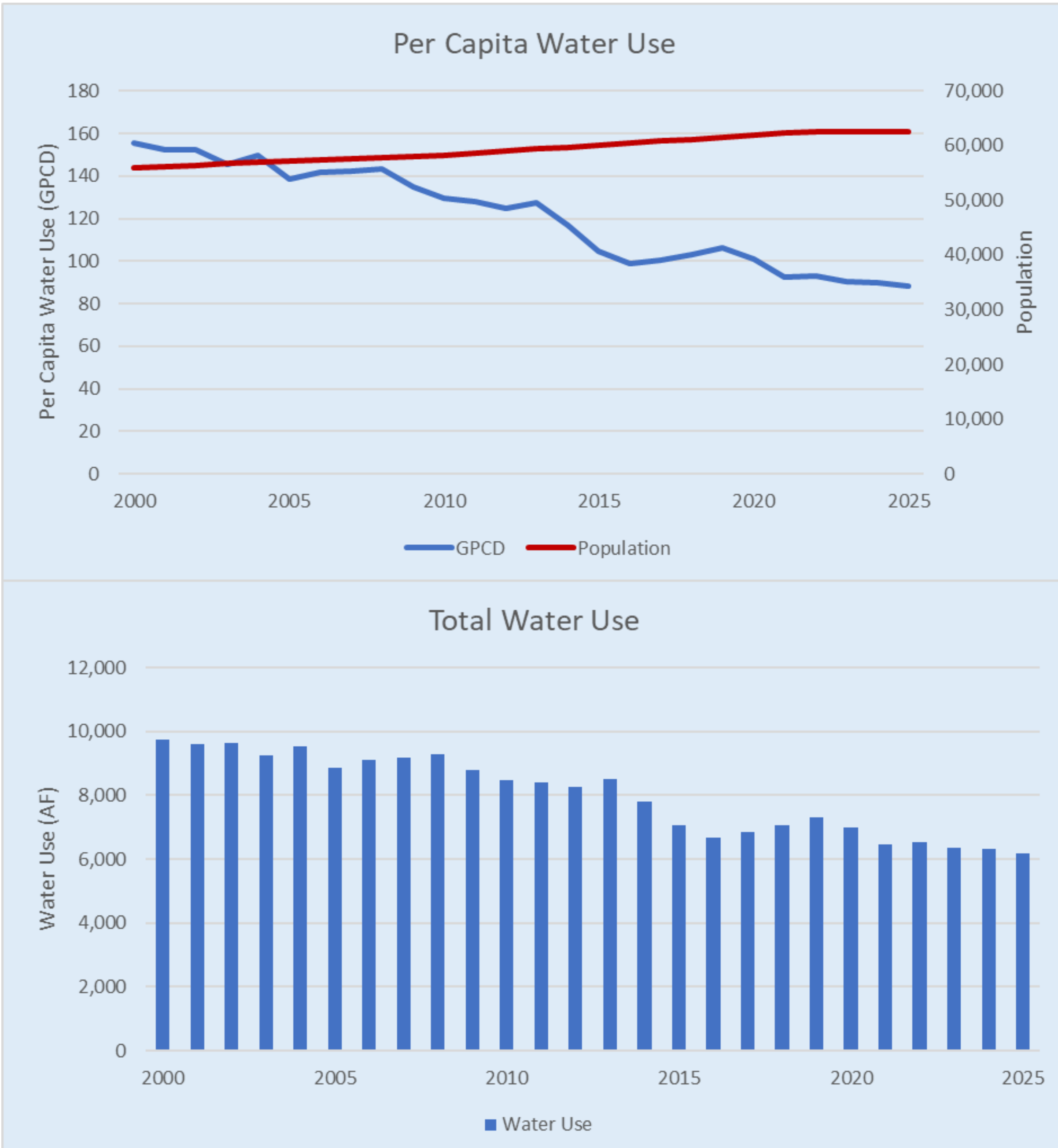


Figure 3. Share of Water Sales by Customer Category: 2021-2025



Note: values may not sum to 100% due to independent rounding.

Figure 4. Total and Per Capita Water Use: 2000 – 2025



3 Need for Expanded Conservation

While the South San Francisco District has achieved substantial reductions in per capita water use over the past two decades, evolving regulatory requirements, water supply sustainability challenges, and rising water supply costs are increasing the need for additional conservation. Expanded conservation efforts will play a central role in meeting new state efficiency standards, supporting long-term supply reliability, and managing the cost of service for customers. The following sections describe these drivers in greater detail and explain how they shape the District's conservation planning priorities.

3.1 New State Regulations for Urban Water Use

In 2018, the California State Legislature enacted Senate Bill 606 and Assembly Bill 1668 to enhance the state's resilience against droughts and climate change. These laws – collectively referred to as the *Making Conservation a California Way of Life* legislation -- set stringent water efficiency standards that retail water suppliers must meet within an accelerated timeline. Starting in 2027, these suppliers are mandated to keep their water consumption within the limits of an Urban Water Use Objective (UWUO). The UWUO encompasses the aggregate efficient use of indoor and outdoor residential water uses, commercial landscape irrigation, and distribution system water loss. Furthermore, the regulations stipulate that water suppliers implement comprehensive commercial performance measures and substantially increase their reporting to the state on their progress in meeting these new requirements.

3.1.1 UWUO Compliance Requirements

An urban retail water supplier's UWUO represents the cumulative volumes of water shown in Figure 5.

Figure 5. Components of UWUO Standards

Residential Indoor Standard

The Residential Indoor Standard sets the maximum allowable indoor water use, measured in gallons per capita per day (GPCD). Initially, Assembly Bill 1668 established a statewide standard of 55 GPCD until January 1, 2025, then reducing to 52.5 GPCD until January 1, 2030, when it drops further to 50 GPCD. However, adjustments were made with the enactment of Senate Bill 1157 in 2022, which now sets the indoor standard at 55 GPCD in 2024, decreasing to 47 GPCD in 2025, and further to 42 GPCD by 2030.

It has been estimated that indoor residential use in California currently averages about 50 GPCD.[1] Thus, meeting the 2030 standard implies a 16 percent reduction from current indoor usage levels.

Residential Outdoor Standard

The outdoor standard is tailored to the efficient water use required for residential landscaping within each district's climate. It involves an aggregate water budget calculated as follows:

Outdoor Residential Budget = LAM x LEF x (ETo – Peff) x 0.62

In this equation:

- **LAM** is the measured residential landscape area in square feet.
- **ETo** represents the reference evapotranspiration, measured in inches per year.[2]
- **Peff** is the effective precipitation, also in inches per year.[3]
- **LEF** (Landscape Efficiency Factor) is a regulatory factor that dictates the overall water budget.

The LEF poses significant compliance challenges due to its stringent reduction targets. Initially set at 0.80, the LEF will decrease to 0.63 starting July 1, 2035, and further to 0.55 by July 1, 2040.

For new residential landscapes, the standard is immediately more stringent, set at a LEF of 0.55 from the outset. This means that all new residential landscaping must meet this lower efficiency factor regardless of the current LEF enforced for existing landscapes. This regulation ensures that new developments contribute to water conservation efforts from their inception.

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[1] See Results of the Indoor Residential Water Use Study prepared by the California Department of Water Resources.

[2] The amount of water needed to maintain cool season turf grass in a healthy condition.

[3] The portion of annual rainfall available for plant water requirements thereby reducing the amount needing to come from irrigation.

The introduction of progressively lower LEF values for existing landscapes, combined with the standard for new developments, presents a considerable challenge. Maintaining the health of turf grass will be particularly difficult when the LEF drops below 0.8. Many communities may need to significantly reduce or even eliminate turf grass, a change that will transform the visual and functional aspects of residential outdoor spaces.

CII Dedicated Irrigation Meter Standard

The water budget for CII Dedicated Irrigation Meters (DIMs) is calculated similarly to residential landscaping but adheres to a stricter standard. Starting July 1, 2040, the required efficiency factor for these meters will be set at 0.45, making the maintenance of landscapes with significant amounts of turf nearly unattainable. It is the responsibility of each retail water agency to accurately measure and map the landscape area for their dedicated irrigation accounts. These measurements are then incorporated into a landscape water use equation to establish a supplier-specific CII landscape budget.

For retail water suppliers, including Cal Water, that do not currently have a CII DIM customer classification, the regulations impose additional requirements. These suppliers are mandated to identify all CII Mixed Use Meters (MUMs) within their service areas that serve landscapes of half an acre or more of irrigated area. They must either install DIMs for these landscapes or implement at least two equivalent in-lieu technologies designed to measure and enhance landscape water-use efficiency at these sites. This aspect of the legislation ensures that all significant landscape areas, regardless of their current meter classification, are brought under stringent water use monitoring and management. The actions Cal Water will be required to take to satisfy these requirements are described in a subsequent section of this plan.

Water Loss Standard

The Water Loss Standard, established by Senate Bill 555, sets rigorous criteria for managing "real" water loss, which includes actual physical leakage from a water supplier's distribution system. The standard specifies the maximum allowable water loss per connection per day for each urban water retailer's service area. This is determined using system-specific validated baseline water loss audit data.

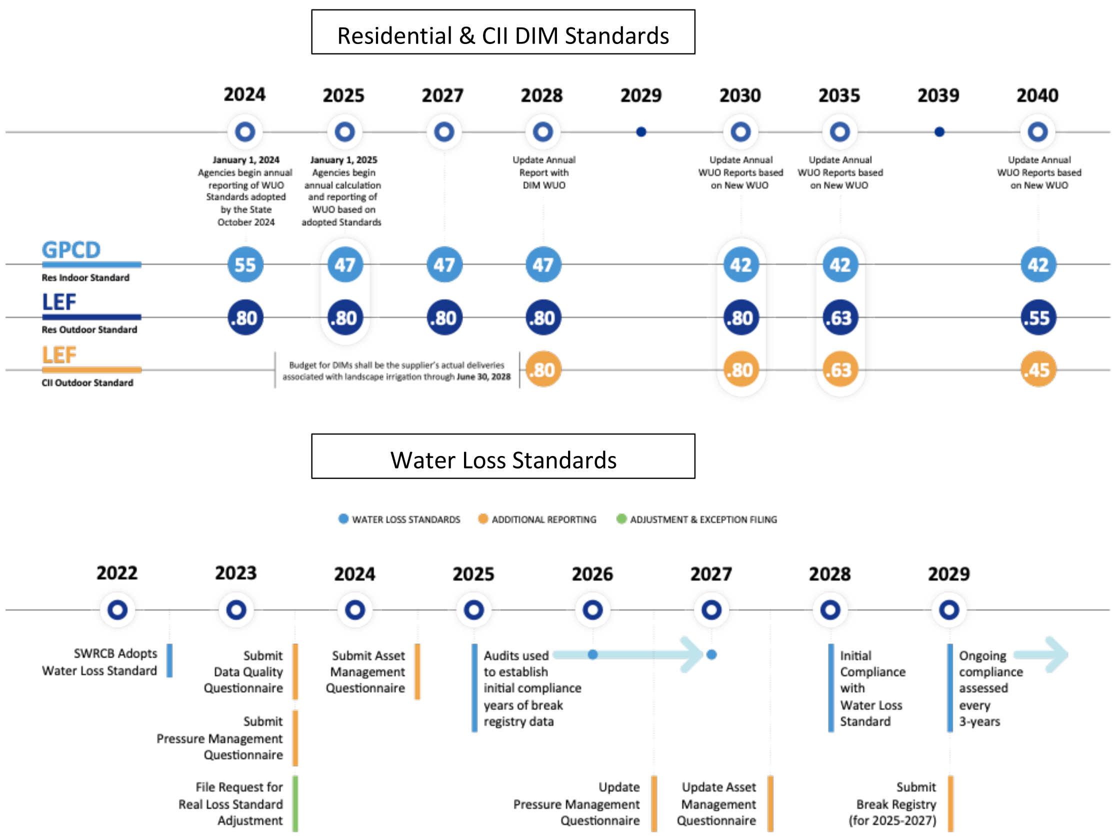
Every year, water suppliers must conduct a detailed audit of their distribution systems to pinpoint where and how water losses occur—whether through leaks, meter inaccuracies, unauthorized consumption, or other inefficiencies. The primary objective is to accurately gauge the extent of water loss and to develop effective strategies to reduce it, thereby enhancing the overall efficiency of the water supply system and conserving water resources.

It is crucial to note that compliance with the Water Loss Standard is mandatory for all suppliers, regardless of their total water use relative to their UWUO. Even if a supplier's aggregate water usage falls below their designated UWUO, they must still meet their specific water loss standards. This separate and independent compliance requirement underscores the importance of including water loss monitoring, management, and reporting tasks in the plan.

WUO Compliance Timeline

Compliance with these standards will require rigorous documentation and adherence to evolving guidelines, underscoring the escalating complexities water suppliers face under the UWUO compliance framework. Figure 6 outlines the compliance timelines for these regulatory components.

Figure 6. Compliance Timeline for Meeting WUO Standards



3.1.2 Mixed-Use Meter Requirements

As discussed above, the regulations mandate that each retail water agency must identify all CII MUM accounts with landscaped areas of half an acre or more by June 30, 2027. These sites must either be converted to dedicated irrigation meters by 2039 or be equipped with at least two approved in-lieu water management technologies. By June 30, 2040, suppliers are required to achieve and maintain a 95% conversion rate to dedicated irrigation meters or equivalent interventions annually.

For water suppliers opting to implement in-lieu water management technologies on CII large landscapes, they have until June 30, 2029, to identify all sites that will require treatment. Acceptable in-lieu water management technologies include:

1. Water budget-based management programs without a specific rate structure.
2. Water budget-based rate structures.
3. Installation of technologies that support detailed monitoring and analysis of outdoor water use, such as Advanced Metering Infrastructure.
4. Use of remote sensing or similar technologies to monitor and analyze outdoor water usage.
5. Other technologies that assist in water use analysis or enhance outdoor water use efficiency, pending Board approval.

Additionally, the proposed regulations require water suppliers managing large landscapes without Dedicated Irrigation Meters to implement the following water management practices:

1. Regular communications with users about water efficiency.
2. Maintenance of irrigation systems to ensure optimal performance.
3. Adherence to efficient irrigation scheduling practices to minimize waste.

These requirements are designed to ensure more precise water use monitoring and management, helping these sites to meet conservation goals and comply with regulatory standards.

3.1.3 CII Performance Measures

For CII properties, the state has not set efficiency standards per se but has mandated specific performance measures due to the high variability and insufficient data on water use across commercial properties. The proposed measures aim to identify high water users and promote efficiency within this sector.

These new requirements entail substantial utility staff efforts to analyze the water usage of CII customers. One such task requires categorizing all CII accounts into 19 Energy Star Portfolio Manager property types, in addition to three specialized water-centric business categories: water recreation, vehicle washes, and laundries.

Additionally, suppliers are required to identify all buildings within their service area that are 50,000 square feet or larger by June 30, 2024, or when the regulations take effect—whichever is later. The regulations require water suppliers to provide an aggregate water use report to each of these properties upon request from the building owner or their representative.

Water suppliers are also tasked with identifying their Top Water Users in CII and choosing from three tracks of Best Management Practices (BMP) compliance to address the highest water users. Full implementation for all tracks must be finalized by June 30, 2039. Each track is detailed as follows:

- **Track 1**: By June 30, 2025, identify both the top 2.5% and top 20% of all CII water users. Implement a conservation program that includes at least two BMPs from each of five BMP categories for the top 2.5% (10 BMPs in total), and one BMP from the same categories for the top 20% (5 BMPs in total).

- **Track 2**: By June 30, 2027, identify the top 2.5% and top 20% of water users within each of the 22 CII classification categories. Implement a conservation program that includes at least two BMPs from each of five BMP categories for the top 2.5% users, and one BMP from the same categories for the top 20% in each category.

- **Track 3**: By June 30, 2029, identify existing CII connections deemed inefficient based on Key Business Activity Indicators (KBAI) developed for each of the 22 CII categories. Implement a conservation program that includes at least one BMP from each of the five BMP categories.

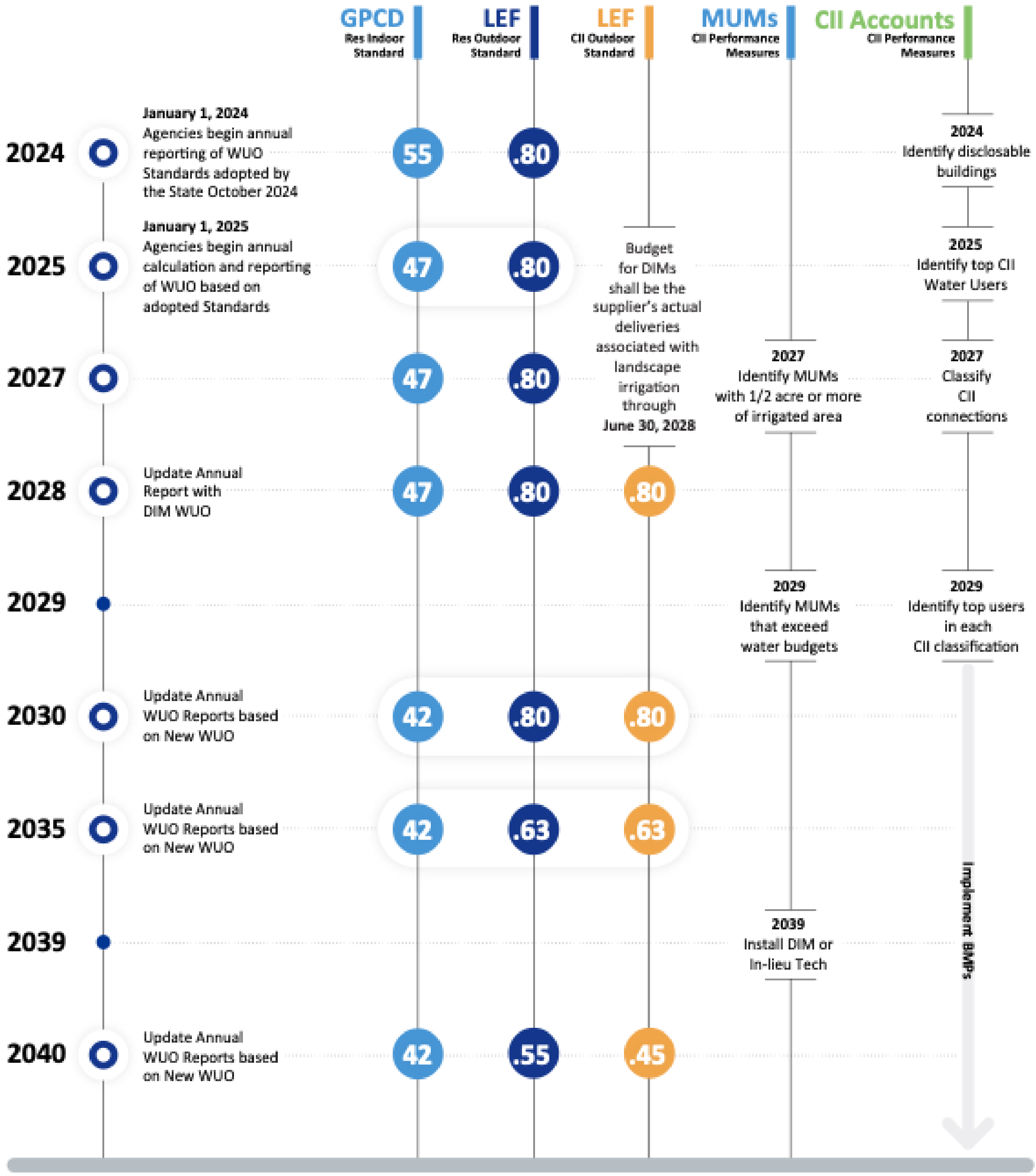
CII Performance Measures and UWUO Compliance

Despite the comprehensive nature of these measures, it is important to note that none of the savings achieved through these efforts will count towards a water agency's compliance with their UWUO. Although these measures are a legally mandated and significant undertaking, they do not directly contribute to UWUO compliance, presenting a challenging scenario for suppliers who must fulfill these obligations without them counting towards their UWUO compliance requirements.

3.1.4 Overall Compliance Timeline and Enforcement Provisions

Figure 7 outlines the critical reporting dates and compliance milestones associated with the *Making Conservation a California Way of Life* regulatory framework. This schedule details the progressive tightening of standards from 2025 to 2040. Starting on January 1, 2027, water suppliers are required to demonstrate compliance with the UWUO on an annual basis.

Figure 7. Making Conservation a California Way of Life Regulatory Framework Timeline



Beginning in 2027, under the new regulations, retail water suppliers are mandated to maintain their actual water use at or below the levels specified by their UWUO. After November 1, 2027, the State Water Board is empowered to enforce civil penalties for non-compliance. These penalties can reach up to $1,000 per day in non-drought years and escalate to $10,000 per day during drought conditions. In addition to monetary fines, the State Water Board may issue informational orders demanding specific data and information needed for assessing compliance, as well as conservation orders that mandate actions to be taken by the water supplier to enhance water resource conservation.

Although the State Water Board has indicated a possible delay in enforcement to allow water suppliers adequate time to adhere to these standards, it is important to acknowledge that the 2018 legislation codifies these deadlines. Consequently, water suppliers remain at risk of third-party lawsuits grounded on claims of waste and unreasonable use if they do not achieve UWUO compliance by the stipulated dates.

3.1.5 Non-Functional Turf Watering Ban

Alongside the *Making Conservation a California Way of Life* framework, a separate regulation now exists that restricts the use of potable water for watering "non-functional" turf. Drawing inspiration from a similar initiative in Nevada, the California Legislature enacted Assembly Bill 1572 in October 2023. This law prohibits the irrigation of non-functional turf on CII properties using potable water. Although property owners retain autonomy to determine what qualifies as "functional" versus "non-functional" turf, water suppliers are tasked with updating their ordinances and communicating the prohibitions to customers. Additionally, suppliers may choose to provide technical or turf replacement program support to customers facing turf removal, necessitating further allocation of staff and budgetary resources.

3.2 Addressing Supply Reliability

The District relies almost entirely on imported water supplies delivered through the San Francisco Public Utilities Commission (SFPUC) Regional Water System, which draws most of its supply from Sierra Nevada runoff stored in Hetch Hetchy Reservoir and conveyed to the Bay Area through a long-distance transmission system.

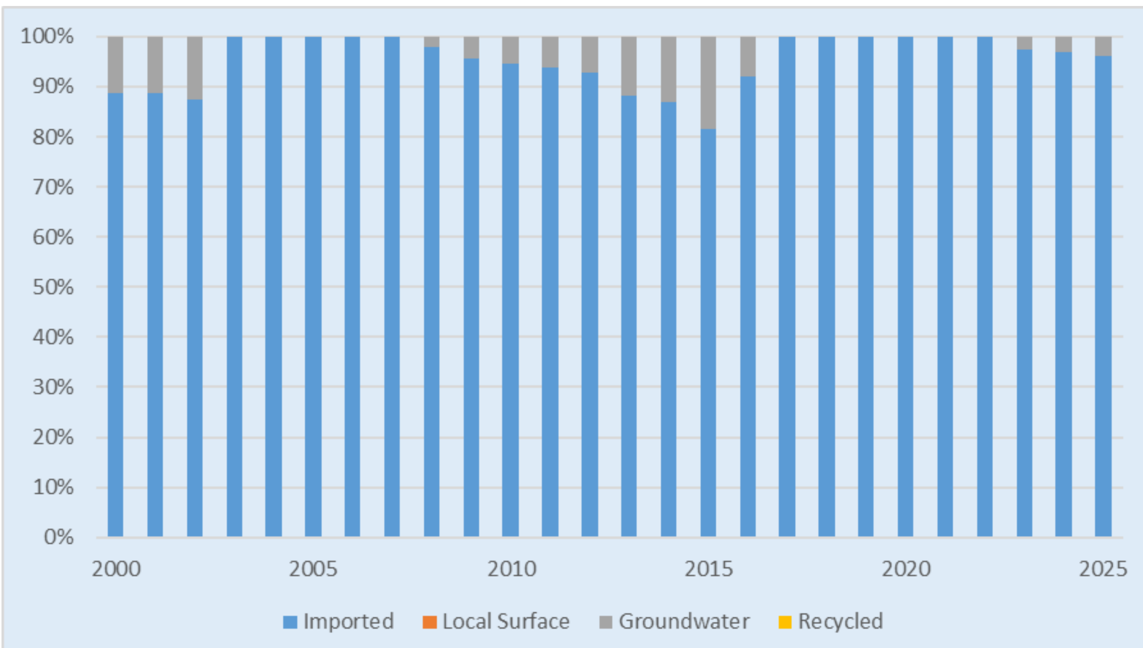
Like other snowmelt-driven systems, Hetch Hetchy supply reliability is sensitive to multi-year drought, shifting precipitation patterns, and climate-driven changes in runoff timing. In addition, SFPUC has highlighted that proposed regulatory actions affecting Bay-Delta and tributary flow requirements—including actions affecting the Tuolumne River watershed—could reduce available supply and increase the likelihood of rationing during dry periods.

The Regional Water System is also exposed to infrastructure-related risks because it depends on critical conveyance facilities extending from the Sierra foothills to the Bay Area. SFPUC has undertaken a large multi-year Water System Improvement Program to repair, replace, and seismically upgrade key components of the system to improve delivery reliability and reduce vulnerability to major disruption events. While these investments substantially strengthen the system and reduce the likelihood and severity of service interruptions, they cannot fully eliminate the residual risks associated with major seismic events, extreme hydrologic conditions, or other unforeseen disruptions.

In this context, conservation and demand management improve reliability by reducing exposure to imported supply variability, preserving operational flexibility during drought response conditions, and limiting the magnitude of shortages that might otherwise require more stringent restrictions. Conservation also supports longer-term planning resilience by reducing dependence on a supply portfolio subject to hydrologic volatility and evolving regulatory and infrastructure constraints.

As shown in Figure 8, historically the District has relied on imported water supplies delivered through SFPUC for nearly all of its supply. Accordingly, the District's conservation strategy is an important component of maintaining reliable service under a wide range of hydrologic and operational conditions.

Figure 8. Imported Water as Share of Total District Supply



3.3 Managing Cost of Service

In addition to meeting regulatory and supply requirements, expanded conservation plays an important role in managing the long-term cost of water service. Many of Cal Water's conservation programs are able to generate verified water savings at a cost in the range of approximately $500 to $1,000 per acre-foot (AF), placing conservation among the lower-cost water resource options available to the District. By comparison, purchased surface water supplies often cost more than $1,000 per AF, and the development of new supply sources—such as recycled water, groundwater remediation, desalination, or new surface storage—can exceed $2,000 per AF when capital, treatment, conveyance, and operating costs are considered.

Because conservation can reduce the volume and timing of higher-cost supply acquisitions, it helps moderate upward pressure on rates while also improving supply reliability. In many situations, enhanced conservation represents one of the lowest-cost sources of incremental water supply available to the District and plays an important role in managing future cost-of-service impacts for customers, even as additional supply investments may still be required over the long term.

3.4 Summary of Conservation Drivers

Taken together, regulatory, hydrologic, and economic factors create a strong and continuing need for sustained conservation in the South San Francisco District. The State's Making Conservation a California Way of Life (MCCWL) regulations establish increasingly stringent water use efficiency standards and reporting requirements that will require continued reductions in residential, landscape, and system water use over time. At the same time, the District relies heavily on imported supplies delivered through the SFPUC Regional Water System, which depends on Sierra Nevada snowpack, surface storage, and long-distance conveyance infrastructure. Periods of extended drought, hydrologic variability, and system vulnerabilities underscore the importance of managing demand to enhance supply reliability and maintain service stability.

In parallel with these regulatory and resource challenges, the cost of maintaining and upgrading regional water infrastructure continues to rise. Compared with acquiring additional supplies or expanding system capacity, conservation often represents the least-cost resource available to meet incremental demand and preserve reliability margins. Sustained conservation therefore serves multiple objectives: supporting compliance with State efficiency standards, strengthening resilience to imported supply variability, and helping manage long-term cost-of-service impacts for customers. For these reasons, conservation will remain a central component of the District's resource management strategy over the 2026–2030 planning period and beyond.

4 Progress Towards Conservation Goals and Targets

This section summarizes the South San Francisco District's progress toward key state and regulatory conservation requirements and assesses the District's outlook for compliance with new state conservation requirements. It reviews performance relative to the Water Conservation Act of 2009 (SB X7-7) and the California Public Utilities Commission (CPUC) conservation goals, both of which reflect historical reductions in per capita water use. It then evaluates future compliance with the State's Urban Water Use Objective (UWUO) framework under the *Making Conservation a California Way of Life* regulations, which establish increasingly stringent efficiency requirements beginning in 2027.

Together, these measures provide a bridge between past conservation achievements and the additional reductions that will be required in the coming decades. The analysis highlights that while the District has met or exceeded prior conservation targets, further conservation beyond currently authorized levels will likely be necessary to maintain compliance with post-2030 state efficiency standards.

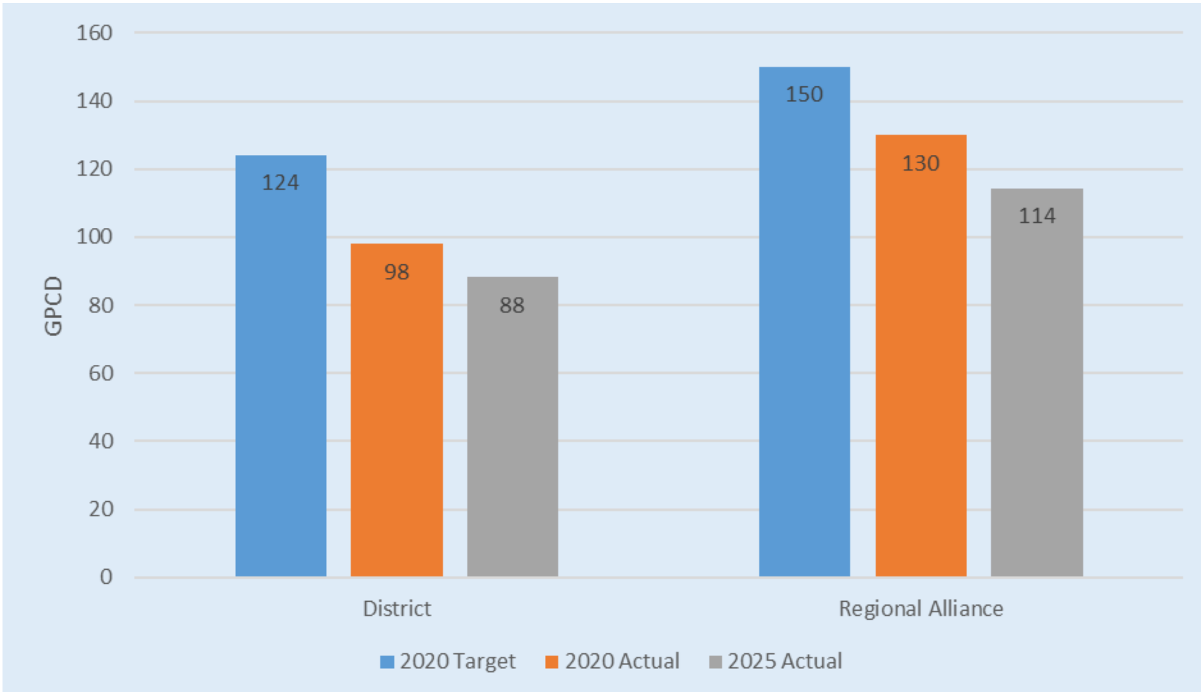
4.1 Compliance with Water Conservation Act of 2009

The Water Conservation Act of 2009 (SB X7-7) required urban retail water suppliers to achieve a 20 percent reduction in per capita water use by 2020. To comply, each supplier was required to establish a 2020 per capita water use target based on historical water use. The statute also allowed suppliers to meet the requirement through participation in a Regional Alliance with other urban retail water suppliers.

The South San Francisco District formed a Regional Alliance with other Cal Water districts located within the San Francisco Bay Hydrologic Region. Under SB X7-7, compliance is achieved if either the District's individual per capita water use or the Regional Alliance's aggregate per capita water use remains below the applicable target.

As shown in Figure 9, the District has maintained compliance with the Water Conservation Act of 2009. In 2025, both the District's and the Regional Alliance's per capita water use remained well below their respective targets, reflecting on-going improvements in water-use efficiency by the District and its customers.

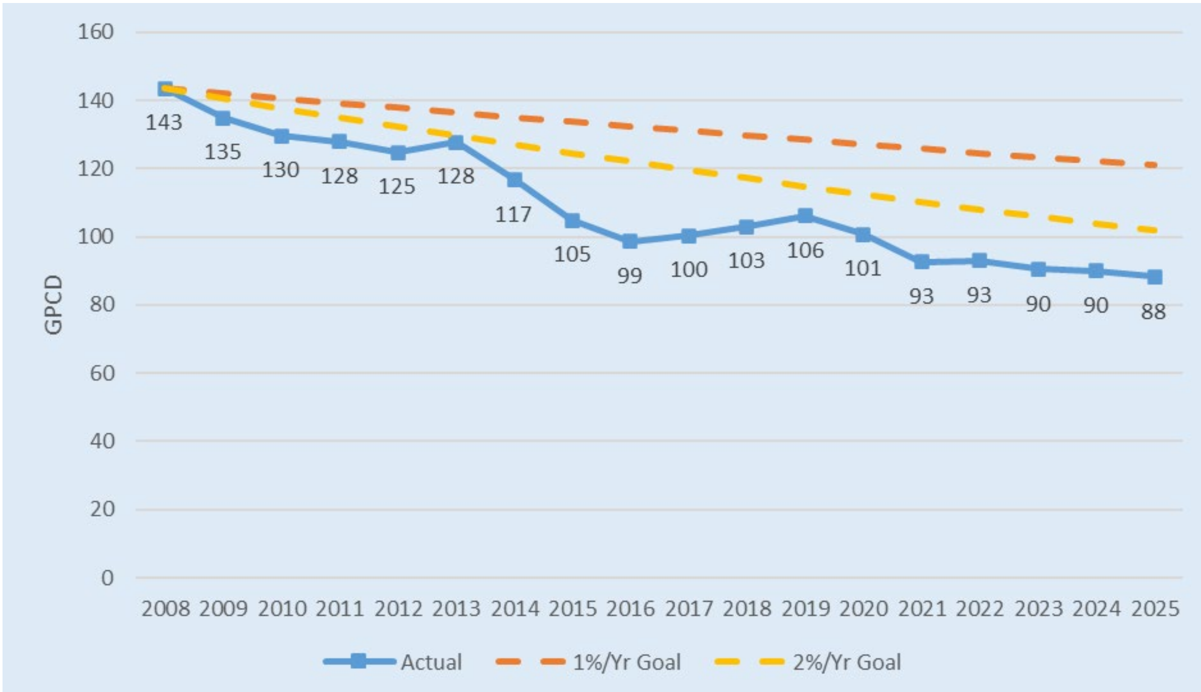
Figure 9. 2020 Target and Actual Per Capita Water Use



4.2 Compliance with CPUC Conservation Goals

In 2008, the CPUC established a water conservation goal of 1 to 2 percent per annum for Class A water utilities, including California Water Service Company. As shown in Figure 10, the South San Francisco District has consistently exceeded this goal. Since adoption of the CPUC's conservation goal, District per capita water use has declined by approximately 38 percent.

Figure 10. District Per Capita Water Use Relative to CPUC Conservation Goals



4.3 UWUO Compliance Assessment

As described in Section 3, the UWUO establishes an aggregate water-water budget calculated from: (1) a residential indoor water use standard; (2) a residential outdoor water budget; (3) a CII landscape outdoor water use budget for landscapes served by dedicated irrigation meters; (4) a water loss budget; (5) allowable variances; and (6) a potable reuse bonus. Beginning in 2027, the District must annually assess whether the sum of its regulated water uses—residential indoor and outdoor use, dedicated irrigation meter use, and distribution system water loss—is at or below its UWUO. Additionally, starting in 2028, the District must demonstrate that real and apparent distribution system water loss rates are less than their corresponding standards.[4] As noted in Section 3, compliance with the water loss standards is required even if the District's total regulated water use is below its UWUO.

The state standards underlying the residential indoor, residential outdoor, and CII outdoor components of the UWUO will become increasingly stringent over time. As a result, compliance is expected to require continued reductions in water use beyond those achieved under the SB X7-7 framework.

[4] Real losses refer to physical loss of water through leaks, spills, and seeps, while apparent losses refer to unaccounted for water due to meter inaccuracies, administrative or record keeping errors, or theft.

Cal Water has evaluated how projected regulated water use in the South San Francisco District compares to anticipated UWUO requirements over the UWMP 2025-2050 planning horizon. The assessment is predicated on levels of conservation that are currently authorized by the CPUC, together with anticipated passive conservation savings. These passive savings include continued turnover of plumbing fixtures and appliances subject to state and federal efficiency standards and customer behavioral responses to conservation-oriented rate structures.

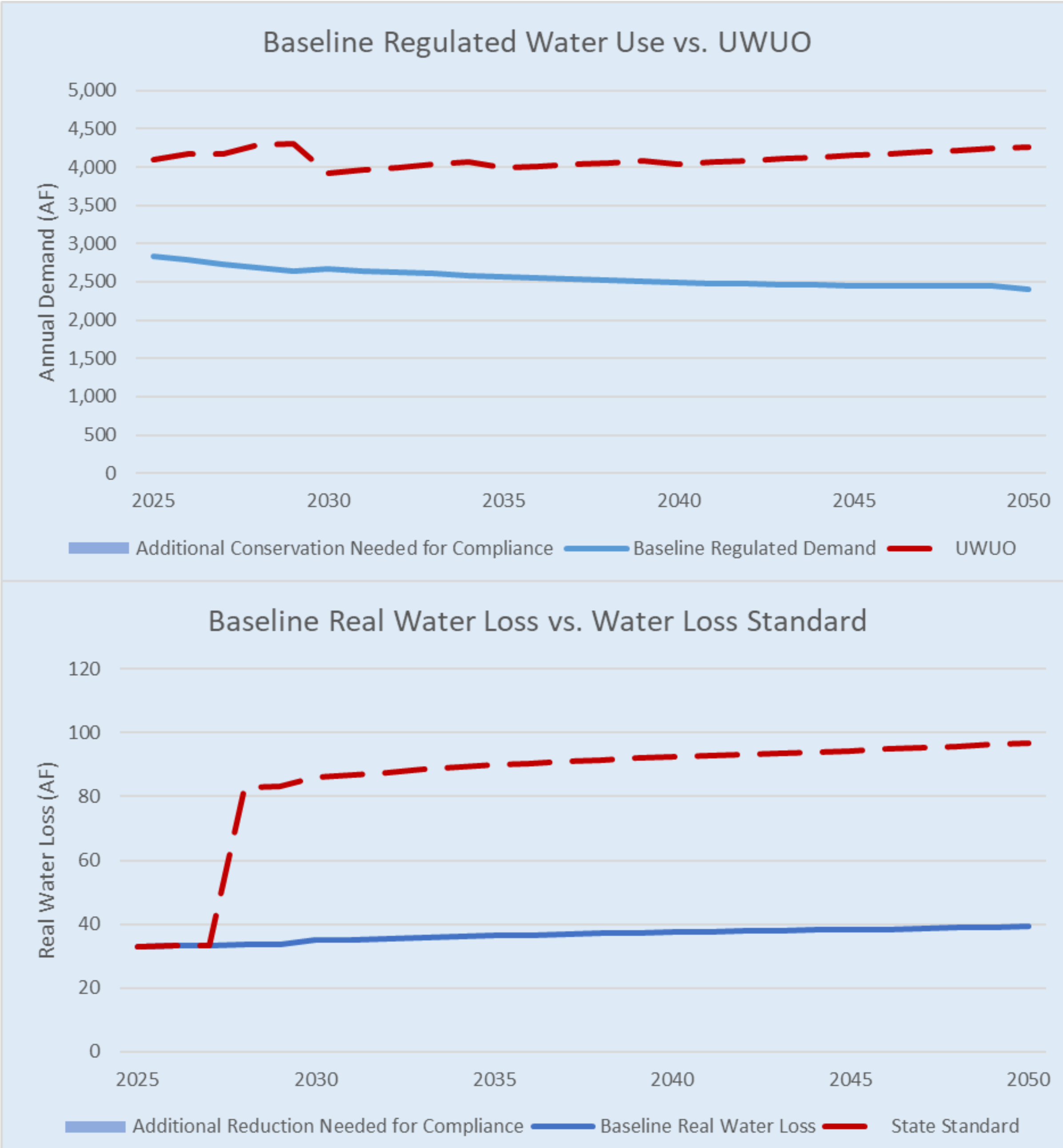
Under this baseline demand scenario, both regulated water use and real water loss in the South San Francisco District are projected to remain below the applicable UWUO and the state's real water loss performance standard throughout the forecast period, as shown in Table 1 and Figure 11.

Table 1. South San Francisco District Projected Regulated Demands vs UWUO

Regulated Water Use					
Year	Service Area Population (a)	Water Demand Subject to UWUO Compliance (b)	UWUO Projections	Over (+)/Under (-) UWUO	
		(AF)	(AF)	(AF)	(GPCD)
2025	62,609	2,841	4,096	-1,256	-18
2030	66,193	2,672	3,917	-1,246	-17
2035	69,591	2,570	3,986	-1,416	-18
2040	71,522	2,491	4,039	-1,548	-19
2045	73,509	2,453	4,149	-1,697	-21
2050	75,555	2,409	4,264	-1,856	-22
Distribution System Real Water Loss					
Year	Service Area Population (a)	Baseline Real Water Loss Projections	Real Water Loss Standard Projections	Over (+)/Under (-) Standard	
		(AF)	(AF)	(AF)	(GPCD)
2025	62,609	33	33	0	0
2030	66,193	35	86	-51	-1
2035	69,591	36	90	-53	-1
2040	71,522	38	93	-55	-1
2045	73,509	38	94	-56	-1
2050	75,555	39	97	-58	-1

NOTES:
(a) From 2025 UWMP Table 3-1.
(b) Water demand subject to UWUO compliance includes single family, multi-family, dedicated irrigation meter, and water loss sectors (excluding unbilled authorized consumption) and is detailed in 20205 UWMP Table 4-2.

Figure 11. South San Francisco District Projected Regulated Demand vs. UWUO



4.4 Summary of Progress Toward Goals and Targets

The South San Francisco District has demonstrated strong performance relative to historical conservation requirements. Per capita water use has declined substantially over the past two decades, enabling the District to maintain compliance with the Water Conservation Act of 2009 and to consistently exceed CPUC conservation goals for Class A water utilities. These results reflect the combined effects of conservation programming, metering, conservation-oriented pricing, and state and federal plumbing and appliance efficiency standards.

Looking forward, the District's baseline demand projections—reflecting currently authorized conservation and anticipated passive efficiency gains—indicate that regulated water use is expected to remain below state standards throughout the forecast period.

In summary, the District has successfully met past conservation targets and is projected to comply with future UWUO and distribution system water loss requirements under baseline conservation levels. However, the South San Francisco District relies on imported supplies delivered through the San Francisco Public Utilities Commission's Regional Water System, including the Hetch Hetchy system. Although SFPUC has made substantial investments to strengthen system reliability, these imported supplies remain subject to hydrologic variability, environmental and regulatory constraints, and infrastructure-related risks associated with a long-distance conveyance system. While additional conservation may not be required strictly for MCCWL compliance, sustained investment in demand management will enhance supply reliability, moderate exposure to wholesale cost increases, and improve long-term resource resilience. Continued program refinement and strategic expansion in future planning cycles will therefore remain an important component of the District's overall water resource strategy.

5 Water Conservation Program Strategy

This section describes the strategy Cal Water uses to manage water demand in the South San Francisco District and to support compliance with state conservation regulations and water supply reliability and cost-of-service objectives. Rather than relying on any single measure, the District's approach combines regulatory tools, pricing signals, system efficiency improvements, and customer-focused conservation programs to achieve sustained reductions in water use.

The strategy is implemented within a centrally administered program framework that promotes consistency, cost-effectiveness, and regulatory compliance across Cal Water's service areas. Within this structure, the District applies a coordinated set of actions that include water waste prevention and enforcement, universal metering and conservation-oriented pricing, water loss management, residential and non-residential conservation programs, and expanded efforts to transform outdoor landscape water use in response to emerging state efficiency standards. The subsections that follow describe how these elements work together to form an integrated long-term demand management strategy.

5.1 Program Administration

Cal Water administers its conservation programs on a centralized basis across its service districts. This structure reflects both operational and regulatory considerations. Because Cal Water operates as a single regulated utility, conservation program budgets, designs, and performance are reviewed and authorized through statewide CPUC General Rate Case proceedings. Centralized administration helps ensure that programs are implemented consistently with CPUC authorizations and reporting requirements while allowing Cal Water to maintain standardized tracking, evaluation, and compliance processes.

Central administration also creates important efficiencies. By offering a core set of programs across multiple districts, Cal Water can leverage economies of scale in program design, marketing, rebate fulfillment, data management, and vendor contracting. These scale advantages reduce per-unit program costs and improve overall cost-effectiveness. Consistent program offerings also simplify customer communications and expectations, as customers across districts have access to a similar suite of rebates, services, and educational resources.

While program administration is centralized, implementation is informed by local conditions. Marketing emphasis, customer targeting, and outreach strategies are adjusted to reflect district-specific conservation drivers, such as supply reliability objectives, UWUO compliance needs, and customer water use characteristics. This structure allows Cal Water to balance systemwide efficiency with responsiveness to the South San Francisco District's particular conservation needs.

5.2 Water Waste Prevention

Cal Water's authority to enforce water waste prevention measures and water use restrictions is established and overseen by the CPUC through Rule 14.1 or Schedule 14.1. In addition, local governments within Cal Water districts may adopt ordinances regulating water use. Cal Water coordinates its water waste prevention efforts with applicable local jurisdictions. For the South San Francisco District, this coordination includes the communities of South San Francisco and San Mateo County.

CPUC Rule 14.1 defines the District's Water Shortage Contingency Plan, including, but not limited to, permanent prohibitions on water waste and restrictions on water use. Prohibited water waste practices include, but are not limited to, the following:

- Use of potable water through a broken or defective plumbing fixture or irrigation system after Cal Water has provided written notice to repair the condition and the customer has failed to complete repairs within seven business days of receipt of the notice.

- Application of potable water to landscapes in a manner that results in runoff onto adjacent property, non-irrigated areas, sidewalks, roadways, parking lots, or structures.

- Use of a hose to wash vehicles—including cars, trucks, buses, boats, aircraft, and trailers—unless the hose is equipped with a shut-off nozzle or similar device that immediately stops water flow when not in use.

During water shortage conditions, Schedule 14.1 also authorizes Cal Water to implement additional water use restrictions, which may include the following:

- Limitations on outdoor irrigation, including restrictions on time of day and frequency of watering.

- Requirements to repair leaks, breaks, or malfunctions following written notification by Cal Water.

- Application of potable water to driveways, sidewalks, and other hardscapes.

- Use of potable water in water features unless the feature operates as a recirculating system.

- Application of potable water to outdoor landscapes during and within 48 hours following measurable rainfall.

- Serving drinking water in eating or drinking establishments unless requested by the customer.

- Irrigation of ornamental landscaping on public street medians.
- Irrigation of landscapes at newly constructed homes or buildings using potable water in a manner inconsistent with requirements established by the California Building Standards Commission or the Department of Housing and Community Development.
- Requirements for hotels and motels to provide guests with the option to decline daily laundering of towels and linens, with clear and prominent notice provided in each guest room.
- Limitations on filling ornamental lakes or ponds.
- Use of potable water for street cleaning, except for initial wash-down associated with construction activities.
- Use of potable water for construction-related purposes, such as dust control or backfill consolidation, unless no alternative water source or method is available.

These measures are a component of the District's overall demand management strategy and support compliance with state water conservation regulations.

5.3 Metering and Conservation Pricing

Metering provides the measurement needed to track usage, identify leaks and high-use patterns, and manage demand effectively—because water use cannot be managed if it is not measured—while volumetric and tiered pricing structures create clear financial incentives for customers to use water efficiently.

Metered Service

All services in the District are metered and routinely calibrated and tested for accuracy. Metering water use provides improved customer awareness of water use, stronger price signals under volumetric billing, and the identification and repair of leaks. Metered households typically use 10 to 30 percent less water than similar unmetered households. [5]

Advanced Metering Infrastructure

Cal Water is also piloting automatic meter reading (AMR) and advanced metering infrastructure (AMI). If deployed more broadly in the future, AMI would enhance the District's ability to detect leaks and other system issues and to notify customers of potential problems. AMI would also allow the provision of more timely and detailed

[5] Tanverakul, S. A., & Lee, J. (2015). *Impacts of Metering on Residential Water Use in California.* Journal of the American Water Works Association, 107(2).

water use information, supporting customer engagement as well as enabling customers to more closely monitor their own water usage and take appropriate actions to improve their water use efficiency.

Conservation Pricing

The District uses a four-tier increasing block rate structure for residential water use and a single-tier uniform rate for non-residential customers. Under the residential rate design, the unit price of water increases as usage rises, providing progressively stronger financial incentives for customers to use water efficiently and to limit discretionary outdoor use. The District also offers rate assistance to lower-income households through its Customer Assistance Program (CAP). All District water rates are reviewed and authorized by the CPUC through the General Rate Case process conducted every three years.

5.4 Water Loss Management

The District conducts annual distribution system water loss audits using the American Water Works Association (AWWA) Free Water Audit Software and reports the results to the California Department of Water Resources.[6]

To guide ongoing water loss management, Cal Water has developed a Water Loss Control Compliance Plan and a Water Loss Control Policy. These documents provide a framework for:

- Meeting current and future CPUC and state water loss standards and regulatory requirements;
- Improving audit data quality and validation scores; and
- Identifying and implementing cost-effective water loss control actions.

Cal Water has also conducted a comprehensive assessment comparing each district's current and projected distribution system water loss to applicable water loss standards. The results show that the South San Francisco District is currently on track to comply with the state-established efficient water loss standards pursuant to Senate Bill 555.

5.5 Customer Conservation Programs

Cal Water has a long-standing water-use efficiency program designed to reduce water use across residential and non-residential customer classes. The program includes landscape conversion incentives, irrigation equipment rebates, indoor device rebates,

[6] Completed water audits may be accessed at: https://wuedata.water.ca.gov/

and customer education resources. Core programs available to residential customers are summarized below. Additional programs are offered to non-residential customers, and program offerings may be adjusted over time based on district-specific needs and program performance.

5.5.1 Current Customer Conservation Programs

Cal Water currently offers residential customers a range of water-use efficiency rebates, support services, and educational resources, including the following:

Turf Replacement

- Turf replacement rebates of up to $3 per square foot for removal of turf and conversion to California-friendly, low-water-use landscaping with efficient irrigation.

Irrigation Equipment Rebates

- Smart Landscape Tune-Up: A free, site-specific irrigation assessment that includes approved repairs to existing irrigation systems and installation of high-efficiency sprinkler nozzles and smart irrigation controllers, as appropriate.
- Smart irrigation controllers: Rebates of $125 per controller for weather- and soil-based irrigation controllers that adjust watering schedules based on site conditions.
- High-efficiency sprinkler nozzles: Rebates of $5 per nozzle for replacing conventional spray nozzles with high-efficiency nozzles that apply water more uniformly.

Indoor Device Rebates

- High-efficiency clothes washers: Rebates of $150 per washer for eligible models that use substantially less water than standard washers.
- MaP Premium high-efficiency toilets: Rebates of $50 per toilet for models using 1.1 gallons per flush or less.
- Conservation kits: Free kits containing water-saving plumbing devices, such as high-efficiency showerheads, faucet aerators, hose nozzles, leak detection tablets, and educational materials.

Online Resources

- Cal Water maintains a suite of online water-use efficiency resources to help customers understand and adopt water-saving practices.

School Education

- Cal Water's school education program includes the Aqua Adventures, A Splash of Creativity, H2Oath, and Water Smart Grant programs. Cal Water's Teacher Toolkit provides teachers with practical guidance and teaching rubrics for helping students learn about resource sustainability and the importance of using water wisely.

In addition to these core offerings, Cal Water may implement non-core programs in select districts to address specific local needs or emerging opportunities. For example, in recent years Cal Water implemented a direct-install bathroom retrofit program targeting lower-income households and multifamily properties in several of its districts.

Cal Water's customer conservation programs are implemented through a combination of in-house staff and contracted service providers. Cal Water conducts ongoing outreach and customer engagement to promote awareness and participation. In addition, customer service representatives are trained to assist customers with high water use or billing concerns by directing them to appropriate conservation programs and educational resources.

5.5.2 Future Customer Conservation Programs

Cal Water understands that its conservation programming must be adapted to the new MCCWL regulatory requirements. For instance, meeting the rigorous outdoor water use standards will require transitioning substantial amounts of turf area to more water efficient landscaping. Therefore, outdoor conservation measures, including turf replacement incentives and support services, will need to be further prioritized to drive future water savings. While targeted indoor efficiency measures have also been retained to maximize water savings, the focus remains heavily on outdoor improvements.

Achieving Landscape Transformation

Achieving the required level of water savings in the South San Francisco District requires a rapid market transformation towards landscape efficiency. Typically, market transformations can span decades as they require shifting both consumer behaviors and supply chain dynamics, even with incentives. Early adopters have already made necessary adjustments, but many property owners have not yet embraced this change. Landscape transformation represents a significant departure from traditional practices, often perceived as complex and undesirable by many. Overcoming this resistance and encouraging participation will be challenging.

A crucial aspect is convincing customers that embracing landscape efficiency enhances, rather than detracts from, the value of their property. The traditional view equates lush, green lawns with success and economic status. Therefore, changing this deep-seated perception to appreciate the aesthetics and benefits of water-sustainable landscaping is essential.

Given the urgency to transform landscapes without the luxury of time, Cal Water faces several challenges that require:

- Robust customer education.
- High levels of customer motivation.
- Accessibility to landscape design and plant knowledge.
- Considerable labor investment.
- Significant financial resources.

To increase customer engagement, Cal Water's programs must offer compelling incentives, clear communication about the required processes, and substantial support to guide customers through these changes. Table 2 outlines the key barriers to successful deployment of landscape transformation programs.

Many water users currently do not prioritize landscape water efficiency, lacking both understanding of its urgency and motivation to implement drastic changes.

Cal Water's strategy is to significantly enhance education about the need for outdoor water use reduction and how to achieve it. Fortunately, studies indicate a growing customer interest in aesthetically pleasing, water-efficient landscaping. Many property owners consider turf removal but require assistance to proceed. Time and cost are significant barriers.

To effectively encourage this shift, Cal Water must not only convince customers of the necessity of these changes but also provide them with extensive support—from design assistance to continuous engagement and resources. Additionally, incentives must be compelling enough to convince customers of the value of investing in these changes.

Success will depend on expanding education, services, and incentives to accelerate market transformation. To support this enhanced program structure, Cal Water must accordingly increase its staff, marketing efforts, operational support, and budget to meet these elevated service demands.

Table 2. Barriers and Customer Requirements of Landscape Transformation Programs

Landscape Transformation Barriers	Customer Requirements
• Customers lack motivation to reduce their water use. • Most customers are unaware of, or overwhelmed by, landscape efficiency programs. • Landscape efficiency solutions must be "customized" for each property. • Water suppliers do not currently have a deep understanding of their customers. • Agencies do not possess the resources to uniquely target and engage their customers.	• Customers desire to have a beautiful landscape. • Each customer has a different vision of what comprises landscape beauty. • Most customers have considered converting their lawn, but they need help to accomplish this. • Customers confirmed that design support is the most important need. • Incentives are necessary to pull the trigger on converting their lawn. • There are a number of misperceptions that disconnect the customer from their actual water usage. They believe most water is used indoors; that they already have efficient equipment; and saving money is the main driver.

Beyond Landscape Transformation

In addition to turf replacement, Cal Water has identified a suite of customer conservation programs with demonstrated water-saving potential and meaningful market impact. Together, these measures represent a comprehensive portfolio that—subject to adequate staffing and funding—is intended to support achievement of the water use reduction levels required under the MCCWL regulations. The measures summarized in Table 3 are representative of Cal Water's current conservation approach. As program performance is evaluated and technologies evolve, Cal Water may refine this portfolio by modifying, replacing, or adding measures to ensure continued program effectiveness.

Table 3. Representative Conservation Measures with Significant Savings Potential

Conservation Measure	Remaining Potential	Reasoning for Selecting
Home Water Budgets	All single-family homes	• Identifies customers with inefficient usage, thus allowing better targeting of programs and assistance. • Provides a foundational step in educating customers with powerful and personal information that identifies site-specific efficiency opportunities. • As an educational tool alone, shown to reduce water use.
Outdoor Efficiency		
Turf Replacement	All properties with remaining turf	• Required measure for meeting landscape and irrigation standards. • Huge remaining opportunity. • Long lifespan measure.
Sprinkler Tune-up	All properties with remaining turf	• Nearly all irrigation systems need repair. • Repairs are necessary before efficiency upgrades are made otherwise new products will not work as designed. • High customer demand.
Smart Controllers	All properties with irrigation	• High customer receptivity due to technical aspect of device. • Reduces overwatering by providing the appropriate amount of water based on the local weather.
Pressure Regulating Spray Heads	All properties with popup spray heads	• Millions of non-pressure regulating spray heads. • Reduces water use due to high water pressure and low head drainage.
High Efficiency Sprinkler Nozzles	All properties with popup spray heads	• Millions of high flow nozzles are available for retrofit. • Solution for customers electing to keep turf. • Reduces runoff. • High cost effectiveness. • Generally easy retrofit.
Indoor Efficiency		

Conservation Measure	Remaining Potential	Reasoning for Selecting
Premium Efficiency Toilets	Nearly 50% of existing fixtures are 1.6 GPF or above	• Reliable 25-year life of water savings. • Easy retrofit.
High Efficiency Clothes Washers	All single-family homes and multi-family in-unit washers	• Customers prefer high efficiency models. • Easy to administer. • Washers have 10–12-year life

5.5.3 CII BMPS

The MCCWL regulations require that the District implement CII BMPs for non-residential customers with very high usage.

The regulations specify that the District must implement at least one BMP from each of the following categories for customers with usage above the 80th percentile, while it must implement at least two BMPs from these categories for customers with usage above the 97.5th percentile.

Outreach, Technical Assistance, and Education BMPs

1. Direct contacts via site visits or phone calls
2. Informative or educational bill inserts
3. Conducting workshop or developing training videos
4. Webpage portals to access information, tools, and rebates
5. Cost-effectiveness analysis tools
6. Commercials or advertisements
7. Grass roots marketing
8. Community based social marketing
9. Other CII-best management practices derived from additional innovation and technology advancement that can be taken by suppliers, subject to Water Board approval

Incentives BMPs

1. Rebates and cost-sharing for replacing inefficient fixtures, equipment, irrigation systems or landscapes with water efficient ones
2. Certification or branding programs that recognize customers as water efficient
3. Incentives for technologies that enable customers to identify, measure, and analyze indoor and outdoor water use

4. Other CII-best management practices derived from additional innovation and technology advancement that can be taken by suppliers, subject to Board approval

Landscape BMPs

1. Landscape and irrigation management practices to promote improved water use efficiency
2. Irrigation system inspections, audits, or surveys
3. Training or guidance on irrigation scheduling and maintenance
4. New development landscape inspection, workshops, and training
5. Programs to remove turf and replace it with climate-ready vegetation
6. Programs to decrease urban heat and reduce turf water use by planting trees
7. Programs to install green infrastructure such as swales or rain gardens that offset irrigation needs
8. Other CII-best management practices derived from additional innovation and technology advancement that can be used by suppliers, subject to Water Board approval

Collaboration and Coordination BMPs

1. Coordination with “green” building certification or recognition programs to promote water use efficiency
2. Coordination with land use authorities to check new landscapes design and implementation
3. Collaboration with non-governmental organizations on outreach and education
4. Collaboration with municipal arborists and tree planting organizations to expand and maintain urban forests
5. Collaboration with stormwater agencies to install green infrastructure such as swales or rain gardens to also offset irrigation needs
6. Other CII-best management practices derived from additional innovation and technology advancement that can be taken by suppliers, subject to Water Board approval

Operational BMPs

1. Infrastructure changes (for example, smart meter replacement programs)
2. Billing or data collection procedures (for example, data tracking, analysis, and reporting improvements)
3. Other operational best management practices to facilitate CII best management practices program implementation and evaluation
4. Other CII best management practices derived from additional innovation and technology advancement that can be taken by suppliers, subject to Water Board approval

Table 4 shows the key tasks and milestones related to these new CII BMP requirements.

Table 4. Tasks and Milestones for Regulatorily Prescribed CII BMPs

Task	Frequency	Timing
Identify the top 2.5% and the top 20% of CII water users	One time and on-going	June 30, 2025
Identify the top 2.5% of CII water users and top 20% of connections in each water use classification	One time and on-going	June 30, 2029
Identify existing CII connections that appear to be inefficient according to key business activity indicators	One time and on-going	June 30, 2029
Implement at least 2 programs from each BMP category for top 2.5% of CII water users	Annually	June 30, 2039
Implement at least 1 program from each BMP category for top 20% of accounts in each water use classification	Annually	June 30, 2039
Conduct marketing and outreach to targeted commercial customers	Annually	Continuous
Administer Commercial Rebate and Support Programs	Annually	Continuous

5.6 Program Monitoring and Reporting

Ongoing monitoring, evaluation, and reporting are central components of Cal Water's conservation program strategy. These activities ensure that programs are performing as intended, that water savings estimates are supported by empirical evidence, and that the District meets CPUC and state regulatory requirements. Together, these efforts provide accountability, support continuous program improvement, and inform future program design and funding decisions.

Program Tracking

Cal Water uses the Alliance for Water Efficiency (AWE) Water Conservation Tracking Tool to systematically track program participation, expenditures, and estimated water savings across conservation programs. This system allows Cal Water to track implementation activity, evaluate program cost-effectiveness, identify participation trends, and assess progress toward water savings targets. The tracking data also support demand forecasting, program planning, and regulatory reporting.

Savings Evaluations

In addition to routine tracking, Cal Water conducts periodic savings evaluations to assess the actual water use impacts of its conservation programs. These evaluations typically use statistical and econometric methods to compare water use patterns before and after program participation, often relative to control groups. Recent and ongoing evaluations include:

- Toilet, showerhead, faucet, and complete bathroom retrofit water savings evaluations
- Lawn-to-Garden Program turf replacement water savings evaluation
- Smart Landscape Tuneup Program water savings evaluation
- Flume Rebate Program water savings evaluation

CPUC and State Reporting

Cal Water fulfills multiple conservation-related reporting requirements at both the CPUC and state levels. These include:

- **CPUC reporting:** Annual reports detailing conservation program activities, expenditures, and estimated water savings by district. These reports support regulatory oversight and future budget authorizations.
- **State reporting:**
    - Annual distribution system water loss audits and reporting to the California Department of Water Resources
    - Annual Urban Water Use Objective (UWUO) compliance assessments
    - Annual Commercial, Industrial, and Institutional (CII) performance measure compliance reporting

These monitoring and reporting functions require substantial data management, analytical support, and regulatory coordination, and are a key driver of the administration and research budget described in Section 6.

5.7 Water Conservation Program Staffing

Cal Water's Conservation Department is currently staffed by nine full-time equivalent (FTE) positions. A prior staffing evaluation by Cal Water indicated that the industry standard staffing ratio is 12 FTEs per million people served. At present, Cal Water has only 9 FTEs serving a customer base of 2 million people, or roughly one-third the standard level. This evaluation, conducted before the *Making Conservation a California Way of Life* regulations were introduced, already demonstrated a stark understaffing issue. The additional responsibilities introduced by the new regulations will undoubtedly intensify this challenge.

In light of mandated UWUO reductions and the extensive reporting and performance requirements associated with the MCCWL regulations, Cal Water has identified a need to expand its conservation program staffing.

While the use of consultants could provide short-term support, the ongoing and long-term nature of the regulatory requirements makes exclusive reliance on temporary staffing impractical. In particular, the data analysis, program tracking, and reporting obligations associated with the MCCWL framework require sustained institutional knowledge and continuity that are best supported through permanent staff.

Cal Water's staffing strategy therefore emphasizes strengthening internal capacity to manage conservation programs, lead outreach and customer engagement efforts, support customers, oversee ongoing CII activities, and fulfill reporting and compliance obligations. Consultants are expected to continue to play a targeted role by providing short-term, specialized expertise as needed, allowing flexibility while maintaining a strong in-house program foundation.

Consistent with this strategy, Cal Water has proposed in its 2024 GRC an increase in Conservation Department staffing from nine to fifteen positions. The six requested positions and their primary responsibilities are summarized in Table 5. At the time this plan was prepared, a final decision in the 2024 GRC had not yet been issued. As a result, it remains uncertain whether the CPUC will authorize the requested staffing increases necessary to support compliance with state conservation requirements.

Table 5. Proposed New Conservation Staff Positions

New Position	Responsibilities
Conservation Manager	• Program development/implementation/management • Budgeting • Staff oversight
Regional Conservation Coordinator (2 positions)	• Regional program implementation • District coordination • Customer engagement
Water Resource Sustainability Analyst	• Program tracking/analysis • Compliance assessment/reporting • Data management
Water Resource Sustainability Assistant	• Data entry • Analysis support • Compliance reporting support
Conservation Assistant	• Program application/rebate processing • Customer assistance • Data entry/processing

5.8 Summary of Water Conservation Program Strategy

Cal Water's conservation strategy for the South San Francisco District integrates regulatory tools, pricing signals, system efficiency measures, customer-focused programs, and rigorous monitoring and reporting to achieve sustained reductions in water demand. This multi-layered approach reflects the need to meet evolving state conservation standards, support water supply reliability, and manage long-term cost-of-service impacts.

Centralized program administration provides consistency, economies of scale, and strong cost-effectiveness, while district-level implementation focuses outreach and resources where they are most needed. Foundational elements of the strategy include water waste prevention and enforcement, universal metering and conservation-oriented rate design, and proactive water loss management. These structural measures create the conditions for efficient water use and system performance.

Building on this foundation, customer conservation programs deliver direct savings through rebates, technical assistance, education, and market transformation initiatives. In response to *Making Conservation a California Way of Life* requirements, increasing emphasis is being placed on outdoor landscape efficiency and support for high-water-use residential and commercial customers. Ongoing program tracking, empirical savings evaluations, and CPUC and state reporting ensure that program performance is documented, savings assumptions remain evidence-based, and the District can demonstrate compliance with UWUO, CII, and water loss standards.

Together, these elements position conservation as a long-term resource management strategy that supports regulatory compliance, water supply reliability, and cost-effective water supply planning for the District.

6 Current and Requested Conservation Budget

Cal Water is proposing an increase in the South San Francisco District's conservation budget in the 2024 General Rate Case (GRC). The proposed annual budget increases from $563,817 to $755,115, representing an increase of approximately 34 percent. This proposed increase is driven primarily by compliance requirements associated with the *Making Conservation a California Way of Life* regulations, as well as the need to expand conservation efforts in areas dependent on imported water and in districts either with currently high water supply costs or high supply development costs, such as South San Francisco.

6.1 Conservation Program Budget Components

The District's conservation budget consists of four primary components: (1) program implementation, (2) public information, (3) school education, and (4) administration and research. The program implementation budget is the largest component and covers the costs of delivering conservation programs, excluding marketing and internal staffing costs. The public information budget supports program marketing as well as broader conservation outreach and customer communications. The school education budget funds school-based conservation education programs offered within the District. The administration and research budget covers the District's allocated share of conservation staffing costs, along with expenditures for external consultants performing research, program evaluation, and water savings verification.

6.2 Conservation Program Budget Adjustments

In its 2024 GRC, Cal Water proposed three key adjustments to the currently authorized conservation program budget to address evolving regulatory and operational needs:

1. UWUO Compliance Budget Adjustment:

To support compliance with UWUO requirements, Cal Water conducted a detailed cost analysis using a representative portfolio of conservation measures. This analysis identified the measures and activity levels needed to achieve projected savings, estimated associated annual and cumulative water savings, and calculated the corresponding costs required to meet UWUO targets.

2. Adjustments for Supply-Impacted and High-Cost Districts:

Additional adjustments were proposed for districts affected by imported supply uncertainty and for those facing high incremental water supply costs. These adjustments allocate additional conservation resources to address supply reliability challenges and to pursue conservation as a cost-effective alternative to higher-cost supply development.

3. Adjustments to Mitigate Potential Implementation Feasibility and Cost-of-Service Concerns:

Because the first two adjustments resulted in substantial budget increases in some districts, a moderating adjustment was applied to limit potential cost-of-service impacts. This constraint effectively capped proposed program budget increases at no more than five times a district's currently authorized conservation budget, balancing regulatory compliance needs with affordability and implementation feasibility.

6.3 Conservation Program Budget Comparison

Figures 12 and 13 compare the South San Francisco District's currently authorized conservation budget with the budget requested in the 2024 GRC. Overall, total conservation funding increases from $563,817 to $754,115, an increase of approximately 34 percent.

The program implementation budget increases from $300,208 to $450,312, an increase of roughly 50 percent. As a result, the share of total conservation funding devoted to direct customer programs rises from 53 percent to 60 percent. This shift reflects a clear prioritization of on-the-ground conservation measures that generate measurable savings and reduce demand on the SFPUC Regional Water System, strengthening long-term supply reliability.

The public information budget increases from $59,292 to $90,062, with its share rising modestly from 11 percent to 12 percent. This increase supports expanded outreach and customer engagement to sustain and enhance participation in conservation programs.

The administration and research budget decreases slightly from $175,986 to $172,279, and its share declines from 31 percent to 23 percent. Although overall conservation funding grows, a larger proportion of total resources is directed toward direct program implementation rather than administrative overhead.

The school education budget increases from $28,331 to $42,462, increasing its share from 5 percent to 6 percent, supporting continued investment in community education and long-term water use awareness.

Taken together, the proposed budget represents both an expansion and a reprioritization. Total conservation funding increases by roughly one-third, and a larger share of resources is directed toward direct program implementation. The District is projected to remain below both its UWUO and the State's real water loss performance standard under baseline conditions. Accordingly, the expanded conservation funding is not driven by a modeled compliance shortfall, but rather by the need to enhance supply reliability, reduce exposure to imported supply variability, and moderate long-term wholesale water cost risk associated with reliance on the SFPUC Regional Water System.

Figure 12. South San Francisco District Conservation Budget: Current Authorized and Requested

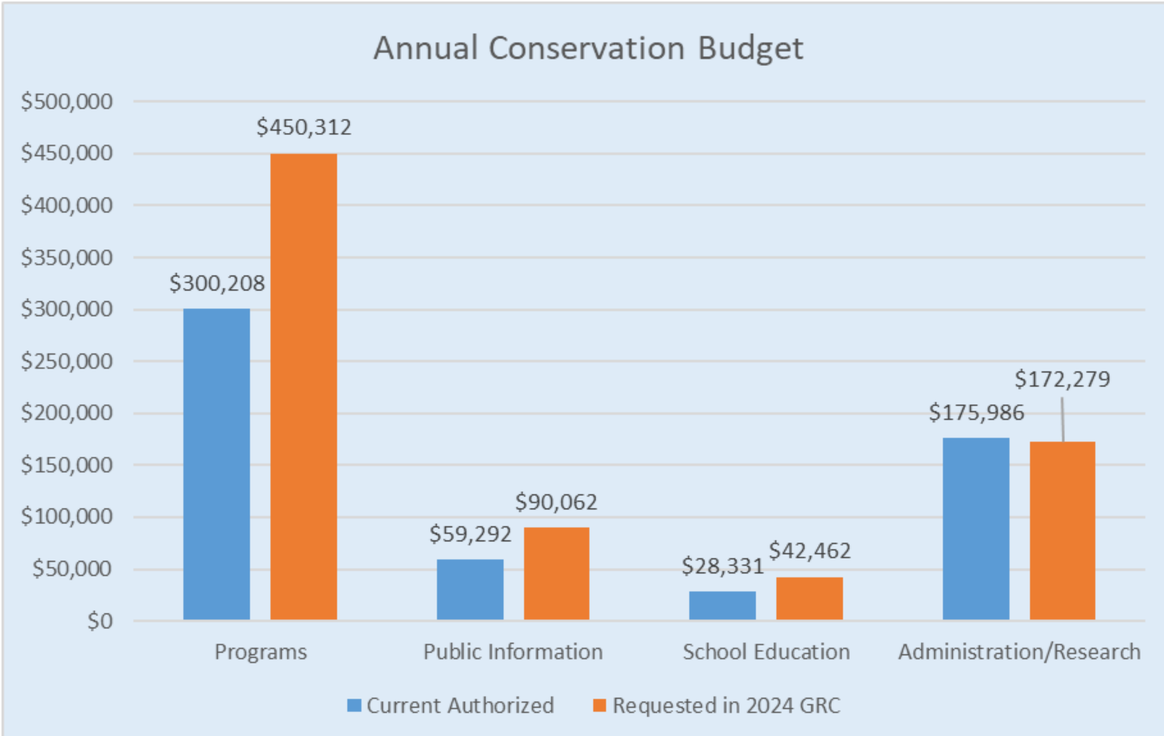
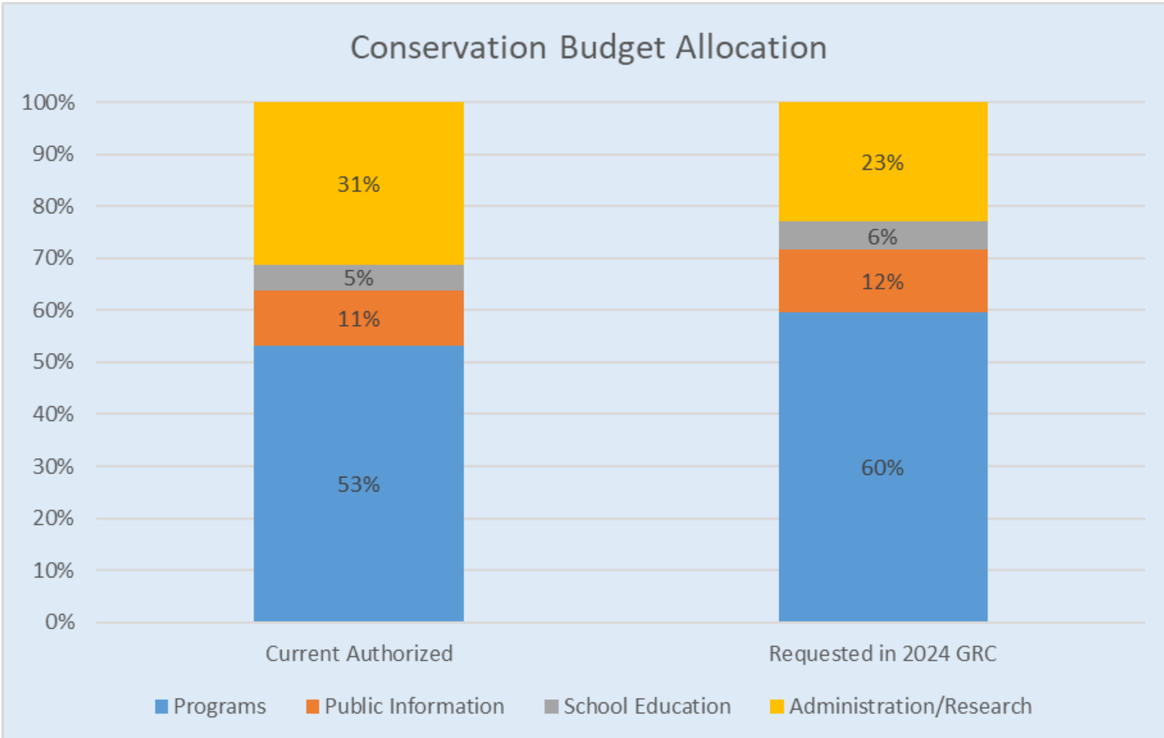


Figure 13. South San Francisco District Conservation Budget Shares



7 Conclusion

The South San Francisco District has achieved sustained reductions in water use over the past two decades through universal metering, conservation-oriented pricing, expanded customer programs, and state and federal efficiency standards. As documented in this plan, these efforts have enabled the District to meet or exceed historical conservation requirements—including compliance with the Water Conservation Act of 2009 and CPUC conservation goals—while continuing to provide reliable service.

Looking ahead, the primary regulatory driver is the State's Making Conservation a California Way of Life (MCCWL) framework, which establishes increasingly stringent efficiency standards and reporting requirements beginning in 2027 and extending through 2035 and beyond. Under currently authorized programs and anticipated passive efficiency gains, the District is projected to remain below its Urban Water Use Objective (UWUO) and in compliance with the State's distribution system water loss performance standard throughout the planning horizon. Maintaining that position, however, will require continued program implementation, careful performance tracking, and periodic refinement of conservation strategies as standards evolve.

At the same time, the District relies heavily on imported supplies delivered through the San Francisco Public Utilities Commission's Regional Water System, including the Hetch Hetchy system. While SFPUC has invested significantly in system upgrades and seismic improvements, imported supplies remain subject to hydrologic variability, environmental and regulatory constraints, and infrastructure-related risks associated with a long conveyance system extending from the Sierra Nevada to the Bay Area. These factors introduce supply and cost uncertainty that reinforce the value of sustained demand management.

The conservation budget increase proposed in the 2024 General Rate Case is therefore not driven by a modeled compliance shortfall. Rather, it reflects a strategic decision to expand on-the-ground program implementation, strengthen long-term supply reliability, and reduce exposure to imported water cost volatility. By moderating demand growth and improving efficiency, conservation enhances operational flexibility during dry years and supports cost stability for customers.

Cal Water's conservation strategy integrates conservation-oriented rate design, system efficiency measures, and customer-focused programs within a centrally administered framework designed to promote consistency and cost-effectiveness. Expanded program implementation—supported by monitoring, evaluation, and reporting—will help ensure that savings are measurable, sustained, and adaptable as regulatory requirements and imported supply conditions continue to evolve.

Appendix L: Resolution to Adopt

CALIFORNIA WATER SERVICE
1720 North First Street
San Jose, CA 95112-4598 *Tel:* (408) 367-8200

June 26, 2026

Mr. Ryan Bailey, Manager
Water Use Efficiency Branch
California Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001

Re: Adoption of the 2025 Urban Water Management Plan and Water Shortage Contingency Plan California Water Service – South San Francisco District

Mr. Bailey:

This letter serves as notice that California Water Service (Cal Water) has formally adopted this 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) for our South San Francisco District.

The attached resolution from Cal Water's Board of Directors on September 28, 2005 delegated authority for this approval to, among others, any Vice President. I have approved the attached UWMP and WSCP, which were developed by staff under my supervision in accordance with the Urban Water Management Planning Act contained in the California Water Code, Division 6, Part 2.6.

If you have any questions regarding this UWMP or WSCP, please contact Jake Lam at the above mailing address, by telephone at (408) 367-8257, or by email at jlam@calwater.com.

Sincerely,

Kenneth G. Jenkins
Vice President, Water Resources Planning and Sustainability

Attachments – Resolution

cc: Scott Wagner – Director of Water Resources
Ross Moilan – District Manager, South San Francisco District

CALIFORNIA WATER SERVICE
1720 North First Street
San Jose, CA 95112-4598 Tel: (408) 367-8200

CALIFORNIA WATER SERVICE COMPANY

RESOLVED, that this Board of Directors delegates its authority to approve Urban Water Management Plans as required under the Urban Water Management Planning Act contained in California Water Code 6, Part 2.6 to the President and Chief Executive Officer, any Vice President, the Corporate Secretary and any Assistant Secretary of California Water Service Company.

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I, DAN L. STOCKTON, Corporate Secretary of California Water Service Company, a California corporation, do hereby certify that the foregoing is a full, true and correct copy of certain resolution adopted by the Board of Directors of said corporation at a regular meeting of said Board duly called and held September 28, 2005, at which a quorum was present, that all Directors present voted in favor of said resolution, and that said resolution has never been annulled or revoked but is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto signed my name this 7th day of September, 2005.

Dan L Stockton

Dan L. Stockton
Corporate Secretary