PUBLIC DRAFT

2025 URBAN WATER MANAGEMENT PLAN

NORTH COAST COUNTY WATER DISTRICT
MAY 2026

PREPARED BY:
eki environment & water

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2025 URBAN WATER MANAGEMENT PLAN

North Coast County Water District

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ABBREVIATIONS AND ACRONYMS

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACS	American Community Survey
AF	Acre-feet
AFY	Acre-Feet per Year
AMI	Advanced Meter Infrastructure
ATAD	Auto thermal thermophilic aerobic digesters
AWS	Alternative Water Supply
AWSP	Alternative Water Supply Program
AWWA	American Water Works Association
BAWSCA	Bay Area Water Supply and Conservation Agency
BG	Billions of Gallons
CARP	Climate Action and Resilience Plan
CCR	California Code of Regulations
CCWRP	Calera Creek Water Recycling Plant
CEQA	California Environmental Quality Act
CGC	California Government Code
CII	Commercial, Industrial, and Institutional
CMIP5	Coupled Model Intercomparison Project
CRISP	Coastside Resilience Infrastructure Strategic Plan
CWC	California Water Code
CY	Calendar Year
DDW	Division of Drinking Water
District	North Coast County Water District
DMM	Demand Management Measure
DOF	Department of Finance
DSOD	Division of Safety of Dams
DWR	Department of Water Resources
FERC	Federal Energy Regulatory Commission
FY	Fiscal Year
GPCD	Gallons Per Capita Per Day
gpm	Gallons per Minute
GPSCD	Gallons per Service Connection per Day
HET	High Efficiency Toilet
HHLSM	Hetch Hetchy and Local Simulation Model
HHWP	Hetch Hetchy Water and Power
HMP	Hazard Mitigation Plan
HOA	Homeowner Association
HRL	Healthy Rivers and Landscapes Program Voluntary Agreement
HTWTP	Harry Tracy Water Treatment Plant

IRR	Irrigation
IRWM	Integrated Regional Water Management
ISG	Individual Supply Guarantee
kWh	Kilowatt-hour
kWh/MG	Kilowatt-hours per million gallons
kWh/vol	Kilowatt-hours per volume
LCLUP	Local Coastal Land Use Plan
LOS	Level of Service
LTVA	Long-Term Vulnerability Assessment
MCCWL	Making Conservation a California Way of Life
MCL	Maximum Contaminant Levels
MF	Multi-family residential
MG	Million gallons
MGD	Million gallons per day
N/A	Not applicable
NCCWD	North Coast County Water District
PWS	Public Water System
RGSR	Regional Groundwater Storage and Recovery
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
RWS	Regional Water System
SB	Senate Bill
SBR	Sequencing batch reactor
SFPUC	San Francisco Public Utilities Commission
SMC	San Mateo County
SVWTP	Sunol Valley Water Treatment Plant
SWP	State Water Project
SWRCB	State Water Resources Control Board
UCSC	University of California, Santa Cruz
USEPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
UWUO	Urban Water Use Objective
WSAP	Water Shortage Allocation Plan
WSCP	Water Shortage Contingency Plan
WSIP	Water System Improvement Plan
WWTP	Wastewater Treatment Plant
WY	Water year

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.

This 2025 Urban Water Management Plan (UWMP or Plan) is prepared for the North Coast County Water District (District), which serves approximately 835 million gallons (MG) of water to a population of approximately 37,217. The District meets the definition of an urban water supplier.[1] Therefore, in accordance with California Water Code (CWC) §10621(e), the District is obligated to develop and submit an UWMP to the California Department of Water Resources (DWR) by July 1, 2026.

This UWMP serves as a foundational planning document and includes descriptions of historical and projected water demands and supplies and the resulting reliability during a set of defined water supply conditions over a minimum 20-year planning horizon. This Plan also describes the actions the District is taking to promote water conservation (referred to as "demand management measures") and includes a Water Shortage Contingency Plan (WSCP) to address potential water supply shortages from drought or other impacts to supply availability. This Plan is updated every five years in accordance with state requirements under the UWMP Act and amendments (Division 6 Part 2.6 of the CWC §10610 – 10656). Past plans developed for the District are available on the DWR Water Use Efficiency Data Portal website: https://wuedata.water.ca.gov/.

Pursuant to the requirements of the CWC §10630.5, this lay description provides a simple summary of this UWMP. This Plan includes ten sections, which are summarized below.

Section 1 Plan Introduction

This section presents the background and purpose of the UWMP, describes the Plan organization and provides an overview of the Plan. For agencies that rely on water from the Sacramento-San Joaquin Delta (Delta), this section also discusses and demonstrates consistency with the Delta Plan by the Delta Stewardship Council. The District relies solely on potable water purchased from the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS) and recycled water to its customers via its recycled water program; therefore, this requirement does not apply to its water sources.

Section 2 Plan Preparation

This section discusses key structural aspects related to the preparation of this UWMP, and describes the coordination and outreach conducted as part of the preparation of the Plan, including coordination with local agencies (i.e., the City of Pacifica, Bay Area Water Supply and Conservation Agency [BAWSCA], the BAWSCA member agencies, SFPUC, the County of San Mateo) and the public.

[1] Per 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 AF of water annually.

Section 3 Service Area Description

This section provides a description of the District's water system and service area, including information related to the climate, population, and demographics. The District is located in San Mateo County, and the service area closely corresponds with the boundary of the City of Pacifica. The District has a population of approximately 37,217 and has a semi-arid Mediterranean coastal climate characterized by cool dry summers and mild wet winters. The majority of the 22 inches of average annual precipitation falls between November and April. Much of the District is "built out," allowing for only modest population and employment increases in the future assuming continuation of current zoning and densities.

Section 4 Water Use Characterization

This section describes and quantifies the District's current and projected demands through the year 2050. The District provides drinking water (also referred to as "potable water") and recycled 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's maintenance and operation, as well as unavoidable losses inherent in the operation of a water distribution system. Total water demand within the District was 835 (MG) in 2025, of which 828 MG was potable demand and 7.1 MG was non-potable demand. Taking into account historical water use, expected population increase and other growth, climatic variability, water conservation, and other assumptions, water demand within District is projected to increase to 871 MG by 2050, a change of 4.3% compared to the 2025 demand.

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

The Water Conservation Act of 2009 (SB X7-7), enacted in November 2009, required the State to achieve a 20% reduction in urban per capita water use by December 2020 and directed retail suppliers to establish an urban water-use target (2020 Target) to support this goal. Because the CWC does not set an end date for reporting progress toward the 2020 Target, this section documents the District's compliance with SB X7-7 as of 2020. The District is not a member of a "Regional Alliance" and was not part of a service area merger or consolidation after 2020.

In July 2024, the State enacted the Making Conservation a California Way of Life (MCCWL) regulation to promote long-term water conservation and drought resilience beyond SB X7-7. MCCWL established annual Urban Water Use Objectives (UWUO) for water suppliers. UWUO compliance falls under the authority of the State Water Resources Control Board (SWRCB). As such, although UWUO compliance projections are not required as part of an UWMP, they can provide valuable insight into the potential need and timing for additional conservation measures. For this reason, this section also documents the District's progress towards meeting the UWUOs.

Section 6 Water Supply Characterization

This section presents an analysis of the District's water supplies, as well as an estimate of water-related energy-consumption. The intent of this section is to present a comprehensive overview of the District's water supplies, estimate the volume of available supplies over a minimum 20-year planning horizon, and assess the sufficiency of the District's supplies to meet projected demands under "normal" hydrologic conditions.

The District relies on the SFPUC RWS for all of its potable water supply. The District's contractual allocation to SFPUC supplies (known as its Individual Supply Guarantee) is 3.84 million gallons per day (MGD), or approximately 1,402 MG per year.

The District' currently holds appropriative water rights, issued by the SWRCB, to divert and use water from South Fork San Pedro Creek. The District is authorized to divert and use up to 362.7 acre-feet or 118.2 MG

of water annually. The District, however, is currently not using surface water from South Fork San Pedro Creek. In addition to its surface water rights, the District is investigating options to develop groundwater supplies in the San Pedro Valley Groundwater Basin to expand its local supply portfolio.

The District delivers recycled water produced by the City of Pacifica at the City's Calera Creek Water Recycling Plant (CCWRP). In 2025, the District supplied approximately 7.1 MG through its recycled water system to four customers and residential recycled water filling station at its offices. Of this 7.1 MG recycled water demand, approximately 2.4 MG was met by recycled water and 4.6 MG was met by supplemental potable water. This volume does not include the recycled water deliveries that are wheeled on behalf of SFPUC through the District's system to the Sharp Park Golf Course, which is owned and operated by the San Francisco Recreation and Parks Department and is not included in the District's gross water demand or supply. The District is evaluating areas to expand its recycled water system to serve additional irrigation customers. The projected recycled water demand in 2050 is 9 MG, not accounting for these potential additional future customers or the recycled water wheeled to the Sharp Park Golf Course.

Reporting calculated water system energy intensity is a requirement for the UWMPs. 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 1,897 kilowatt hours per million gallons of water (kWh/MG).

Section 7 Water Supply Reliability Assessment

This section assesses the reliability of the District's water supplies, with a specific focus on potential constraints such as water supply availability, water quality, and climate change. The intent of this section 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.

Based on this analysis, the District expects the available supplies to be sufficient to meet projected demands in normal years. However, the District is potentially expected to experience significant shortfalls of its SFPUC RWS supplies during single dry and multiple dry year conditions as a result of Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) implementation. At this time, numerous uncertainties remain in the implementation of the Bay-Delta Plan Amendment and the resultant allocation of the available supply to the District and the other SFPUC Wholesale Customers.

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.

Section 8 Water Shortage Contingency Planning

This section describes the WSCP for the District, which serves as a standalone document (see **Appendix E**), 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, or restricting landscape irrigation to specific days and/or times. Consistent with DWR requirements, the WSCP includes six levels to address shortage conditions ranging from up to 10% to greater than 50% shortage.

Section 9 Demand Management Measures

This section includes descriptions of past and planned conservation programs that the District 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. The District has developed a suite of conservation programs and policies which address each DMM category. Additionally, the District participates in water conservation programs offered by BAWSCA. Through implementation of the DMMs, the District has been able to significantly reduce water demands in its service area and help its customers to achieve water and cost savings.

Section 10 Plan Adoption, Submittal, and Implementation

This section provides information on a public hearing, the adoption process for the UWMP and WSCP, the adopted UWMP and WSCP submittal process, Plan implementation, and the process for amending the adopted UWMP and WSCP. Prior to adopting the Plan, the District held a formal public hearing to present information on its District UWMP and WSCP on June 17, 2026 at 7:00 pm. This UWMP and corresponding WSCP were submitted to DWR within 30 days of adoption and by the July 1, 2026, deadline.

1 PLAN INTRODUCTION

This section discusses the importance and uses of this 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) 2025 UWMP Guidebook.[2]

1.1 Background and Purpose

The North Coast County Water District (District) is located on the western slopes of the coastal mountains of San Mateo County, overlooking the Pacific Ocean. The District's service area closely corresponds with the boundary of the City of Pacifica (referred to herein as City or Pacifica). The District delivers water to residential, commercial, and governmental customers and purchases all its potable water supplies from the San Francisco Public Utilities Commission (SFPUC). As of 2025, the District serves 12,677 water connections within its service area.[3] Additionally, the District serves recycled water to customers for landscape irrigation uses via its recycled water system.[4]

This UWMP is a foundational document and source of information about the District's 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 for water supply and system planning; and

A source for data on population, housing, water demands, water supplies, and capital improvement projects used in:

- 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 DWR, the State Water Resources Control Board (SWRCB), or other state agencies.

The District's last UWMP was adopted in 2021, referred to herein as the "2020 UWMP." This Plan is an update to the 2020 UWMP, 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 CWC

The UWMP Act requires urban water suppliers to prepare an UWMP every five years and to submit this plan to the 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

[2] The 2025 UWMP Guidebook is available at: https://wuedata.water.ca.gov/public/public_resources/4825681388/2025_Draft_UWMP_Guidebook_Release.zip
[3] Includes five recycled water meters and excludes portable meters.
[4] As discussed in Section 3.1, the District is planning to utilize recycled water for dual-plumbed toilet flushing use at its main office.

purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet per year (AFY) are required to prepare an UWMP (CWC §10617).

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 following the Governor's call for a statewide 20% reduction in urban water use by 2020, referred to as the Water Conservation Act of 2009, or "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% by 2020. Beginning in 2016, urban retail water suppliers were required to comply with the water conservation requirements in SB X7-7 to be eligible for state water grants or loans. **Section 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). Subsequently, the Legislature passed Senate Bill (SB) 606 and Assembly Bill (AB) 1668, which added new drought planning requirements, including:

1) Additional Water Shortage Contingency Plan (WSCP) requirements (CWC §10640),
2) Drought risk assessments to assess water supply reliability in UWMPs for a drought period lasting five consecutive water years (WY) (CWC §10635(b)), and
3) Annual water supply and demand assessments to determine water supply reliability for the current year and one subsequent dry year (CWC §10632(a)).

These elements are included in **Section 7** and **Section 8** of this Plan. Additionally, SB 606/AB 1668 set new requirements for urban water suppliers to further increase water use efficiency beyond SB X7-7. Beginning in 2024, agencies were required to report an annual Urban Water Use Objective (UWUO). Although UWUO compliance projections are not required as part of an UWMP, they can provide valuable insight into the potential need and timing for additional conservation measures. For this reason, **Section 5.2** of this Plan documents the District's progress in meeting the UWUOs.

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

1.3 Plan Organization

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

Section 1	Plan Introduction
Section 2	Plan Preparation
Section 3	Service Area Description
Section 4	Water Use Characterization
Section 5	SB X7-7 Baseline, 2020 Target, and 2025 Reporting
Section 6	Water Supply Characterization
Section 7	Water Supply Reliability Assessment
Section 8	Water Shortage Contingency Planning
Section 9	Demand Management Measures
Section 10	Plan Adoption, Submittal, and Implementation

In addition to these sections, this Plan includes 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. A lay description of the UWMP, including information related to water service reliability, potential issues, and strategies for managing reliability risks, is provided at the beginning of this UWMP.

1.4 UWMP Relationship to Other Efforts

This Plan provides information specific to water management and planning within the District's service area. 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, District Water Master Plans, recycled water facility plans, integrated resource plans, Integrated Regional Water 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 the City's General Plan 2040 (Pacifica, 2022), the Association of Bay Area Governments (ABAG) Plan Bay Area 2050, Bay Area Water Supply and Conservation Agency's (BAWSCA's) Long-Term Reliable Water Supply Strategy 2050 (Strategy 2050), climate action plans, local hazard mitigation plans, and local and regional water resource plans to the extent data from these plans are applicable and available.

1.5 Special Considerations

This Plan includes information beyond the requirements of the UWMP Act to support other regulatory processes that rely on UWMP data, including the Delta Plan and permitting for ocean desalination projects.

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

Although not required by the UWMP Act, in the 2025 UWMP Guidebook 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 by the Delta Stewardship Council—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 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 [CCR], Title 23, Section 5003).

The SFPUC, the District's wholesale water supplier, has made a legal determination that this requirement does not apply to their water sources.[5]

1.5.2 Permitting for Ocean Desalination Projects

California's *Water Supply Strategy: Adapting to a Hotter, Drier Future* updates state priorities to address water supply shortages due to long-term drought and the accelerating impacts of climate change, including identifying opportunities to access new water sources such as ocean desalination. To streamline permitting for ocean desalination projects, the *Seawater Desalination Siting and Streamlining Report to*

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

Expedite Permitting recommends that UWMPs clearly demonstrate the need for future or proposed ocean desalination projects.

As discussed in **Section 6**, the District does not anticipate the need for an ocean desalination project. Therefore, the District will not pursue ocean desalination to augment its supply portfolio.

2 PLAN PREPARATION

This section discusses the type of UWMP prepared by the District and includes information that apply throughout the Plan. It also summarizes coordination and outreach during Plan development.

2.1 Basis for Preparing the UWMP

☑ ***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 §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.

(w) "Urban wholesale water supplier" means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

☑ ***CWC §10620***

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

☑ ***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.

☑ ***California Health and Safety Code §116275***

(h) "Public Water System" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

An urban water supplier is defined in CWC §10617 as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to 3,000 customers or supplying more than 3,000 AFY.

The District operates the Public Water System (PWS) listed in **Table 2-1**. PWSs are the systems that provide drinking water for human consumption and are regulated by the SWRCB Division of Drinking Water (DDW). The SWRCB requires that water agencies report water use 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 for submitting a UWMP. In 2025, the District provided water to 12,677 accounts and served 835 million gallons (MG) of water (**Table 2-1**). The District is therefore subject to the requirements of the UWMP Act.

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

PWS Number	PWS Name	Number of Municipal Connections 2025 (a)	Volume of Water Supplied 2025 (MG) (b)
CA4110025	North Coast County Water District	12,677	835
	Total	**12,677**	**835**

NOTES:
(a) Total number of connections in 2025 includes five recycled water connections and excludes portable meters.
(b) Total volume of water supplied in 2025 includes both potable and non-potable use.
(c) The number of connections differs from the value provided in **Table 4-4** due to ongoing refinements to the District's fire service meter inventory since the CY 24 AWWA water loss audit was submitted to DWR.

2.2 Individual or Regional Plan

Urban water suppliers may elect to prepare individual or regional UWMPs. The District has elected to prepare an individual UWMP (**Table 2-2**). Urban retail water suppliers may report on the requirements of SB X7-7 individually or as a member of a "Regional Alliance." As described in **Section 5**, the District is not a member of a Regional Alliance and this UWMP provides information on the District's compliance with SB X7-7 as an individual urban retail water supplier.

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

Type of Plan			Name of Regional Alliance or RUWMP
☒	Individual UWMP		
	☐	Water Supplier is also a member of a SB X7-7 Regional Alliance	N/A
☐	RUWMP		N/A

2.3 Fiscal or Calendar Year and Units of Measure

☑ ***CWC §10608.20***

(a)(1) Urban retail water suppliers … may determine the targets on a fiscal year or calendar year basis.

Per CWC §10608.12(t) and §10617, the District is an urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually, 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 MG and are reported on a calendar year basis (**Table 2-3**). Water use and planning data reported in this UWMP for calendar year 2025 cover the full twelve months of the year, as required by the UWMP Guidelines.

Per the 2025 UWMP Guidebook, the UWMP preparer is requested to complete a checklist of specific UWMP requirements to assist the DWR review of the submitted UWMP. The completed checklist is included in **Appendix A**.

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

Type of Supplier	
☐	Supplier is a wholesale supplier.
☒	Supplier is a retail supplier.
Fiscal or Calendar Year	
☒	UWMP tables are in calendar years.
☐	UWMP tables are in fiscal years.
Units of measure used in UWMP	
Unit	MG

2.4 Standard Submittal Tables and Alignment with UWMP Act Requirements

The Plan has been prepared in general accordance with the format suggested in DWR's 2025 UWMP Guidebook. Text from the UWMP Act has been included in text boxes at the beginning of relevant sections of this UWMP. The information presented in the respective UWMP sections, and the associated text, figures, and charts are collectively intended to fulfill the requirements of that subsection of the UWMP Act. Sources for the information contained herein are provided in the references section of the document.

Per CWC §10644(a)(2), selected information for the UWMP updates must be presented in standardized tables for electronic submittal to DWR. Text and tables in the main body of the UWMP document have been cross-referenced to the companion DWR tables. UWMP preparers are also requested to complete a checklist of specific UWMP requirements to assist the DWR review of the submitted UWMP. The completed checklist is included in **Appendix A**.

2.5 Coordination and Outreach

Coordination with other water suppliers, cities, counties, and community organizations in the region is an important part of preparing the updated UWMP and WSCP. This section identifies the agencies and organizations the District sought to coordinate during the 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. As shown in **Table 2-4,** the District derives all of its potable water from the SFPUC.

The District coordinated with the SFPUC to ensure alignment of demand and supply projections presented in this UWMP. Additionally, as described in more detail in **Section 7**, the District has relied upon the water supply reliability projections provided by the SFPUC for the purposes of analyzing the reliability of its SFPUC supplies during normal and dry years through 2050.

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

Wholesale Water Supplier Name
San Francisco Public Utilities Commission

2.5.2 Role of BAWSCA and the UWMP Common Language

Among its other functions, BAWSCA represents the District and the 25 other water districts, cities, and utilities, collectively referred to as the "Wholesale Customers", in negotiations and other coordination efforts with the SFPUC. Together with SFPUC, BAWSCA developed common language for inclusion in each Wholesale Customers' 2025 UWMP regarding the following common issues:

- Description of BAWSCA;
- Regional Water Demand and Conservation Projections;
- Long Term Reliable Water Supply Strategy;
- Tier One Drought Allocations;
- Tier Two Drought Allocations;
- SFPUC Regional Water System;
- Individual Supply Guarantees (ISGs);
- 2028 SFPUC Decisions (formerly 2018 SFPUC Decisions);
- Reliability of the Regional Water System;
- Climate Change;
- SFPUC's Efforts to Develop Alternative Water Supplies;
- Rate Impacts of Water Shortages; and
- BAWSCA Conservation Programs.

For clarification purposes, and as shown below, the common language provided by BAWSCA and SFPUC is shown in italicized font and has been indented for emphasis; it is otherwise presented unchanged from the original text. As a result, there may be some redundancy in the information presented and the number of times that certain terms are abbreviated or defined. A description of BAWSCA's role generally and related to the 2025 UWMP development process is provided below.

> *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.

2.5.3 Coordination with 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…

The District coordinated with other regional agencies during preparation of this UWMP to ensure that data and issues are presented accurately. Between January and May 2026, District staff representatives attended a series of meetings hosted by BAWSCA on topics pertinent to preparation of the 2025 UWMPs. On March 11, 2026, BAWSCA distributed the water supply reliability projections provided by the SFPUC, including updated dry year supply allocations described in **Section 7** (**Appendix D**).

The District also contacted the wastewater agency that treats wastewater collected from the District's service area and provides recycled water to the District's recycled water program, the City of Pacifica. The District's UWMP is consistent with the City's General Plan 2040 and subsequent documents.

2.5.4 Notice to Cities and Counties

☑ ***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 District provided a 60 Day Notice to the entities and the communities it serves more than 60 days prior to the public hearing it held on June 17, 2026 informing them that the Plan was going to be reviewed and updated. As a courtesy, the District also provided a 60 Day Notice to other local and regional water retailers and public agencies (such as SFPUC, BAWSCA, and the BAWSCA member agencies) due to geographical proximity and to ensure regional alignment in water management. The 60 Day Notice recipients are listed in **Section 10 (Table 10-1**)**,** and copies of correspondence with the agencies are provided in **Appendix B**.

The District also sought public participation and notified the public of its intent to adopt its UWMP through a public hearing and notices to members of the community. Additional information on public participation, including information on notifications, is provided in **Section 10** and in **Appendix C**.

3 SERVICE AREA DESCRIPTION

This section describes the District's water system and service area, including climate, population, demographics, and land uses to help in understanding various elements of water supply and demand.

3.1 General Description

☑ ***CWC §10631***

(a) Describe the service area of the supplier…

The District is an independent special district that has served Pacifica and its residents since 1944. A map of the District's service area boundaries in relation to the City boundaries is shown in **Figure 3-1**. The District purchases all its potable water from the SFPUC Regional Water System (RWS). Water distribution, water conservation, and maintenance of water quality are the District's main water resource functions, as treated water purchased from the SFPUC RWS does not require further treatment.

The District is located on the western slopes of the coastal mountains of San Mateo County, overlooking the Pacific Ocean. Its boundaries closely correspond to the City boundaries, with small portions located in unincorporated San Mateo County. In general, the District is bounded by the City of Daly City on the north, Skyline Boulevard and the City of South San Francisco on the east, Montara Mountain on the south, and the Pacific Ocean on the west. From north to south, the District is approximately 6.5 miles in length. The service area extends approximately one mile inland from the coast in the northern area to as much as three miles inland in the southern area. The total area of the District is approximately 11.3 square miles (**Figure 3-1**).

The areas of the District that are located in unincorporated San Mateo County are mostly parks and open space lands, without water service connections, including portions of Golden Gate National Recreation Area lands (Sweeney Ridge) to the east and San Pedro Valley County Park to the south. These areas are uninhabited according to voter files and the US Census data. The District's 12,677 water service connections are almost exclusively within the City's urban area. There are two notable exceptions. One is a service connection for sales to the City of San Bruno; this connection is located at the District's Main Pump Station at SFPUC's Harry Tracy Water Treatment Plant (HTWTP) and serves the Crystal Springs Apartments, located near HTWTP in San Bruno. Also, in 2013 the District expanded its service area boundaries to serve the Caltrans Tom Lantos Tunnels which were constructed to replace California Coastal Route 1 located along the Devil's Slide area between Pacifica and Montara. The District provides water service for fire suppression in the tunnels and to the Caltrans Operations and Maintenance Center on the south end of the tunnels, to public water fountains and limited landscaping.

The District has also been supplying disinfected tertiary recycled water to irrigation customers since 2013. The District receives a portion of the total amount of tertiary recycled water produced annually from the City of Pacifica's Calera Creek Water Recycling Plant (CCWRP), under an Agreement between the City and the District. The District's recycled water customers in Pacifica include the SFPUC (Sharp Park Golf Course), the City of Pacifica (Fairway Park and several streetscape areas on Palmetto Ave), CalTrans, Oceana High School, and Ingrid B. Lacy Middle School. In 2015, the District also began offering recycled water for irrigation use to residential customers by establishing a recycled water fillstation at its corporation yard located at its main office. Additionally, the District is currently working to amend its recycled water permit in conjunction with the City of Pacifica's CCWRP Ultraviolet (UV) Disinfection System Upgrades Project to allow for dual-plumbed recycled water use for toilet flushing in the District's main office building. A detailed description of the District's recycled water program is provided in **Section 6.5.** The District's recycled water service area and current distribution system is shown on **Figure 3-2.**

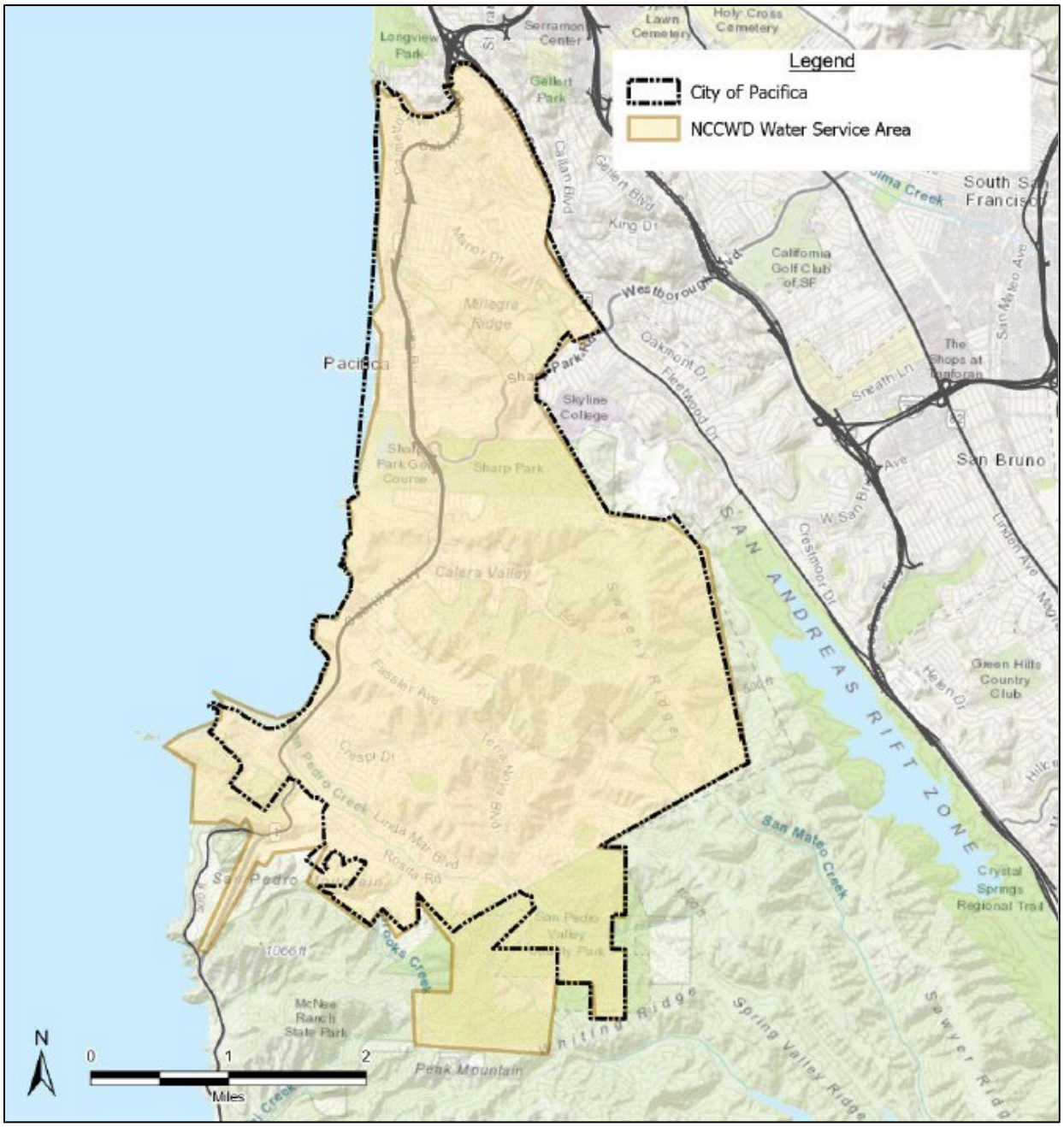

Figure 3-1 District Location and Service Boundaries

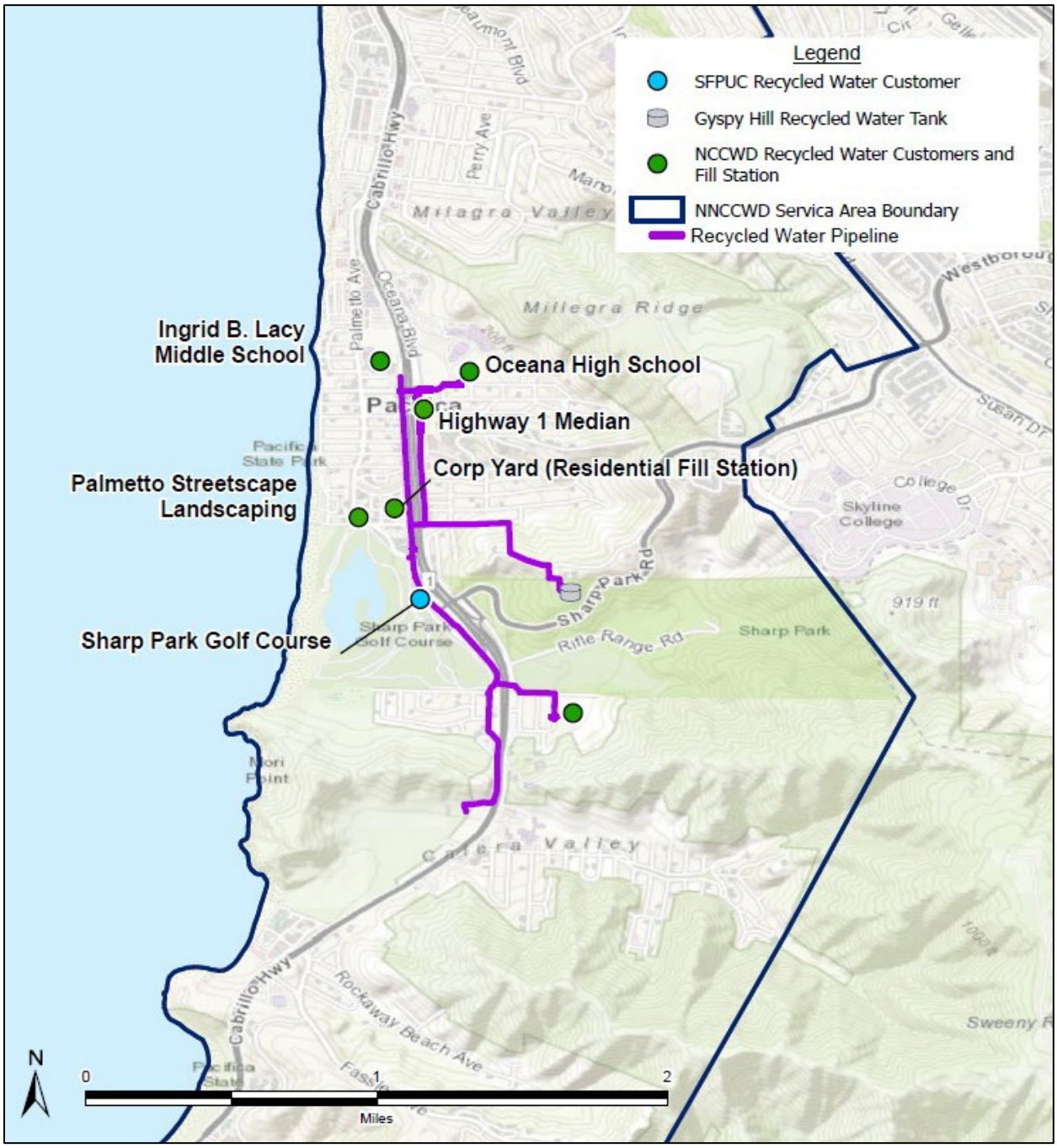

Figure 3-2 District Recycled Water Distribution System[6]

[6] Sharp Park Golf Course, while it is located within Pacifica, it is owned and operated by the San Francisco Recreation and Parks Department. As such, recycled water that is used on Sharp Park Golf Course is wheeled through the District's recycled water distribution system on behalf of SFPUC, but it is not part of the District's gross water supply.

3.2 Service Area Climate

☑ ***CWC §10631***

(a) Describe the service area of the supplier, … "climate…"

☑ ***CWC §10635***

(b)(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.

Pacifica has a semi-arid Mediterranean coastal climate typified by cool summers and mild winters. The warmest months of the year are August and September, and the coldest months are December and January. On average, the District receives 22 inches of rainfall annually. Maximum daily air temperature averages 63 degrees Fahrenheit (°F) during the summer months (**Table 3-1**; **Figure 3-3**). In the winter, it averages 57°F. The average reference evapotranspiration (ETo) for the region is 41 inches per year per the California Irrigation Management Information System (CIMIS; CIMIS, 2026). The ETo is a standard measurement related to the water demand by plants in a specific region. Because of the District's location in the Coastal Fog Belt, ETo rates are very low in comparison to other areas of California, particularly during the summer months. Consequently, landscape irrigation requirements and urban water consumption in general in the coastal region of San Mateo County (including Pacifica) are among the lowest in the State.

Table 3-1 Climate Characteristics

Month	Average Temperature (a)		Standard Average ETo (inches) (b)	Average Rainfall (inches) (a)
	Min (°F)	Max (°F)		
January	45	57	1.7	4.3
February	46	57	2.3	4.2
March	47	58	3.2	3.1
April	48	58	4.1	1.6
May	51	59	4.6	0.7
June	52	61	5.1	0.3
July	55	63	5.3	0.1
August	55	64	4.6	0.1
September	55	64	3.8	0.2
October	52	63	3.2	0.9
November	48	60	1.9	2.2
December	45	58	1.5	4.7
Annual	**50**	**60**	**41**	**22**

NOTES:
(a) Average temperature and rainfall data were obtained from the PRISM datasets from 1991 to 2020 (PRISM Group, 2026).
(b) Average evapotranspiration data per the CIMIS Pescadero Station #253 (CIMIS, 2026).

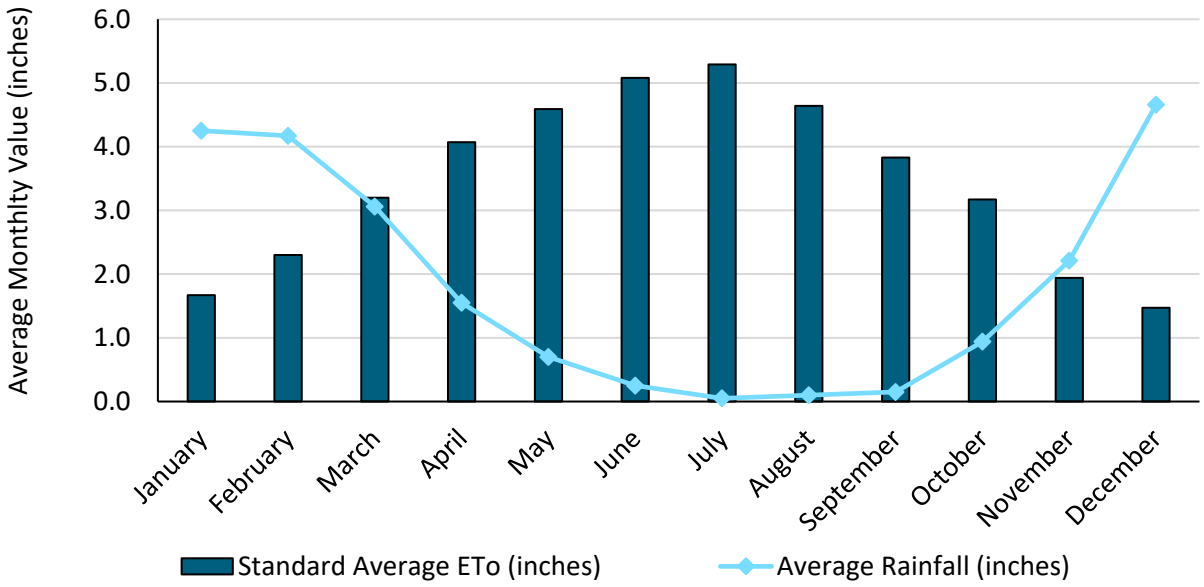

Figure 3-3 Average Monthly Climactic Conditions

According to the Cal-Adapt tool,[7] future projections for the District's service area using Localized Constructed Analogs downscaled Coupled Model Intercomparison Project (CMIP5) model indicate an average increase in temperature of 2.6°F for medium emissions (RCP 4.5) models and 3.3°F for high emissions (RCP 8.5) models by 2064 (**Figure 3-4**).

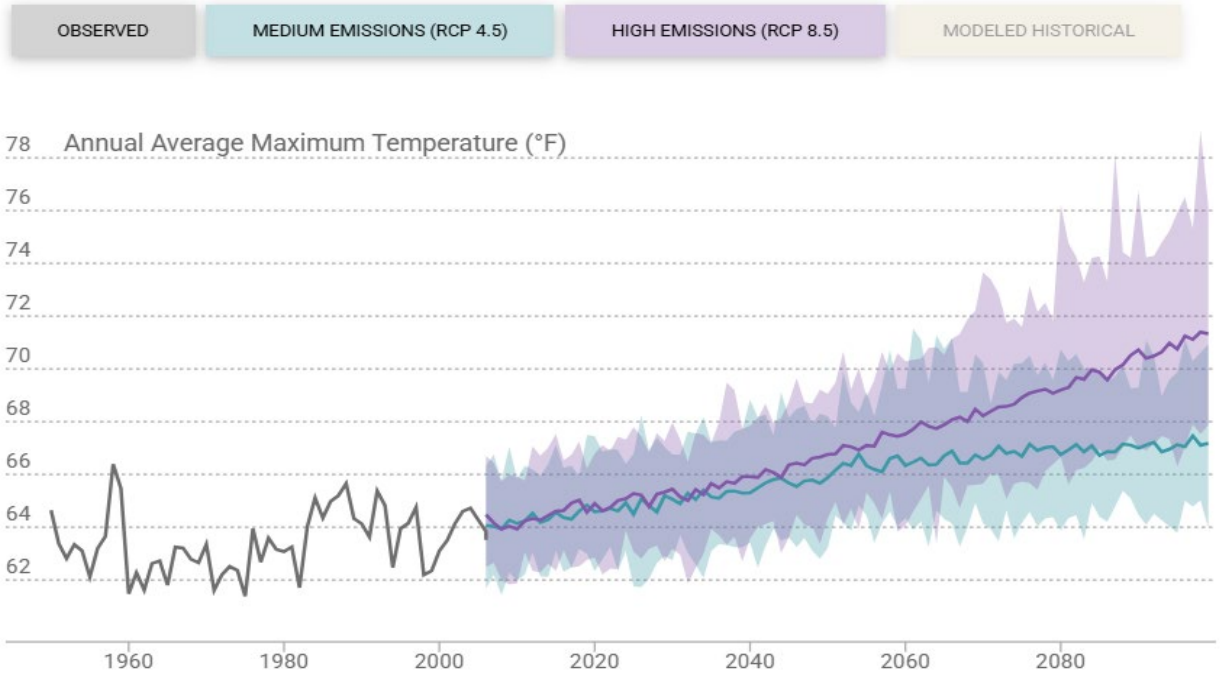

Figure 3-4 Observed and Forecasted Temperature for the District's Service Area

[7] https://cmip5.cal-adapt.org/tools/local-climate-change-snapshot/

Section 4.5.1 discusses potential climate change impacts on water demands, and **Section 6.10.1** discusses potential climate change impacts on supplies. Pursuant to the CWC requirements and the 2025 UWMP Guidebook, this Plan incorporates climate change considerations into following relevant sections:

Section 3 Service Area Description;

Section 4 Water Use Characterization;

Section 6 Water Supply Characterization; and

Section 7 Water Supply Reliability Assessment.

In addition, this Plan incorporates the following documents by reference that include information on climate change hazards and mitigation actions within the District's service area:

- City of Pacifica's 2025 Climate Action and Resilience Plan, 2025: The Climate Action and Resilience Plan outlines actions to be taken by the City of Pacifica to increase resiliency in the event of climate change impacts such as sea level rise, wildfire, extreme heat, and droughts. As part of its sea level rise adaptation efforts, the District and the City partnered with other local entities and the County of San Mateo Office of Sustainability[8] to launch the Sea Change San Mateo County (SMC) Initiative[9] (Pacifica, 2025b).
- City of Pacifica's General Plan 2040, 2022: The General Plan establishes the long-term vision and policy framework for land use, infrastructure, and community development within the City, including policies related to climate resilience and hazard mitigation (Pacifica, 2022).
- Local Coastal Land Use Plan (LCLUP), 2025: Adopted by the City of Pacifica and certified by the California Coastal Commission, the LCLUP provides policies and standards governing land use and development within the City's coastal zone, including considerations for sea level rise and coastal hazards (Pacifica, 2025a).
- Coastside Resilience Infrastructure Strategic Plan (CRISP), 2023: Published by the County of San Mateo, the CRISP identifies infrastructure vulnerabilities and resilience strategies for the Coastside region, including actions to address sea level rise, flooding, and other climate-related hazards affecting critical infrastructure (County of San Mateo, 2023).
- Sea Level Rise Vulnerability Assessment, 2018: The first step of the Sea Change SMC Initiative, this assessment provides an overview of what is at risk from current and future flooding in the County of San Mateo. The assessment identified many built and natural assets in the City of Pacifica that are vulnerable, including stormwater, power, and wastewater infrastructure, as well as future erosion impacts along the City of Pacifica coastline. In 2019, as a result of the Sea Change convenings, the cities and County of San Mateo formed a Flood and Sea Level Rise Resiliency District (One Shoreline) to address sea level rise, flooding, coastal erosion, and large-scale stormwater infrastructure improvements through integrated regional planning, investment, and project implementation (County of San Mateo, 2018).
- County of San Mateo Hazard Mitigation Plan (HMP), 2021: The District is a participating jurisdiction in the Countywide HMP, which identifies risks from flooding, sea level rise, earthquakes, and other natural hazards. The District aligns local policies, capital improvement

[8] https://www.smcsustainability.org/climate-ready
[9] https://oneshoreline.org/

projects, and emergency preparedness efforts with the HMP to reduce hazard impacts, including flood risk reduction and stormwater infrastructure improvements (County of San Mateo, 2021).

Sections 4, **6**, and **7** of this Plan discuss the potential impacts of climate change on water demand and water sources. As detailed in **Sections 6** and **9** of this Plan, the District has established a robust recycled water program and a water conservation program to increase drought resiliency. The District continues to plan for future water needs and enhance the resiliency of its water system.

3.3 Service Area Population and Demographics

☑ ***CWC §10631***

(a) Describe the service area of the supplier, including current and projected population … 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 District's current and projected service area population are shown in **Table 3-2** and **Figure 3-5** in five-year increments through 2050. As discussed above, the population served by the District is closely represented by the population within the boundaries of Pacifica. Consistent with DWR requirements, the historical and current population served by the District has been estimated herein using data published by the California Department of Finance (DOF) for the City.

The District's service area is largely built out and no major developments within the service area are currently planned. Projected population is based on the BAWSCA 2025 Regional Water Demand and Conservation Projections Study (2025 Demand Study), which projects population using Plan Bay Area 2050 Traffic Analysis Zone data, aggregated to the District's service area (ABAG, 2021). Plan Bay Area 2050 is a long-range regional plan for the San Francisco Bay Area, focusing on housing, transportation, the economy, and the environment. Additional detail on the 2025 Demand Study's demographic assumptions is provided in Section 5.3 of the Demand Study Report. The Demand Study applied projected population growth rates to the most recent historical estimate of service area population to ensure continuity between historical and projected conditions. The resulting projections were reviewed by the District against local planning assumptions, consistent with the City's General Plan 2040 for areas within the District's service area boundary.

The District's service area population was 37,217 in 2025. By 2050, the total population within the District's service area is expected to be 46,980, an increase of 26% relative to 2025 and an annual growth rate of 0.94%.

Table 3-2 Population – Current and Projected (DWR Table 3-1)

Population Served	2025	2030	2035	2040	2045	2050 (Opt)
	37,217	41,012	43,731	46,450	46,715	46,980

NOTES:

(a) Since the population served by the District is closely represented by the population within the boundaries of Pacifica, consistent with DWR requirements, the service area population in 2025 was estimated from the State of California Department of Finance for Pacifica.

(b) Projected population growth for the District's service area was estimated based on Plan Bay Area 2050 demographic forecasts and Pacifica's General Plan 2040.

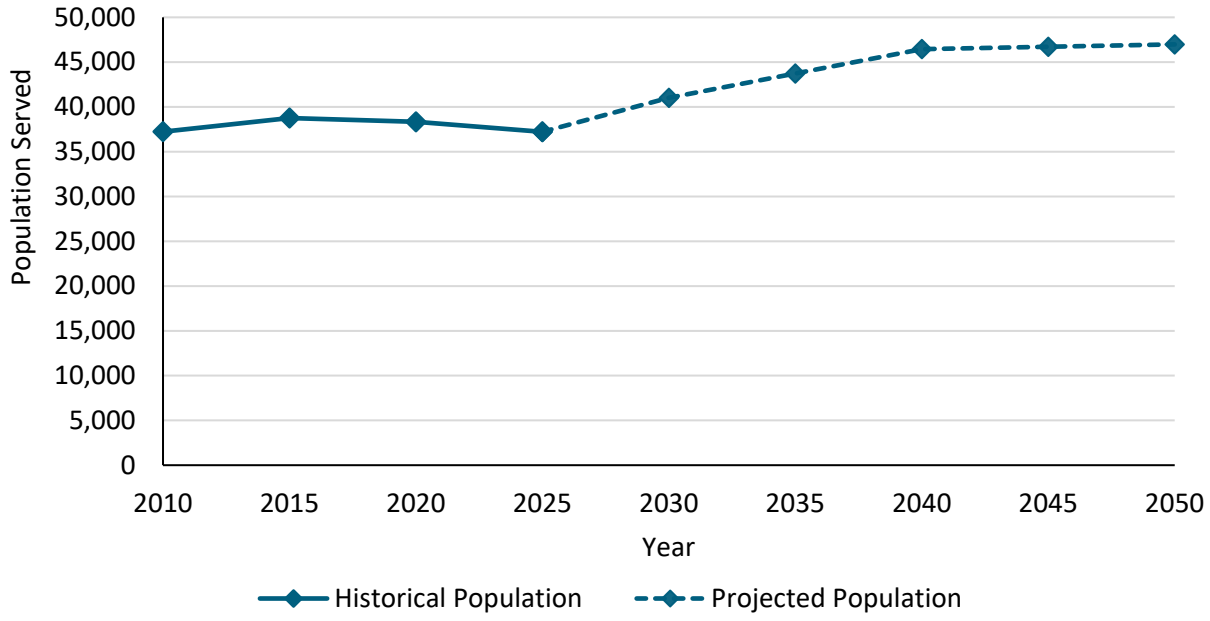

Figure 3-5 Population – Historical and Projected

3.3.1 Future Employment Growth

Similar to population, the current and projected service area employment estimates from 2025 through 2050 are based on the BAWSCA 2025 Demand Study, which projects employment based on the most recent historical estimate and applies growth rates derived from Plan Bay Area 2050 demographic forecasts (ABAG, 2021). Estimates reported in this UWMP were also reviewed by the District, consistent with the City's General Plan 2040 for areas within the District's service area boundary. As shown in **Table 3-3** and **Figure 3-6**, by 2050, employment within the District's service area is anticipated to grow to 8,145 jobs, an increase of 42% relative to 2025 and an annual growth rate of 1.4%.

Table 3-3 Employment – Current and Projected

Service Area Employment	2025	2030	2035	2040	2045	2050 (Opt)
	5,716	6,331	6,945	7,560	7,853	8,145

NOTES:

(a) Projected employment growth for the District's service area was estimated based on Plan Bay Area 2050 demographic forecasts and Pacifica's 2040 General Plan.

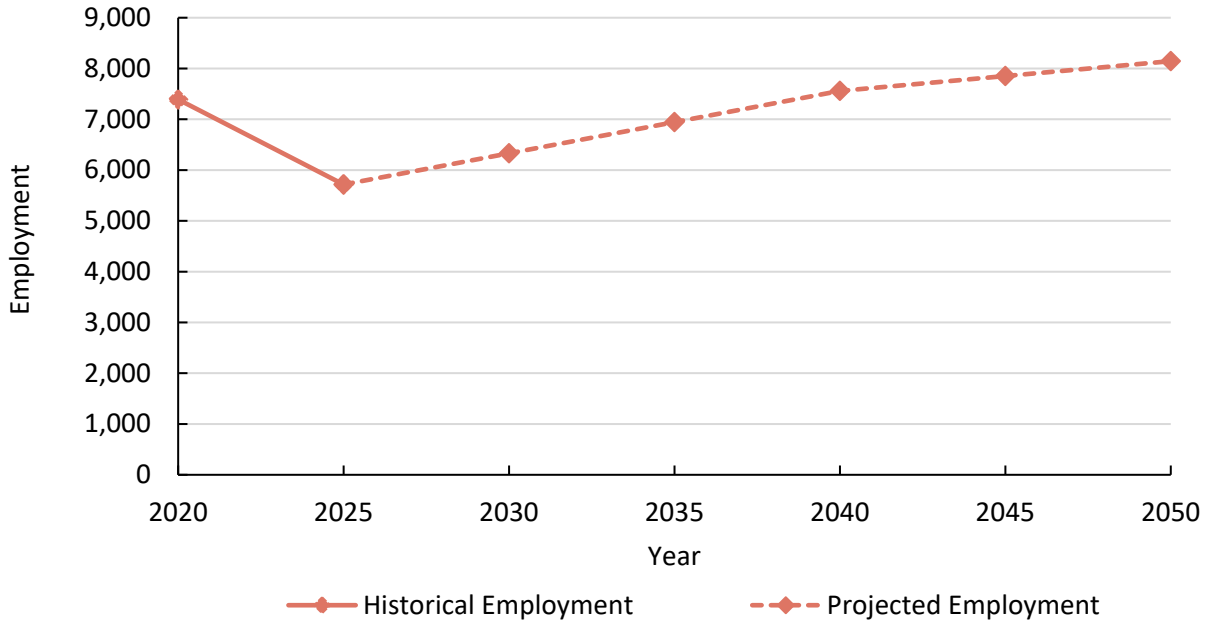

Figure 3-6 Employment – Current and Projected

3.3.2 Other Social, Economic, and Demographic Factors

Demographic data for Pacifica are summarized in **Table 3-4**. These data are from the U.S. Census American Community Survey (ACS) 2024 5-Year Estimates.[10] Relative to the rest of California, the City's population is somewhat more racially diverse. Educational attainment and median household income in the City are higher than for the state as a whole, while persons below the poverty level are comparatively lower. Per the City's 2023-2031 Housing Element, the largest proportion of the City's housing stock was built between 1960 and 1979 (Pacifica, 2025). Homes built after 1990 are more likely to have plumbing fixtures that are compliant with state and federal water and energy efficiency standards.

[10] U.S. Census Bureau, 2024. *2020-2024 ACS 5-year Estimates*. United States Census Bureau, dated 2024. Retrieved from: https://data.census.gov/cedsci/

Table 3-4 Demographic and Housing Characteristics, 2020-2024

Demographics	City of Pacifica	California
Age and Sex		
Persons under 5 years	4.4%	5.3%
Persons under 18 years	18.2%	21.3%
Persons 65 years and older	20.4%	16.5%
Female persons	50.0%	50.1%
Race and Hispanic Origin		
White alone	52.0%	69.8%
Black or African American alone	1.2%	6.4%
American Indian and Alaska Native alone	1.2%	1.8%
Asian alone	22.2%	17.0%
Native Hawaiian and Other Pacific Islander alone	1.8%	0.5%
Two or More Races	16.5%	4.4%
Hispanic or Latino	19.6%	40.8%
White alone, not Hispanic or Latino	47.0%	33.6%
Families & Living Arrangements		
Persons per household	2.66	2.84
Living in same house 1 year ago, percent of persons age 1 year+	91.7%	89.2%
Language other than English spoken at home, age 5 years+	25.6%	44.4%
Education		
High school graduate or higher, persons age 25 years+	95.4%	84.7%
Bachelor's degree or higher, persons age 25 years+	48.9%	37.1%
Income & Poverty		
Median Household Income (2024 dollars)	$160,523	$99,122
Per capita income in past 12 months (2024 dollars)	$73,854	$49,513
Persons in poverty	5.8%	11.8%

NOTES:
(a) Demographic data per the U.S. Census Bureau QuickFacts website (U.S. Census, 2024).

3.4 Land Uses within Service Area

☑ ***CWC §10631***

(a) ...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…

General Plans are required by State law to guide land use and development within cities (California Government Code [CGC] §65030.1). The "Land Use" section of the City's General Plan 2040 details current and projected land use.[11]

Based on the General Plan 2040, the current land use distribution includes 47% open space, 26% residential uses, 16% vacant/undeveloped, 5% public/community/institutional uses, 5% agricultural uses, 1% commercial uses, and less than one percent for industrial and mixed use. Large portions of the vacant and undeveloped lands have constraints on their development potential given environmental factors such as slope and sensitive species. As such, future development projections within the North Coast County Water District (NCCWD) service area are limited and largely associated with infill.

3.5 Potable Water Distribution System

Water purchased from the SFPUC RWS is delivered to the District's service area from a turnout located at the SFPUC's HTWTP. Downstream of the turnout, water is pumped from the District's Main Pump Station located at the HTWTP through a 21-inch pipeline that crosses under Interstate 280. This pipeline generally parallels Skyline Boulevard in a northerly direction for approximately three miles to Sharp Park Road. The District also has emergency intertie connections with three neighboring water purveyors: the City of Daly City, the City of San Bruno, and Westborough Water District. The District has two interties with each agency for a total of six interties.

The District's potable water distribution system delivers water to 32 pressure zones using approximately 137.6 miles of pipelines, 12 active storage tanks with a total capacity of 19.35 MG, and four booster pump stations (including the Main Pump Station). Each of the District's pump stations have permanent standby generators. The District's current distribution system and service area is shown on **Figure 3-7.**

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[11] Figure 4-1 and Figure 4-2 in the General Plan provide a land use map for existing and planned uses, respectively, for Pacifica. The City's General Plan can be accessed at https://www.planpacifica.org/general-plan.

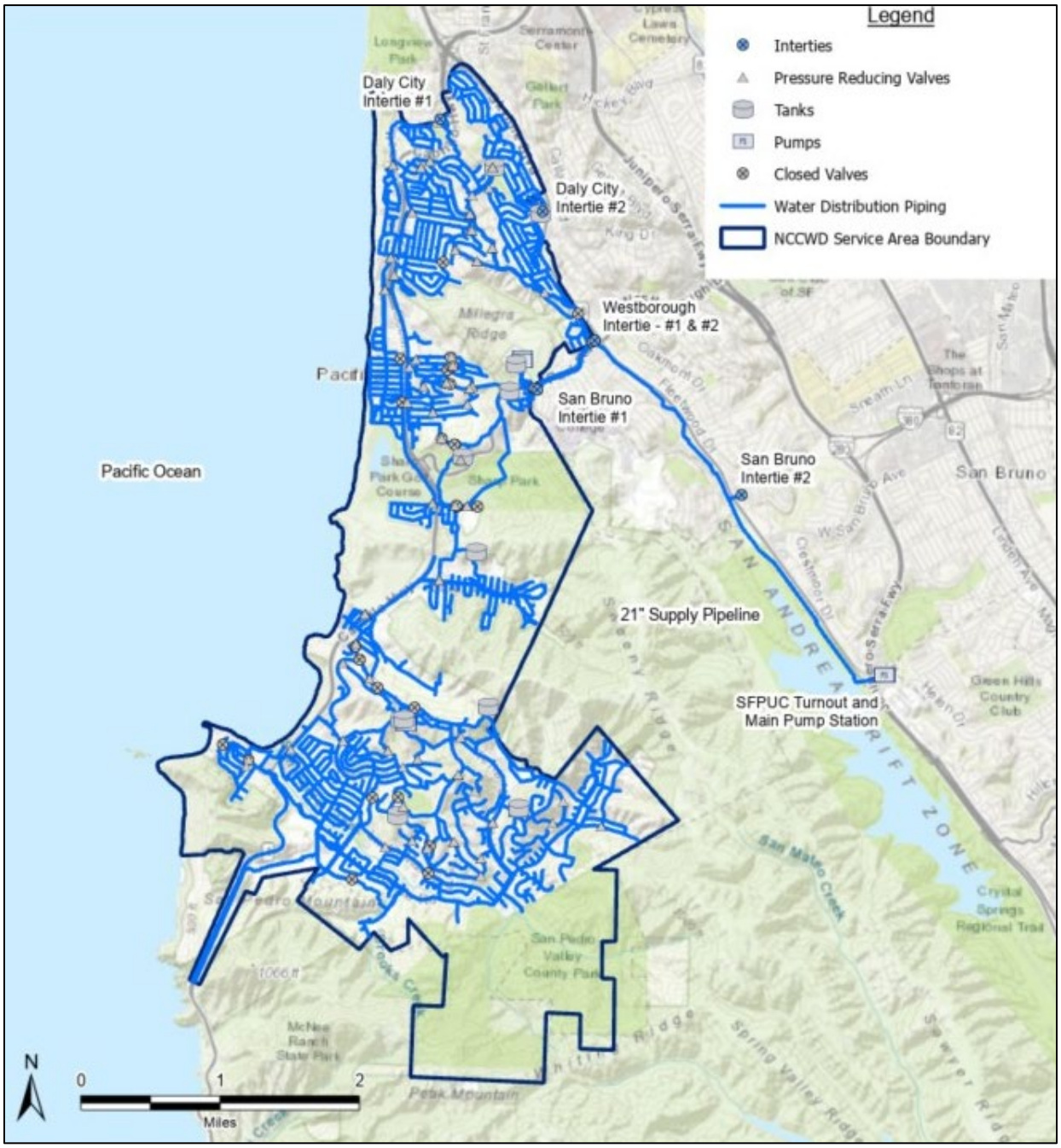

Figure 3-7 District Potable Water Distribution System

4 WATER USE CHARACTERIZATION

☑ ***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.

☑ ***CWC §10631***

(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…

(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.

This section describes and quantifies the District's historical, current, and projected water uses through 2050. For the purposes of this UWMP, the terms "water use" and "water demand" are used interchangeably.

4.1 Non-Potable Versus Potable Water Use

Potable water deliveries comply with Title 22 Drinking Water Standards. Non-potable water uses may include recycled and untreated raw water deliveries, such as tertiary treated recycled water, remediated groundwater, or untreated 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. Water losses are further categorized consistent with American Water Works Association (AWWA) water audit methodology, including apparent losses (e.g., unauthorized consumption and metering inaccuracies) and real losses (e.g., leakage from distribution mains and service connections).

4.2 Water Use Sectors

☑ ***CWC §10631***

(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.

Demand within the District's water service area is measured using water meters installed at each customer account. Records of current and historical water use at each account are maintained by District staff. Demand within the District's service area is tracked and reported on a bi-monthly basis for the following sectors:

- **Single Family Residential**: Attached or detached dwelling units that are individually metered.
- **Multi-Family Residential**: Two or more dwelling units served by a common water meter. Water use is predominately for indoor water uses; landscape water use for multiple family sites is usually separately metered and listed in the landscape sector.
- **Commercial**: Includes commercial customers. Landscape water use at these sites is usually separately metered and listed in the landscape sector.
- **Institutional/Governmental**: Includes connections dedicated to public service, including schools and other government facilities. Landscape irrigation water use at these sites is usually separately metered and listed in the landscape sector.
- **Landscape:** Water connections supplying water exclusively for landscape irrigation uses associated with multiple family residential customers (i.e., Homeowner Associations; HOAs) and other irrigation sites.
- **Sales to other agencies**: Water sales made to the City of San Bruno to serve the Crystal Springs Apartments located in San Bruno, near the SFPUC Harry Tracy Water Treatment Plant.
- **Other Potable – Portable Meters:** Mobile temporary metered water connections used to supply water at the District's fire hydrants.
- **Other Potable - Fire Standby Use:** Water meters that supply water exclusively for fire suppression or fire system maintenance.

The District's total water demand is the sum of potable water demands and recycled water demands within its service area. The District's total water demand includes water consumed by metered accounts in the service area (metered water use), authorized but unbilled uses, and water losses within the system. These losses are categorized as either apparent or real losses. Real losses represent physical losses from the distribution system, such as seepage, leaks, and spills. Apparent losses reflect non-physical losses, including meter inaccuracies, data handling errors, and unauthorized consumption.

4.3 Past and Current Water Demand

☑ ***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…

Past water uses inform an understanding of water use trends which are crucial for developing water use projections. **Figure 4-1** shows historical and current water use from 2015 through 2025, **Figure 4-2** shows the District's per capita potable water use during the same time period, and **Table 4-1** summarizes the data from both figures. Total demand increased from 2019 to 2020 likely due to the stay-at-home orders during the COVID-19 pandemic. Water use decreased from 2021-2023 reflecting the recent 2021-2023 Statewide drought before slightly increasing in use the past two years. Per capita water use followed a similar pattern to total use. The highest per capita use over the past seven years occurred in 2020 at 65 gallons per person per day (GPCD) before decreasing to the lowest at 57 GPCD in 2022, followed by a slight rebound of 61 GPCD in 2025.

Recycled water use accounted for approximately 1% of the District's total demands over the past seven years. The District had a recycled water demand of 7.1 MG in 2025 (see **Table 4-1**). All recycled water has historically and is currently being used for landscape irrigation. As described in **Section 6.5**, the District is anticipating to use recycled water for toilet flushing within its main office building pending approval of an updated Title 22 Engineering Report completed for the City of Pacifica's CCWRP UV Disinfection System Upgrades Project from the SWRCB DDW and the Regional Water Quality Control Board (RWQCB).

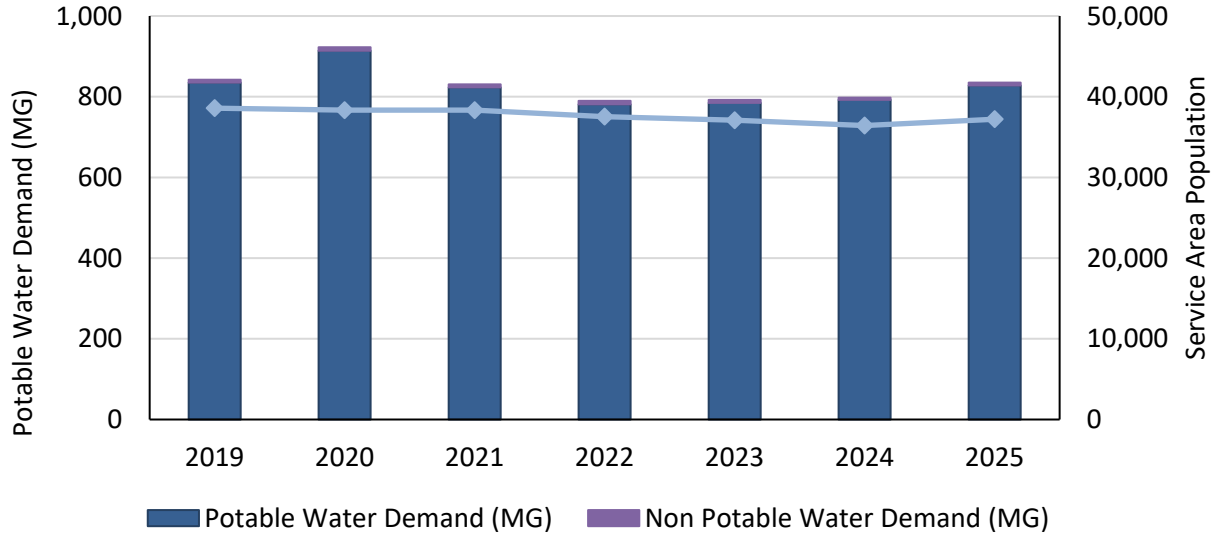

Figure 4-1 Total Uses for Potable and Non-Potable Water - 2019 – 2025 Actual

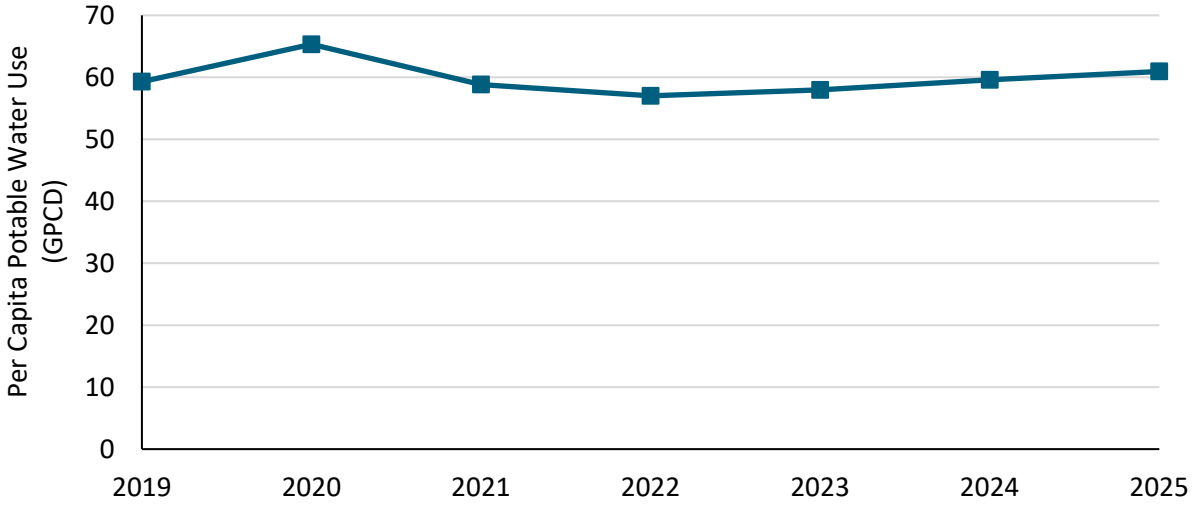

Figure 4-2 Per-Capita Potable Water Use From 2019 – 2025 Actual

Table 4-1 Historical Water Demand and Per Capita Water Demand

Year	Total Water Demand (MG) (a) (b)	Potable Water Demand (MG)	Non-Potable Water Demand (MG) (c)	Service Area Population (d)	Per Capita Potable Water Use (GPCD) (e)
2019	842	835	7.0	38,579	59
2020 (f)	923	914	8.6	38,331	65
2021	831	823	7.7	38,331	59
2022	790	781	8.7	37,533	57
2023	792	785	7.7	37,082	58
2024	798	792	5.5	36,426	60
2025	835	828	7.1	37,217	61

NOTES:

(a) Detailed potable water demand data from 2019 and 2020 are per the 2020 UWMP. Data from 2021 through 2022 from the District's monthly water consumption vs. production worksheet, and 2023-2025 data per the California State Water Resources Control Board Drought Report submittals.

(b) Totals may not sum due to rounding.

(c) Up until 2022, the District used supplemental potable supply to meet up to 47% of its non-potable demands. From 2022 onwards, the District significantly reduced its use of supplemental potable supply until June 2025 when the City's CCWRP went offline for its UV Disinfection System Upgrades Project. It is anticipated that the treatment upgrades will be completed in 2026 and the District will resume its use of recycled water supply to meet the majority of its non-potable demand.

(d) Service area population from 2015 to 2020 are per the 2020 UWMP, 2021 to 2024 from the BAWSCA Annual Survey, and 2025 estimated using the California Department of Finance Table E-4 for the City of Pacifica.

(e) Per capita potable water use is calculated by dividing the total annual potable water demand by the service area population and the number of days in a year.

(f) The 2020 non-potable water demand value differs from the use reported in the 2020 UWMP as the previously reported amount subtracted out the supplemental potable supply used to meet non-potable demand; however, that amount is included in the 2020 demand value shown here.

Table 4-2 and **Figure 4-3** break down the 2025 actual water use by customer sector. The residential sector accounted for an average of approximately 72% of the total water demand in the District's service area in 2025. The District's commercial and institutional/governmental base accounted for approximately 12% of water demand in 2025. Water sales made to the City of San Bruno accounted for approximately 1.6% of the District's total water use. The landscape customers and potable "other" use accounted for 2.6% and less than 1% of total water demand, respectively. Irrigation services include irrigation water use at accounts that have a separate irrigation meter and does not represent all of the outdoor irrigation water use within the District.

The current recycled water demand accounts for irrigation use throughout the District. It should be noted that the District's recycled water customers had a total demand of 7.1 MG in 2025 (**Table 4-1**), but a portion of that demand was met with potable supply while the City of Pacifica was constructing its CCWRP UV Disinfection System Upgrades Project and the CCWRP was not producing recycled water. This supplemental potable demand is included in **Table 4-2** below.

Table 4-2 2025 Actual Total Uses for Potable and Non-Potable Water (DWR Table 4-1)

Use Type	Additional Description	2025 Actual Water Use	
		Potable or Non-Potable	Volume (MG)
Single Family		Potable	492
Multi-Family		Potable	113
Commercial/Institutional	(a)	Potable	103
Landscape		Potable	22
Sales/Transfers/Exchanges to other Suppliers	(b)	Potable	14
Other (optional)	(c)	Non-Potable	2.4
Other (optional)	(d)	Potable	4.6
Distribution System Water Loss		Potable	83
Other (optional)	(e)	Potable	0.8
		Subtotal Potable (f)	833
		Subtotal Non-Potable (f)	2.4
		Total	**835**

NOTES:

(a) Commercial water use includes institutional/governmental water use.
(b) Water sales made to the City of San Bruno to serve the Crystal Springs Apartments located in San Bruno.
(c) Other (optional) Non-Potable includes recycled water demand.
(d) Other (optional) Potable includes the supplemental potable supply that was used to meet the District's remaining recycled water demands.
(e) Includes water use associated with fire protection and portable meters.
(f) The total potable and non-potable use values shown here do not match the total potable and non-potable demands in **Table 4-1** above as the supplemental potable supply to meet the District's recycled water demands are separated out herein.

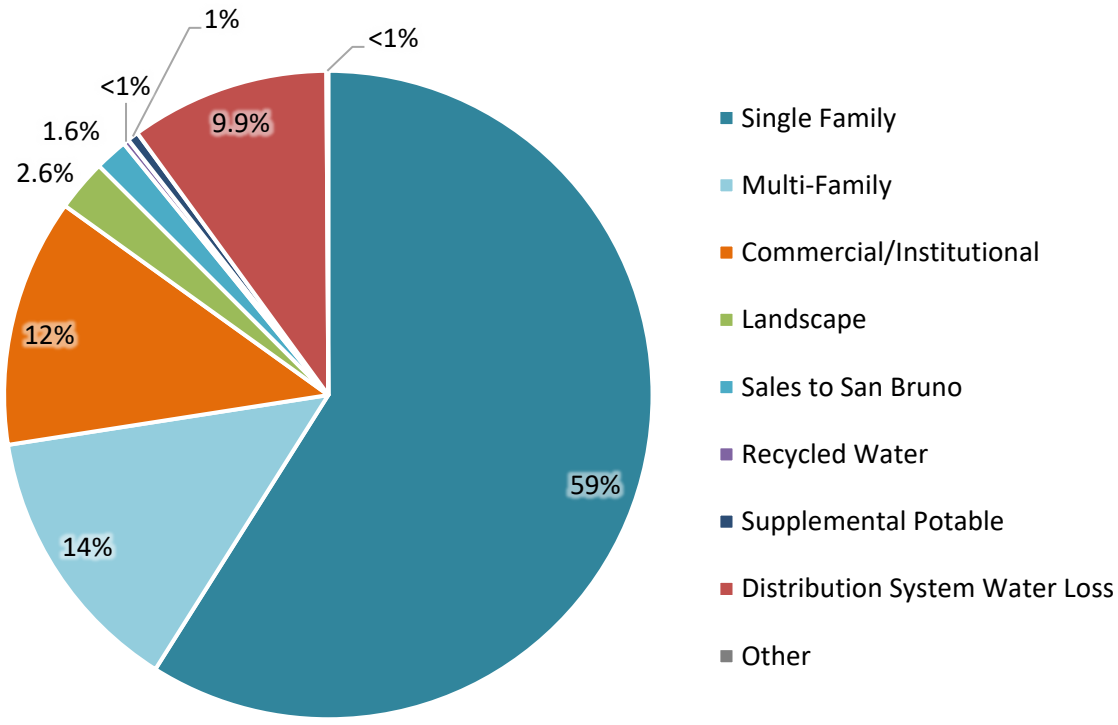

Figure 4-3 2025 Percentage of Total Water Demand by Sector

4.4 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.

Water loss is the sum of apparent and real losses. Apparent loss is associated with metering inaccuracies, billing and administrative errors, authorized unmetered uses (e.g., system flushing and firefighting), and unauthorized uses. Real loss is associated with physical loss of water through line breaks, leaks and seeps, and overflows of storage tanks. 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 AWWA Free Water Audit Software (referred to as "water loss audit reports"). **Table 4-3** summarizes the water loss audit reports submitted to DWR for the PWS in the District since 2021. The water loss audit reports are available through DWR's Water Use Efficiency Data.[12]

[12] DWR's Water Use Efficiency Data Portal: https://wuedata.water.ca.gov/awwa_plans

Table 4-3 Water Loss Audit Reporting Water Code Section 10631(d)(3)(A) (DWR Table 4-5)

PWS ID # (reported in DWR Table 2-1)	Reporting Period	Submitted to DWR Water Loss Audit Program (yes/no)
CA4110025	2020	Yes
	2021	Yes
	2022	Yes
	2023	Yes
	2024	Yes
DWR Notes: Suppliers will provide a link to WUEdata submittals of their Water Loss Audit Reports.		
NOTES: (a) Water loss is reported from the AWWA Free Water Audit Software and is reported on a fiscal year basis.		

In 2022, the SWRCB adopted water loss performance standards for urban retail water suppliers that would reduce water loss by nearly 35%. Effective starting in 2023, the SWRCB established individual volumetric standards for each urban retail water supplier that sets cost-effective levels of achievable water loss based on 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 is one component of the MCCWL (SWRCB, 2022).

CWC §10631 (3)(c) requires that this UWMP demonstrate whether the District has met the distribution loss standards enacted by the SWRCB pursuant to CWC §10608.34. **Table 4-4** demonstrates the District's progress towards meeting the 2028 water loss standard. Per the most recently submitted AWWA water loss audit (CY 2024; DWR, 2025a), the District's real and apparent water losses are currently above the standards. It should be noted that the District's real and apparent water loss per connection per day have historically been lower than the SWRCB standards. Additionally, as discussed in **Section 9**, the District's water loss management efforts include its recent Advanced Meter Infrastructure (AMI) Project, which is expected to help reduce these losses by improving system monitoring and leak detection capabilities.

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

PWS ID #	Did the SWRCB Calculate a Water Loss Standard for this PWS?	Real Water Loss					Apparent Water Loss				
		SWRCB Standard		Most Recent AWWA Loss Audit			SWRCB Standard		Most Recent AWWA Loss Audit		
		2028 Real Water Loss Standard per Unit per day	Units for Real Water Loss (b)	Number of Units	Volume of Total Real Loss (MG)	Real Water Loss per Unit per Day	2028 Apparent Water Loss Standard per Unit per Day	Units for Apparent Water Loss (a)	Number of Connections	Volume of Total Apparent Loss (MG)	Apparent Water Loss per Unit per Day
CA4110025	YES	15.1	GPSCD	12,259	73.2	16.4	2.2	GPSCD	12,259	12.4	2.8

NOTES:
(a) GPSCD = Gallons per service connection per day.
(b) Provided by State Water Resources Control Board (SWRCB).
(c) Provided by AWWA (DWR, 2025a).
(d) Units in MG.

4.5 Projected Water Demand

Future water demands within the District's service area are estimated through the BAWSCA 2025 Demand Study effort, discussed in more detail below.

4.5.1 Basis of Demand Projections

A description of BAWSCA's 2025 Demand Study's goals and outcomes is provided below.

> *In December 2025, BAWSCA completed the completed the Regional Water Demand and Conservation Projections Report (Demand Study). The goal of the Demand Study was to develop transparent, defensible, and uniform demand and conservation savings projections for each member agency 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.*

The Demand Study demand model also assesses the sensitivity of the District's water demand to weather and incorporates predicted weather and climate change data into the demand projections. Based on data published by Cal-Adapt's CMIP5 RCP 8.5 climate scenario, a predicted annual mean temperature increase of 1.77°F for San Mateo County was incorporated into the Demand Study forecast for the time period of 2025 to 2050. A description of the weather and climate change data incorporated into the District's demand model is provided in Section 5.4 of the BAWSCA Demand Study (BAWSCA, 2025). As a result, the demand projections presented in this section reflect considerations of climate change.

Additionally, the District's projected water demands are estimated based on the population and employment projections discussed in **Section 3.2**, among other inputs.

As discussed in Section 5 of the BAWSCA Demand Study, the 2022–2023-time frame was selected as the base period for residential sectors and 2021–2022 for commercial/institutional. As shown in **Table 4-1** and **Figure 4-1**, the District's 2022 and 2023 use were of the lowest water demand seen in the past eight years and the District's water use has slightly rebounded in 2025. Therefore, the water use projected in the Demand Study was lower than expected considering the estimated population and employment growth (**Section 3.3**), and projected use in 2050 was estimated to be lower than 2025 actual demands. Therefore, the District further refined the projected demands from the BAWSCA Demand Study by applying the same growth rate determined in the demand model to an updated baseline of 2025 actual use. Those findings are summarized in the sections below.

4.5.2 Projected Total Water Demand

Projected total potable and non-potable water demand in five-year increments is summarized by sector in Table 4-5 and **Figure 4-4**. Total demand is estimated to be 871 MG in 2050, an increase of 4.3% relative to the total actual demand in 2025 (835 MG). Over the same period, population is estimated to increase by 26% and employment by 42% (**Section 3.2**).

Potable water demand will be approximately 863 MG in 2050 within the District's service area, which is a 3.6% increase relative to the actual 2025 potable water demand of 833 MG (**Table 4-2**). The modest long-term increase in potable water demand despite growth in population and jobs reflects continued declines in water use per account and more efficient customer use.

The District is not expecting its recycled water use to increase substantially beyond what the District is currently meeting. Therefore, the District's projected recycled water demand is assumed to be constant over the planning horizon at 9 MG, the highest recycled water use demand the District has seen in the past five years. The District's projected distribution system water loss values are estimated based on the average historical water loss percentage from the past five-years (9% per the CY 2020 - 2024 water loss audits submitted to DWR).

Total projected potable and non-potable water demand for each water use sector within the District's service area is shown in five-year increments through 2050 in Table 4-5 and **Figure 4-4**. Commercial/institutional, single-family and multi-family residential demand is expected to grow through 2050. In contrast, landscape, sales to San Bruno, recycled water, and "other" demand are projected to remain relatively constant through the planning horizon.

Table 4-5 Total Uses of Potable and Non-Potable Water - Projected (DWR Table 4-2)

Use Type	Additional Description	Projected Water Use (a)					
		Potable or Non-Potable	2030	2035	2040	2045	2050 (opt)
Single Family		Potable	487	489	497	495	495
Multi-Family		Potable	122	131	137	134	132
Commercial/Institutional	(b)	Potable	110	116	124	126	130
Landscape		Potable	16	13	14	15	15
Sales/Transfers/Exchanges to other Suppliers	(c)	Potable	14	15	16	16	15
Other (optional)	(d)	Non-Potable	9	9	9	9	9
Distribution System Water Loss	(e)	Potable	71	73	75	75	75
Other (optional)	(f)	Potable	1	1	1	1	1
Subtotal Potable (g)			**821**	**837**	**864**	**861**	**863**
Subtotal Non-Potable (g)			**9**	**9**	**9**	**9**	**9**
Total (g)			**829**	**846**	**872**	**870**	**871**

NOTES:

(a) Volumes are in units of MG.
(b) Commercial water use includes projected institutional/governmental water use.
(c) Sales to the City of San Bruno for use by the Crystal Springs Apartments are included within the District's commercial and institutional/governmental demand projections from the BAWSCA demand model. To provide separate projections for this use category, the 2025 San Bruno water sales were used as a baseline demand, projected consistently with the multi-family use projections, and subtracted from the total commercial and institutional/governmental demands.
(d) Other (optional) includes recycled water use, which is assumed to remain consistent at 9 MG (the highest demand within the District for the past five years) over the planning horizon.
(e) Distribution system water loss values are estimated based on the average historical water loss percentage from the past five-years (9%).
(f) Includes water use associated with fire protection and portable meters.
(g) Totals may not sum due to rounding.

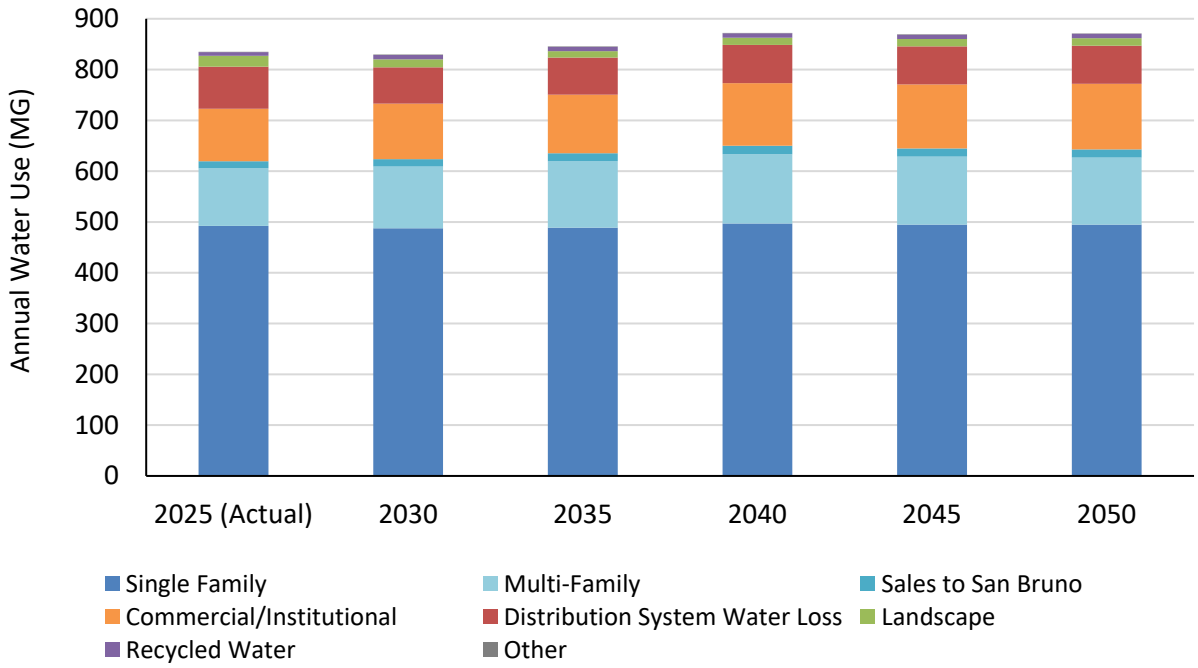

Figure 4-4 Total Uses of Potable and Non-Potable Water – Projected

4.5.3 Water Savings from Codes, Standards, Ordinances, or Transportation and Land Use Plans

☑ ***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.

"Passive conservation" refers to water savings resulting from actions and activities that do not depend on direct financial assistance or educational programs implemented by water suppliers. These savings result primarily from: (1) the natural replacement of existing plumbing fixtures with water-efficient models. required under current plumbing code standards, (2) the installation of water-efficient fixtures and equipment in new buildings and retrofits as required under CALGreen Building Code Standards, (3) inclusion of low-water use landscaping and high-efficiency irrigation systems to minimize outdoor water use in new connections and projects in accordance with the State's Model Water Efficient Landscape Ordinance , and (4) restricted use of potable water for the irrigation of nonfunctional turf located on commercial, industrial, and institutional (CII) properties in accordance with AB 1572.

"Active conservation" refers to water savings resulting from the District's implementation of water conservation programs, education programs, and the offering of financial incentives (e.g., rebates). The District's current and planned active conservation programs, or Demand Management Measures (DMM), are discussed in **Section 9**.

The water demand projections discussed in **Section 4.5.2** take into account the effects of passive conservation savings on potable demands, as indicated in **Table 4-6**. The projected passive and active savings are estimated from the BAWSCA 2025 Demand Study and are shown in **Table 4-7**. By 2050, it is estimated that the potable water demand within the District's service area will be 952 MG without passive or active conservation savings. Passive conservation savings are projected to reduce this potable water demand by 64 MG (i.e., by 6.7%) and active conservation is projected to further reduce demands by 26 MG (i.e., by 2.7%). As such, it is estimated that annual potable water demands will be approximately 821 MG in 2030 and 863 MG in 2050 (**Figure 4-5**).

Table 4-6 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.	UWMP Section 4.5.3
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.	UWMP Section 4.5.4

NOTES:
All of the District'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.

Table 4-7 Projected Potable Water Demand and Projected Passive and Active Water Conservation

Water Conservation Type	Projected Potable Water Demand (a)				
	2030	2035	2040	2045	2050
Projected Potable Water Demand	857	897	937	944	952
Projected Water Conservation					
Passive Conservation	23	39	52	59	64
Active Conservation	14	21	22	24	26
Total Projected Potable Demand (b)	**821**	**837**	**864**	**861**	**863**

NOTES:
(a) Projected water demands and conservation are from the 2025 Demand Study, based on population and employment projections shown in **Table 3-2** and **Table 3-3**, and adjusted as discussed in **Section 4.5.1**. Volumes are in units of MG.
(b) Potable water demand is the sum of potable water demand and includes metered water consumption and losses. The projected water demands include savings from plumbing codes and conservation efforts that the District plans to undertake. Totals may not sum due to rounding.

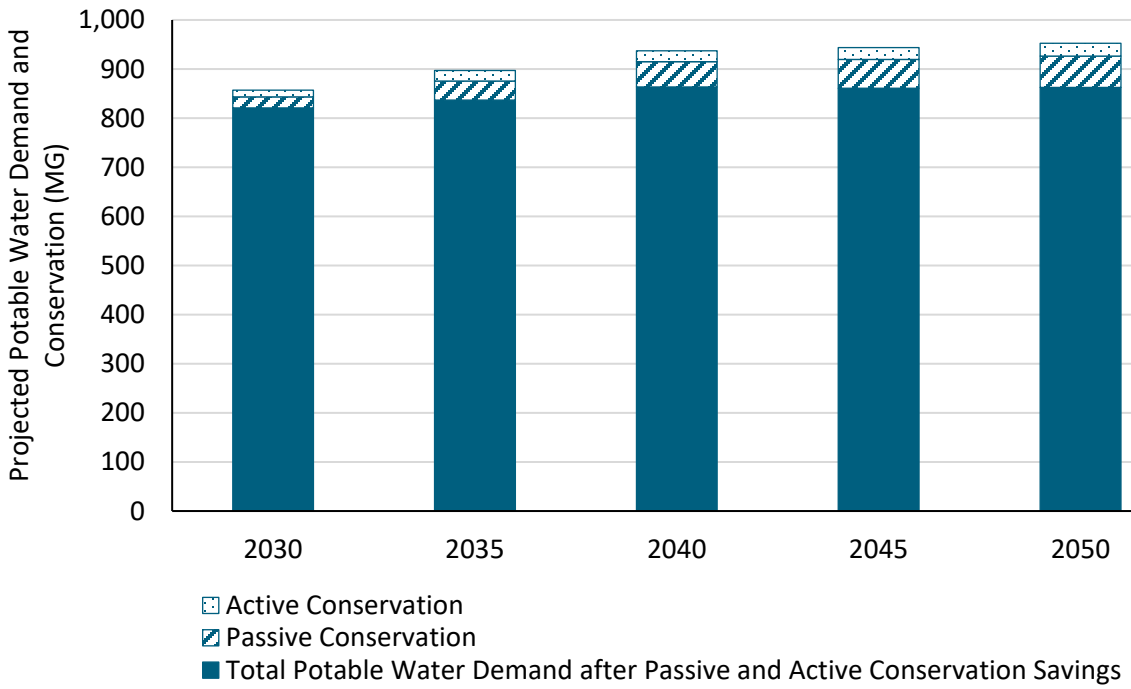

Figure 4-5 Projected Potable Water Demand and Projected Water Conservation

4.5.4 Water Use by Lower Income Households

☑ ***CWC §10631.1***

(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirements under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

☑ ***California Health and Safety Code §50079.5***

(a) "Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families… In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

As affirmed in **Table 4-6**, lower income residential demands are included in the projections of future water use. Per Health and Safety Code 50079.5, a lower income household is defined as a household with lower than 80% of its city's median income. All residential customers, regardless of income level, are metered. Thus, the demands of residential customers with lower incomes are part of the single- and multi-family water uses shown in the total water demand projections described above.

4.5.5 Characteristic Five-Year Water Use

☑ ***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…

(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).

(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.

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 total 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. **Table 4-8** shows total (both potable and non-potable) unconstrained demands for 2026-2030 for normal weather and multiple-dry-year scenarios.

The Drought Risk Assessment must include a consideration of climate change impacts on demand. Hotter and drier weather may lead to an increased demand in landscape irrigation. The District's demand projections incorporate climate change considerations, including predicted temperature increases through 2050, as described in **Section 4.5.1**.

Table 4-8 Characteristic Five-Year Water Use (MG)

2026	2027	2028	2029	2030
834	833	832	831	829

NOTE:
(a) The table shows total (potable and non-potable) unconstrained demand (i.e., demand in the absence of drought water use restrictions).
(b) Demands include passive and active conservation.

4.6 Water Use Sectors Not Included in Demand Projections

Historical and projected water demands for the water use sectors described in CWC §10631(d)(1)(G) through (I) and listed below were not included in the District's water demand calculations because they are not applicable to the District:

- Industrial – The District does not currently, nor does it plan to, provide water for industrial uses.
- Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof – The District does not currently use, nor does it plan to use, water for saline water intrusion barriers, groundwater recharge, or conjunctive use.
- Agricultural – The District does not currently, nor does it plan to, provide water for agricultural uses.

4.7 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 District provides SFPUC with water use projections annually as part of reporting to the BAWSCA Annual Surveys and other BAWSCA-led water demand and supply coordination efforts (such as the Demand Study). As part of the coordination effort for the 2025 UWMP, and in compliance with CWC §10631(h), the District supplied BAWSCA with its water demand projections through 2050 for transmittal to the SFPUC.

5 SB X7-7 BASELINE, 2020 TARGET, AND 2025 REPORTING

The Water Conservation Act of 2009, also known as SB X7-7, required that urban retail water suppliers[13] reduce their baseline per capita water use by 20% by 2020. Because the CWC does not set an end date for reporting progress in meeting the 2020 Target, this section of the UWMP demonstrates the District's compliance with SB X7-7 in 2020.

5.1 Demonstration of Compliance with SB X7-7 2020 Target

☑ ***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***

(a) "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 District achieved its 2020 Target in 2020. The data used to calculate the District's 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 the District met the SB X7-7 compliance requirements.

Urban retail water suppliers may report on the requirements of SB X7-7 individually or as a member of a "Regional Alliance." The District is not a member of a Regional Alliance and this UWMP provides information on the District's progress towards meeting its SB X7-7 water conservation targets as an individual urban retail water supplier only.

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

☐	Supplier was not an Urban Water Supplier during or before the 2020 reporting cycle.					
					Only for suppliers that did not meet the Target in 2020 See DWR NOTES below.	
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	65	Yes		

[13] CWC §10608.12 defines an urban retail water supplier as "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."

5.2 Urban Water Use Objective

☑ ***CCR §966***

(h) If a supplier's calculated objective-based total use is larger than its target-based total use, the supplier's urban water use objective shall be its Water Code section 10608.20 individual target less excluded demands as described in paragraph (3). If the supplier's section 10608.20 target is expressed in gallons per capita daily, the supplier shall multiply the target by its residential service area population for the reporting year and the number of days in the year.

In July 2024, California enacted the MCCWL regulation (implementing SB 606 and AB 1668) to support long-term water conservation and drought resilience. These regulations establish annual UWUOs for water suppliers and introduce Performance Measures for CII water users.

The UWUO is a water budget-based approach to water use efficiency unique to each urban water supplier and consists of the following components: (1) residential indoor water 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) bonus. Suppliers will need to assess whether they meet their UWUO collectively (i.e., they are not required to comply with the individual standards if they meet the overall UWUO). Compliance with UWUOs is required beginning January 2027. Per the MCCWL regulation, over the next 25 years, the water efficiency standards for residential indoor and outdoor water use as well as CII outdoor water use will become increasingly stringent.

Beginning in 2024, agencies were required to report an annual UWUO. The District's UWUO submittals are available through DWR's Water Use Efficiency Data.[14]

Although UWUO compliance projections are not required as part of an UWMP, they can provide valuable insight into the potential need and timing for additional conservation measures. For this reason, the District has elected to develop preliminary UWUO projections for its service areas and to compare these projections to projected regulated water uses.

Table 5-2 summarizes the District's anticipated compliance with UWUOs through 2050 by comparing the water demand subject to UWUO compliance and projected UWUOs. The methodology for estimating the District's projected UWUOs and water demand subject to UWUO compliance is described in Section 6 of the BAWSCA Demand Study (BAWSCA, 2025). These estimates show that the District is anticipated to comply with its UWUOs through 2050 (see **Figure 5-1**).

[14] DWR's Water Use Efficiency Data Portal: https://wuedata.water.ca.gov/uwuo_plans

Table 5-2 Current and Projected Urban Water Use Objectives Compliance

Year	Current and Projected Water Demand Subject to UWUO Compliance (a) (b)	Current and Projected UWUO Targets (High ETo) (a)	Current and Projected UWUO Targets (Low ETo) (a)
2025 (c)	698	1,094	
2030	711	1,063	995
2035	725	1,005	951
2040	745	1,013	967
2045	741	1,018	972
2050 (Opt)	740	1,023	976

NOTES:

(a) Volumes are in units of MG. The 2025 Demand Study evaluated two different evapotranspiration scenarios, a scenario in which there is high evapotranspiration (High ETo, i.e., assumed higher outdoor use), and low evapotranspiration (Low ETo).

(b) Water demand subject to UWUO compliance includes single family, multi-family water, irrigation, and water loss sectors. These water use projections incorporate both passive and active conservation.

(c) 2025 compliance per the UWUO report submitted by the District to DWR on December 29, 2025 (DWR, 2025b).

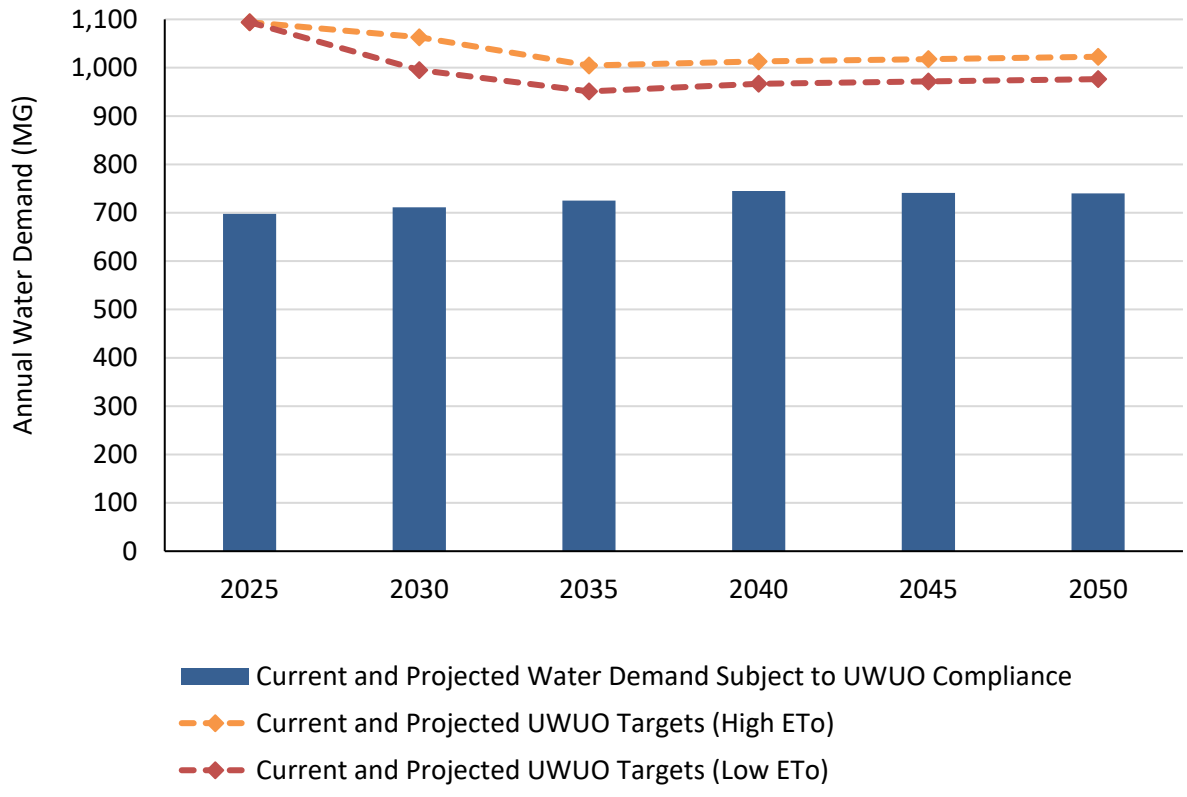

Figure 5-1 Current and Projected Urban Water Use Objectives Compliance

6 WATER SUPPLY CHARACTERIZATION

☑ ***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:

(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.

(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

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

This section describes the District's current and potential water supplies, as well as assessment of the energy intensity used to operate District's treatment and distribution systems. The District's current water supplies consist of potable water purchased from the SFPUC RWS and non-potable water from the District's recycled water program.

To maintain consistency with the UWMPs prepared by the SFPUC and the other 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 (**Appendix D**).

6.1 Purchased Water

☑ ***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).

This section describes the sources of wholesale water provided by SFPUC, and the process for allocating water between SFPUC, BAWSCA, and wholesale customers.

6.1.1 Description of SFPUC RWS

Approximately 85% of the water supply to the SFPUC RWS originates in the Hetch Hetchy watershed, located in Yosemite National Park, and flows down the Tuolumne River into the Hetch Hetchy Reservoir. Water from the Hetch Hetchy watershed is managed through the Hetch Hetchy Water and Power Project. The remaining 15% of the water supply to the SFPUC RWS originates locally in the Alameda and Peninsula watersheds and is stored in six different reservoirs in Alameda and San Mateo Counties. 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 common language provided by BAWSCA, in coordination with the SFPUC.

Figure 6-1 Regional Water System and Main Facilities

Water Distribution

The RWS 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.

- *<u>Hetch Hetchy System:</u> 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.*
- *<u>Alameda System:</u> 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.*

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 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 6-1****. A "water bank" in Don Pedro Reservoir is also integrated into RWS operations.*[15] *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 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.

[15] *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.*

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***

NOTES:

(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 Water Contractual Obligations

Under the terms of a 25-year contract 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 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.

The District's ISG is 3.84 MGD, or approximately 1,402 MG. Between 2021 and 2025, the District purchased between 56% and 59% of its ISG for use in the District's service area (see **Section 6.9**).

6.1.3 Future Water Supply Decisions

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.

6.2 Groundwater

☑ ***CWC §10631***

(b)(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.

(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.

As indicated in **Table 6-2**, groundwater is not currently used by the District as a source of supply. However, the District has evaluated the feasibility of adding groundwater as a supply source. One DWR-defined groundwater basin, the San Pedro Valley Basin (Basin; DWR Basin No. 2-036), underlies a portion of the District's service area. The Basin is approximately 710 acres in surface area and is defined generally by the spatial extent of Holocene alluvium (Q) mapped by the California Division of Mines and Geology. Based

on DWR records of groundwater wells, the Basin has been used in a limited fashion for domestic and landscape irrigation supply. Being a relatively small basin that has not been developed extensively for groundwater supply, DWR's Bulletin 118 basin description contains no information on the Basin's groundwater level trends, groundwater storage, or water budget. In 2023, the District installed two test wells and conducted pumping tests within the Basin. Results indicated limited groundwater supply potential; therefore, the District is not pursuing groundwater as a future supply source at this time.

Table 6-2 Groundwater Volume Pumped (DWR Table 6-1)

☒	Checked box indicates the Supplier does not pump groundwater. Proceed to the next table.						
☐	Checked box indicates that all or part of the groundwater described below is desalinated. (OPTIONAL)						
Groundwater Type	**Potable or Non-Potable (OPTIONAL)**	**Location or Basin Name**	**2021**	**2022**	**2023**	**2024**	**2025**
		Total	**0**	**0**	**0**	**0**	**0**

6.3 Surface Water

Water that is self-supplied to agencies from streams, lakes, and reservoirs is considered a surface water supply. Although the District's potable water supply is originally derived from surface water, it is categorized as "purchased" water since the water is obtained from the SFPUC RWS.

The District currently holds appropriative water rights, issued by the SWRCB, to divert and use water from South Fork San Pedro Creek. The District's right to divert and use water from South Fork San Pedro Creek is subject to the provisions specified in its License No. 9038 and Permit No. 16962. Combined, License No. 9038 and Permit No. 16962 authorize the District to divert and use 362.7 AF or 118.2 MG of water annually from South Fork San Pedro Creek in normal years. In comparison, the District's total annual right to the use of water from South Fork San Pedro Creek is approximately 8% of the District's 1,402 MG per year ISG from the SFPUC. During single or multiple dry years, the yield would be considerably less. For instance, in 1991 production was limited to 9.0 AF or 2.9 MG. Since 1997, the District has reported surface water from South Fork San Pedro Creek as conservation savings. The District is evaluating future use of surface water from South Fork San Pedro Creek to diversify its supply portfolio and provide a direct source of supply to the southern portion of its distribution system.

6.4 Stormwater

The District does not currently, nor does it plan to in the future, use diverted stormwater as part of its water supply portfolio.

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, and shall include all of the following:

(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.

(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.

(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.

Recycling water involves treating wastewater to an acceptable level such that it can be reused for irrigation, cooling, and other non-potable applications. A key benefit of water recycling is its potential to offset the use of potable supplies. The regulatory requirements for recycled water are defined in the CCR, Title 22, Article 3 (Title 22) and differ for different uses (e.g., irrigation for food crops, landscape, and recreation). Because recycled water is treated wastewater, its availability is closely linked to the location and treatment capability of the wastewater treatment plant that receives and treats wastewater from a water supplier's service area. The following section describes wastewater collection and treatment for the District's service area, the production of recycled water, as well as existing and future uses of recycled water.

6.5.1 Recycled Water Coordination

The City is the sole entity that collects, treats, and disposes of wastewater in the District's service area, and owns and operates the CCWRP that produces tertiary quality effluent. The District and the City entered into a long-term cooperative agreement in 2003 regarding recycled water that delineates the responsibilities of each agency. The City agrees to supply disinfected tertiary quality recycled water per Title 22 to the District for distribution and storage throughout Pacifica to permitted District customers. The District is responsible for maintaining all permits and licenses needed to sell recycled water and installing, operating, and maintaining all components of the recycled water distribution system from the recycled water pump station at CCWRP to the customer connection points. The District coordinates

operations of the recycled water system with the City to ensure that the treated effluent meets the Title 22 requirements. Since 2013, the District has received a portion of the tertiary effluent from the CCWRP and distributed it to customers within its service area for the beneficial use of landscape irrigation.

The District has also entered into an agreement with the City and County of San Francisco (San Francisco) for recycled water use at the Sharp Park Golf Course. The Sharp Park Golf Course, while located in the City, is owned and operated by the San Francisco Recreation and Parks Department and is in San Francisco's service area. The Sharp Park Golf Course is the largest recycled water customer, but this water is wheeled through the District's recycled water system on behalf of the SFPUC and is not included in the District's total recycled water demands or supplies. The SFPUC (as part of San Francisco) jointly funded the recycled water project with the District and agreed to accept delivery of and use recycled water at Sharp Park Golf Course for approved irrigation uses on all appropriate portions of the golf course. San Francisco is responsible for all operations and maintenance of the facilities throughout the golf course after the recycled water meter. The District is responsible for all regulatory reporting requirements.

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.

(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 City's wastewater collection system includes approximately 96 miles of gravity sewer mains, four miles of pressure (force) mains, and five sewage pump stations. All wastewater is pumped via the three largest pump stations (Sharp Park, Linda Mar, and Rockaway) to the City's 4.0 MGD CCWRP. At Sharp Park and Linda Mar pump stations, the wastewater is screened to remove inorganic objects prior to being pumped to the CCWRP.

The first stage of treatment at the CCWRP is a vortex chamber that separates grit from the sewage. Next, the wastewater enters the plant's sequencing batch reactor (SBRs), which provide primary and secondary treatment and nutrient removal. In the SBRs, micro-organisms feed on organic matter and air is injected to assist the organisms and to mix the contents.

After the organisms consume the sewage and solids, the remaining particles are allowed to settle to the bottom in the form of sludge. Some of the sludge is left in the reactor basins to feed on the next batch of sewage. The rest of the sludge is pumped to a biosolids holding tank. In the biosolids holding tank, the sludge is then thickened and pumped into auto thermal thermophilic aerobic digesters (ATAD). The ATAD organisms live at a high temperature (135 degrees), which kills both SBR organisms and other bacteria normally found in sewage. This disinfects the sludge so it can be recycled as topsoil.

After the sludge settles to the bottom of the SBR basins, water is drawn out from the middle and drained to sand filters. The sand filters provide tertiary treatment and remove any remaining particles. The filtered effluent then passes through the UV disinfection channel. Finally, tertiary treated disinfected effluent is either discharged into the Calera Creek wetlands or used as recycled water.

Starting in 2025, the City initiated the UV Disinfection System Replacement Project to improve the CCWRP's UV system by providing greater energy efficiency, reliability, and operational and maintenance flexibility. During the course of this project, which is expected to last up to one year, recycled water will

not be available to the District and the District will utilize potable supply to meet its recycled water demands.

Discharges from the CCWRP are regulated by the California Regional Water Quality Control Board San Francisco Bay Region Order No. R2-2017-0013 and the National Pollutant Discharge Elimination Systems permit No. CA0038776.

The volume of wastewater collected from the District's service area in 2025 was approximately 900 MG. (**Table 6-3**). Wastewater volumes that are treated and discharged at CCWRP are summarized in **Table 6-4**. Also included in **Table 6-4** is the current volume of recycled water that is used within the District's service area (i.e., 2.4 MG in 2025). As noted in **Section 4.3**, the actual recycled water demand within the District's service area in 2025 was 7.1 MG, but a portion of that demand was met with potable supply while the City of Pacifica was constructing its CCWRP UV Disinfection System Upgrades Project.

Table 6-3 Wastewater Collected Within Service Area in 2025 (DWR Table 6-2)

☐	Checked box indicates there is no wastewater collection system. Proceed to the next table.
100%	Percentage of 2025 service area served by wastewater collection system (OPTIONAL)
100%	Percentage of 2025 service area population served 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 (a)**	**Name of Wastewater Treatment Plant (WWTP) and Place ID Number**	**Is WWTP Located Within UWMP Area?**
City of Pacifica	Metered	900	Calera Creek Water Recycling Plant, Place ID 212585	Yes
Total Wastewater Received from UWMP Service Area in 2025:		**900**		

NOTES:
(a) Volumes are in units of MG.
(b) Volumes are rounded to the nearest MG.

Table 6-4 Wastewater Treatment and Outcomes Within UWMP Service Area in 2025 (DWR Table 6-3)

☐	Checked box indicates no wastewater is treated or disposed of within the UWMP service area. Proceed to the next table.

Wastewater Treatment Plant Name and Place ID Number	Does This Plant Treat Wastewater Generated Outside the UWMP Service Area? (OPTIONAL)	2025 Volume of Wastewater Received from UWMP Service Area (As Reported in DWR Table 6-2)	Total 2025 Volume of Water Treated	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	Treatment Level	Volume	Treatment Level	Volume	Treatment Level	Volume	Treatment Level	Volume	Name of other entity
Calera Creek Water Recycling Plant, Place ID 212585	No	900	900	Tertiary	2.4	Tertiary	5.0	Tertiary	893	Tertiary	--	Tertiary	--	--
Total		**900**	**900**	--	**2.4**	--	**5.0**	--	**893**	--	--	--	--	--

NOTES:
(a) Volumes are in units of MG.
(b) Volumes are rounded to the nearest MG.
(c) The volume of recycled water supplied outside the service area includes the volume that is wheeled through the District's system to the SFPUC to serve the Sharp Park Golf Course.
(d) The actual recycled water demand within the District's service area in 2025 was 7.1 MG, but a portion of that demand was met with potable supply while the City of Pacifica was constructing its CCWRP UV Disinfection System Upgrades Project.

6.5.3 Recycled Water System Description

Recycled water is distributed via the District's recycled water pump station, located at the CCWRP. The pump station consists of two 700 gallons-per-minute (gpm) pumps. Only one pump runs at any given time and the other serves as a standby pump. The pump station includes a chlorination system, which feeds sodium hypochlorite into the pump discharge to maintain a chlorine residual in the recycled water distribution system.

The distribution system includes a recycled water storage tank to control system pressure and meet the peak demand. The tank is located at the District's Gypsy Hill site and has a capacity of 400,000 gallons. Potable water can be added to the recycled water tank if the recycled water produced is not sufficient to meet the demand.

Approximately 17,000 feet (3.25 miles) of recycled water distribution piping connects the recycled water pump station to the recycled water storage tank and customers. The District's current recycled water customers include the SFPUC (Sharp Park Golf Course), the City of Pacifica (Fairway Park and several streetscape areas), Jefferson Union High School District (Oceana High School), and Pacifica School District (Ingrid B. Lacy Middle School). The District also offers recycled water to residential customers at the recycled water filling station located at the corporation yard of the District's main office. In 2024, as part of the District's Headquarters Upgrade Project, the original residential fill station was demolished and rebuilt in 2025 as a self-serviced recycled water drive-through fill station. The new fill station will enable customers to fill up during business hours without the need for a District attendant to assist them. This new feature will improve public access to recycled water, especially during extended dry periods. The District is anticipating to use recycled water for toilet flushing within its main office building pending approval of an updated Title 22 Engineering Report completed for the City of Pacifica's CCWRP UV Disinfection System Upgrades Project from the SWRCB DDW and the RWQCB. In addition, the District installed an 8-inch pipe underneath the pedestrian pathway between the Rockaway Beach neighborhood and Linda Mar Boulevard, which is currently not in service but is intended to facilitate future expansion of the recycled water distribution system to serve the southern portions of Pacifica.

6.5.4 Potential, Current, and Projected Recycled Water 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.

Table 6-5 lists the current and projected uses of recycled water in the District's service area. In 2025, the annual recycled water usage for landscape irrigation customers was approximately 7.1 MG. The 2025 annual use by the Sharp Park golf course, which is wheeled to SFPUC by the District and not considered part of the District's gross water use, was approximately 5 MG. The District projects that future recycled water use will remain at current levels. While the District has begun to explore options to expand the recycled water system to add additional customers (see **Section 6.5.5**), these additional uses cannot be quantified at this time.

Of the total 7.1 MG of recycled water use in 2025, approximately 4.6 MG (65%) was supplied by supplemental potable water. These volumes of supplemental potable water were estimated based on the difference between metered recycled water use and metered flow pumped from the recycled water pump station. The 2025 supplemental potable water use is included in the potable "Other (optional)" use type in **Table 4-2**.

The use of supplemental potable water to meet recycled water demand is related to the City of Pacifica's CCWRP UV Disinfection System Upgrades Project, which required that recycled water production be offline during project construction. For instance, in 2024 before the start of the UV Disinfection System Upgrades Project only 0.1 MG of the 5.5 MG of non-potable use (1.2%) was supplied by supplemental potable water. As discussed in **Section 6.5.2**, upon completion of the City's UV Disinfection System Replacement Project, the District will not need to rely upon supplemental potable water to meet its projected recycled water uses in the future.

Table 6-5 Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4)

☐	Checked box indicates recycled water is not used and is not planned for use within the service area of the supplier. The supplier will only complete the column on "Potential Recycled Water Use" and submit an accompanying narrative on the feasibility of that potential recycled water use.
Name(s) of Facility/ies Producing (Treating) the Recycled Water (OPTIONAL):	City of Pacifica
Name of Supplier Operating the Recycled Water Distribution System (OPTIONAL):	North Coast County Water District
Supplemental Water Added in 2025 (volume). Include units (OPTIONAL):	4.6
Source of 2025 Supplemental Water (OPTIONAL):	San Francisco Public Utilities Commission

Use Type	Water Type (after treatment if treated) (OPTIONAL)	Additional Information (As needed)	2025	2030	2035	2040	2045	2050 (opt)	Potential Recycled Water Use	
									Volume	Narrative page number (OPTIONAL)
Landscape irrigation (excl. golf courses)	Non-Potable	School, Park, Streetscape, and Residential (via fill station) Landscape	2.4	9	9	9	9	9		
		Total	**2.4**	**9**	**9**	**9**	**9**	**9**	**0**	

NOTES:

(a) Volumes are in units of MG.

(b) A total of 7.1 MG was served through the recycled water system in 2025, 2.4 MG of which was recycled water supplied by the City and the remaining 4.6 MG was supplemental potable water. The City's UV Disinfection System Replacement Project is anticipated to make the necessary operational changes to eliminate the need for use of supplemental potable water in the future.

(c) An additional 5.0 MG of recycled water served the Sharp Park Golf Course in 2025, however the volume was wheeled through the District's recycled water system on behalf of the SFPUC and is not counted as part of the District's Total Water Supply.

The District's 2020 UWMP included projected use of recycled water in 2025 and beyond and assumed that the actual 2025 recycled use would remain constant through 2045 at 9 MG. **Table 6-6** compares the 2025 projected estimates to actual 2025 actual recycled water use, as reported in **Table 6-5**. The actual 2025 use was lower than the projected 2025 use in the 2020 UWMP due to recycled water not being available because of the CCWRP's UV Disinfection System Replacement Project and the District relying on potable supply to meet its recycled water demands.

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

☐	Checked box indicates recycled water was not used in 2025 nor previously projected for use in 2020. Proceed to the next table.

Use Type	2020 Projection for 2025 (a)	2025 Actual Use (a)
Landscape irrigation (excl. golf courses)	9	2.4
Total	**9**	**2.4**

NOTES:
(a) Volumes are in units of MG.

6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

At this time, as shown in **Table 6-7**, the District has plans to expand the use of recycled water within its service area.

As discussed in **Section 6.5.4**, the City initiated the UV Disinfection System Replacement Project in 2025 to upgrade the aging UV infrastructure with more energy-efficient and operationally flexible equipment. While the project does not increase the plant's treatment capacity, it improves system reliability and operational performance. During construction, recycled water production was temporarily halted. Following completion of the project, the District anticipates recycled water production will return to levels needed to meet recycled water demand, which is an estimated increase of 6.6 MG per year from 2025 use to approximately 9 MG per year through 2050 as projected in **Section 4.5.**

Table 6-7 Methods to Encourage Future Recycled Water Use (DWR Table 6-6)

☒	Checked box indicates that Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.
6-16	Provide page location of narrative in UWMP

Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use (a)
City of Pacifica Ultraviolet Disinfection System Replacement Project	Replacement of aging UV4000 disinfection system at CCWRP with modern UVSigna system to improve energy efficiency (~80% reduction), operational reliability, and maintenance flexibility.	2026	6.6
		Total	**6.6**
		Total (AF)	**20**

NOTES:
(a) Volumes are in units of MG.

The District will continue to encourage the use of the residential recycled water fill station, which was recently upgraded as part of the District's new office building. In addition, the District's new office building is dual-plumbed for recycled water use for toilet flushing. Increased use of the fill station for residential irrigation uses currently represents the biggest opportunity to expand use of recycled water in the District's service area with the existing recycled water system.

The District is also evaluating the feasibility of expanding its recycled water distribution system to reach additional irrigation customers. However, given that this evaluation is still in development, the potential new uses have not been quantified herein nor included in future recycled water use projections.

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 are being investigated by the BAWSCA as part of its Strategy 2050 (see **Section 7.3.4.1**). 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 District does not anticipate opportunities for development of desalinated water supplies within the planning horizon of this UWMP and this water supply is not being considered. Constraints on developing desalinated water supplies include the high cost of infrastructure and the large amount of energy required to operate a desalination facility.

6.7 Water Exchanges and Transfers

☑ ***CWC §10631***

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

6.7.1 Exchanges and Transfers

There are potential transfer and exchange opportunities within and outside of the SFPUC RWS. The District does not presently anticipate the need for water right transfers during normal year conditions. However, should that condition change in the future, it is possible that the District could purchase water from another agency or entity either within or outside of the SFPUC RWS.

Within the SFPUC RWS, it is possible to transfer water entitlements and/or banked water among agencies. For example, the Water Shortage Allocation Plan (WSAP) adopted by all BAWSCA agencies and the SFPUC provides the basis for voluntary transfers of water among BAWSCA agencies during periods when mandatory rationing is in effect on the SFPUC RWS (see **Section 7.1.1.1**). Some BAWSCA agencies have the capacity to rely on groundwater or other sources during dry years and thus may be willing to transfer a portion of their wholesale water entitlement to other BAWSCA agencies in need of supply above their allocations.

Securing water from willing sellers outside the SFPUC RWS is a more complex process than transfers within the RWS, which requires both a contract with the seller agency and approval by the SFPUC. BAWSCA has the authority to plan for and acquire supplemental water supplies and continues to evaluate the feasibility of water transfers as part of its Strategy 2050.

6.7.2 Emergency Interties

As discussed in **Section 3.5**, the District has established emergency interties with neighboring agencies to facilitate the short-term transfer of water due to a disruption in normal supply resulting from an event such as an earthquake or other emergency.

6.8 Future Water Projects

☑ ***CWC §10631***

(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.

The following sections describe the planned water supply projects to be implemented by both the District's wholesaler the SFPUC and the District.

6.8.1 SFPUC Water Supply Projects

The District's wholesaler, 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 Objective established in the WSIP (described in further detail in **Section 7.1.1.1**). SFPUC

has also developed an Alternative Water Supply Program (AWSP) to explore other projects that would increase overall water supply resiliency (see **Section 7.3.4.1)**.

6.8.2 The District Water Supply Projects

As of the publication of this UWMP, as noted in **Table 6-8**, the District does not have planned any future water supply projects. As discussed in **Sections 6.2, 6.3**, and **6.5.5**, however, the District is exploring the feasibility to diversify its water supply portfolio and reduce its reliance on purchased water through use of groundwater and surface water and expanded use of recycled water. The District may identify new water supply projects in the future develop any or some combination of these potential new sources.

Table 6-8 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. Supplier will not complete the table below.
☐	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					

6.9 Summary of Existing and Planned Sources of Water

The District's water supplies consist of potable water purchased from the SFPUC RWS and recycled water from the District's recycled water program. In 2025, the District purchased approximately 828 MG from the SFPUC RWS and served approximately 2.4 MG of recycled water. The District's historical and current supply is presented in **Table 6-9**.

Reasonably available water supplies from the SFPUC RWS through 2050 are projected to be equivalent to the District's projected demand, and the total entitlement of supply is equal to the District's ISG of 1,402 MG. The District's ISG is the District's contractual entitlement to SFPUC wholesale water, which survives in perpetuity. The District's total water supply projections are shown in **Table 6-10 i**n five-year increments through 2050.

Table 6-9 Water Supplies – 2025 Actual (DWR Table 6-8)

Water Supply	Additional Description (As needed)	2025		
		Water Type (After treatment if treated) (OPTIONAL)	Actual Volume	Total Entitlement (OPTIONAL)
Purchased or Imported Water	SFPUC RWS	Potable	833	1,402
Recycled Water	CCWRP (b)	Non-Potable	2.4	--
		Subtotal Potable	**833**	**1,402**
		Subtotal Non-Potable	**2.4**	**--**
		Total	**835**	**--**

NOTES:
(a) Volumes are in units of MG.
(b) Volumes for both supply sources do not include the volume of water wheeled through the District's potable and recycled water distribution systems to SFPUC to serve Sharp Park Golf Course. Recycled water supplies are discretionary to match demand; therefore, no "Total Entitlement" is shown.

Table 6-10 Water Supplies – Projected (DWR Table 6-9)

Water Supply			Projected Water Supply (a)									
			2030		2035		2040		2045		2050 (opt)	
Water Supply	Additional Detail on Water Supply	Water Type (After treatment if treated) (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)	Reasonably Available Volume	Total Entitlement (OPTIONAL)
Purchased or Imported Water	SFPUC RWS (b)	Potable	821	1,402	837	1,402	864	1,402	861	1,402	863	1,402
Recycled water	CCWRP (c)	Non-Potable	9	--	9	--	9	--	9	--	9	--
		Total	829	--	846	--	872	--	870	--	871	--

NOTES:
(a) Volumes are in units of MG.
(b) The reasonably available supply volume is equal to the District's projected SFPUC purchases. For all years, the total SFPUC purchase volume is within the ISG of 1,402 MG.
(c) Recycled water supplies are discretionary to match demand; therefore, no "Total Entitlement" is shown.
(d) Totals may not sum due to rounding.

6.10 Special Conditions

Special conditions including climate change effects, regulatory conditions and project development, and other locally applicable criteria may affect supply availability, as described in the following subsections.

6.10.1 Climate Change Effects

Information regarding the impacts of climate change on the SFPUC RWS supply was provided by BAWSCA in coordination with SFPUC and is provided below:

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 continues to study the effect of climate change on the RWS. These works are summarized below.

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; and*
- *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 (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%; and*
- *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.*

6.10.2 Regulatory Conditions and Project Development

Emerging regulatory conditions (e.g., issues surrounding the Bay-Delta Plan Amendment) 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 7.1**. The District currently does not have any plans to develop new supply sources. If the District 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.

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). Reliability of the RWS supply is further discussed in **Section 7.1**. The District currently does not have any plans to develop new supply sources. If the District 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.

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 District. Calendar year 2025 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. Total energy consumed by the District during calendar year 2025 based on reported utility bills is 1,579,761 kilowatt hours (kWh). **Table 6-11** shows the energy consumed for each MG of water entering the distribution system. The District's water system energy use is almost entirely associated with the pumping and distribution of drinking water. Based on the Total Utility Approach, the District's energy intensity is estimated to be 1,897 kilowatt hours per million gallons (kWh/MG).

Given that the wastewater collection, treatment, and disposal systems within the District's service are not under the District's operational control and the energy used to produce and distribute recycled water at the City's CCWRP is paid for by Pacifica, the District has not calculated the energy associated with the collection and treatment of wastewater and distribution of recycled water.

Table 6-11 Recommended Energy Reporting: Single Delivery Product, 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	1/1/2025	Sum of All Water Management Processes	Non-Consequential Hydropower	
End Date of Reporting Period	12/31/2025			
Is upstream embedded energy in the values reported?	No			
Units of Measure for Water	MG	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process		833	0	833
Energy Consumed (kWh)		1,579,761	0	1,579,761
Energy Intensity (kWh/vol. converted to MG)		1,897	0	1,897
Quantity of Self-Generated Renewable Energy				
0	kWh			
Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)				
Metered Data				
Data Quality Narrative:				
Volume of water data is from the SFPUC meters. Energy usage is for water facilities and is from the District's Pacific Gas and Electric energy bills.				
Narrative:				
Total energy consumption represents the energy consumed for pumping and distribution of drinking water. Energy consumption for the District's offices and corporation yards are not included.				

7 WATER SUPPLY RELIABILITY ASSESSMENT

This section assesses the reliability of the District's water supplies, with a specific focus on potential constraints, including purchased water 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 during normal, single dry-year, and multiple dry-year hydrologic conditions.

The District purchases all of its potable water supply from the SFPUC RWS and serves recycled water via its recycled water program. The reliability of the SFPUC RWS is anticipated to vary greatly in different year types. The District 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. In addition to the long-term reliability assessment, this section also presents a Drought Risk Assessment to evaluate the District's supply risks under a severe drought period lasting for the next five consecutive years (i.e., through 2030).

7.1 Constraints on Water Sources

☑ ***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 §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.

☑ ***CWC §10635***

(b)(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.

(b)(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.

The following sections provide a summary of potential constraints on future water supply availability, water quality, and climate change.

7.1.1 Supply Availability

Detailed information is provided below regarding factors that impact the SFPUC RWS supply and the District's recycled water supply.

7.1.1.1 Purchased Water

The SFPUC has identified potential constraints on its water supplies. This section summarizes the availability of water supplies from the SFPUC RWC, including (1) key uncertainties that may affect those supplies, (2) the system's level of service goals and capital improvements that underpin supply reliability, as well as (3) the allocation methodologies applied during shortage conditions. The source for the information is the common language provided by the SFPUC and BAWSCA (see **Appendix D**).

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.

There are additional factors that could affect the availability of water supply regarding the SWRCB curtailments and agreements with Turlock and Modesto Irrigation Districts (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 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 SFPUC's 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.*

Bay-Delta Plan Amendment Updates

In December 2018, the SWRCB adopted amendments to the Bay-Delta Plan 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"[16] 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; and*
- *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

[16] *"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.)*

Agency and the leadership of the Newsom administration.[17] On November 10, 2022, the SFPUC along with the 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.

Water System Improvement Program and Level of Service Goals

Initiated in 2008, SFPUC's 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 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% 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 GPCD.*
- *Realize annual Real Water Losses of less than 10% of water supplied to San Francisco; and*
- *Meet 80% of San Francisco's Recreation and Parks Department irrigation demands with recycled water by December 31, 2025.*

[17] *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

Tier One Drought Allocations

The WSA between the SFPUC and the Wholesale Customers includes as "Attachment H" a 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%, 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 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.

7.1.1.2 Recycled Water

The District expects to meet specific non-potable irrigation water uses with recycled water. The District considers recycled water to be a reliable and stable water supply source and its recycled water supply is estimated to be available during all hydrologic years at a volume that meets its projected recycled water demands (see **Sections 4** and **6**).

7.1.2 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. All drinking water standards are set by the USEPA under the authorization of the Federal Safe Drinking Water Act of 1974. In California, the SWRCB DDW can either adopt the USEPA standards or set more stringent standards, which are then codified in Title 22 of the CCR. 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.

As discussed in **Section 6.1.1**, surface water supplies available to the RWS include the Tuolumne River and local Bay Area reservoirs. Information is provided below regarding the water quality of the RWS per the common language provided by the SFPUC and BAWSCA.

> *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.*

The District has and will continue to meet all state and federal water quality regulations. The District routinely monitors the water that is 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 District's website: https://nccwd.com/departments/water-quality.html.

The results of SFPUC's and the District's water quality assessments show that SFPUC RWS watersheds have very low levels of contaminants, and that those contaminants that are found at low levels are associated with wildlife and, to a limited extent, human recreation. For the purposes of this UWMP, it is

anticipated that this high-quality potable water source will continue to be available to the District through the planning horizon ending in the year 2050. Water quality is not expected to impact the reliability of the District's supplies.

7.1.3 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 provides a summary of the assessments of the applicable climate change impacts on supplies that SFPUC has 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. The District is actively working with SFPUC and BAWSCA to further quantify and consider future climate change impacts as part of its ongoing supply and operations planning.

7.2 Reliability by Type of Year

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

Identification of dry year periods consistent with the UWMP Guidebook 2025 methodology is provided in the language and supply projections provided by BAWSCA and the SFPUC in **Appendix D** and as presented in **Table 7-1** and **Table 7-2**. The data and methods used to develop these dry year supply availabilities are described in the sections, below.

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

Year Type	Base Year	Available Supplies if Year Type Repeats	
		☒	Checked box indicates quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location: **Appendix D** and **Table 7-2**
		Volume Available	% of Average Supply
Average Year			**100%**
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:
(a) SFPUC provided this table to its wholesale customers under four scenarios. A description of the scenarios and corresponding tables can be found in **Appendix D**.

7.2.1 SFPUC Supply Modeled RWS Dry Year Supply Availability

As described in SFPUC's 2025 UWMP, SFPUC used the Hetch Hetchy and Local Simulation Model (HHLSM) to estimate SFPUC RWS supply availability for the water service reliability assessment and the Drought Risk Assessment. Additional information is provided below per the common language provided by SFPUC and BAWSCA:

> *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 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.

Because of the uncertainty surrounding implementation of the Bay-Delta Plan Amendment, the SFPUC conducted a water service reliability assessment that includes: (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 (**Appendix D**). 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.

Consistent with SFPUC's approach and guidance from SFPUC and BAWSCA, the District's UWMP presents results for the water service reliability assessment using projected demands on the RWS for both scenarios: (1) with full implementation of the Bay-Delta Plan Amendment and (2) without implementation of the Bay-Delta Plan Amendment. Consistent with SFPUC's approach, the District has included the results of the with Bay Delta Plan Amendment scenario in the DWR UWMP submittal tables.

SFPUC modeling results for both scenarios, showing the total RWS supply available to Wholesale Customers during the characteristic year types, can be found in the SFPUC letter dated March 11, 2026 (**Appendix D**). These results indicated that SFPUC would be able to meet 100% of Wholesale projected purchases during all year types in the scenario in which the Bay-Delta Plan Amendment is not implemented. However, shortfalls ranging from 31% to 48% of projected purchases during dry years in the scenario in which the Bay-Delta Plan Amendment is implemented.

7.2.2 The District's Year-Type Characterization

As discussed in **Section 6.1.2**, in accordance with the SFPUC's perpetual obligation to the District's Supply Assurance, the District has an ISG of 3.84 MGD, or 1,402 MG per year. SFPUC is obligated to provide the District with up to 100% of the District's ISG during normal years. As mentioned above, recycled water supplies are assumed to be 100% reliable during all year types.

As detailed by BAWSCA in **Appendix D**, both the Tier One and Tier Two Plans were not designed for RWS shortages greater than 20%. In a memorandum dated March 11, 2026, BAWSCA provided a refined 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%. 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. The associated allocations based on the updated BAWSCA methodology are included as **Appendix D**.

For the purposes for the 2025 UWMP supply reliability analysis only, Wholesale Customer drought allocations assume an equal percent reduction across all agencies when the average Wholesale Customers' RWS shortages are greater than 20%. This allocation method is intended to serve as the preliminary basis for the 2025 UWMP supply reliability analysis. The analysis provided herein does not in any way imply an agreement by BAWSCA member agencies as to the exact allocation methodology. BAWSCA member agencies are in discussions about jointly developing an allocation method that would consider additional equity factors in the event that SFPUC is not able to deliver its contractual supply volume and cutbacks to the RWS supply exceed 20%.

These reduction percentages for the scenario that assumes the implementation of the Bay-Delta Plan Amendment in 2030 are included in Attachment B of the BAWSCA memorandum dated March 11, 2026

(**Appendix D**) and are provided for the District 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 4-5 for each respective base year to calculate the projected dry-year RWS supplies shown in **Table 7-5** and **Table 7-7**.

Table 7-2 The District's SFPUC RWS Supply Availability During Normal and Dry Years for Base Years 2030 through 2050, Scenario 1: With Bay-Delta Plan Amendment (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) In normal years, SFPUC can sufficiently supply the District's projected potable demands. During normal years, SFPUC supplies are available up to the District's ISG of 1,402 MG per year.
(b) Dry-year water supply availability is presented in terms of percentage of projected RWS demands for each base year (**Table 4-5**) consistent the revised BAWSCA Drought Methodology that assumes equal percent cutbacks across all Wholesale Agencies.
(c) Results reflect scenario with Bay-Delta Plan Amendment implemented in 2030 and the use projected RWS purchases.

BAWSCA also provided percent reductions for the without Bay-Delta Plan Amendment scenario (Scenario 2; **Appendix D**). As noted above, SFPUC's modeling results show that SFPUC would be able to meet 100% of Wholesale projected purchases during all year types in the scenario in which the Bay-Delta Plan Amendment is not implemented. These results are shown in **Table 7-3** and used for the projected dry-year RWS supplies shown in **Table 7-6** and **Table 7-8**.

Table 7-3 The District's SFPUC RWS Supply Availability During Normal and Dry Years for Base Years 2030 through 2050, Scenario 2: Without Bay-Delta Plan Amendment (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%	100%	100%	100%	100%	100%	100%
2035	100%	100%	100%	100%	100%	100%	100%
2040	100%	100%	100%	100%	100%	100%	100%
2045	100%	100%	100%	100%	100%	100%	100%
2050	100%	100%	100%	100%	100%	100%	100%

NOTES:
(a) In normal years, SFPUC can sufficiently supply the District's projected potable demands. During normal years, SFPUC supplies are available up to the District's ISG of 1,402 MG per year.
(b) Dry-year water supply availability is presented in terms of percentage of projected RWS demands for each base year (**Table 4-5**).
(c) Results reflect scenario without Bay-Delta Plan Amendment implementation and the use projected RWS purchases.

7.3 Supply and Demand Assessment

☑ ***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.

Water supply changes during normal, single dry, and multiple dry years. The following sections compare the District's projected water demands, described in **Section 4**, with projected water supply availability during normal years, single dry years, and multiple dry year periods. The District's available supply is presented under both scenarios described above: (1) with full implementation of the Bay-Delta Plan Amendment in 2030 and (2) without implementation of the Bay-Delta Plan Amendment.

7.3.1 Normal Year Supply and Demand Assessment

Table 7-4 shows the projected supply and demand totals for a normal year. The supply and demand totals are consistent with those in **Table 6-10** and **Table 4-5**, respectively. The District is expected to have adequate water supplies during normal years to meet its projected demands through 2050 under both scenarios.

Table 7-4 Normal Year Supply and Demand Comparison, Both Scenario 1 and 2 (DWR Table 7-2)

Potable Normal Year Supply and Demand

	2030	2035	2040	2045	2050
Supply totals	821	837	864	861	863
Use totals	821	837	864	861	863
Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.

Non-potable Normal Year Supply and Demand

	2030	2035	2040	2045	2050
Supply totals	9	9	9	9	9
Use totals	9	9	9	9	9
Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.

Table 7-4 Normal Year Supply and Demand Comparison, Both Scenario 1 and 2 (DWR Table 7-2) Continued

Total Normal Year Supply and Demand

	2030	2035	2040	2045	2050
Supply totals	829	846	872	870	871
Use totals	829	846	872	870	871
Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.
(b) Totals may not sum due to rounding.

7.3.2 Single-Dry Year Supply and Demand Assessment

The reliability of the SFPUC RWS supply is anticipated to vary greatly in the future. As described above and detailed in **Appendix D**, the District has relied on the supply reliability estimates and the drought allocation structure provided by SFPUC and BAWSCA to estimate available RWS supplies in dry years from 2030 through 2050. **Table 7-5** shows the projected supply and demand totals for the single dry year assuming implementation of the Bay-Delta Plan Amendment in 2030 (Scenario 1). **Table 7-6** shows the projected supply and demand totals for the single dry year without implementation of the Bay-Delta Plan Amendment (Scenario 2). The District has developed a WSCP to address supply shortfalls resulting from any cause (e.g., droughts, impacted distribution system infrastructure, regulatory-imposed shortage restrictions, etc.). The WSCP, included as **Appendix E**, identifies a variety of actions and further ensures supply reliability at various levels of water shortage.

Table 7-5 Single Dry Year Supply and Demand Comparison, Scenario 1: With Bay-Delta Plan Amendment (DWR Table 7-3)

Potable Single Dry Year Supply and Demand

	2030	2035	2040	2045	2050
Supply totals	566	561	561	542	535
Use totals	821	837	864	861	863
Surplus/(Shortfall)	**(254)**	**(276)**	**(302)**	**(319)**	**(328)**

NOTES:
(a) Volumes are in units of MG.

Non-potable Single Dry Year Supply and Demand

	2030	2035	2040	2045	2050
Supply totals	9	9	9	9	9
Use totals	9	9	9	9	9
Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.

Table 7-5 Single Dry Year Supply and Demand Comparison, Scenario 1: With Bay-Delta Plan Amendment (DWR Table 7-3) Continued

Total Single Dry Year Supply and Demand

	2030	2035	2040	2045	2050
Supply totals	575	569	570	551	543
Use totals	829	846	872	870	871
Surplus/(Shortfall)	**(254)**	**(276)**	**(302)**	**(319)**	**(328)**

NOTES:
(a) Volumes are in units of MG.
(b) Totals may not sum due to rounding.

Table 7-6 Single Dry Year Supply and Demand Comparison, Scenario 2: Without Bay-Delta Plan Amendment

Potable Single Dry Year Supply and Demand

	2030	2035	2040	2045	2050
Supply totals	821	837	864	861	863
Use totals	821	837	864	861	863
Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.

Non-potable Single Dry Year Supply and Demand

	2030	2035	2040	2045	2050
Supply totals	9	9	9	9	9
Use totals	9	9	9	9	9
Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.

Total Single Dry Year Supply and Demand

	2030	2035	2040	2045	2050
Supply totals	829	846	872	870	871
Use totals	829	846	872	870	871
Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.
(b) Totals may not sum due to rounding.

7.3.3 Multiple Dry Year Supply and Demand Assessment

Based on the supply reliability estimates and allocation structure provided by SFPUC and BAWSCA, **Table 7-7** shows the District's projected supply and demand totals for multiple dry year periods extending five years with implementation of the Bay-Delta Plan Amendment in 2030 (Scenario 1). Table 7-8 shows the District's projected supply and demand totals for multiple dry year periods extending five years without the Bay-Delta Plan Amendment (Scenario 2). As noted above, the District's WSCP identifies a variety of actions the District can take to help reduce these supply shortfalls (**Appendix E**).

Table 7-7 Five Consecutive Dry Years Supply and Demand Comparison, Scenario 1: With Bay-Delta Plan Amendment (DWR Table 7-4)

Potable Consecutive Dry Year Supply and Demand

		2030	2035	2040	2045	2050 (Opt)
First year	Supply totals	566	561	561	542	535
	Use totals	821	837	864	861	863
	Surplus/(Shortfall)	**(254)**	**(276)**	**(302)**	**(319)**	**(328)**
Second year	Supply totals	476	477	475	456	449
	Use totals	821	837	864	861	863
	Surplus/(Shortfall)	**(345)**	**(360)**	**(389)**	**(405)**	**(414)**
Third year	Supply totals	476	477	475	456	449
	Use totals	821	837	864	861	863
	Surplus/(Shortfall)	**(345)**	**(360)**	**(389)**	**(405)**	**(414)**
Fourth year	Supply totals	476	477	475	456	449
	Use totals	821	837	864	861	863
	Surplus/(Shortfall)	**(345)**	**(360)**	**(389)**	**(405)**	**(414)**
Fifth year	Supply totals	476	477	475	456	449
	Use totals	821	837	864	861	863
	Surplus/(Shortfall)	**(345)**	**(360)**	**(389)**	**(405)**	**(414)**

NOTES:
(a) Volumes are in units of MG.

Table 7-7 Five Consecutive Dry Years Supply and Demand Comparison, Scenario 1: With Bay-Delta Plan Amendment (DWR Table 7-4) Continued

Non-Potable Consecutive Dry Year Supply and Demand

		2030	2035	2040	2045	2050 (Opt)
First year	Supply totals	9	9	9	9	9
	Use totals	9	9	9	9	9
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Second year	Supply totals	9	9	9	9	9
	Use totals	9	9	9	9	9
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Third year	Supply totals	9	9	9	9	9
	Use totals	9	9	9	9	9
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Fourth year	Supply totals	9	9	9	9	9
	Use totals	9	9	9	9	9
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Fifth year	Supply totals	9	9	9	9	9
	Use totals	9	9	9	9	9
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.

Table 7-7 Five Consecutive Dry Years Supply and Demand Comparison, Scenario 1: With Bay-Delta Plan Amendment (DWR Table 7-4) Continued

Total Consecutive Dry Year Supply and Demand

		2030	2035	2040	2045	2050 (Opt)
First year	Supply totals	575	569	570	551	543
	Use totals	829	846	872	870	871
	Surplus/(Shortfall)	**(254)**	**(276)**	**(302)**	**(319)**	**(328)**
Second year	Supply totals	485	486	484	465	457
	Use totals	829	846	872	870	871
	Surplus/(Shortfall)	**(345)**	**(360)**	**(389)**	**(405)**	**(414)**
Third year	Supply totals	485	486	484	465	457
	Use totals	829	846	872	870	871
	Surplus/(Shortfall)	**(345)**	**(360)**	**(389)**	**(405)**	**(414)**
Fourth year	Supply totals	485	486	484	465	457
	Use totals	829	846	872	870	871
	Surplus/(Shortfall)	**(345)**	**(360)**	**(389)**	**(405)**	**(414)**
Fifth year	Supply totals	485	486	484	465	457
	Use totals	829	846	872	870	871
	Surplus/(Shortfall)	**(345)**	**(360)**	**(389)**	**(405)**	**(414)**

NOTES:
(a) Volumes are in units of MG.
(b) Totals may not sum due to rounding.

Table 7-8 Five Consecutive Dry Years Supply and Demand Comparison, Scenario 2: Without Bay-Delta Plan Amendment

Potable Consecutive Dry Year Supply and Demand

		2030	2035	2040	2045	2050 (Opt)
First year	Supply totals	821	837	864	861	863
	Use totals	821	837	864	861	863
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Second year	Supply totals	821	837	864	861	863
	Use totals	821	837	864	861	863
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Third year	Supply totals	821	837	864	861	863
	Use totals	821	837	864	861	863
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Fourth year	Supply totals	821	837	864	861	863
	Use totals	821	837	864	861	863
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Fifth year	Supply totals	821	837	864	861	863
	Use totals	821	837	864	861	863
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.

Table 7-8 Five Consecutive Dry Years Supply and Demand Comparison, Scenario 2: Without Bay-Delta Plan Amendment Continued

Non-Potable Consecutive Dry Year Supply and Demand

		2030	2035	2040	2045	2050 (Opt)
First year	Supply totals	9	9	9	9	9
	Use totals	9	9	9	9	9
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Second year	Supply totals	9	9	9	9	9
	Use totals	9	9	9	9	9
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Third year	Supply totals	9	9	9	9	9
	Use totals	9	9	9	9	9
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Fourth year	Supply totals	9	9	9	9	9
	Use totals	9	9	9	9	9
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Fifth year	Supply totals	9	9	9	9	9
	Use totals	9	9	9	9	9
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.

Table 7-8 Five Consecutive Dry Years Supply and Demand Comparison, Scenario 2: Without Bay-Delta Plan Amendment Continued

Total Consecutive Dry Year Supply and Demand

		2030	2035	2040	2045	2050 (Opt)
First year	Supply totals	829	846	872	870	871
	Use totals	829	846	872	870	871
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Second year	Supply totals	829	846	872	870	871
	Use totals	829	846	872	870	871
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Third year	Supply totals	829	846	872	870	871
	Use totals	829	846	872	870	871
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Fourth year	Supply totals	829	846	872	870	871
	Use totals	829	846	872	870	871
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**
Fifth year	Supply totals	829	846	872	870	871
	Use totals	829	846	872	870	871
	Surplus/(Shortfall)	**0**	**0**	**0**	**0**	**0**

NOTES:
(a) Volumes are in units of MG.
(b) Totals may not sum due to rounding.

7.3.4 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 Bay-Delta Plan Amendment implementation. However, numerous uncertainties remain in the implementation of the Bay-Delta Plan Amendment as discussed in **Section 7.1.1.1** and below. The water supply projections presented above in Scenario 1 likely represent a worst-case scenario in which the Bay-Delta Plan Amendment is implemented without the SFPUC and SWRCB reaching a Voluntary Agreement and do not account for implementation of SFPUC's Alternative Water Supply Program (AWSP), described in more detail below. Under Scenario 1, SFPUC appears not to be able to meet its contractual obligations (i.e., Level of Service goals) and the District's forecasted demands during droughts.

As shown in **Table 7-6** and **Table 7-8**, the SFPUC-provided water supply reliability projections without the Bay-Delta Plan Amendment (Scenario 2) likely represents a highly optimistic water supply reliability outcome. These projections indicated that without implementation of the Bay-Delta Plan Amendment, SFPUC would be able to supply 100% 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 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 Healthy Rivers and Landscapes Program (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 Alternative Water Supply Program are not accounted for in current supply projections.** As discussed in **Section 7.3.4.1** below and **Appendix D**, 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.
- **Methodology for Tier One and Tier Two Wholesale drought allocations have not been established for wholesale shortages greater than 20%.** 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%. For UWMP planning purposes per BAWSCA guidance, the Tier One Wholesale share for a 16% to 20% supply reduction (62.5%) has been applied for reductions greater than 20%, 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%.
- **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 Scenario 1 (with Bay-Delta Plan Amendment), 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.

As such, the District has placed high priority on working with BAWSCA and SFPUC in the upcoming years to better refine the estimates of RWS supply reliability and may amend this UWMP when new information becomes available.

The above uncertainties notwithstanding, BAWSCA's current drought allocation cutbacks will require the District to apply its WSCP Stage 5 for water use restrictions between 40-50% (see **Appendix E**) and will affect the District's short- and long-term water management decisions. As described further below, the District 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, the District will need to implement additional demand management practices to invoke strict restrictions on potable water use and accelerate efforts to develop alternate supplies of water.

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

7.3.4.1 Strategies and Actions to Address Dry Year Supply Shortfalls

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

Strategy 2050 Future Water Supply Projects and Programs

The District is supporting BAWSCA in the development of its 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 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 the water reliability under a 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 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 (AWSP)

In 2019, the SFPUC established the AWSP 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 Alternative Water Supply (AWS) Plan, the SFPUC anticipates a water supply gap will occur in future dry years. The AWSP 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 AWSP 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, 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 AWSP, the following additional regional projects are included in the Agreements to Support Healthy Rivers and Landscapes. 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 AWS Plan based on updated information.

North Coast County Water District Strategies and Actions

In addition to the management tools and options discussed below, the District 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 F**) that identify, among other things, the significant impact to local water supply reliability if the Bay-Delta Plan Amendment is implemented.

Further, as part of the 2020 UWMP process, the District submitted letters to both BAWSCA and SFPUC (see **Appendix F**) enumerating concerns regarding the fact that the SFPUC RWS supply allocations do not meet the Level of Service Goals included in the Water Supply Agreement (WSA) (see **Section 7.1.1.1**) and, therefore, SFPUC is not meeting its contractual obligations to the Wholesale Customers.

As described in **Section 7.4** and **Section 9**, the District is committed to developing a long-term supply reliability strategy, including evaluation of alternative supply sources and continued commitment to its 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.

At a regional level, the District maintains active involvement in the work that SFPUC and BAWSCA are doing with respect to optimizing the use of regional water supplies and pursuing additional supplies. These efforts are detailed in **Section 7.3.4.1**.

In addition to supporting SFPUC and BAWSCA, the District has been evaluating options to expand its local supply portfolio through the potential use of surface water and expanded recycled water use (see **Section 6**).

The District has also been implementing, and plans to continue to implement, the demand management measures described in **Section 9**. Further, in response to the anticipated future dry-year shortfalls, the District has developed a robust WSCP that systematically identifies ways in which the District can reduce water demands. The WSCP is included in **Appendix E** and summarized in **Section 8**.

7.5 Drought Risk Assessment

☑ ***CWC §10612***

"Drought Risk Assessment" means a method that examines water shortage risks based on the driest five-year historic sequence for the agency's water supply, as described in subdivision (b) of Section 10635.

☑ ***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.

In addition to the long-term water service reliability assessment presented above, the Drought Risk Assessment evaluates District'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 Drought Risk Assessment is intended to inform the DMMs and water supply projects and programs to be included in the UWMP (**Section 9**). Suppliers may conduct an interim update or updates to this Drought Risk Assessment within the five-year cycle of its UWMP update (i.e., before the 2030 UWMP).

7.5.1 Data, Methods, and Basis for Water Shortage Condition

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.

As a first step to the Drought Risk Assessment, the District estimated unconstrained water demand for the next five years (i.e., 2026-2030). Unconstrained water demand is the expected water use in the absence of drought water use restrictions. The characteristic five-year water demand is described in **Section 4**.

The available potable water supplies assumed in the Drought Risk Assessment are based upon the same methodology and assumptions used for the long-term water service reliability assessment (**Section 7.3**) and rely on information provided by SFPUC and BAWSCA (**Appendix D**). Details of how the District's available supplies are then estimated as part of the Drought Risk Assessment are provided below.

7.5.2 Drought Risk Assessment Individual Water Source Reliability

As described in **Section 6**, the District purchases imported surface water from the SFPUC RWS for potable uses and utilizes recycled water for non-potable uses.

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 D**. The data and methods used to determine the RWS supply for the Drought Risk Assessment dry-year sequence are the same as those described in the **Section 7.2.1**. 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 Drought Risk Assessment considers the supply scenario without the implementation of the Bay-Delta Plan Amendment.

7.5.3 Drought Risk Assessment Total Water Supply and Use Comparison

Table 7-9 provides a comparison of the water supply sources available to District with the total projected water use for an assumed drought period of 2026 through 2030 for the scenario without implementation of the Bay-Delta Plan Amendment since the start date of implementation is unknown. For purposes of the Drought Risk Assessment, it is assumed the Bay-Delta Plan Amendment will be implemented after 2030, if implemented at all.

The District has developed a WSCP (**Appendix E**) 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 the District will implement to reduce demands and further ensure supply reliability at various levels of water shortage. The District intends to implement its WSCP to reduce water use and address the supply shortfalls. It should be noted again that numerous uncertainties exist in the assumptions that drive the above projected dry year shortage estimates and that the current Tier One and Tier Two Plans are not designed for RWS supply shortages of greater than 20%. 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%.

The District's supply is expected to be sufficient to meet demands in all hydrologic conditions, including an extended five-year drought period. However, given the current uncertainty discussed in **Section 7.1**, the District could update its Drought Risk Assessment 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 Drought Risk Assessment within the five-year cycle of its UWMP update. The District anticipates that by the 2030 UWMP update, SFPUC will provide more specific information about the AWSP, with estimated water supply contributions from such projects. Additionally, the District expects that SFPUC will provide more specific information and a refined estimate of the Bay-Delta Plan Amendment impacts to the SFPUC supply.

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

Table 7-9 Five-Year Drought Risk Assessment Tables (DWR Table 7-5)

2026	Total
Total Water Use	834
Total Supplies	834
Surplus/Shortfall without WSCP Action	**0**
2027	**Total**
Total Water Use	833
Total Supplies	833
Surplus/Shortfall without WSCP Action	**0**
2028	**Total**
Total Water Use	832
Total Supplies	832
Surplus/Shortfall without WSCP Action	**0**
2029	**Total**
Total Water Use	831
Total Supplies	831
Surplus/Shortfall without WSCP Action	**0**
2030	**Total**
Total Water Use	829
Total Supplies	829
Surplus/Shortfall without WSCP Action	**0**

NOTES:
(a) Volumes are in units of MG.

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 WSCP for the District is included in this UWMP as **Appendix E**. 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 CWC §10632, the WSCP includes six levels to address shortage conditions ranging from up to 10% to greater than 50% shortage, identifies a suite of demand mitigation measures for the District to implement at each 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 E**.

Table 8-1 Cross-reference for Standard vs Supplier Shortage Levels (DWR Table 8-1)

☒	Checked box indicates the supplier uses the standard six levels of water shortage (and supplier will not complete this 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%		

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

Yes	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	
1	Other	Percentage	8%	1. Inform customers that there is a water shortage emergency and the list of actions they can take to reduce water use (e.g., via direct mail, media campaign, website, bill inserts, etc.). 2. Offer water use surveys. 3. Promote rebates on high-efficiency plumbing fixtures and devices such as toilets. 4. Promote rebates for Turf Replacement. 5. Audit and reduce water system loss. 6. Promote use of residential recycled water fill station. 7. Coordination with BAWSCA and SFPUC. 8. Schedule staff for enforcement and customer service.
2	Other	Percentage	15%	1. Continue with actions and measure from Stage 1. 2. Implement or modify drought rate structure as allowed by adopted Rate and Fee Schedule. 3. Decrease line flushing. 4. Increase public outreach, including hosting public events and workshops. 5. Increase public outreach including information regarding fines or penalties for non-compliance. 6. Increase leak detection. 7. Accelerate water conservation program implementation.

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

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	
3	Other	Percentage	25%	1. Continue with actions and measures from Stage 2. 2. Increase water waste patrols. 3. Develop mandatory water allocation program for all accounts and notice those accounts appropriately. 4. Impose an excess water use charge with the implementation of water allocations. 5. Require fixture retrofits prior to review of customer hardship exemptions from prohibitions and restrictions. 6. Establish moratorium on new connections and new landscaping.
4	Other	Percentage	35%	1. Continue with actions and measures from Stage 3. 2. Switch to more frequent (e.g., monthly) billing. 3. Suspend water service to landscape accounts.
5	Other	Percentage	45%	1. Continue with actions and measures from Stage 4. 2. Coordinate with CA Dept of Public Health, County Public Health Department and other emergency response agencies regarding water quality, public health issues. 3. Prepare to coordinate with State (SWRCB, DWR) and County (Department of Emergency Management) for emergency response support and funding. 4. Prepare for implementation of emergency water supply provisions identified in the ERP (e.g., bottled water, water tankers). 5. Set up emergency notification lists for medical/dental facilities, public facilities, large users, food and beverage facilities, and critical businesses.

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

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	
6	Other	Percentage	53%	1. Continue with actions and measures from Stage 5. 2. Continue to coordinate with CA Dept of Public Health, County Public Health Department and other emergency response agencies regarding water quality, public health issues 3. Continue to coordinate with State (SWRCB, DWR) and County (Department of Emergency Management) for emergency response support and funding 4. Continue to provide bulk water stations and/or coordinate water hauling. 5. Transition to minimum health and safety water supply levels consistent with ERP guidance in the event of catastrophic supply interruption.

NOTES:

(a) The percentages listed in this table are the cumulative savings for each shortage level with implementation of corresponding demand reduction measures in **Table 8-3**. Detailed saving estimates based on end use, response action, and implementation rates can be found in in **Appendix E**.

(b) Each supply augmentation method or other actions by water supplier action as "other" because they represent a suite of actions by the water supplier for each shortage level that include multiple categories of actions provided in the DWR drop down menu.

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

Yes	Is the Supplier completing this table using the standard six levels? (yes/no)				
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		
No Drought	Other	Percentage	--	1. Hoses shall be equipped with a shut-off valve for washing vehicles, sidewalks, walkways, or buildings. 2. Ornamental fountains shall use only re-circulated or recycled water. 3. Potable water shall not be applied in any manner to any driveway, sidewalk, or other hard surface except when necessary to address immediate health or safety concerns. 4. Potable water shall not be used to water outdoor landscapes in a manner that causes more than incidental runoff onto non-irrigated areas, walkways, roadways, parking lots, or other hard surfaces. 5. Potable water shall not be applied to outdoor landscapes during and up to 48 hours after measurable rainfall. 6. Potable water shall not be used to irrigate ornamental turf on public street medians. 7. Hotels and motels shall provide guests an option whether to launder towels and linens daily. Hotels and motels shall prominently display notice of this option in each bathroom using clear and easily understood language. 8. Restaurants and other food service operations shall serve water to customers only upon request.	Yes

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

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		
No Drought (Conti.)	Other	Percentage	--	9. Customers are obligated to fix leaks, breaks, or malfunctions in lines, fixtures, or facilities. Loss or escape of water through breaks, leaks, or malfunctions in the water user's plumbing, distribution, or irrigation system is prohibited for any period time after such water waste should have reasonably been discovered and corrected. Leaks, breaks, or malfunctions shall be corrected in no more than five days of District notification. The District, at its sole discretion, may temporarily shut off service if unable to contact the account holder on record. 10. Recreational water features shall be covered when not in use. 11. Single-pass cooling systems on new construction shall not be allowed. 12. Other measures as may be approved by the State Water Resources Control Board or Board of Directors Resolution.	Yes
1	Other	Percentage	8%	1. Continue with "no drought" restrictions and prohibitions except where superseded by more stringent requirements. 2. Restrict landscape irrigation to specific times. 3. Prohibit outdoor watering with potable water more than 15 minutes per day and 2 days per week. 4. Restrict water use for decorative water features such as fountains. 5. Allow filling of recreational water features (e.g., swimming pools and spas) only when an appropriate cover is in place. 6. Use of water through a hose or pressure washer to clean of any building or home is prohibited, except prior to painting or if required for health or safety purposes.	

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

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		
1 (Conti.)	Other	Percentage	8%	7. Require repair of leaks, breaks, or malfunctions in lines, fixtures, or facilities within 2 days. 8. Hosing down or washing down vehicles is prohibited, unless using a bucket and/or rinsing with an automatic shut-off hose nozzle. 9. Other measures approved by the Board of Directors.	Yes
2	Other	Percentage	15%	1. Continue with Stage 1 restrictions and prohibitions except where superseded by more stringent requirements. 2. Prohibit outdoor watering with potable water more than 10 minutes per day and 1 day per week. 3. Prohibit use of potable water for construction and dust control. 4. Prohibit vehicle washing except at facilities using recycled or recirculating water. 5. Commercial kitchens required to use pre-rinse spray valves. 6. Prohibit filling of recreational water features (e.g., swimming pools and spas). 7. Require repair of leaks, breaks, or malfunctions in lines, fixtures, or facilities within 1 day. 8. Other measures as may be approved by the Board of Directors.	Yes

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

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		
3	Other	Percentage	25%	1. Continue with Stage 2 restrictions and prohibitions except where superseded by more stringent requirements. 2. Prohibit all landscape irrigation of ornamental and private landscapes with potable water, except as required to keep trees alive. 3. Water use shall not exceed Stage 3 water budgets for each customer. 4. No new water-using landscape may be installed by any customer. 5. No new potable water service shall be provided, including temporary meters or permanent meters. 6. Water use shall not exceed water allocations established by NCCWD for each customer. 7. Other measures as may be approved by the Board of Directors.	Yes
4	Other	Percentage	35%	1. Continue with Stage 3 restrictions and prohibitions except where superseded by more stringent requirements. 2. Water use shall not exceed Stage 4 water budgets for each customer. 3. Other measures approved by the Board of Directors.	Yes

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

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		
5	Other	Percentage	45%	1. Continue with Stage 4 restrictions and prohibitions except where superseded by more stringent requirements. 2. Water use shall not exceed Stage 5 water budgets for each customer. 3. Other measures approved by the Board of Directors	Yes
6	Other	Percentage	53%	1. Continue with Stage 5 restrictions and prohibitions except where superseded by more stringent requirements. 2. Water use shall not exceed Stage 6 water budgets for each customer. 3. Other measures approved by the Board of Directors.	Yes

NOTES:

(a) The percentages listed in this table are the cumulative savings for each shortage level with implementation of corresponding supply augmentation and other agency actions in **Table 8-2**. Detailed saving estimates based on end use, response action, and implementation rates can be found in **Appendix E**.

(b) Each demand reduction action as "other" because they represent a suite of demand reduction actions for each shortage level that include multiple categories of demand reduction actions provided in the DWR drop down menu.

9 DEMAND MANAGEMENT MEASURES

This section provides an overview of the District's current and planned DMMs, which include specific types and groupings of water conservation measures typically implemented by water suppliers. The District administers several of its DMMs through participation in BAWSCA's Regional Water Conservation Program. The following sections describe BAWSCA's Regional Water Conservation Program and the nature and extent of the specific DMMs implemented by the District.

9.1 Demand Management Measures for Wholesale Agencies

The District administers several of its DMMs through BAWSCA's Regional Water Conservation Program. The following section describes BAWSCA's Regional Water Conservation Program per the BAWSCA and SFPUC provided common language and the nature and extent of the specific DMMs implemented by the District.

> *BAWSCA manages a Regional Water Conservation Program comprised of several programs and initiatives that support and augment its 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 BAWSCA 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.*

Although the BAWSCA Regional Water Conservation Program was designed and available at a regional level, most of the implementation of the individual programs within the NCCWD service area is done by District staff.

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. The District is actively participating in the following Subscription Programs:

- EarthCapades School Assembly Program;
- Water Conservation School Education Program;
- Rain Barrel Rebate;
- Lawn Be Gone! Turf Replacement Rebates;
- Lawn Be Gone! Inspection Services Program;
- Rachio Smart Controller Rebate Program;
- Rain Garden Rebate Program;
- Water Efficient Landscape Classes; and
- Customer Meter Testing Program.

The District's implementation of, and participation in, the Core and Subscription Programs are described in detail, below, as they relate to the District's implementation of the DMMs.

9.2 Demand Management Measures for Retail Suppliers

☑ ***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.

The District centrally administers its conservation programs. For purposes of this section, these programs have been grouped in accordance with the DMM categories in CWC §10631(e). These categories are:

(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, and

(vii) Other demand management measures

The following are descriptions of the conservation programs the District operates within each of these DMM categories.

9.2.1 DMM 1 – Water Waste Prevention Ordinances

The District prohibits water waste by customers as well as other non-essential uses of water in conjunction with water rationing programs. To establish permanent conservation measures, the Board of Directors adopted Ordinance No. 2021-61 on August 18, 2021. This ordinance sets forth rules and regulations aimed at protecting the District's water supplies by prohibiting wasteful water use at all times, irrespective of water supply conditions. These prohibitions are categorized as Stage 0, or non-drought, in the District's 2025 WSCP Update. Stage 0, or non-drought, of the District's WSCP includes the following water waste prohibitions:

- Hoses must be equipped with a shut-off valve for washing vehicles, sidewalks, walkways, or buildings.
- Ornamental fountains shall use only re-circulated or recycled water.
- Potable water shall not be applied in any manner to any driveway, sidewalk, or other hard surface except when necessary to address immediate health or safety concerns.Potable water shall not be used to water outdoor landscapes in a manner that causes more than incidental runoff onto non-irrigated areas, walkways, roadways, parking lots, or other hard surfaces.
- Potable water cannot be applied to outdoor landscapes during and up to 48 hours after measurable rainfall.
- Potable water shall not be used to irrigate ornamental turf on public street medians.
- Hotels and motels shall provide guests an option whether to launder towels and linens daily. Hotels and motels shall prominently display notice of this option in each bathroom using clear and easily understood language.
- Restaurants and other food service operations shall serve water to customers only upon request.
- Obligation to fix leaks, breaks or malfunctions in lines, fixtures or facilities. Loss or escape of water through breaks, leaks, or malfunctions in the water user's plumbing, distribution or irrigation system is prohibited for any period time after such water waste should have reasonably been discovered and corrected. Leaks, breaks, or malfunctions must be corrected in no more than five days of District notification. The District, at its sole discretion, may temporarily shut off service if unable to contact the account holder on record.
- Recreational water features shall be covered when not in use.
- Single-pass cooling systems on new construction shall not be allowed.
- Other measures as may be approved by the State Water Resources Control Board or Board of Directors Resolution.

In subsequent stages of the WSCP, the water waste prohibitions become increasingly restrictive to respond to water shortages.

9.2.2 DMM 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.

The District has installed water meters on each water service connection. Customers can access water data through NCCWD's online water billing tool and through an online customer data portal. Customer meters are billed on a bi-monthly basis. Some non-residential and multi-family customers also have separate irrigation meters to monitor water use for landscape irrigation separately from indoor uses. In June 2010, the District Resolution No. 1032 passed requiring all new multi-unit residential, commercial, mixed-use developments, and condominium conversion projects to install individual water meters for each separate unit for new or expanded water service. Under the June 2010 District Resolution No. 1033, the District required that certain existing multi-unit residential, commercial, and mixed-use developments that provide water through a master meter install individual water meters for each residential unit, commercial unit, common area, and irrigation use.

In spring 2026, the District completed a comprehensive AMI project. The project installed cellular endpoint units that were integrated into a new AMI software platform for all District meters and replaced over 99% of the District's meters with new ultrasonic meters.. In addition, the District installed 149 meters that monitor water pressure, in addition to measuring flow through the meter. The AMI system allows for timelier correction of leaks, immediate notification of irregular water consumption and pressure patterns, and real-time consumption tracking through both a utility portal and customer portal. In addition, the District also transitioned to ultrasonic water meters, which will improve meter accuracy, particularly at lower flows. The AMI system enhances water accounting and enables customers to improve conservation efforts. The project was funded in large part from the DWR Urban and Multibenefit Drought Relief Grant program.

9.2.3 DMM 3 – Conservation Pricing

The District's current water rate structure for all customers includes a monthly fixed meter charge and a tiered water consumption charge based on water usage. For single-family residential customers, the consumption charge is structured as increasing block rates, in which the unit rate increases with higher levels of water use. Effective July 2025, this structure includes four bi-monthly usage tiers: (Tier 1) 0 to 5 hundred cubic feet (ccf), (Tier 2) 6 to 9 ccf, (Tier 3) 10 to 13 ccf, and (Tier 4) greater than 13 ccf. Under this approach, the total volumetric charge is calculated as the sum of water use within each tier multiplied by the corresponding rate. In contrast, multi-family residential, non-residential, and recycled water customers are charged uniform volumetric rates that do not vary with usage. A rate study is currently

underway and is anticipated to be finalized in spring 2026. Updated rates are anticipated to be adopted in summer of 2026. Additionally, drought rates have been adopted; as described in the District's WSCP.

9.2.4 DMM 4 – Public Education and Outreach

The District implements several public education and outreach initiatives with support from the BAWSCA Regional Water Conservation Program. Specific initiatives include:

- EarthCapades School Assembly Program: NCCWD facilitates the school assemblies performed by EarthCapades at schools within its service area. The EarthCapades performances combine age-appropriate state science standards with circus skills, juggling, music, storytelling, comedy, and audience participation to teach environmental awareness, water science, and conservation. EarthCapades assemblies are designed to include local water source and watershed education and specific information pertaining to the District service area. The District and BAWSCA provide specific information to EarthCapades regarding the SFPUC RWS and other topics (e.g., recycled water). EarthCapades integrates this information into the specific scripts used for assemblies conducted within the District service area. Since partnering with EarthCapades in 2019, the District has facilitated and paid for the following assemblies and shows: seven shows in FY 2020-2021, seven shows in FY 2021-2022, nine shows in FY 2022-2023, 10 shows in FY 2023-2024, and 10 shows in FY 2024-2025. The District continues to participate in the program.

- Water Conservation School Education Program: The water conservation school education program, formerly known as the Water-Wise school education program, is provided by Resource Action Programs (a contractor to BAWSCA) to 5th grade students within the District service area. Resource Action Programs works directly with teachers and schools to provide them with turn-key, in-classroom water conservation curriculum and indoor and outdoor water conservation kits (i.e., the Water-Wise Kits). The Water-Wise curriculum has been designed to be easily implemented by teachers, and easily understood and taken back into the home by the students. The Water-Wise Kits include water saving devices that can be installed at the student's homes (e.g., low-flow showerheads and faucet aerators) and a water audit that the students can perform with their parents.

  The students are provided with the motivation, information, and tools they need to perform an in-home water audit. The information and material provided to the teachers and students also includes methods that can be used to quantify the water savings as a result of installing the equipment contained in the kit and performing the recommended, water-conserving actions. After the student performs the audit and installs the water and energy saving devices, affidavits signed by the parents are returned to the school, collected by the teacher, and forwarded to Resource Action Programs for documentation of measure implementation and the estimated water savings. Resource Action Programs then prepares a final report for distribution to the District. The District has participated in the Water-Wise School Education Program every year between 2021 and 2025 and distributed a total of 543 kits: 81 in FY 2020-2021, 106 in FY 2021-2022, 120 in FY 2022-2023, 62 in FY 2023-2024, and 174 in FY 2024-2025.

- Water-Wise Garden Contest: From 2021 to 2025 NCCWD annually held the Water-Wise Garden Contest for customers to showcase their native and drought tolerant landscaping. The goal of the contest was to encourage customers throughout the service area to adopt water efficient gardening habits, showcase water conservation efforts, and promote BAWSCA's Lawn Be Gone! rebate program.

- Water efficient landscape education classes: The District hosts spring and fall Water-Efficient Landscape Education Classes developed by BAWSCA that are free to the public and are designed to introduce homeowners and landscape professionals to the concepts of sustainable landscape design. The classes focus on creating beautiful, water-efficient gardens as an alternative to lawns. Examples of specific class topics include "Lawn Replacement 101", "Propagating and Landscaping with Succulents", and "Drought-tolerant Native Plant and Pollinator Gardens" among others. This program was implemented in 2015 and has continued through both in-person and online classes using a virtual platform.
- Water Awareness Month Poster Contest: From 2020 to 2024, the District held a Water Awareness Month Poster Contest for elementary school students in the District's service area. In 2025, for the first time in District history, students in grades 6 through 12 were also invited to participate. As in previous years, the posters were required to illustrate a scene related to the contest's theme and include a creative slogan or message about water conservation. The winning designs were featured in a calendar for the community, highlighting the importance of water awareness throughout the school year.
- Hosting information booths at fairs and public events: The District sets up information booths at large public events to distribute information regarding the District's water conservation programs including rebate programs, landscape programs, and fixture giveaways. Each year the District sponsors the Pacifica Beach Coalition's Earth Day Eco-Fest and California Coastal Cleanup. The District has participated in other city-wide events including library events, festivals, and parades.
- Online account access: The District's online customer portal allows customers to track water usage, send messages to customer service staff, and to pay bills electronically.
- Informative website, online tools, or social media: The District maintains pages on its website (www.nccwd.com) that are dedicated to water conservation. The website provides information regarding its rebate programs, water-saving fixture giveaways, water regulations, conservation tips and links to interactive tools. The website also contains various informational videos and educational materials. The District also posts outreach materials on its social media accounts such as Facebook and NextDoor.
- Media campaigns and other outreach: The District encourages water conservation and advertises its rebate programs through methods including newsletters, flyers, informative conservation sheets at District facilities, its website, and on social media platforms (Facebook and NextDoor).

9.2.5 DMM 5 – Programs to Assess and Manage Distribution System Real Loss

Distribution system water loss was estimated to be approximately 9% of total water demand between 2020 and 2024, based on the District's submitted water loss audits.

The District has equipment and trained staff to detect leaks in the distribution system. Staff routinely perform visual inspections, respond to public complaints, and perform repairs immediately when leaks are detected. Distribution losses have decreased as a result of the District's pipeline replacement program as well as the water meter replacement and leak detection programs. In addition, the District reduced the need to supplement recycled water supplies with potable water through operational modifications to reduce distribution system losses.

Additionally, the District's AMI project described above in **Section 9.2.2** will also include a subset of meters that will monitor pressures throughout the District's distribution system and could help quickly identify leaks in the system.

9.2.6 DMM 6 – Water Conservation Program Coordination and Staffing Support

Regional planning and coordination efforts are handled by BAWSCA with input from agency representatives.

Contact information for the District's conservation program is listed below:

Phone: 650-355-3462

Email: info@nccwd.com

The District allocated a total water conservation program budget for FY 2024-25 of $102,000. Of the total conservation program budget, $15,000 went towards public outreach, $48,500 went towards rebates, and $38,500 was allocated for water conservation activities, including BAWSCA programs, meter testing, data analysis, and water conservation devices.

9.2.7 DMM 7 – Other Demand Management Measures

Other DMMs provided by the District, in addition to those discussed above, include the following:

- High Efficiency Toilet (HET) Rebates: The District locally administers a HET Rebate Program for its residential and commercial customers. As part of this program, the District offers customers an up to $70 Rebate for replacing a high-volume toilet (i.e., 3.5 gallons per flush [gpf], or more) with a qualifying toilet (1.28 gpf or less). Up to two rebates are allowed per single family home while twenty-five (25) are allowed per commercial and multi-unit account. Between FY 2020-21 and FY 2024-25, the District provided a total of 218 toilet rebates.
- Smart Irrigation Controller Rebates: The District, in partnership with BAWSCA, offers an instant rebate for the Rachio 3 model smart irrigation controller. The goal of the Program is to increase residential outdoor water use efficiency through better management of irrigation practices. Smart irrigation controllers utilize real-time local weather (rain, temperature, wind) and site-specific factors (soil type, plant needs), to automatically adjust watering schedules, delivering the right amount of water to prevent overwatering and conserve water. The program enabled customers to purchase a smart controller directly from Rachio on a website specifically developed for the program. The Rachio 3 model is an EPA WaterSense labeled controller designed to help homeowners better understand their irrigation and make saving water easy and transparent. Between FY 2020-21 and FY 2024-25, the District provided a total of 20 rebates.
- Rain Barrel Rebate: The District locally administers the joint San Mateo Countywide Water Pollution Prevention Program and BAWSCA Rain Barrel rebate program for its customers. As part of this program, the District offers customers the following rebates for installing rain barrels:
    - Rain barrels with a 50-99 gallon capacity: $50 (+ additional $50 from participating member agencies);
    - Rain barrels with a 100-199 gallon capacity: $100 (+ additional $50 from participating member agencies); and
    - Rain barrels with a 200+ gallon capacity: $150 (+ additional $50 from participating member agencies).

  To obtain the rebate, an application with purchase receipt and post-installation photos must be submitted to BAWSCA via mail. Between 2021 to 2025, the District provided a total of 146 rebates.

- Residential Water Use Audits: The District administers residential indoor and landscape water use audits to residential and commercial accounts. Between 2021 and 2025, District staff conducted over 300 residential audits and performed 5,000 leak checks. Audits involve checking indoor and outdoor devices and fixtures for leaks, inspecting irrigated landscape for issues, providing water-saving tips and information on rebates and additional services. Leak checks task District staff with monitoring customer meters in real time and leaving door hangers with dye tablets for residents to use in testing their toilets.

- Large Landscape Outdoor Water Surveys: District staff conduct large landscape water surveys as needed in the service area. Between 2020-2025, this program was primarily focused on outdoor water use at schools. District staff worked closely with school district staff to identify and fix issues.

- Lawn Be Gone! Turf Replacement Rebates: The District locally administers the BAWSCA Lawn Be Gone! turf replacement rebate program for its residential and commercial customers. The District offers its residential customers $4 per square foot of turf removed up to a maximum $2,500 rebate (maximum implemented in July 2020) and $4 per square foot for large landscape rebates for Multi-Family and Home Owner's Associations up to a maximum of $25,000. In order to qualify for participation in the Lawn Be Gone! Program, all plants must be low water use plants from the BAWSCA-approved plant list. This program offers the District's customers a financial incentive to reduce their outdoor water use and create permanent and lasting water savings. Also, because eligible landscapes must include front yards and areas visible to the public, this program has an educational and public-outreach element (i.e., demonstrating to the wider public that low water use landscaping can be an attractive alternative to lawns and encouraging conversations about responsible water use among neighbors). The District began participating in the program in 2011, and budgets $45,000 to $65,000 per year for Lawn Be Gone! rebates. Between 2021 and 2025 approximately 8,265 square feet of turf has been replaced under this program within the District service area.

- Rain Garden Rebates: The District, in partnership with BAWSCA, offers rebates for rain garden additions, which is available with a customer's Lawn Be Gone! application. A rain garden is a shallow landscaped depression that captures, cleans, and absorbs rain water from a roof, driveway or street. This practice mimics natural hydrology by infiltrating and evapotranspiring stormwater runoff as it collects and moves through a rain garden. Rain gardens reduce localized flooding, standing water issues, and stormwater runoff leaving the property. Planted with deep-rooted native plants, rain gardens help filter out pollutants in runoff and provide food and shelter for pollinators, butterflies, and birds. Between FY 2020-21 and FY 2024-25, the District provided a total of three rebates.

- Flume Monitoring Device Discount Program: In 2021, the District partnered with California Water Efficiency Partnership (CALWEP) and Flume, Inc. to provide a discount program for the Flume Home Smart Water Monitoring device for customer water meters. The device initially retailed for $149 (later increasing to $199 in 2023) and was available to customers at a discounted rate of $49 (2021-2023) and $69 (2023-2025) after installation. Between 2021 and 2025, 122 devices were purchased through the discount program. The program ended after 2025 due to the Flume's incompatibility with the District's new meter technology installed via the AMI Project.

- Water-saving fixtures giveaway: The District offers its residential customers free water saving fixtures. The District encourages its customers to pick up and utilize the following free water saving fixtures and items from its office:

- Bathroom Faucet Aerator – uses 1.0 gpm;
- Kitchen Faucet Aerator – uses 1.5 gpm;
- Americans with Disabilities Act Compliant Low-Flow Handheld Showerhead;
- Shower Timer
- 1.75 Gallon Buckets
- Toilet Leak Detection Dye Tablets
- Automatic Shut-Off Hose Nozzle
- Sprinkler/Rain Gauge
- Practical Plumbing Handbook
- Moisture Meters

The District gave out 14,895 individual water saving fixtures and items between 2021 and 2025.

- Residential Recycled Water Fill Station: The District residential customers can bring containers to the designated recycled water fill station located at the District office. Upon completion of mandatory training and procedures for first time users, customers are permitted to take up to 100 gallons of recycled water per visit. At this time there are no limits on the number of visits allowed per day for all customers. From 2021 to 2024, the District supplied nearly 84,000 gallons of recycled water through the fill station. The fill station has been closed since May 2024 concurrent with the start of the District Headquarters Upgrade Project, which will, upon completion, include a new drive-through fill station for recycled water. The fill station is expected to open to all residents upon completion of the City of Pacifica's CCWRP UV Disinfection System Upgrades Project.
- CII Water Survey: Commercial surveys for hotels, restaurants, and businesses are conducted by staff as requested.
- School Building Retrofit: In response to request for retrofits, the District ordered aerators for a school's bathrooms and provided pre-rinse spray nozzles for lunchrooms.
- Alternative Water Supply Education: In early 2025, the District partnered with the University of California, Santa Cruz (UCSC) on a fog harvesting research project, providing twelve fog collector garden beds to residents and schools in Pacifica. Based on research conducted by the UCSC team in Pacifica, residents can expect to collect up to two liters per day of water with the garden bed collector.

9.3 Implementation over the Past Five Years

Table 9-1 summarizes the DMMs implemented by the District and the extent of implementation (e.g., number of kits, number of rebates) for each of the programs listed under DMM-4 and DMM-7 each year between 2021 and 2025. Through implementation of the DMMs, the District has been able to significantly reduce water demands in its service area and help its customers to achieve water and cost savings.

Table 9-1 Summary of DMMs and Implementation over the Past Five Years (2021-2025)

DMM Category	Program or Activity	Target Sector	Nature of Implementation	Extent of Implementation
1	Water Waste Prevention Ordinances	SF, MF, CII, IRR	Prohibition of water uses to prevent water waste included under Stage 0 of the WSCP are in place at all times, irrespective of water supply condition.	The District's Board of Directors adopted Ordinance No. 2021-61 on August 18, 2021, which set forth rules and regulations aimed at protecting the District's water supplies by prohibiting wasteful water use at all times, irrespective of water supply conditions.
2	Metering	SF, MF, CII, IRR	All water service connections are metered. Some non-residential and multi-family customers also have separate irrigation meters to monitor water use for landscape irrigation separately from indoor uses. The District is currently installing AMI and a new data management platform district-wide.	All accounts are metered and read on a bimonthly basis. The District is currently installing AMI and a new data management platform district-wide.
3	Conservation Pricing	SF, MF, CII, IRR	The water consumption charge is structured as increasing block rates, in which single-family residential customers are billed based on defined ranges of water use (tiers), with the unit rate increasing as consumption increases. The current water rate structure includes four tiers of bi-monthly water use for single-family residential customers: https://nccwd.specialdistrict.org/rates-fees, accessed March 2026.	Effective July 2025, the rate structure for the water consumption charge includes four tiers of bi-monthly water use for single-family residential customers: (Tier 1) 0 to 5 hundred cubic feet (ccf), (Tier 2) 6 to 9 ccf, (Tier 3) 10 to 13 ccf, and (Tier 4) greater than 13 ccf. A rate study is currently underway and is anticipated to be finalized in spring 2026.
4	School Education Program: EarthCapades Assemblies	SF, MF	School assemblies that teach water science and conservation to students, including local water source and watershed education and specific information pertaining to the District's service area. The District participates through the BAWSCA Regional Water Conservation Program.	2021: 7 assemblies 2022: 7 assemblies 2023: 9 assemblies 2024: 10 assemblies 2025: 10 assemblies
4	Water-Wise School Education Kits and Curriculum	SF, MF	Fifth grade teachers are provided with a water conservation curriculum. Kits are distributed to 5th grade students that enable them to install water saving devices and perform a water audit in their home. The District participates through the BAWSCA Regional Water Conservation Program.	2021: 81 kits 2022: 106 kits 2023: 120 kits 2024: 62 kits 2025: 174 kits
4	Water-Wise Garden Contest	SF, MF, CII, IRR	An annual contest for customers to showcase native and drought-tolerant landscaping, encouraging water-efficient gardening habits and promoting the Lawn Be Gone! rebate program.	Contests held in 2021, 2022, 2023, 2024, and 2025.

Table 9-1 Summary of DMMs and Implementation over the Past Five Years (2021-2025) Continued

DMM Category	Program or Activity	Target Sector	Nature of Implementation	Extent of Implementation
4	Water Efficient Landscape Education Classes	SF, MF	The District advertises a series of Water-Efficient Landscape Education Classes developed by BAWSCA that are free to the public and are designed to introduce homeowners and landscape professionals to the concepts of sustainable landscape design. The classes focus on creating beautiful, water-efficient gardens as an alternative to lawns.	Program implemented in 2015; continued through in-person and virtual classes 2021–2025.
4	Water Conservation Poster Contest	SF, MF	An annual poster contest for students to illustrate a scene related to the contest's theme and include a creative slogan or message about water conservation.	A poster contest was hosted each year between 2020-2025. 2025 contest included 6-12 grades for the first time, previously only included K-5.
4	Information Booths at Public Events	SF, MF, CII, IRR	District sets up booths at public events to distribute information on rebates, landscape programs, and fixture giveaways. Annual participation includes Pacifica Beach Coalition's Earth Day Eco-Fest and California Coastal Cleanup.	Participated annually 2021-2025 at Earth Day Eco-Fest, Coastal Cleanup, library events, festivals, and parades.
4	Other Public Outreach	SF, MF	The District maintains pages on its website (www.nccwd.com) that are dedicated to water conservation. The website provides information regarding its rebate programs, water-saving fixture giveaways, water regulations, conservation tips and links to interactive tools. The website also contains various informational videos and educational materials.	Ongoing implementation between 2021-2025.
5	Programs to Assess and Manage Distribution System Real Loss	Non-Revenue	The District has an active program to manage loss, which includes staff trained to perform regular visual inspections and responds to public complaints. District staff consistently monitor billing reports to compare with water purchases to identify distribution system losses. Repairs are performed immediately when leaks are detected.	Ongoing implementation between 2021-2025.
7	HET Toilet Rebates	SF, MF, CII	Rebate of up to $70 for replacing high-volume toilets (3.5 gpf or more) with qualifying toilets (1.28 gpf or less). Up to two rebates per single-family home; 25 per commercial/multi-unit account.	218 total toilet rebates provided between FY 2020-21 and FY 2024-25.
7	Rain Barrel Rebate	SF, MF	Rebates for installing rain barrels ranging from $50–$150 depending on capacity (50–200+ gallons), administered jointly with the San Mateo Countywide Water Pollution Prevention Program and BAWSCA.	Between 2021 to 2025, the District provided a total of 146.

Table 9-1 Summary of DMMs and Implementation over the Past Five Years (2021-2025) Continued

DMM Category	Program or Activity	Target Sector	Nature of Implementation	Extent of Implementation
7	Residential Water Use Audits	SF	Indoor and outdoor water use audits checking fixtures and irrigation for leaks, providing water-saving tips and rebate information. Leak checks involve real-time meter monitoring and door hangers with dye tablets.	Over 300 residential audits and 5,000 leak checks conducted between 2021 and 2025.
7	Large Landscape Outdoor Water Use Surveys	CII, IRR	Staff conducted large landscape water surveys as needed, primarily focused on outdoor water use at schools.	Between 2020-2025, this program was primarily focused on outdoor water use at schools. District staff worked closely with school district staff to identify and fix issues.
7	Lawn Be Gone! Turf Replacement Rebates	SF, MF, CII	Rebate of $4/sq ft of turf removed, up to $2,500 for residential and $25,000 for multi-family/HOA. All replacement plants must be low water use from the BAWSCA-approved plant list. The District participates through the BAWSCA Regional Water Conservation Program.	The District began participating in the program in 2011, and budgets $45,000 to $65,000 per year for Lawn Be Gone! rebates. Between 2021 and 2025 approximately 8,265 square feet of turf has been replaced under this program.
7	Flume Monitoring Device Discount	SF, MF, CII	Discount program for the Flume Home Smart Water Monitoring device, reducing retail price from $149-$199 to $49-$69 for customers.	122 devices purchased 2021-2025. Program ended in 2025 due to incompatibility with new AMI meter technology.
7	Water-Savings Fixtures Giveaway	SF, MF	Free water-saving fixtures distributed from District office, including faucet aerators, low-flow showerheads, shower timers, hose nozzles, dye tablets, and moisture meters.	The District gave out 14,895 individual water saving fixtures and items between 2021 and 2025.
7	Residential Recycled Water Fill Station	SF, MF	Customers may bring containers to the District office fill station to collect up to 100 gallons of recycled water per visit after completing mandatory training. There is no limit on number of visits a customer can make per day.	From 2021 to 2024, the District supplied nearly 84,000 gallons of recycled water through the fill station.

9.4 Implementation to Achieve Water Use Targets and Urban Water Use Objectives

All the DMMs described above contributed to District's compliance with the Water Conservation Act of 2009 (SB X7-7) 2020 target GPCD.

As described in **Section 5.2**, in July 2024, California enacted the MCCWL regulation implementing SB 606 and AB 1668 to support long-term water conservation and drought resilience. Starting in 2023, CWC §10609 requires that urban retail water suppliers develop UWUOs that are based on specific standards for certain water use sectors.

BAWSCA's 2025 Demand Study developed water demand and conservation projections through 2050 for each member agency. As described in **Section 4.5**, the 2025 Demand Study estimates projected water demands and quantifies passive and active conservation water savings potential. As discussed in **Section 5.2**, the 2025 Demand Study projections estimate that the District's water use is expected to be well below the UWUO standards through 2050. However, this analysis is preliminary and relies on several assumptions as noted in the 2025 Demand Study. Therefore, the District is still actively working to continuing to ensure future compliance.

10 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

☑ ***CWC §10643***

An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

This section provides information on a public hearing, the adoption process for the UWMP and WSCP, the adopted UWMP and WSCP submittal process, plan implementation, and the process for amending the adopted UWMP or WSCP for the District.

10.1 Inclusion of All 2025 Data

This UWMP includes water use and planning data for the entire calendar year of 2025, per the 2025 UWMP Guidebook.

10.2 Notice of UWMP Preparation

☑ ***CWC §10621***

(b) Every urban water supplier required to prepare a plan shall … at least 60 days prior to the public hearing on the plan … 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.

☑ ***CWC §10642***

…Prior to adopting either [the plan or water shortage contingency plan], 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 [see below]. 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.

☑ ***CGC §6066***

Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

Pursuant to CWC §10621(b), on January 13, 2026, the District sent a letter to six recipients including the City of Pacifica, City of San Bruno, County of San Mateo, the North County Fire Authority, SFPUC, and BAWSCA informing them that the District was in the process of updating its UWMP and WSCP and soliciting their input in the update process. A list of the entities contacted is provided in **Appendix B**. The letter was sent more than 60 days before the public hearing as required by code. A sample outreach letter is included in **Appendix B**.

10.3 Notice of Public Hearing

Prior to adopting the Plan, the District held an in-person and virtual public hearing to present information on its UWMP and WSCP on June 17, 2026 at 7:00 P.M.

The same relevant entities that were notified of the UWMP and WSCP preparation above 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 CGC §6066, and letters to relevant agencies can be found in **Appendix C.**

10.3.1 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.

On MONTH DAY, 2026 the District sent a letter to each of the above-mentioned entities informing them of the locations the Public Review Draft 2025 UWMP and the updated WSCP would be available for review and welcoming their input and comments on the document. The Public Review Draft 2025 UWMP and WSCP was available for public review at NCCWD Headquarters and on the District's website on MONTH DAY, 2026. The letter also informed the agencies that the UWMP and WSCP public hearing would be occurring at the District Board Meeting June 17, 2026. **Table 10-1** lists the cities and counties that were notified. Copies of these letters are included in **Appendix C**.

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

City Name	60 Day Notice	Notice of Public Hearing
City of Pacifica	X	X
City of San Bruno	X	X
See note (a)	X	X
County Name	**60 Day Notice**	**Notice of Public Hearing**
San Mateo County	X	X

NOTES:
(a) See **Appendix B** and **Appendix C** for the full list of cities and agencies that the District provided notification to.

10.3.2 Notice to the Public

The District issued public notifications soliciting public input during the preparation of 2025 UWMP and the WSCP. On MONTHY DAY, 2026 and MONTH DAY, 2026, the District published a notice in the *Pacifica Tribune* informing the public that the 2025 UWMP and the WSCP would be available for public review at NCCWD Headquarters and on the District's website, consistent with requirements of CGC §6066. The notice also provided instructions on how to view the UWMP and WSCP prior to the hearing, the revision schedule, contact information of the UWMP and WSCP preparer, and informed the public that the 2025

UWMP and WSCP public hearing would be held at the Board meeting on June 17, 2026. Copies of the newspaper announcements are included in **Appendix C**.

10.4 Public Hearing and Adoption

☑ ***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…. 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.

☑ ***CGC §7291***

…every local public agency… serving a substantial number of non-English-Speaking people, shall employ a sufficient number of qualified bilingual persons in public contact positions or as interpreters to assist those in such positions, to ensure provision of information and services in the language of the non-English-speaking person.

As described above, the District informed the public and the appropriate agencies of (1) its intent to prepare a UWMP and the associated WSCP, (2) where the UWMP and WSCP were available for public review, and (3) when the public hearing regarding the UWMP and WSCP would be held. All notifications were completed in compliance with the stipulations of CGC §6066.

This UWMP was adopted by Resolution No. XXX by the Board of Directors during its June 17, 2026 meeting. The WSCP included as **Appendix E** was adopted by Resolution No. XXX during the same meeting. Copies of the resolutions are included in **Appendix G**.

10.5 Plan Submittal

☑ ***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.

(e) Each urban water supplier shall update and submit its 2025 plan to the department by July 1, 2026…

☑ ***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.

(a)(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.

☑ ***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.

This UWMP and WSCP were submitted to DWR within 30 days of adoption and by July 1, 2026. The submittal was done electronically through 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.

10.6 Public Availability

A copy of the adopted 2025 UWMP and associated WSCP will be available for public review at the District's offices during normal business hours and on the District's website within 30 days of filing the plan with DWR.

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

☑ ***CWC §10621***

(d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

☑ ***CWC §10644***

(a)(1) 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.

(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…no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

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

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Appendix A: UWMP Completed Checklist

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	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	Pages LD-1 to LD-4
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	Pages LD-1 to LD-4
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	Page 2-1
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	Page 2-2 and DWR Table 2-1
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	Page 2-2 and DWR Table 2-2
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	Page 2-3 and DWR Table 2-3

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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	Pages 2-5, 10-2
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	Page 1-3, 2-3 to 2-5, 10-1
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	Pages 2-4, 4-16 and DWR Table 2-4
	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	N/A
x	x	Chapter 3.0	10631(a)	Describe the Supplier service area.	System description	Pages 3-1 to 3-3
x	x	Section 3.3	10631(a)	Describe the climate of the Supplier's service area.	System description	Pages 3-4 to 3-7
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	Page 3-7

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the Supplier's water management planning.	System description	Pages 3-9 to 3-10
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	Page 3-11
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	Pages 4-2 to 4-6, 4-9 to 4-11, DWR Table 4-1, and DWR Table 4-2
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	Pages 4-6 to 4-7 and DWR Table 4-5
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	Pages 4-6 to 4-8 and DWR Table 4-6
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	Page 4-14 and DWR Table 4-3
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	Pages 4-12 to 4-14 and DWR Table 4-3
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	Pages 4-12 to 4-14 and DWR Table 4-3

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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	Pages 4-12 to 4-14 and DWR Table 4-3
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	Page 4-15
	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
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 address each of these situations.	Baselines and targets	Page 5-1 and DWR Table 5-1

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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	Pages 6-1 to 6-22
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	Pages 6-23 to 6-25, 7-3 to 7-22
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	Pages 6-7 to 6-8 and DWR Table 6-1
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
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System supplies	N/A

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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
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
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
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
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	N/A
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	Pages 6-21 to 6-22, DWR Table 6-8 and DWR 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	Page 6-18

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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)	Pages 6-9 to 6-12 and DWR Table 6-2
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)	Pages 6-9 to 6-12 and DWR Table 6-3
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)	Pages 6-13 to 6-16 and DWR Table 6-4
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)	Pages 6-13 to 6-17 and DWR Table 6-4
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)	Pages 6-13 to 6-17, DWR Table 6-4 and DWR Table 6-6
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)	Pages 6-16 to 6-17 and DWR Table 6-6
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)	Pages 6-16 to 6-17

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System supplies	Page 6-17 and DWR Table 6-7
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	Pages 6-18 to 6-19, 7-22 to 7-25 and DWR Table 6-7
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	Pages 6-26 to 6-27 and DWR Table O-1B
x	N/A	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	Pages 7-7 to 7-8
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	Pages 7-1 to 7-22, DWR Table 7-1, DWR Table 7-2, DWR Table 7-3, and DWR Table 7-4
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	Pages 7-22 to 7-26

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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	Pages 7-27 to 7-29 and DWR Table 7-5
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	Page 7-27
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	Page 7-28
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	Pages 7-28 to 7-29 and DWR Table 7-5
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	Pages 6-23 to 6-25, 7-28
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water shortage contingency planning	Appendix E
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	Appendix E

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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	Appendix E
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	Appendix E
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	Appendix E and DWR Table 8-1
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	Appendix E, Page 8-1, and DWR Table 8-1
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	Appendix E, Pages 8-2 to 8-3, and DWR Table 8-2
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water shortage contingency planning	Appendix E, Pages 8-5 to 8-8, and DWR Table 8-3

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water shortage contingency planning	Appendix E, Pages 8-2 to 8-8, DWR Table 8-2 and DWR Table 8-3
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	Appendix E, Pages 8-5 to 8-8, and DWR Table 8-3
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	Appendix E, Pages 8-2 to 8-8, DWR Table 8-2 and DWR Table 8-3
x	x	Section 8.4.6	10632.5	The UWMP shall include a seismic risk assessment and mitigation plan.	Water shortage contingency plan	Appendix E
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	Appendix E
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	Appendix E
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	Appendix E
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	Appendix E

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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	Appendix E
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	Appendix E
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	Appendix E
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	Appendix E
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	Appendix E
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	Appendix E

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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	Appendix E
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	Appendix E
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	Appendix E
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	Pages 9-1 to 9-13
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
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	Pages 10-2 to 10-3

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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	Pages 10-1 to 10-2 and DWR Table 10-1
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	Page 10-4
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	Pages 10-1 to 10-4, Appendix B and Appendix C
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	Pages 10-1 to 10-2 and DWR Table 10-1
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	Page 10-4, Appendix G
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	Page 10-4
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	Page 10-4

Retail	Wholesale	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2025 UWMP Location
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	Page 10-4
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	Page 10-5
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	Page 10-4
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	Page 10-4
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

Appendix B: UWMP Agency Notification Letter

NOTICE OF PREPARATION DISTRIBUTION LIST

Bay Area Water Supply and Conservation Agency

City of Pacifica

City of San Bruno

North County Fire Authority

San Francisco Public Utilities Commission

San Mateo County

2400 Francisco Blvd.
P.O. Box 1039
Pacifica, CA 94044
www.nccwd.com

Phone (650) 355-3462
Fax (650) 355-0735

January 13, 2026

Re: **Notice of Preparation of the North Coast County Water District's 2025 Urban Water Management Plan and Water Shortage Contingency Plan**

The Urban Water Management Planning Act (California Water Code §10608–10656) requires the North Coast County Water District (District) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every 5 years. The District is currently reviewing its existing UWMP and WSCP, which were updated in 2021, and considering revisions to the documents. The UWMP integrates land use, water needs and supply, and demand management measures to document the District's ability to provide a reliable supply of water to its customers. The associated WSCP considers dry-year water supply planning, including strategies to address six levels of water supply shortage conditions. The updated UWMP and WSCP are due by July 1, 2026. We invite your agency's participation in this revision process.

The District coordinates with its wholesale water supplier, nearby water agencies, relevant public entities, and other interested parties in preparing the UWMP and WSCP. A draft of the 2025 UWMP and WSCP will be made available for public review, and a public hearing will be scheduled in 2026. If you would like more information regarding the 2025 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 Adrianne Carr at:

North Coast County Water District
2400 Francisco Blvd.
Pacifica, CA 94044
Phone: (650) 355-3462
Email: acarr@nccwd.com

Sincerely,

Adrianne Carr
General Manager

Appendix C: UWMP Public Hearing Notification Letter

Appendix D: SFPUC and BAWSCA Supply Reliability Letters and Common Language for 2025 UWMPs

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

525 Golden Gate Ave
San Francisco, CA 94102
(415) 554-3155
sfpuc.gov

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 and Wholesale Demands at 184 MGD Supply Assurance

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 and Wholesale Demands at 184 MGD Supply Assurance

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**

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 E: North Coast County Water District Water Shortage Contingency Plan

2025 WATER SHORTAGE CONTINGENCY PLAN
North Coast County Water District

PUBLIC DRAFT | May 2026
EKI Environment & Water, Inc.

2025 WATER SHORTAGE CONTINGENCY PLAN

North Coast County Water District

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ABBREVIATIONS AND ACRONYMS

AWIA	America's Water Infrastructure Act of 2018
BAWSCA	Bay Area Water Supply and Conservation Agency
CCF	centum cubic feet
CII	Commercial, Industrial, and Institutional
CWC	California Water Code
DRT	Drought Response Tool
DWR	Department of Water Resources
EOs	Executive Orders
EOP	Emergency Operations Plan
ERP	Emergency Response Plan
HMP	Hazard Mitigation Plan
LHMP	Local Hazard Mitigation Plan
MG	Million gallons
MGD	Million gallons per day
N/A	Not applicable
NCCWD	North Coast County Water District
R-GPCD	residential gallons per day per capita
RWS	Regional Water System
SFPUC	San Francisco Public Utilities Commission
SWRCB	State Water Resources Control Board
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
WSAP	Water Shortage Allocation Plan
WSCP	Water Shortage Contingency Plan

1 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.

North Coast County Water District's (NCCWD's or the District's) Water Shortage Contingency Plan (WSCP) has been developed to serve as a flexible framework of planned response measures to mitigate future water supply shortages. This WSCP builds upon and supersedes the WSCP that was presented in the 2020 Urban Water Management Plan (UWMP). Updates to the current WSCP reflect key lessons learned during the recent drought. This WSCP also intends to improve District's ability to respond effectively and efficiently in the event of a future water supply shortage.

As such, NCCWD developed this WSCP based on the following guiding principle:

> *Eliminate water waste, prioritize the reduction of non-essential water uses, and preserve water uses that are essential to the health, safety, welfare, and economic vitality of NCCWD's customers during periods of water shortage.*

Practically, this principle guides NCCWD to ask for a need-based, shared contribution from all its customers towards meeting water use reduction goals during periods of water shortage. It further directs the District to focus its water conservation efforts on reducing discretionary water uses such as outdoor irrigation, while attempting to preserve uses that are essential to health and safety such as drinking, cooking, and sanitary activities and minimizing economic and other impacts to its residential and commercial customers. The WSCP focuses on potable water uses because there are ample supplies of recycled water available even during a drought.

2 WATER SUPPLY RELIABILITY ANALYSIS

☑ ***CWC § 10632 (a) (1)*** *The analysis of water supply reliability conducted pursuant to Section 10635.*

This section provides a summary of the water supply reliability analysis in Section 7 of the District's 2025 UWMP, recognizing that the WSCP is intended to be a standalone document that can be adopted and amended independently.

The District relies on the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS) for all of its potable water supply. In accordance with the SFPUC's perpetual obligation to NCCWD's Supply Assurance, the District has an Individual Supply Guarantee of 3.84 million gallons per day (MGD), or 1,402 million gallons (MG) per year. NCCWD also uses recycled water for non-potable uses. Recycled water currently supplies less than 1% of the District's total demand and is anticipated to remain at approximately 1% of NCCWD's total demand by 2050.[1] The recycled water supply is expected to be 100% reliable in all year types.

The District's supply reliability relies largely on the reliability of the SFPUC RWS. The SFPUC has committed to, among other things, meeting the Retail and Wholesale Customers' average annual water demand during non–drought years and meeting dry-year delivery needs while limiting rationing to a maximum 20% system-wide reduction in water service during extended droughts. However, several potential constraints have been identified on the future supply availability of the SFPUC RWS. One of the key factors is the adoption of the 2018 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment). If the Bay-Delta Plan Amendment is implemented, the SFPUC is anticipated to have sufficient supplies to meet the projected water demands in normal years but would experience significant supply shortages in single and multiple dry years.

Based on the current allocation methodology[2] and SFPUC's projected dry year cutbacks, the District is anticipated to experience up to a 328 MG (38%) supply shortfall in single dry years by 2050 and up to 414 MG (48%) supply shortfall in the second through fifth year multiple dry years by 2050 compared to projected demands if the Bay-Delta Plan is implemented.

However, numerous uncertainties remain in the implementation of the Bay-Delta Plan Amendment and the allocation of the available supply between the Wholesale Customers of the SFPUC's RWS. The resultant actual supply reliability and the frequency of supply shortfalls for NCCWD cannot be known currently. The District has placed high priority on working with SFPUC and the Bay Area Water Supply and Conservation Agency (BAWSCA) to better refine the estimates of RWS supply reliability and may revise its UWMP accordingly. The SFPUC and BAWSCA have also been taking various actions to improve the reliability of the RWS supply, including implementing a number of dry year water supply projects,

[1] Note that the District is considering expanding its recycled water system, but potential additional uses have not been quantified.

[2] The SFPUC and the Wholesale Customers have negotiated and adopted a plan to allocate the RWS supply during system-wide shortages of 20% or less (Tier 2 Drought Response Implementation Plan). To address the instances where the supply shortfalls are projected to be greater than 20%, BAWSCA has developed a revised methodology to allocate the RWS supply in those cases. This allocation method is intended to serve as the preliminary basis for the 2025 UWMP supply reliability analysis for RWS shortages over 20% and does not in any way imply an agreement by BAWSCA member agencies as to the exact allocation methodology. Details on the SFPUC RWS supply reliability are provided by SFPUC and BAWSCA and documented in Section 7.1 as well as Appendix D of the 2025 UWMP.

exploring alternative water supplies, and implementing Long-Term Reliable Water Supply Strategy recommendations.

As part of the supply reliability analysis, the District has conducted a Drought Risk Assessment, which evaluates the effects on available water supply sources of an assumed five-year drought commencing the year after the assessment is completed (i.e., from 2026 through 2030). NCCWD's supply is expected to be sufficient to meet demands in all five years of the assumed drought (see Section 7.5 of the 2025 UWMP for more details).

NCCWD has developed this WSCP 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 the District will implement to reduce demands and further ensure supply reliability at various levels of water shortage.

3 PRIOR DROUGHT ACTIONS

The District has historically developed different strategies for reducing water demand during water shortages. NCCWD's actions in response to the recent severe drought that occurred in California between 2014 and 2023 are discussed below.

3.1 2014-2017 Drought

On April 1, 2015, then-Governor Jerry Brown issued the fourth in a series of Executive Orders (EOs) regarding actions necessary to address California's severe drought conditions. EO B-29-15 directed the State Water Resources Control Board (SWRCB) to impose the first ever mandatory restrictions on urban water suppliers to achieve a statewide 25% reduction in potable urban water usage through February 2016. The EOs also required commercial, industrial, and institutional (CII) users to implement water efficiency measures, prohibited irrigation with potable water of ornamental turf in public street medians, and prohibited irrigation with potable water outside newly constructed homes and buildings that were not delivered by drip or microspray systems, along with numerous other directives.

On May 5, 2015, the SWRCB adopted Resolution 2015-0032 that mandated minimum actions by water suppliers and their customers to conserve water supplies into 2016 and assigned a mandatory water conservation savings goal to each water supplier based on their residential gallons per capita per day (R-GPCD). The Office of Administrative Law approved the regulations and modified the California Water Code (CWC) on May 18, 2015. On February 2, 2016, the SWRCB voted to extend the emergency regulations until October 2016 with some modifications. On May 9, 2016, the Governor issued EO B-37-16, which directed the SWRCB to extend the emergency regulations through the end of January 2017 as well as make certain water use restrictions permanent. On May 18, 2016, the SWRCB adopted Resolution 2016-0029 that adjusted the water conservation savings goal and replaced the February 2016 emergency regulation. The SWRCB is expected to take separate action to make some of the requirements of the regulations permanent in response to the EO.

CWC §865(c) required water suppliers to reduce its water use relative to its 2013 water use. The mandatory conservation standards included in CWC §865(c) ranged from 8% for suppliers with an R-GPCD below 65 R-GPCD, up to 36% for suppliers with an R-GPCD of greater than 215 GPCD. As with previous emergency drought regulations adopted by the SWRCB in 2014, the new water conservation regulation was primarily intended to reduce outdoor urban water use. Based on their R-GPCD, the District was required to reduce water use by 8% relative to its 2013 water use.

In August 2014, prior to the 2015 SWRCB Resolution, the District's Board of Directors declared Stage 2 of the 2010 WSCP to respond to 2014 SWRCB actions under Ordinance 2014-56, which called for a 12% reduction and included prohibitions that targeted water waste and discretionary outdoor uses. On June 2015, the Board of Directors passed ordinance 2015-57 amending Ordinance 2014-56 to include the targeted 8% reduction imposed by the SWRCB. This stage of action remained in place through April 2017 to meet the 2015 SWRCB mandated reduction target.

The District surpassed the 8% reduction targets. During the June 2015 through October 2016 compliance period, NCCWD surpassed its water use reduction target with a cumulative savings of 17% relative to its 2013 use.

In June 2016, NCCWD adopted its 2015 UWMP and associated WSCP update.[3] In April 2017, then-Governor Brown ended the drought State of Emergency. On April 19, 2017, Ordinance 2017-58 revoked NCCWD's drought declaration and ended the implementation of NCCWD's WSCP.

3.2 2021-2023 Drought

State and Regional Actions

Beginning in April 2021, California entered a period of drought conditions marked by a series of escalating State, regional, and local actions. Governor Gavin Newsom issued an initial drought State of Emergency (SOE) in April 2021, which expanded statewide by October 2021.

Between April 2021 and December 2023, Governor Newsom and the State agencies implemented a series of actions to reduce water use throughout the State in response to the drought conditions. In July 2021, Governor Newsom issued EO N-10-21 calling on a statewide voluntarily reduction in water use by 15% compared to 2020 levels. In January 2022, the SWRCB adopted an emergency drought regulation that prohibited specific water waste activities identified in the Governor's October 2021 proclamation. In May 2022, the SWRCB adopted emergency regulations that, among other actions, required suppliers to enter Stage 2 of their WSCP. The requirement was lifted in March 2023, and the drought SOE was officially terminated in September 2024.

During this same period, SFPUC and BAWSCA coordinated drought response actions in response to local water supply conditions. SFPUC initially issued a request to voluntarily curtail water use by 15% in July 2021. As drought conditions worsened, SFPUC declared a Water Shortage Emergency in November 2021 and called for a 10% voluntary reduction in water usage system-wide. In response to the SWRCB's May 2022 emergency regulations, the SFPUC adopted a system-wide voluntary water use reduction of 11% associated with Stage 2 of the SFPUC's WSCP and maintained voluntary reductions through April 2023.

When SFPUC declared the water shortage emergency, it activated the process described in Appendix H of the Water Supply Agreement between the Wholesale Customers and SFPUC. SFPUC then issued its Water Supply Availability Estimate for the calculation of the shortages for Retail and Wholesale Customers based on the Tier 1 and Tier 2 shortage allocation plans. As BAWSCA is the entity that is authorized to implement the Tier 2 plan, BAWSCA worked with SFPUC to provide the water supply allocation for each Wholesale Customer, including the District. SFPUC tracked water savings in comparison to fiscal year 2019-2020 water purchases starting in November 2021.

North Coast Count Water District Drought Response

The District formally entered Stage 2 of its 2020 WSCP in July 2021, calling for a voluntary reduction of 15% from its customers and implementing measures such as intensified customer outreach.

Figure 3-1 below shows the District's monthly and cumulative water use reductions between April 2021 and June 2023, compared to the baseline year of 2020. **Figure 3-1** shows the District's water production data, which is that amount of water that was purchased and used in the District's water system (not water sales data). Water use reductions were observed shortly the District entered Stage 2, with measurable savings beginning in July 2021. Over time, cumulative water use reductions increased as drought conditions persisted.

[3] The NCCWD 2015 UWMP, which included the associated WSCP, was amended and adopted in January 2018. The Amended 2015 UWMP was published in February 2018.

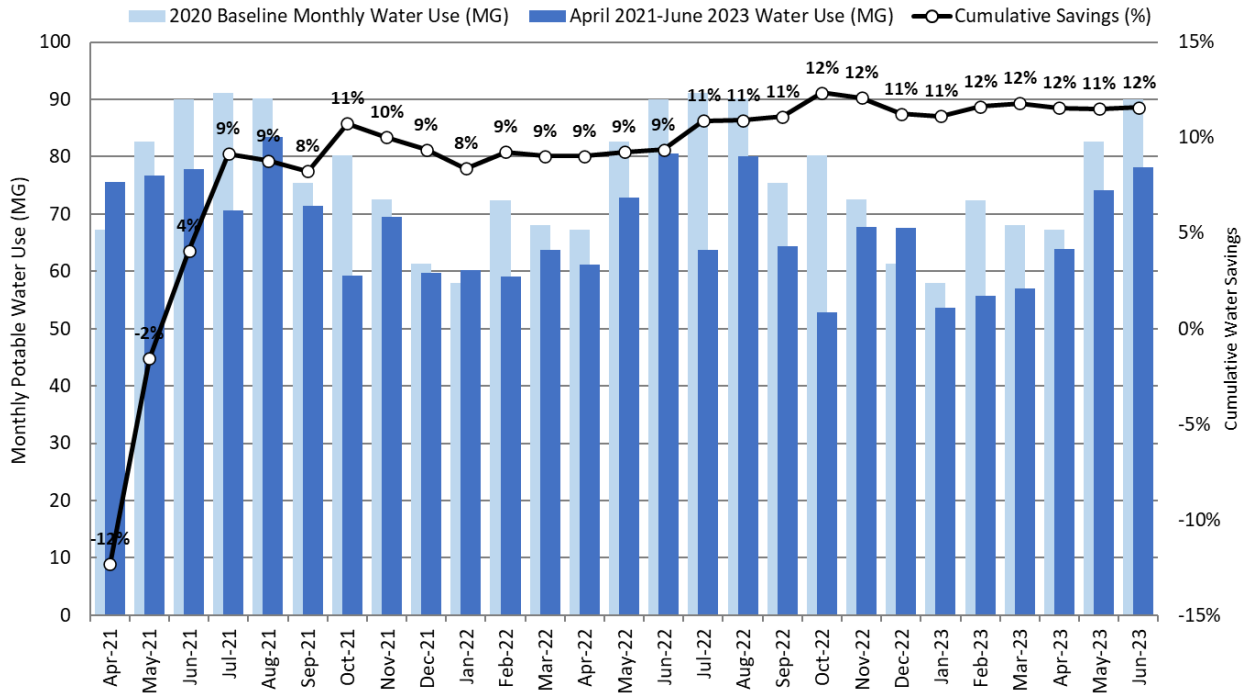

Figure 3-1 Monthly Water Use and Cumulative Water Use Reduction, 2021-2023

Effectiveness of Drought Response

As shown on **Figure 3-1**, cumulative water savings reached 12% by the end of the drought. Overall water savings during the 2021-2023 drought were lower than those achieved during the 2014-2017 drought, when cumulative reductions reached approximately 17%. This is likely due to a combination of factors, including differing State restrictions, the effects of demand hardening, and messaging fatigue from both the drought and the COVID-19 pandemic.

The District's experience during the 2021-2023 drought highlights these key considerations for future drought planning:

- Continued long-term reductions in per-capita water use have reduced discretionary demand, making additional cutbacks more difficult to achieve compared to prior droughts.
- The timing and effectiveness of conservation messaging significantly influence customer response. Initial drought awareness drives reductions, but sustained engagement is challenging due to messaging fatigue, particularly when overlapping with other major events such as the pandemic.

4 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.

Beginning on July 1, 2022, the District has conducted an Annual Water Supply and Demand Assessment (Annual Assessment) to identify whether there is likely to be a water shortage condition in the following year. Because the District's sole source of potable water supply is from the SFPUC RWS, the evaluation of District supplies for a particular year will be based on information provided by the SFPUC or BAWSCA. NCCWD will conduct the Annual Assessment as part of a coordinated effort led by SFPUC and BAWSCA. The procedure used in conducting an AWSDA is outlined in **Attachment 1** of this WSCP.

As part of the Annual Assessment process, the District will provide unconstrained demand information to BAWSCA and SFPUC incorporating water demand from development projects, which will be completed in the coming year. As part of this effort, the District will coordinate with the City of Pacifica to identify if any projects will have an impact on water demands.

5 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), this WSCP is based on the six water shortage levels (also referred to as "stages") shown in **Table 5-1**, in addition to a no-drought stage that is effective at all times to prevent water waste. These shortage stages are intended to address shortage caused by any condition, including the catastrophic interruption of water supplies. **Table 5-1** summarizes the water supply reductions and supply conditions associated with each stage of action.

Table 6-2 describes the customer restrictions and prohibitions and actions to be taken by District staff associated with each stage of action. Specific prohibitions and District actions are discussed in more detail below. The monthly and cumulative annual water savings impacts associated with each restriction, prohibition and consumption reduction method were quantitatively estimated using the Drought Response Tool (DRT) for each stage of action (see **Section 6.6**).

Table 5-1 Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions
No Drought	N/A	• Includes water waste prohibitions effective at all times.
1	Up to 10%	• Declaration by the Board of Directors upon the determination that (1) the SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of up to 10% due to water supply shortages or an emergency or (2) local conditions impacting the quantity or quality of NCCWD's water supply warrant the need for a reduction in water use of up to 10%. • Includes implementation of mandatory restrictions on end uses, as well as agency actions (see **Table 6-2**).
2	Up to 20%	• Declaration by the Board of Directors upon the determination that (1) the SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of up to 20% due to water supply shortages or an emergency or (2) local conditions impacting the quantity or quality of NCCWD's water supply warrant the need for a reduction in water use of up to 20%. • Includes implementation of mandatory restrictions on end uses, as well as agency actions (see **Table 6-2**).

Table 5-2 Water Shortage Contingency Plan Levels Continued

Shortage Level	Percent Shortage Range	Shortage Response Actions
3	Up to 30%	• Declaration by the Board of Directors upon the determination that (1) the SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of up to 30% due to water supply shortages or an emergency or (2) local conditions impacting the quantity or quality of NCCWD's water supply warrant the need for a reduction in water use of up to 30%. • Includes implementation of mandatory restrictions on end uses, as well as agency actions (see **Table 6-2**).
4	Up to 40%	• Declaration by the Board of Directors upon the determination that (1) the SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of up to 40% due to water supply shortages or an emergency or (2) local conditions impacting the quantity or quality of NCCWD's water supply warrant the need for a reduction in water use of up to 40%. • Includes implementation of mandatory restrictions on end uses, as well as agency actions (see **Table 6-2**).
5	Up to 50%	• Declaration by the Board of Directors upon the determination that (1) the SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of up to 50% due to water supply shortages or an emergency or (2) local conditions impacting the quantity or quality of NCCWD's water supply warrant the need for a reduction in water use of up to 50%. • Includes implementation of mandatory restrictions on end uses, as well as agency actions (see **Table 6-2**).
6	>50%	• Declaration by the Board of Directors upon the determination that (1) the SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of greater than 50% due to water supply shortages or an emergency or (2) local conditions impacting the quantity or quality of NCCWD's water supply warrant the need for a reduction in water use of greater than 50%. • Includes implementation of mandatory restrictions on end uses, as well as agency actions (see **Table 6-2**).

6 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.

☑ ***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.

This section describes the response actions the District will take to deal with the shortages associated with each of the six stages, plus a no-drought stage that is in effect at all times, enumerated in **Section 5** (**Table 5-1**).

6.1 Supply Augmentation

The District relies on the SFPUC RWS for its potable supplies. There are currently no supply augmentation actions planned in the District's shortage response actions. However, as discussed in Section 6.7 of the District's 2025 UWMP, potential transfer and exchange opportunities exist within and outside of the SFPUC RWS. **Table 6-2** includes other actions that the District may take, including coordination with other agencies, implementing a drought surcharge, increasing water waste patrols, etc.

The Water Shortage Allocation Plan adopted by all BAWSCA agencies and the SFPUC provides the basis for voluntary transfers of water among BAWSCA agencies during periods when mandatory rationing is in effect on the SFPUC RWS (see also Section 7.1.1 of the 2025 UWMP). Some BAWSCA agencies have the capacity to rely on groundwater or other sources during dry years and thus may be willing to transfer a portion of their wholesale water entitlement to other BAWSCA agencies in need of supply above their allocations. Securing water from willing sellers outside the SFPUC RWS is a more complex process than transfers within the RWS, which requires both a contract with the seller agency and approval by the SFPUC. BAWSCA has the authority to plan for and acquire supplemental water supplies and continues to evaluate the feasibility of water transfers as part of its implementation of its 2050 Long-Term Reliable Water Supply Strategy (see Section 7.1.1 of the 2025 UWMP).

Additionally, as discussed in Section 6 of the 2025 UWMP, the District is evaluating options to expand its water supply portfolio through use of groundwater and surface water and expanded use of recycled water. The District will likely pursue one or more of these options as a source of supply augmentation in the future, particularly if the potential shortfalls projected by the SFPUC in the 2025 UWMP persist.

6.2 Demand Reduction Methods

As discussed above and shown in in **Table 6-2**, the WSCP lists the demand reduction methods that the District will implement during each stage of action to reduce NCCWD's own water consumption and encourage reduction in water use by its customers. The monthly and cumulative annual water savings impacts associated with each restriction, prohibition, and consumption reduction method were quantitatively estimated using the DRT for each stage of action (see **Attachment 2**).

A focus of the District's planned consumption reduction measures is to increase public outreach and keep customers informed of the water shortage emergency and actions they can take to reduce consumption. The public outreach efforts that NCCWD will implement to respond to a water shortage are described in **Section 8**.

6.3 Operational Changes

The WSCP lists the operational changes that the District will implement during each stage of action, including measures to: (1) reduce system losses through a reduction in flushing of water distribution mains, (2) increase enforcement and customer service, and (3) implement the demand reduction methods.

6.4 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, the District 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 6-2**).

6.5 Prohibitions on End Uses

Restrictions and prohibitions associated with each stage of action are presented in **Table 6-2**, including those water waste prohibitions that will be in effect at all times per the District's adopted Ordinance No. 61.[4] As discussed above, these responses focus on the reduction of non-essential water uses such as ornamental landscape irrigation, and preserve water uses that are vital to the health, safety, welfare, and economic vitality of NCCWD's customers. Lower stages of the WSCP focus on guiding customer actions through prohibitions on end uses, while subsequent levels of the WSCP include increasingly restrictive prohibitions and conformance with water allocations that will be assigned to each customer account.

The District anticipates assigning water allocations to each customer account during higher WSCP stages (i.e., Stages 3 through 6). **Table 6-1** further describes how the cutbacks will be distributed between water use sectors and end uses, in order to collectively achieve the targeted water savings associated with each

[4] The District's Ordinance No. 61 can be accessed here: https://www.nccwd.com/files/578cf0c6b/Ordinance_61-_Water_Waste_Prohibitions_FullyExecuted2+%281%29.pdf

stage of action. The measures and prohibitions described for each stage of action in **Table 6-2** are designed to assist customers in meeting their target reductions and water budgets.

As discussed in the 2025 UWMP and Section 6.6.1 below, the District serves water primarily to residential customers and has among the lowest residential per-capita water use across the State. Therefore, achieving the targeted demand reductions in Stages 5 and 6 would significantly impact the essential water use of the District's residential and CII customers. The level of rationing suggested in **Table 6-1** for Stages 5 and 6 are intended to be implemented only during a short-term emergency such as a critical interruption lasting less than a week.

The District currently does not anticipate a long-term shortage condition that would require the District to enact the level of rationing in Stages 5 and 6. As discussed in Section 7.2.2 of the 2025 UWMP, there is no current methodology for allocating available water between SFPUC and Wholesale Customers for SFPUC RWS shortages greater than 20%.

In addition, the District will prioritize furnishing water transfers or alternative supplies in the event of a prolonged shortage condition and consult with its customers to identify alternative water saving actions.

Table 6-1 Potential Water Allocations by Customer Sector

Customer Category	Potential Water Allocations					
	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Residential Allocation	--	--	70% (31 GPCD)	60% (26 GPCD)	60% (26 GPCD)	60% (26 GPCD)
Commercial Customer	--	--	85%	60%	15%	10%
Irrigation Customer	--	--	25%	25%	0%	0%

NOTES:
GPCD = gallons per capita per day
(a) Water allocations for commercial and irrigation customers are presented as the percentage of water use compared to the customer's baseline water use.
(b) Water allocations would not apply to water sales to San Bruno (a portion of CII uses). This volume of water (10 MG per year) is assumed to be held constant in the Drought Response Tool (DRT).

Table 6-2 Demand Reduction Actions (DWR Table 8-2)

Shortage Level	Agency Actions	Customer Water Use Restrictions
0	--	1. Hoses shall be equipped with a shut-off valve for washing vehicles, sidewalks, walkways, or buildings. 2. Ornamental fountains shall use only re-circulated or recycled water. 3. Potable water shall not be applied in any manner to any driveway, sidewalk, or other hard surface except when necessary to address immediate health or safety concerns. 4. Potable water shall not be used to water outdoor landscapes in a manner that causes more than incidental runoff onto non-irrigated areas, walkways, roadways, parking lots, or other hard surfaces. 5. Potable water shall not be applied to outdoor landscapes during and up to 48 hours after measurable rainfall. 6. Potable water shall not be used to irrigate ornamental turf on public street medians. 7. Hotels and motels shall provide guests with an option whether to launder towels and linens daily. Hotels and motels shall prominently display notice of this option in each bathroom using clear and easily understood language. 8. Restaurants and other food service operations shall serve water to customers only upon request. 9. Customers are obligated to fix leaks, breaks, or malfunctions in lines, fixtures, or facilities. Loss or escape of water through breaks, leaks, or malfunctions in the water user's plumbing, distribution, or irrigation system is prohibited for any period time after such water waste should have reasonably been discovered and corrected. Leaks, breaks, or malfunctions shall be corrected in no more than five days of District notification. The District, at its sole discretion, may temporarily shut off service if unable to contact the account holder on record. 10. Recreational water features shall be covered when not in use. 11. Single-pass cooling systems on new construction shall not be allowed. 12. Other measures as may be approved by the SWRCB or Board of Directors Resolution.

Table 6-2 Demand Reduction Actions (DWR Table 8-2) Continued

Shortage Level	Agency Actions	Customer Water Use Restrictions
1	1. Inform customers that there is a water shortage emergency and the list of actions they can take to reduce water use (e.g., via direct mail, media campaign, website, bill inserts, etc.). 2. Offer water use surveys. 3. Promote rebates on high-efficiency plumbing fixtures and devices such as toilets. 4. Promote rebates for Turf Replacement. 5. Audit and reduce water system loss. 6. Promote use of residential recycled water fill station. 7. Coordination with BAWSCA and SFPUC. 8. Schedule staff for enforcement and customer service.	1. Continue with "no drought" restrictions and prohibitions except where superseded by more stringent requirements. 2. Restrict landscape irrigation to specific times. 3. Prohibit outdoor watering with potable water for more than 15 minutes per day and 2 days per week. 4. Restrict water use for decorative water features such as fountains. 5. Allow filling of recreational water features (e.g., swimming pools and spas) only when an appropriate cover is in place. 6. Use of water through a hose or pressure washer to clean off any building or home is prohibited, except prior to painting or if required for health or safety purposes. 7. Require repair of leaks, breaks, or malfunctions in lines, fixtures, or facilities within 2 days. 8. Hosing down or washing down vehicles is prohibited, unless using a bucket and/or rinsing with an automatic shut-off hose nozzle. 9. Other measures approved by the Board of Directors.
2	1. Continue with actions and measures from Stage 1 except where superseded by more stringent requirements. 2. Implement or modify drought rate structure as allowed by adopted Rate and Fee Schedule. 3. Decrease line flushing 4. Increase public outreach, including hosting public events and workshops. 5. Increase public outreach including information regarding fines or penalties for non-compliance. 6. Increase leak detection. 7. Accelerate water conservation program implementation.	1. Continue with Stage 1 restrictions and prohibitions except where superseded by more stringent requirements. 2. Prohibit outdoor watering with potable water for more than 10 minutes per day and 1 day per week. 3. Prohibit use of potable water for construction and dust control. 4. Prohibit vehicle washing except at facilities using recycled or recirculating water. 5. Commercial kitchens required to use pre-rinse spray valves. 6. Prohibit filling of recreational water features (e.g., swimming pools and spas). 7. Require repair of leaks, breaks, or malfunctions in lines, fixtures, or facilities within 1 day. 8. Other measures as may be approved by the Board of Directors.

Table 6-2 Demand Reduction Actions (DWR Table 8-2) Continued

Shortage Level	Agency Actions	Customer Water Use Restrictions
3	1. Continue with actions and measures from Stage 2 except where superseded by more stringent requirements. 2. Increase water waste patrols. 3. Develop mandatory water allocation program for all accounts and notice those accounts appropriately. 4. Impose an excess water use charge with the implementation of water allocations. 5. Require fixture retrofits prior to review of customer hardship exemptions from prohibitions and restrictions. 6. Establish moratorium on new connections and new landscaping.	1. Continue with Stage 2 restrictions and prohibitions except where superseded by more stringent requirements. 2. Prohibit all landscape irrigation of ornamental and private landscapes with potable water, except as required to keep trees alive. 3. Water use shall not exceed Stage 3 water budgets for each customer. 4. No new water-using landscape may be installed by any customer. 5. No new potable water service shall be provided, including temporary meters or permanent meters 6. Water use shall not exceed water allocations established by NCCWD for each customer. 7. Other measures as may be approved by the Board of Directors.
4	1. Continue with actions and measures from Stage 3 except where superseded by more stringent requirements. 2. Switch to more frequent (e.g., monthly) billing. 3. Suspend water service to landscape accounts.	1. Continue with Stage 3 restrictions and prohibitions except where superseded by more stringent requirements. 2. Water use shall not exceed Stage 4 water budgets for each customer. 3. Other measures approved by the Board of Directors.
5	1. Continue with actions and measures from Stage 4 except where superseded by more stringent requirements. 2. Coordinate with CA Dept of Public Health, County Public Health Department and other emergency response agencies regarding water quality and public health issues. 3. Prepare to coordinate with State (SWRCB, DWR) and County (Department of Emergency Management) for emergency response support and funding. 4. Prepare for implementation of emergency water supply provisions identified in the Emergency Response Plan (ERP; e.g., bottled water, water tankers). 5. Set up emergency notification lists for medical/dental facilities, public facilities, large users, food and beverage facilities, and critical businesses.	1. Continue with Stage 4 restrictions and prohibitions except where superseded by more stringent requirements. 2. Water use shall not exceed Stage 5 water budgets for each customer. 3. Other measures approved by the Board of Directors.

Table 6-2 Demand Reduction Actions (DWR Table 8-2) Continued

Shortage Level	Agency Actions	Customer Water Use Restrictions
6	1. Continue with actions and measures from Stage 5. 2. Continue to coordinate with CA Dept of Public Health, County Public Health Department and other emergency response agencies regarding water quality, public health issues 3. Continue to coordinate with State (SWRCB, DWR) and County (Department of Emergency Management) for emergency response support and funding 4. Continue to provide bulk water stations and/or coordinate water hauling. 5. Transition to minimum health and safety water supply levels consistent with ERP guidance in the event of catastrophic supply interruption.	1. Continue with Stage 5 restrictions and prohibitions except where superseded by more stringent requirements. 2. Water use shall not exceed Stage 6 water budgets for each customer. 3. Other measures approved by the Board of Directors.

6.6 Shortage Response Action Effectiveness

To evaluate and ensure that effective actions will be implemented with the proper level of intensity, the District employed the DRT, an Excel spreadsheet model developed by EKI Environment and Water, Inc. The DRT model calculates monthly savings anticipated by implementing each stage of action as detailed below.

6.6.1 Baseline Water Use Profile

Using the DRT, the District developed a baseline water use profile that reflects usage patterns within NCCWD's service area by major water use sectors during calendar year 2023-2025 and that was used to guide development of the WSCP. Key findings from this analysis are presented below.

Residential Per Capita Demand

Residential per capita demand informs the residential water allocations in **Table 6-1**. The District's current residential water demand is approximately 44 R-GPCD. This R-GPCD is lower than the average BAWSCA-wide average of 58.87 R-GPCD and is significantly less than the statewide average of 96 R-GPCD. [5]

Proportion of Outdoor Water Use

As shown on **Figure 6-1**, outdoor water use, which can generally be considered as a "discretionary water use", was estimated to be approximately 12% of the District's total consumption during the baseline time period (2023-2025). Dedicated irrigation meters for potable water accounted for 19% of the total potable irrigation demand, indicating that approximately 81% of outdoor water use is not metered with a separate meter, and is therefore more difficult to track and directly target.

The proportion of outdoor water use within both residential and commercial sectors (10% and 16%, respectively) indicates that there is limited potential to achieve significant potable water savings across these sectors, simply by focusing on outdoor uses. As further shown on **Figure 6-2**, the seasonal variation in baseline potable water use reflects increased irrigation demands during the summer and fall months. Therefore, the greatest potential for reductions in non-essential water use are expected during these months.

[5] NCCWD and BAWSCA average R-GPCD for fiscal year 2024-2025 obtained from BAWSCA's Annual Survey (BAWSCA, 2026). Statewide average for the same period calculated using SAFER Clearinghouse data.

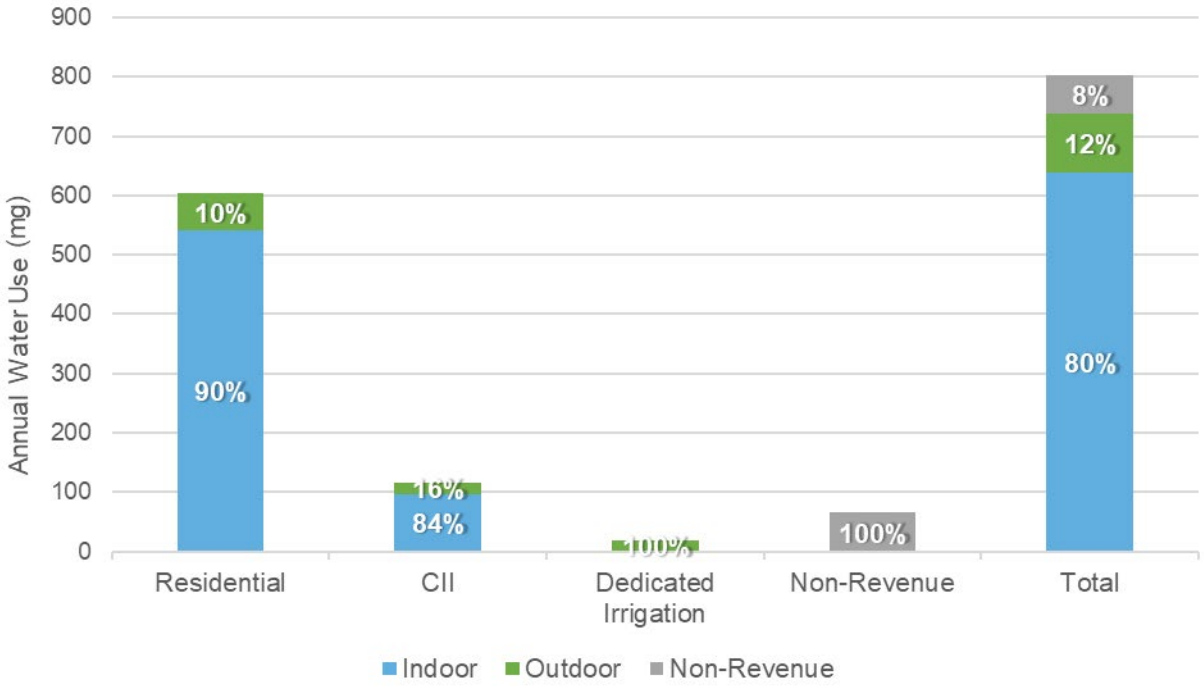

Figure 6-1 Baseline Year Annual Indoor vs. Outdoor Water Use

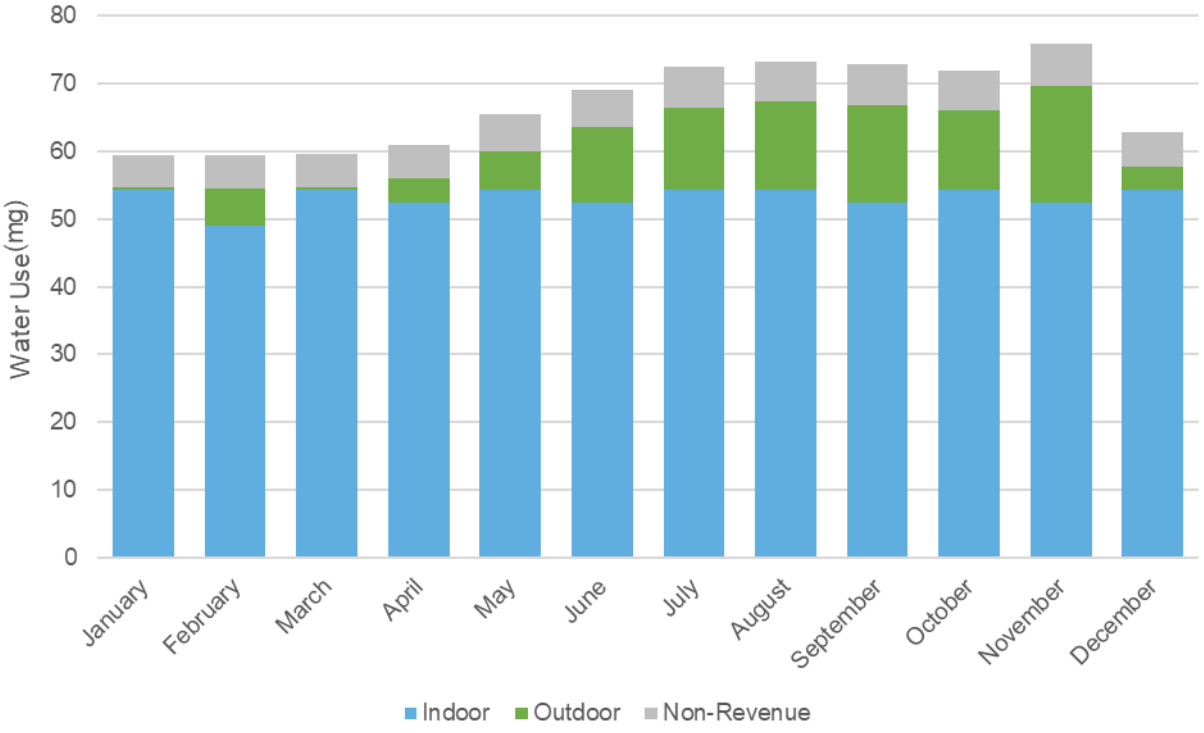

Figure 6-2 Baseline Year Monthly Indoor vs. Outdoor Water Use

6.6.2 Shortage Response Action Effectiveness

The DRT provides a quantitative framework that allows the District 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, class-specific water use, population, and assumptions regarding the split between indoor and outdoor water use for each customer class.

For each drought response action, the user specifies:

- The customer class(es) and end use(s) that are affected.
- The percent savings for that end use 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 NCCWD's experience).
- The percentage of accounts assumed to implement the action, which is presumed to be the result of the intensity level of NCCWD's program implementation, including but not limited to, marketing and enforcement activities. [6]

An additional critical DRT user input is a set of constraints on demand reductions 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. The constraints are:

- A minimum residential indoor per capita daily usage of 26 gallons;
- A maximum residential outdoor usage reduction of 100%;
- A maximum CII indoor usage reduction of 40% except in the most extreme conditions (e.g., Stage 5 and 6), and
- A maximum CII outdoor usage reduction of 100%.

Based on the foregoing constraints, the DRT model calculates the resulting monthly savings. The District adjusted the combination of actions and implementation levels to achieve the targeted savings levels at each of the six stages of action.

For each of the stages of action, the modeling targeted the following demand reduction percentages:

- 8% for Stage 1,
- 15% for Stage 2,
- 25% for Stage 3,
- 35% for Stage 4,
- 45% for Stage 5, and
- 53% for Stage 6.

[6] The participation rate for CII actions has been adjusted to maintain a constant volume of sales to San Bruno in each stage.

The District's shortage response actions are summarized **Table 6-2.** The key DRT inputs and outputs for each of the stages of action are reproduced in **Attachment 2**, including the water shortage reduction actions, savings assumptions, and implementation rates that are required for NCCWD to achieve the required annual demand reductions for each of the six stages of action. At each stage, there are two types of demand-reduction actions identified:

- Restrictions on customer water usage; and
- Consumption reduction actions by NCCWD to encourage decreased water usage.

Many actions are implemented across multiple stages, some at increasing implementation levels. Therefore, the actions are listed as a row under the first stage at which they are implemented, and the implementation rate is listed under each stage column heading at the right. The unit savings represent a percentage savings of the end uses indicated in the table.

6.7 Catastrophic Supply Interruption

Catastrophic supply interruptions may be caused by a regional power outage, natural disaster, or national security/terrorism emergencies. Catastrophic interruptions may occur in the SFPUC RWS or in the NCCWD water distribution system. In the event of a catastrophic supply interruption, the response procedures that the District would follow are described in:

- SFPUC Emergency Operations Plan (EOP);
- San Mateo County's Operational Area EOP Potable Water Procurement and Distribution Annex; and
- NCCWD Emergency Response Plan (ERP).

In the event of a catastrophic supply interruption, the response procedures that NCCWD would follow are described in NCCWD's ERP, the SFPUC EOP, and the San Mateo County Operational Area EOP[7] (County of San Mateo, 2015). Actions described in the SFPUC EOP focus on maintaining flow within, and from, the RWS pipelines. SFPUC's emergency preparedness procedures are described in detail in **Attachment 3**. The San Mateo Operational Area EOP addresses San Mateo County's planned response to extraordinary emergency situations associated with natural disasters, man-made technological incidents, and national security emergencies. This EOP is a preparedness document that is designed to be read, understood, and exercised prior to an emergency. Each agency is responsible for ensuring the preparation and maintenance of appropriate and current Standard Operating Procedures, Emergency Operating Procedures, and alert lists that will support the EOP.

Together, these EOPs provide the framework for responding to major emergencies or disasters associated with natural disasters, technological incidents, and national security/terrorism emergencies. Sections of these EOPs outline specific strategies to prepare for, mitigate, respond to, and recover from an emergency or disaster that affects the water utilities that serve the population within San Mateo County.

NCCWD updates its ERP annually, with a significant update occurring in 2021, in compliance with America's Water Infrastructure Act of 2018 (AWIA). Another significant update is planned for 2026, per the AWIA schedule.

[7] The County of San Mateo is currently in the process of updating its Operational Area EOP, with the most recent draft released in 2026. This update has not been finalized at the time of report preparation.

NCCWD's ERP includes information on key facilities, emergency response roles, communication methods, public notification information, response actions and procedures, mitigation actions, and detection strategies. The ERP includes incident action checklists for possible water supply catastrophes, including contamination, cybersecurity, drought, earthquake, flooding, pandemic, power outage, and wildfire.

The District may evaluate and require appropriate WSCP response actions during a catastrophic supply interruption, such as end-use prohibitions and mandatory rationing, as well as implement the operational changes and communication protocols described herein.

When a shortage declaration appears imminent, the General Manager manages related activities and will serve as the Emergency Response Lead. In the absence of the General Manager the Assistant General Manager of Operations or other available supervisory personnel will serve as the Emergency Response Lead. If warranted, the ERP will be activated and information will be provided to Police, Fire, City of Pacifica, and San Mateo County. The General Manager will also provide essential information to the public, including coordinating information with other jurisdictions, if necessary, before releasing information to the news media.

NCCWD has sufficient facilities and infrastructure to reroute around most temporary water supply disruptions. The District also has emergency interties with Westborough Water District, the City of Daly City, and the City of San Bruno. NCCWD has onsite backup generators installed at all critical sites that can support facilities for an emergency event. NCCWD regularly inspects all existing water supply storage and distribution facilities per a maintenance schedule. NCCWD typically has over 13 MG of emergency water storage in the NCCWD water tanks at all times. This supply of water can meet average daily water demands for approximately 5.8 days. The District also has emergency above-ground piping that can be employed to reconnect its distribution system in the event of a catastrophic water main break.

NCCWD may evaluate and require appropriate WSCP response actions during a catastrophic supply interruption, such as end-use prohibitions and mandatory rationing, as well as implement the operational changes and communication protocols described herein.

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7 SEISMIC RISK ASSESSMENT

☑ ***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.

Impacts associated with earthquakes and liquefaction for NCCWD are discussed in the 2021 San Mateo County Multijurisdictional Local Hazard Mitigation Plan (County LHMP)[8]. The County LHMP includes a discussion of the probability of a seismic event affecting San Mateo County, citing a United States Geological Survey (USGS) estimate of a 72% probability of at least one 6.7 or greater magnitude earthquake over the next 30 years affecting the greater San Francisco Bay area. The County LHMP also includes an assessment of the County's vulnerability in the event of a major seismic event and estimates that an earthquake on the Northern San Andreas Fault of magnitude 7.38 would result in a total building damage of approximately $31.3 billion, or 16.3% of the total replacement value for the planning area.

NCCWD participates in the updates to the County LHMP that occur on a five-year cycle. The County LHMP's *Volume 2: Planning Partner Annexes, Chapter 29: North Coast County Water District,* provides a specific hazard mitigation plan (HMP) for NCCWD (NCCWD HMP; **Attachment 4**). The NCCWD HMP identifies landslides/mass movements, sea level rise/climate change, flood, and earthquakes as high hazard risks, and also identifies severe weather and tsunami as medium hazard risks. The NCCWD HMP identifies several hazard mitigations for the NCCWD to implement to reduce the identified hazard risks. NCCWD has implemented in recent years and is continuing to implement several of these actions through its capital improvement program including: storage tank seismic retrofits, expansion of storage capacity, interconnection improvements, pipeline improvements, data management improvements, and exploration of local supply sources. The San Mateo County Department of Emergency Management is currently leading the development of the 2026 County LHMP of which the District is actively participating.

[8] For the latest information on San Mateo County's Multijurisdictional Local Hazard Mitigation Plan, please refer to the website at: https://www.smcgov.org/dem/multijurisdictional-local-hazard-mitigation-plan.

8 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.

Even before formal declaration of a water shortage by NCCWD, a public information program will be activated to provide customers with as much advance notice as possible. Following declaration of a shortage, NCCWD customers will be provided notice of water shortage rules and regulations via a variety of media and communications methods including: bill inserts, automated phone system call out with shortage level details, social media posts, website content, advertising on the local television station, newsletters, and signs and banners posted around the service area.

Coordination between NCCWD and with other public agencies can begin prior to formal declaration of a water shortage and can be accomplished through regular meetings, e-mail group updates, and presentations. In a regional water shortage scenario, NCCWD would use the public outreach resources and materials provided by BAWSCA and SFPUC. In addition to these materials, NCCWD may develop its own materials to communicate with customers, as described above, expanding its normal public outreach to support its water conservation efforts (see Section 9.2.4 of the 2025 UWMP).

NCCWD currently has three staff members with responsibilities for water conservation. Staff time dedicated to water conservation and enforcement action will increase with the severity of a supply shortage. Additional duties may be assigned to current NCCWD employees or hiring of temporary staff may be considered to meet staffing needs during extreme water shortages.

9 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.*

Enforcement of the District's water use restrictions and prohibitions is focused on soliciting cooperation from water customers who are unaware of the restrictions or have failed to comply with the provisions of this WSCP. If repeated discussions with the customer are unsuccessful in obtaining compliance, the District is authorized to temporarily terminate water service or install a flow restrictor for customers that violate the restrictions and prohibitions listed in **Table 6-2**.

The enforcement actions that the District is authorized to take after each violation of the WSCP are described in the District's WSCP Resolution adopted by the Board of Directors and are summarized in **Table 9-1**. Actions range from education/written notice after the first violation to discontinuance or restriction of water service after the fourth violation. As shown in **Table 9-1**, customers will incur additional charges from the District for providing on-site notification, installation and removal of flow restricting devices, and disconnection and reconnection of service on a time and material basis if the District deems these actions necessary.

Table 9-1 Enforcement of Water Use Restrictions and Prohibitions

Violation	Enforcement Action or Penalty
1st	The District will attempt to educate the customers by contacting them and informing the customer about the violation, potential penalties, and compliance requirements.
2nd	The District will send a written notice to the customer specifying the nature of the violation and the date and time of occurrence and request that the customer cease the violation and take prompt remedial action. The District will provide the customer with a copy of the Ordinance and inform the customer that failure to comply may result in termination of water service.
3rd	The District will make reasonable efforts to notify the customer of the violation and post a notice on the front door or other point of entry onto the property requiring the customer to cease the violation and take remedial action within 48 hours of the on-site notification. Failure to comply after the on-site notification may result in the temporary termination of water service.
4th	In the event that a further violation(s) is observed by District personnel 48 or more hours after the on-site notification, it will be deemed a willful violation of the mandatory restrictions on water use and the District may temporarily terminate water service or install a flow restrictor. The customer shall be responsible for paying the District's costs incurred in enforcing this Ordinance, including providing the on-site notification, installing a flow restrictor, and temporarily terminating and restoring water service, on a time and material basis. The customer shall pay all fees and charges above, and the customer's account must be in good standing, in order for the District to proceed with the reconnection of water service after it has been temporarily terminated.

In addition, the District's current conservation pricing is tiered for single family residential accounts such that charges for excess use are effectively included. All other accounts are billed at a higher fixed rate set to dissuade high water use. NCCWD has also imposed mandatory water-rationing programs in the past, which include excess use charges. Future mandatory water rationing programs will also carry similar charges and penalties.

As mentioned in **Section 8**, staff time dedicated to water conservation and enforcement action will increase with the severity of a supply shortage. Additional duties may be assigned to current District employees or hiring of temporary staff may be considered to meet staffing needs during extreme water shortages to enforce compliance.

10 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 District 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.

☑ ***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.

NCCWD WSCP is adopted by Resolution No. XXXX, a resolution of the Board of Directors adopting a Water Shortage Contingency Plan.

The provisions of each water shortage stage of action are triggered upon the Board of Director's determination that a Governing Authority has required NCCWD to achieve a voluntary or mandatory reduction in water use because of water shortage conditions or because of a local supply shortage.

The stages of action will become effective after the Board of Directors declares a particular stage of action and NCCWD has published notice of this determination. Once effective, the provisions of a water shortage stage of action will stay in effect until (1) a different stage of action is declared; or (2) the Board of Directors determines that the water shortfall condition no longer exists and NCCWD has published notice of this determination.

NCCWD shall declare a water shortage emergency in accordance with Water Code Chapter 3 (commencing with Section 350) of Division 1. NCCWD shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency. A list of contacts for other cities and counties within the NCCWD service area is provided below:

- City of Pacifica
  City Manager
  170 Santa Maria Avenue
  Pacifica, CA 94044
  (650) 738-7300

- San Mateo County
  County Manager
  400 County Center, 1st Floor
  Redwood City, CA 94063
  (650) 363-4123

NCCWD is a member of BAWSCA and anticipates coordinating with other Member Agencies via BAWSCA during a water shortage or emergency on the SFPUC RWS.

11 FINANCIAL CONSEQUENCES OF WATER SHORTAGE CONTINGENCY PLAN

☑ ***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 the event of a drought, if NCCWD anticipates significant loss in revenue due to decreased water consumption, NCCWD may increase its water rates so that customers are charged for the actual cost of providing water during a shortage. These rates are specified in NCCWD's water rate schedule in accordance with Proposition 218 requirements.

NCCWD understands the projected ranges of water sales by shortage stage and what the impact would be on projected revenues and expenditures by each shortage stage. Revenues would decrease as consumption decreased. Expenditures would increase as response actions are implemented.

In January 2022 the District adopted a new water rate schedule that included Water Shortage Revenue Stabilization Adjustment Rates. During a water shortage, the District will implement a range of actions to reduce water use and help ensure that demand for water does not exceed supply. Such actions may include public outreach campaigns, water efficiency customer assistance and rebate programs, operational changes, and prohibitions and restrictions on some water uses. In the more severe stages of shortage, the District will also implement water rationing and require mandatory water reductions. To recover its costs of service and remain financially stable during periods of drought and reduced water sales, the District may implement a temporary Water shortage Revenue Stabilization Adjustment that corresponds to the water shortage.

The Water Shortage Revenue Stabilization Factors, by which Water Usage Charges are adjusted in conjunction with the varying reduction stages, are presented in **Table 11-1.** [9] These factors are only applied to the Water Usage Charges and not to the Supply and Distribution Charges. The proposed Water Shortage Revenue Stabilization Factors for each stage are multiplied by the existing water usage rates at the time a shortage is declared to set the Water Shortage Revenue Stabilization Adjustments. As an example, the Tier 1 single family water usage rate is $7.28 as of July 2025. If a Stage 1 shortage were declared in that year, and the Board of Directors chose to enact corresponding Water Shortage Revenue Stabilization Adjustments, the Tier 1 water usage rate, $7.28, would be multiplied by the Water Shortage Revenue Stabilization Factor of 1.021, which would equate to $7.43 per hundred cubic feet (CCF) in Tier 1. Similarly, the Tier 2 water usage rate, $10.77, would also be multiplied by the Water Shortage Revenue Stabilization Factor of 1.021, which would equate to $11.00 per CCF in Tier 2.

[9] The District may adopt a new water rate schedule with updated Water Shortage Revenue Stabilization Factors. Customers are encouraged to track the rate update process on the District's website here: https://www.nccwd.com/rates.

Table 11-1 Water Shortage Revenue Stabilization Factors by WSCP Stage and Customer Class

Customer Class	Stage 1 (0-10% Reduction)	Stage 2 (11-20% Reduction)	Stage 3 (21-30% Reduction)	Stage 4 (31-40% Reduction)	Stage 5 (41-50% Reduction)	Stage 6 (>50% Reduction)
Single-Family Residential	1.021	1.071	1.134	1.214	1.322	1.448
Commercial	1.024	1.081	1.154	1.252	1.392	1.533

Once a mandatory shortage is declared, the Board of Directors has discretion to enact Water Shortage Revenue Stabilization Adjustments using the Water Shortage Revenue Stabilization Factors corresponding to the level of shortage reduction implemented. These adjustments would be temporary and would return to the regular schedule when the District's Board determines that the water shortage emergency is over. The adjustments can go in either direction from stage to stage depending on whether the level of reduction is increasing or decreasing during the shortage. At least 30 days prior to making the adjustment, the District will send written notification to all customers at least 30 days prior to the effective date.

In addition, NCCWD maintains an emergency reserve fund to address the potential financial impacts of a severe drought. NCCWD may also defer expense on capital improvement projects during a severe drought.

The administration of the WSCP will also have an impact on NCCWD's general and administrative costs. Costs could include funding additional staff focused on high water consumption monitoring, water waste patrols, additional billing requirements, and customer outreach. Other costs could be related to funding additional rebate programs, print and mail costs for additional outreach, and expenses related to creating and enforcing customer water budgets. These costs will be considered whenever NCCWD's budget is next adopted. Revenue from potential excess use charges as result of implementation of the water allocation program can also be applied towards the administration of the WSCP to help offset the revenue shortfalls.

12 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.*

NCCWD monitors water use through analysis of wholesale water purchases and customer meter readings. The NCCWD reads the meter installed on its supply turnout to monitor wholesale water purchases. In addition, each customer account is metered. Some large landscape sites, including City parks and schools, have irrigation meters to measure water use for landscape irrigation separately from indoor uses. [10]

The NCCWD reads all meters read on a bi-monthly basis. However, with the District's recent completion of its Advanced Meter Infrastructure (AMI) project, the AMI system allows for timelier correction of leaks, immediate notification of irregular water consumption and pressure patterns, and real-time consumption tracking through both a utility portal and customer portal. Because of the new AMI system, the District is now able to send out weekly emails and/or phone calls to customers with continuous usage and instruct them to check for leaks. During a supply shortage, NCCWD will continue to monitor water use using the updated AMI platform to determine the effectiveness of the customer response to the implementation of this WSCP. If necessary, NCCWD may increase the frequency of outreach to customers with suspected water leaks and water audits based on customer consumption.

The District's processes for enforcing water waste prohibitions, such as customer failure to repair leaks, among others, are outlined in the District's Ordinance No. 61.[4]

Pursuant to California Code of Regulations Title 23 §991, NCCWD reports monthly water use and production to the SWRCB. [11] Water systems that are experiencing a severe water shortage, or systems that have been identified by the SWRCB or Local Primacy Agency staff to be at-risk of experiencing a severe water shortage may be required to submit drought-related data more frequency to the State to facilitate better coordination of assistance and emergency tracking.

[10] Several schools and parks use recycled water. Shortages of recycled water are not anticipated even during drought.
[11] Water supplier monthly reports can be accessed at https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.html

13 WATER SHORTAGE CONTINGENCY PLAN 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.*

The WSCP is implemented as an adaptive management plan. NCCWD will evaluate the need to revise its WSCP every year after performing its Annual Assessment or commensurate with its UWMP updates. The evaluation will consider the effectiveness of WSCP actions and any anticipated water supply shortages assessed by the Annual Assessment. If the WSCP is revised, the Board of Directors will adopt a new resolution adopting the revised WSCP and, if necessary, declare a water shortage level to implement.

14 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 District or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.*

As described in Section 10 of the 2025 UWMP, NCCWD informed the public and the appropriate agencies of: (1) its intent to prepare a WSCP, (2) where the WSCP was available for public review, and (3) when the public hearing regarding the WSCP would be held. All notifications were completed in compliance with the stipulations of Section 6066 of the Government Code.

A copy of the adopted 2025 WSCP including any amendments will be provided to the Department of Water Resources (DWR), the California State Library, San Mateo County, and the SFPUC within 30 days of the adoption. An electronic copy of the adopted 2025 WSCP will be submitted to the DWR using the DWR online submittal tool.

A copy of the adopted 2025 WSCP will be available for public review in the NCCWD District Office during normal business hours and on NCCWD's website within 30 days after filing the plan with DWR.

15 REFERENCES

BAWSCA, 2026. *Fiscal Year 2024-2025 Annual Survey*. Bay Area Water Supply and Conservation Agency, dated March 2026.

County of San Mateo, 2015. *County of San Mateo Emergency Operations Plan: Basic Plan*. San Mateo County Sheriff's' Office Homeland Security Divion and Office of Emergency Services, dated May 22, 2015.

County of San Mateo, 2021. *Multijurisdictional Local Hazard Mitigation Plan*. County of San Mateo Department of Emergency Management. Retrieved from https://www.smcgov.org/dem/multijurisdictional-local-hazard-mitigation-plan, adopted November 16, 2021.

Attachment 1: SFPUC's Annual Water Supply and Demand Assessment Procedures

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

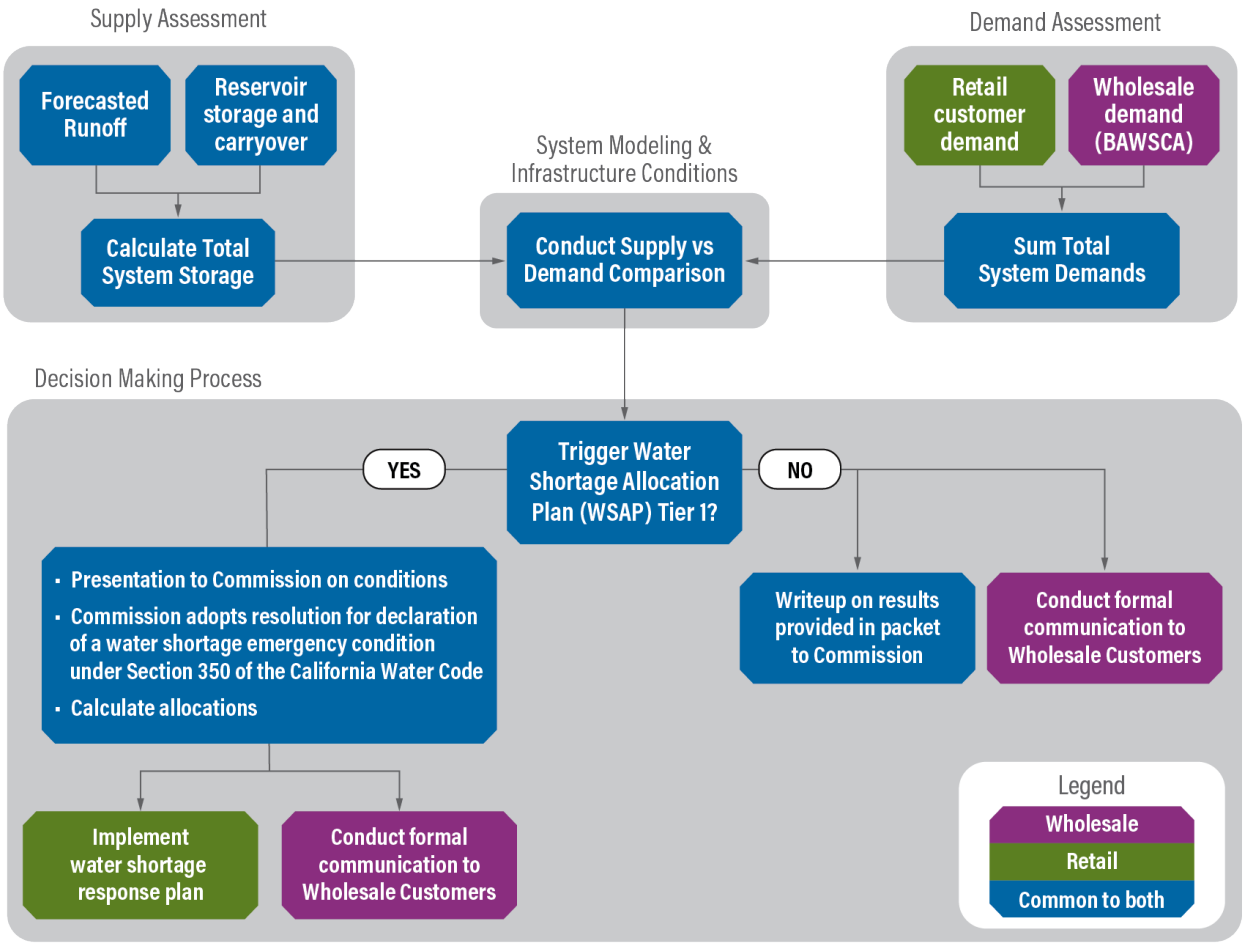
presentation on current water supply conditions and forecasts. The SFPUC issues a revised estimate of available water supply for the upcoming Supply Year on March 1 and uses the snow survey that occurs in the first week of April and an associated runoff forecast to refine an estimated total system storage 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 2: Drought Response Tool Results

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

Example Water District

Enter Agency Information	
Agency Name	North Coast County Water District
Total Population Served	37,217
Number of Residential Accounts	11,498
Number of Commercial, Industrial, and Institutional (CII) Accounts	686
Number of Dedicated Irrigation Accounts	68
Baseline Year(s)	Average 2023-2025
Percentage of Residential Indoor Use During Minimum Month (%)	100%
Percentage of CII Indoor Use During Minimum Month (%)	100%
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.

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

Example Water District

For questions about this tool or for additional information, contact:

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eki environment & water

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2 - Input Baseline Year (Average 2023-2025) Water Use

North Coast County Water District

Input Baseline Year (Average 2023-2025) Production and Water Use

Units: (mg)

Select the units to input monthly production and use data. Enter the total monthly potable water production for the Baseline Year. Next, enter monthly water use data by sector for the Baseline Year. If you bill on a bi-monthly basis, divide your billing data between the months that the billing cycle includes. If your single-family and multi-family accounts are tracked separately, enter the combined water use for both sectors in the Residential Water Use column. If your commercial, industrial, and institutional (CII) accounts are tracked separately, enter the combined water use for each sector in the CII Water Use column. Your non-revenue water use is calculated by subtracting your monthly residential, CII, and dedicated irrigation water uses from your monthly production. Your monthly residential gallons per capita per day (R-GPCD) is calculated by dividing your monthly residential water use by your population entered in Worksheet 1 - Home.

Date	Total Production (mg)	Residential Water Use (mg)	CII Water Use (mg)	Dedicated Irrigation Water Use (mg)	Non-Revenue Water Use (mg)	Total R-GPCD	Comments
January	59	46	8	0	5	40	
February	59	46	8	0	5	44	
March	60	46	8	0	5	40	
April	61	47	9	1	5	42	
May	65	50	9	1	5	43	
June	69	52	10	2	6	46	
July	72	54	11	2	6	47	
August	73	54	11	2	6	47	
September	73	53	11	3	6	48	
October	72	53	11	3	6	46	
November	76	56	12	2	6	50	
December	63	48	8	2	5	41	

3 - Baseline Year (Average 2023-2025) Water Use Profile

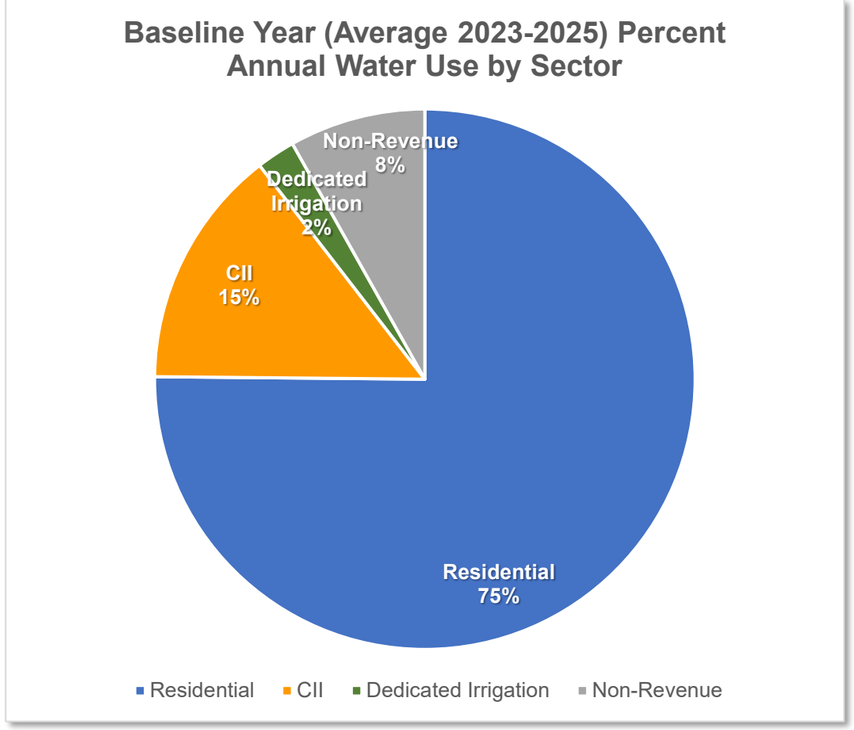
North Coast County Water District

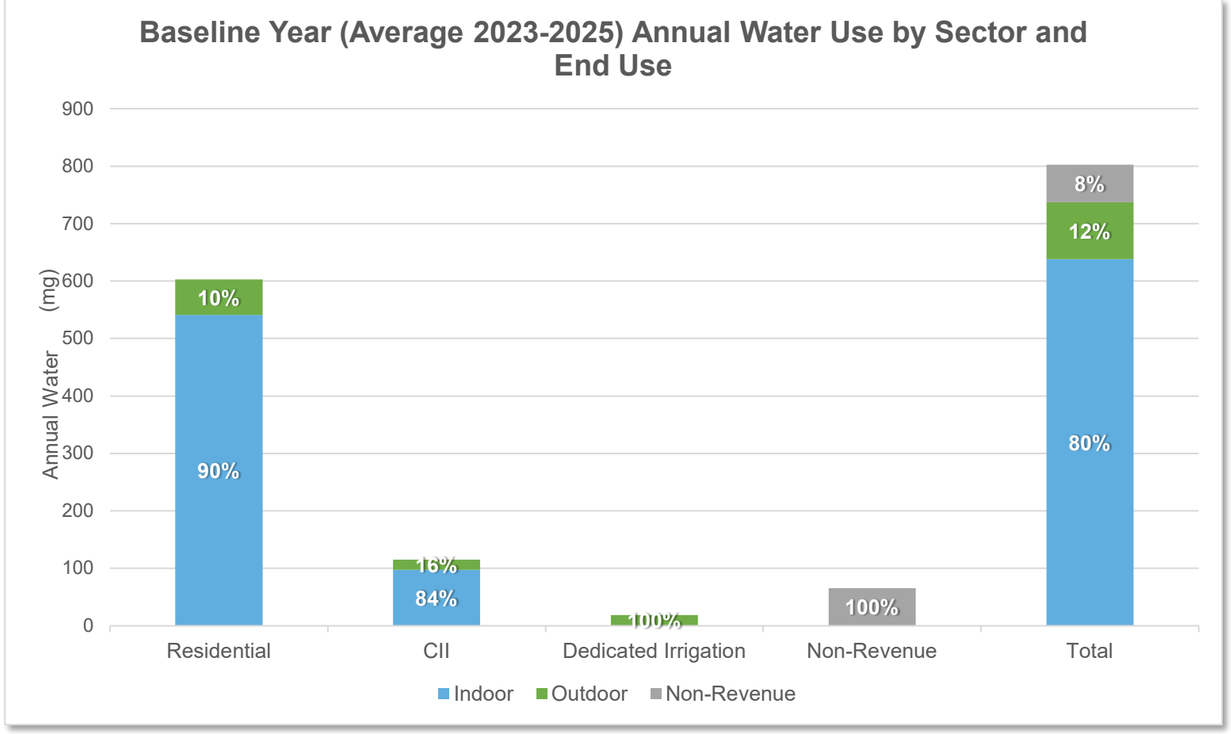
Baseline Year (Average 2023-2025) Annual Water Use Summary

Units: (mg)

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.

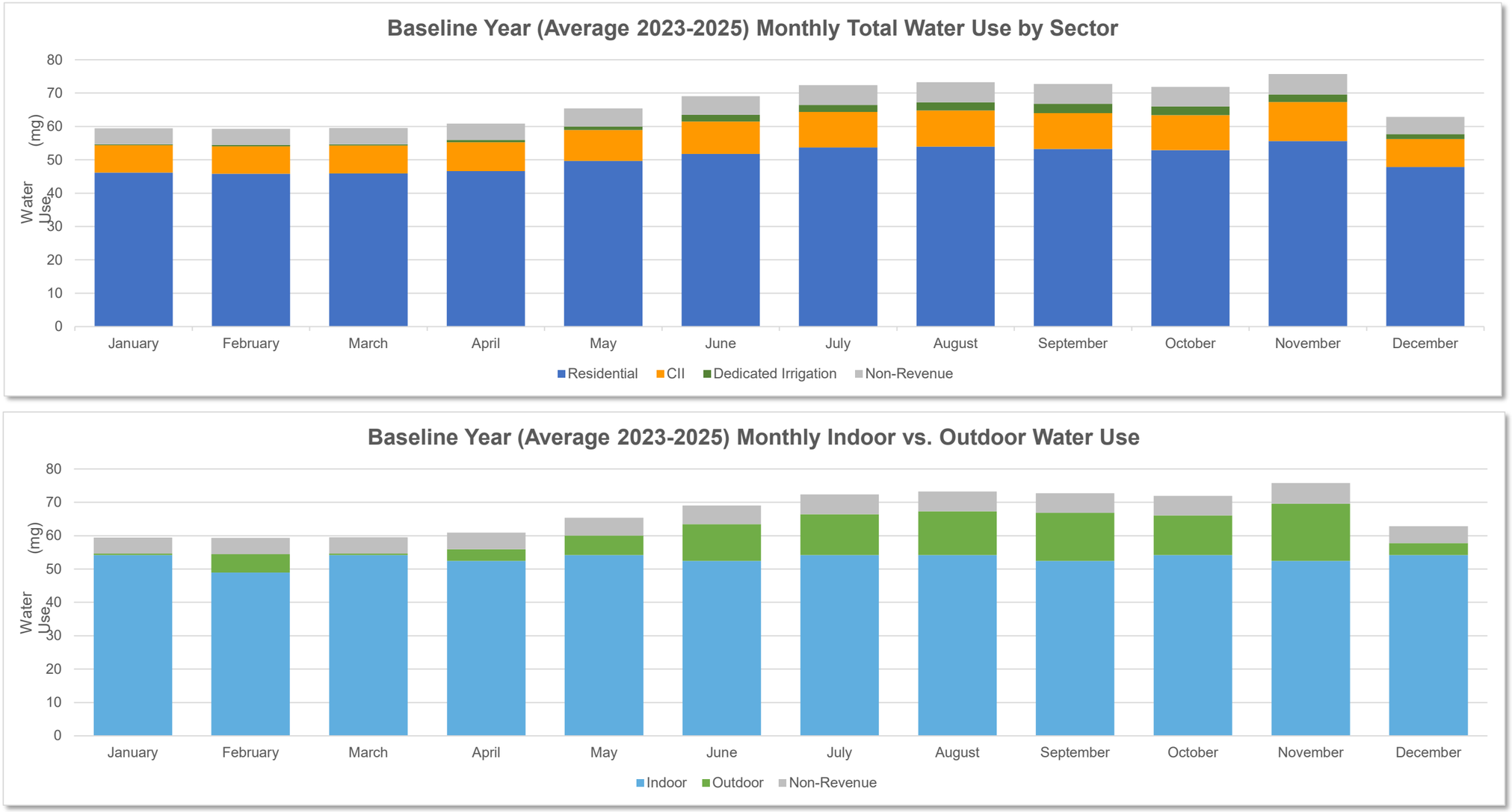
Water Use	Total Production (mg)	Water Use (mg)				Comments
		Residential	CII	Dedicated Irrigation	Non-Revenue	
Total	803	603	115	19	65	
Total Indoor	638	541	97	--	--	
Total Outdoor	99	62	18	19	--	
Total Non-Revenue	65	--	--	--	65	
Total Indoor %	80%	90%	84%	0%	--	
Total Outdoor %	12%	10%	16%	100%	--	
Total Non-Revenue %	8%	--	--	--	100%	





3 - Baseline Year (Average 2023-2025) Water Use Profile

North Coast County Water District

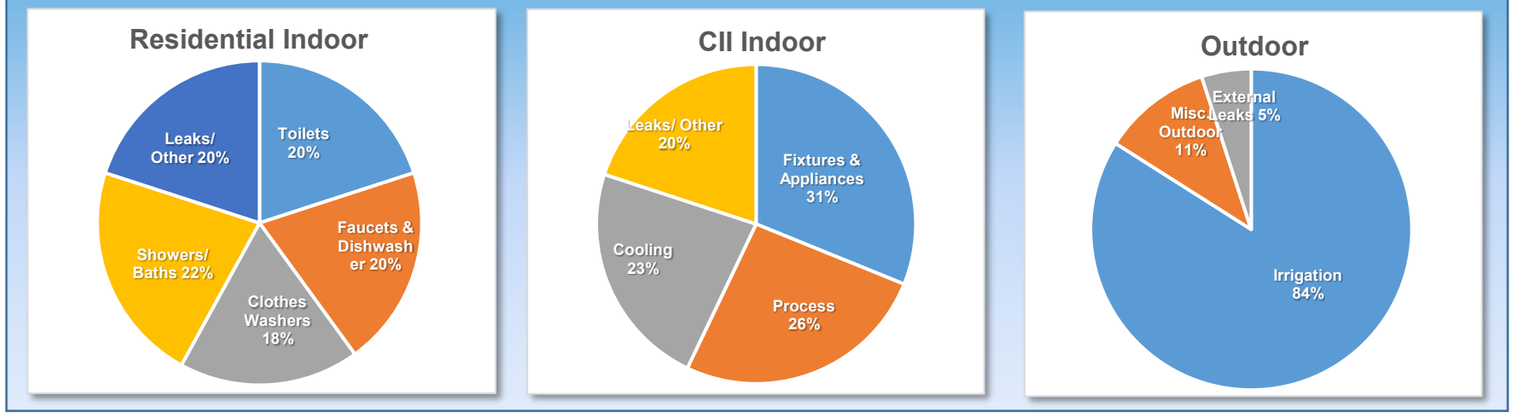


4 - Drought Response Actions - Stage 1

North Coast County Water District

Maximum Savings Potential		
Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.		
Minimum Residential Indoor GPCD	35	R-GPCD
Maximum Residential Outdoor Savings	75%	of Baseline Residential Outdoor Water Use
Maximum CII Indoor Savings	30%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	75%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	75%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
Resulting Total Maximum Annual Savings Potential	**25%**	of Total Baseline Production

Assumed Proportion of Water Use by End Uses and Sector



4 - Drought Response Actions - Stage 1

North Coast County Water District

Drought Response Actions

Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (--) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.

Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
► **Possible Mandatory Prohibitions**	All Outdoor	☑	14%	**75%**	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	☐			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	☐	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	☐	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	☐	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	☐	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	☐			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	☐			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	☐	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--

4 - Drought Response Actions - Stage 1

North Coast County Water District

Drought Response Actions						
Action Description	**End Use(s)**	**Implement Program**	**End Use Savings (%)**	**Implementation Rate**	**Source of Default Savings Estimate**	**Source of Default Implementation Rate**
► Agency Drought Actions / Restrictions						
► Agency Actions						
Media Campaign, Newspaper Articles, Website	All	☑	0.5%	50%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	☑		50%	--	--
Water Efficiency Workshops, Public Events	All	☑	0.5%	25%	EBMUD, 2011	--
Water Bill Inserts	All	☑	0.5%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	☑	100%	**1%**	--	--
Home or Mobile Water Use Reports	All	☑	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	☐	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	☑	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	☐	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	☐	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	☐			--	--
Moratorium on New Connections	All	☐			--	--
Move to Monthly Metering / Billing	All	☐	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	☑			--	--
Establish Drought Hotline	All	☐			--	--
Reduce Distribution System Pressures	Non Revenue Water	☐	4.5%	100%	CUWCC, 2010; DWR, 2015	--
► Dedicated Irrigation						
Conduct Irrigation Account Surveys	Irrigation	☑	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☑	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	☐	100%	50%		
Require Repair of all Leaks within 24 hours	External Leaks	☐	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	☐	25%	50%	--	--
Establish Water Budget - 50% Reduction	Irrigation	☐	50%	50%	--	--
Establish Water Budget - 75% Reduction	Irrigation	☐	**25%**	**90%**	--	--

4 - Drought Response Actions - Stage 1

North Coast County Water District

Drought Response Actions						
Action Description	**End Use(s)**	**Implement Program**	**End Use Savings (%)**	**Implementation Rate**	**Source of Default Savings Estimate**	**Source of Default Implementation Rate**
► Agency Drought Actions / Restrictions						
► Residential						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☑	38%	**75%**	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	☐	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☐	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	☑	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	☐	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	☐	**20%**	**90%**	--	--
Establish Water Budget - 20% Reduction	All Residential Uses	☐	20%	50%	--	--
► CII						
Conduct CII Surveys Targeting High Water Users	All CII uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☑	38%	**75%**	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	79%	50%		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	☐		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	☐	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☐	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	☐	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	☐	10%	**90%**	--	--
Establish Water Budget - 20% Reduction	All CII uses	☐	20%	50%	--	--
Establish Water Budget - 30% Reduction	All CII uses	☐	30%	50%	--	--

4 - Drought Response Actions - Stage 1

North Coast County Water District

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
▶ **Residential Customer Actions to Encourage**						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	☐			--	--
Install a Water-Efficient Showerhead	Showers/Baths	☐			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	☐			--	--
Fill the Bathtub Halfway	Showers/Baths	☐			--	--
Wash Only Full Loads of Clothes	Clothes Washers	☐			--	--
Install a High-Efficiency Toilet	Toilets	☐			--	--
Take Shorter Showers	Showers/Baths	☐			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	☐			--	--
Reduce Outdoor Irrigation	Irrigation	☐			--	--
Install Drip-Irrigation	Irrigation	☐			--	--
Use Mulch	Irrigation	☐			--	--
Plant Drought Resistant Trees and Plants	Irrigation	☐			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	☐			--	--
Flush Less Frequently	Toilets	☐			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	☐			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	☐			--	--

5 - Estimated Water Savings - Stage 1

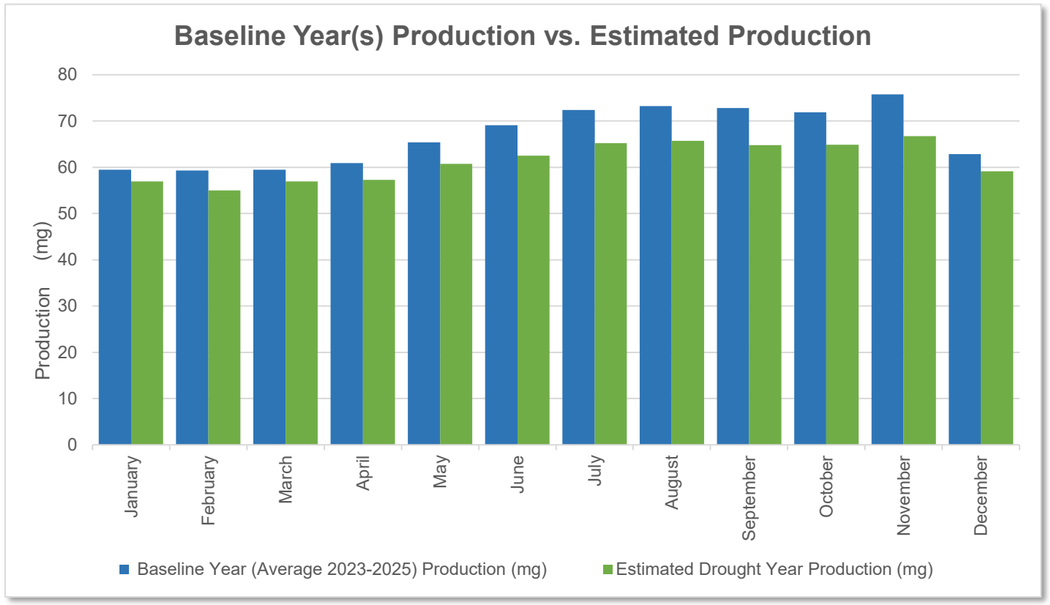
North Coast County Water District

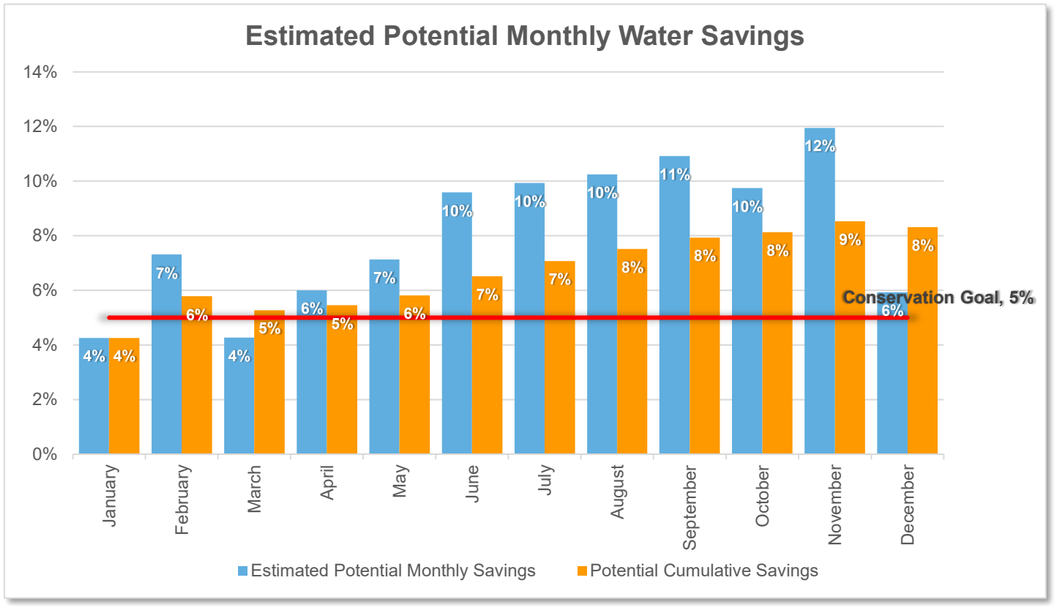
Estimated Monthly Water Use and Savings Summary

Units: (mg)

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 (Average 2023-2025) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	59	57	4%	4%	5%	
February	59	55	7%	6%	5%	
March	60	57	4%	5%	5%	
April	61	57	6%	5%	5%	
May	65	61	7%	6%	5%	
June	69	62	10%	7%	5%	
July	72	65	10%	7%	5%	
August	73	66	10%	8%	5%	
September	73	65	11%	8%	5%	
October	72	65	10%	8%	5%	
November	76	67	12%	9%	5%	
December	63	59	6%	8%	5%	



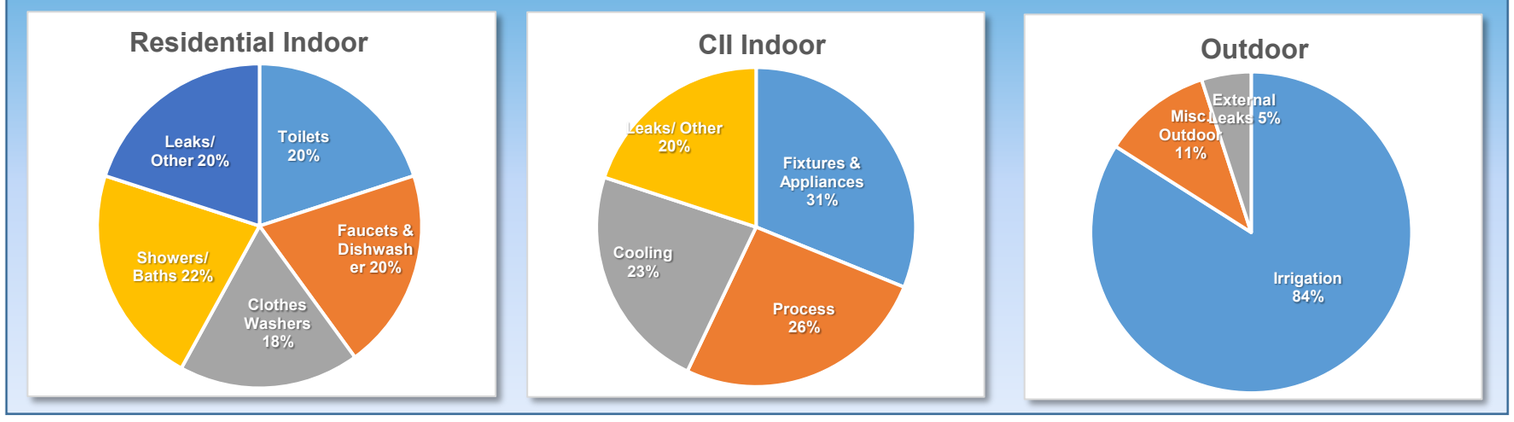


4 - Drought Response Actions - 2

North Coast County Water District

Maximum Savings Potential		
Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.		
Minimum Residential Indoor GPCD	25	R-GPCD
January 1900	100%	of Baseline Residential Outdoor Water Use
January 1900	30%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	75%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	75%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
Resulting Total Maximum Annual Savings Potential	**44%**	of Total Baseline Production

Assumed Proportion of Water Use by End Uses and Sector



4 - Drought Response Actions - 2

North Coast County Water District

Drought Response Actions

Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (--) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.

Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
► **Possible Mandatory Prohibitions**	All Outdoor	☑	14%	**75%**	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	☐			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	☐	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	☐	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	☐	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	☐	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	☐			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	☐			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	☐	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--

4 - Drought Response Actions - 2

North Coast County Water District

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
► Agency Drought Actions / Restrictions						
► Agency Actions						
Media Campaign, Newspaper Articles, Website	All	☑	0.5%	**75%**	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	☑		**75%**	--	--
Water Efficiency Workshops, Public Events	All	☑	0.5%	25%	EBMUD, 2011	--
Water Bill Inserts	All	☑	0.5%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	☑	100%	**5%**	--	--
Home or Mobile Water Use Reports	All	☑	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	☑	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	☑	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	☐	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	☐	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	☐			--	--
Moratorium on New Connections	All	☐			--	--
Move to Monthly Metering / Billing	All	☐	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	☑			--	--
Establish Drought Hotline	All	☐			--	--
Reduce Distribution System Pressures	Non Revenue Water	☐	4.5%	100%	CUWCC, 2010; DWR, 2015	--
► Dedicated Irrigation						
Conduct Irrigation Account Surveys	Irrigation	☑	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☑	79%	**90%**		
Prohibit use of Potable Water for Irrigation	Irrigation	☐	100%	50%		
Require Repair of all Leaks within 24 hours	External Leaks	☐	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	☐	25%	50%	--	--
Establish Water Budget - 50% Reduction	Irrigation	☐	50%	50%	--	--
Establish Water Budget - 75% Reduction	Irrigation	☐	**25%**	**90%**	--	--

4 - Drought Response Actions - 2

North Coast County Water District

Drought Response Actions						
Action Description	**End Use(s)**	**Implement Program**	**End Use Savings (%)**	**Implementation Rate**	**Source of Default Savings Estimate**	**Source of Default Implementation Rate**
► Agency Drought Actions / Restrictions						
► Residential						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☑	79%	**90%**		
Prohibit use of Potable Water for Irrigation	Irrigation	☐	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☑	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	☑	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	☑	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	☐	**20%**	**95%**	--	--
Establish Water Budget - 20% Reduction	All Residential Uses	☐	20%	50%	--	--
► CII						
Conduct CII Surveys Targeting High Water Users	All CII uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☑	79%	**90%**		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	☑		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	☐	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☑	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	☑	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	☐	10%	**90%**	--	--
Establish Water Budget - 20% Reduction	All CII uses	☐	20%	50%	--	--
Establish Water Budget - 30% Reduction	All CII uses	☐	30%	50%	--	--

4 - Drought Response Actions - 2

North Coast County Water District

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
▶ **Residential Customer Actions to Encourage**						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	☐			--	--
Install a Water-Efficient Showerhead	Showers/Baths	☐			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	☐			--	--
Fill the Bathtub Halfway	Showers/Baths	☐			--	--
Wash Only Full Loads of Clothes	Clothes Washers	☐			--	--
Install a High-Efficiency Toilet	Toilets	☐			--	--
Take Shorter Showers	Showers/Baths	☐			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	☐			--	--
Reduce Outdoor Irrigation	Irrigation	☐			--	--
Install Drip-Irrigation	Irrigation	☐			--	--
Use Mulch	Irrigation	☐			--	--
Plant Drought Resistant Trees and Plants	Irrigation	☐			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	☐			--	--
Flush Less Frequently	Toilets	☐			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	☐			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	☐			--	--

5 - Estimated Water Savings - 2

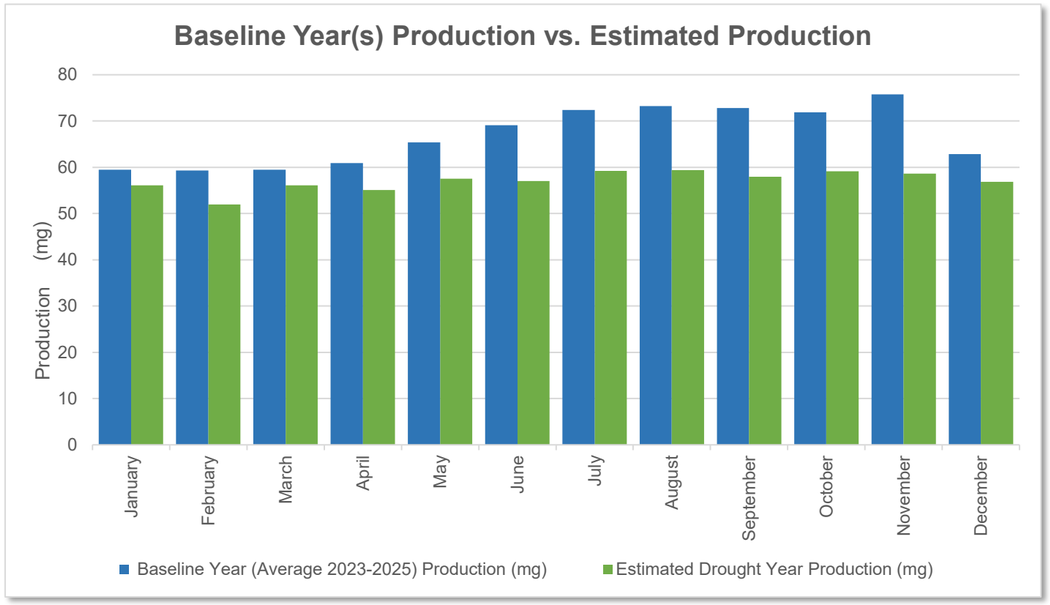
North Coast County Water District

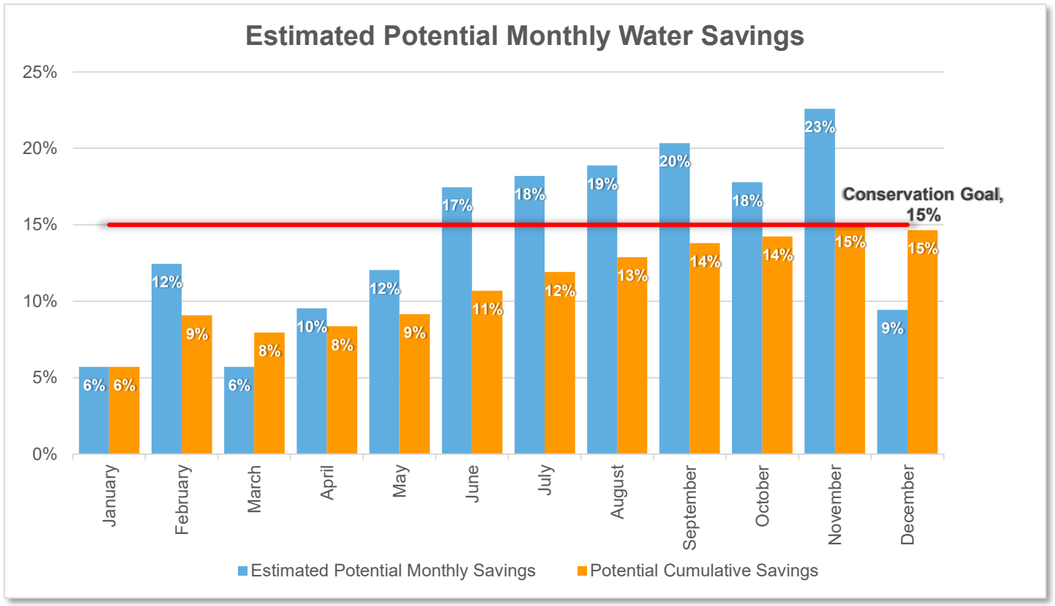
Estimated Monthly Water Use and Savings Summary

Units: (mg)

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 (Average 2023-2025) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	59	56	6%	6%	15%	
February	59	52	12%	9%	15%	
March	60	56	6%	8%	15%	
April	61	55	10%	8%	15%	
May	65	58	12%	9%	15%	
June	69	57	17%	11%	15%	
July	72	59	18%	12%	15%	
August	73	59	19%	13%	15%	
September	73	58	20%	14%	15%	
October	72	59	18%	14%	15%	
November	76	59	23%	15%	15%	
December	63	57	9%	15%	15%	



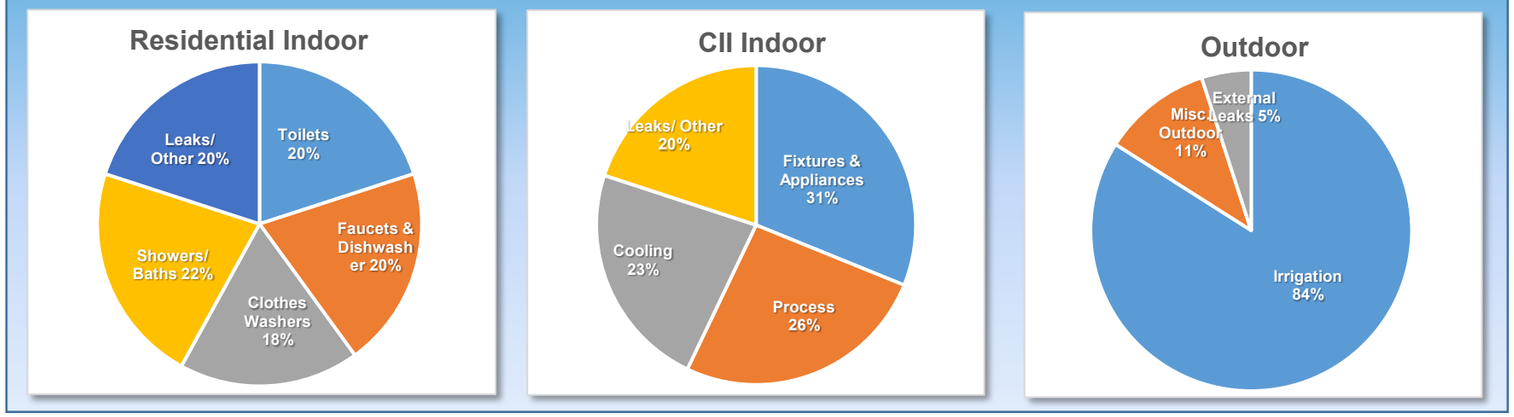


4 - Drought Response Actions - 3

North Coast County Water District

Maximum Savings Potential		
Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.		
Minimum Residential Indoor GPCD	25	R-GPCD
January 1900	100%	of Baseline Residential Outdoor Water Use
January 1900	30%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	75%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	75%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
Resulting Total Maximum Annual Savings Potential	**44%**	of Total Baseline Production

Assumed Proportion of Water Use by End Uses and Sector



4 - Drought Response Actions - 3

North Coast County Water District

Drought Response Actions

Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (--) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.

Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
► **Possible Mandatory Prohibitions**	All Outdoor	☑	14%	**75%**	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	☐			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	☐	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	☐	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	☐	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	☐	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	☐			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	☐			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	☐	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--

4 - Drought Response Actions - 3

North Coast County Water District

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
► **Agency Drought Actions / Restrictions**						
► **Agency Actions**						
Media Campaign, Newspaper Articles, Website	All	☑	0.5%	50%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	☑		50%	--	--
Water Efficiency Workshops, Public Events	All	☑	0.5%	25%	EBMUD, 2011	--
Water Bill Inserts	All	☑	0.5%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	☑	100%		--	--
Home or Mobile Water Use Reports	All	☑	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	☑	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	☑	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	☐	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	☐	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	☐			--	--
Moratorium on New Connections	All	☑			--	--
Move to Monthly Metering / Billing	All	☐	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	☑			--	--
Establish Drought Hotline	All	☐			--	--
Reduce Distribution System Pressures	Non Revenue Water	☐	4.5%	100%	CUWCC, 2010; DWR, 2015	--
► **Dedicated Irrigation**						
Conduct Irrigation Account Surveys	Irrigation	☑	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	79%	**90%**		
Prohibit use of Potable Water for Irrigation	Irrigation	☑	100%	50%		
Require Repair of all Leaks within 24 hours	External Leaks	☐	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	☐	25%	50%	--	--
Establish Water Budget - 50% Reduction	Irrigation	☐	50%	50%	--	--
Establish Water Budget - 75% Reduction	Irrigation	☑	75%	**90%**	--	--

4 - Drought Response Actions - 3

North Coast County Water District

Drought Response Actions						
Action Description	**End Use(s)**	**Implement Program**	**End Use Savings (%)**	**Implementation Rate**	**Source of Default Savings Estimate**	**Source of Default Implementation Rate**
► Agency Drought Actions / Restrictions						
► Residential						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	79%	90%		
Prohibit use of Potable Water for Irrigation	Irrigation	☑	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☑	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	☑	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	☑	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	☑	**30%**	**90%**	--	--
Establish Water Budget - 20% Reduction	All Residential Uses	☐	20%	50%	--	--
► CII						
Conduct CII Surveys Targeting High Water Users	All CII uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☑	79%	50%		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	☑		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	☐	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☑	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	☑	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	☑	**15%**	**80%**	--	--
Establish Water Budget - 20% Reduction	All CII uses	☐	20%	50%	--	--
Establish Water Budget - 30% Reduction	All CII uses	☐	30%	50%	--	--

4 - Drought Response Actions - 3

North Coast County Water District

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
▶ **Residential Customer Actions to Encourage**						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	☐			--	--
Install a Water-Efficient Showerhead	Showers/Baths	☐			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	☐			--	--
Fill the Bathtub Halfway	Showers/Baths	☐			--	--
Wash Only Full Loads of Clothes	Clothes Washers	☐			--	--
Install a High-Efficiency Toilet	Toilets	☐			--	--
Take Shorter Showers	Showers/Baths	☐			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	☐			--	--
Reduce Outdoor Irrigation	Irrigation	☐			--	--
Install Drip-Irrigation	Irrigation	☐			--	--
Use Mulch	Irrigation	☐			--	--
Plant Drought Resistant Trees and Plants	Irrigation	☐			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	☐			--	--
Flush Less Frequently	Toilets	☐			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	☐			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	☐			--	--

5 - Estimated Water Savings - 3

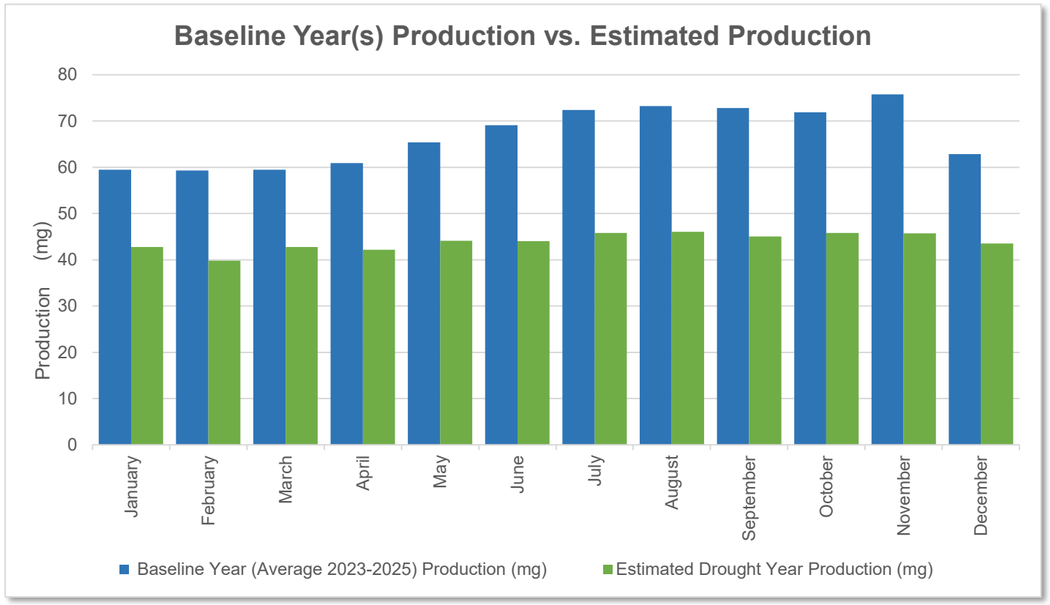
North Coast County Water District

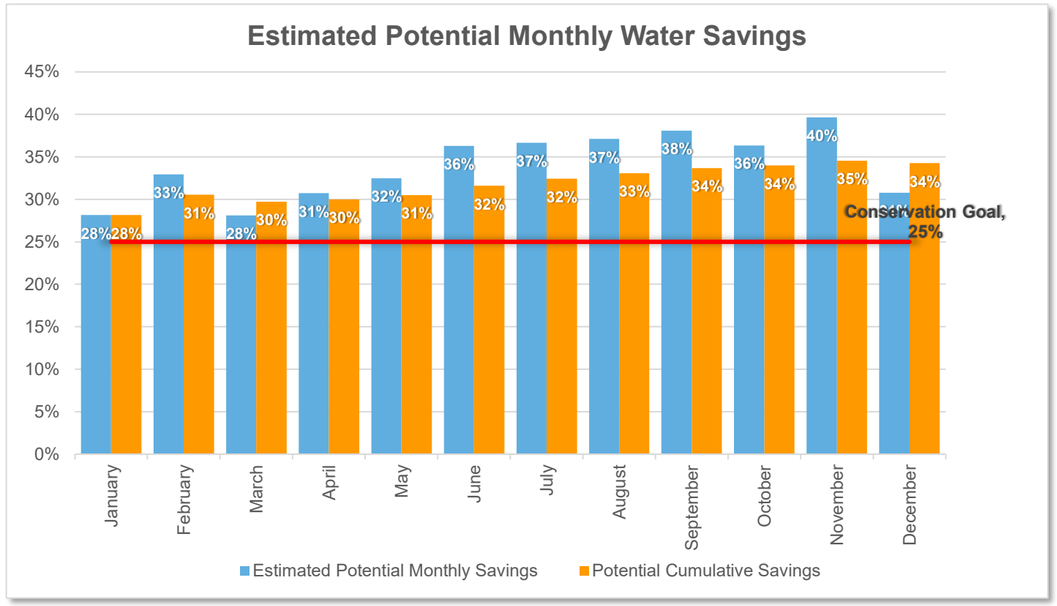
Estimated Monthly Water Use and Savings Summary

Units: (mg)

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 (Average 2023-2025) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	59	43	28%	28%	25%	
February	59	40	33%	31%	25%	
March	60	43	28%	30%	25%	
April	61	42	31%	30%	25%	
May	65	44	32%	31%	25%	
June	69	44	36%	32%	25%	
July	72	46	37%	32%	25%	
August	73	46	37%	33%	25%	
September	73	45	38%	34%	25%	
October	72	46	36%	34%	25%	
November	76	46	40%	35%	25%	
December	63	43	31%	34%	25%	



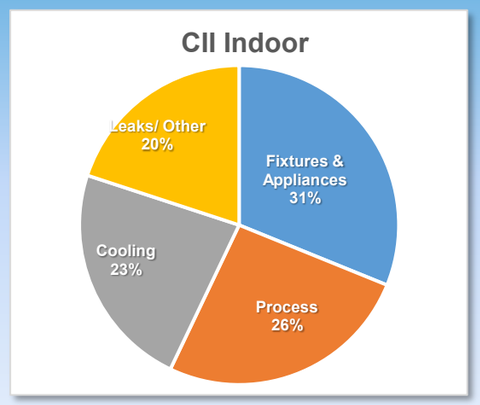


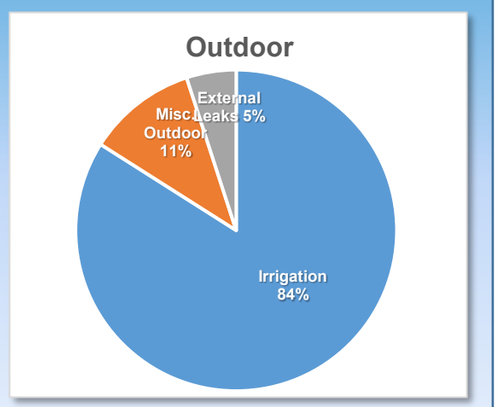
4 - Drought Response Actions - Stage 4

North Coast County Water District

Maximum Savings Potential		
Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.		
Minimum Residential Indoor GPCD	25	R-GPCD
Maximum Residential Outdoor Savings	75%	of Baseline Residential Outdoor Water Use
Maximum CII Indoor Savings	50%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	75%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	100%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
Resulting Total Maximum Annual Savings Potential	**45%**	of Total Baseline Production

Assumed Proportion of Water Use by End Uses and Sector





4 - Drought Response Actions - Stage 4

North Coast County Water District

Drought Response Actions

Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (--) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.

Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
► **Possible Mandatory Prohibitions**	All Outdoor	☑	14%	**75%**	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	☐			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	☐	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	☐	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	☐	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	☐	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	☐			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	☐			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	☐	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--

4 - Drought Response Actions - Stage 4

North Coast County Water District

Drought Response Actions						
Action Description	**End Use(s)**	**Implement Program**	**End Use Savings (%)**	**Implementation Rate**	**Source of Default Savings Estimate**	**Source of Default Implementation Rate**
► Agency Drought Actions / Restrictions						
► Agency Actions						
Media Campaign, Newspaper Articles, Website	All	☑	0.5%	50%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	☑		50%	--	--
Water Efficiency Workshops, Public Events	All	☑	0.5%	25%	EBMUD, 2011	--
Water Bill Inserts	All	☑	0.5%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	☑	100%		--	--
Home or Mobile Water Use Reports	All	☑	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	☑	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	☑	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	☐	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	☐	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	☐			--	--
Moratorium on New Connections	All	☑			--	--
Move to Monthly Metering / Billing	All	☑	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	☑			--	--
Establish Drought Hotline	All	☐			--	--
Reduce Distribution System Pressures	Non Revenue Water	☐	4.5%	100%	CUWCC, 2010; DWR, 2015	--
► Dedicated Irrigation						
Conduct Irrigation Account Surveys	Irrigation	☑	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	☑	100%	50%		
Require Repair of all Leaks within 24 hours	External Leaks	☐	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	☐	25%	50%	--	--
Establish Water Budget - 50% Reduction	Irrigation	☐	50%	50%	--	--
Establish Water Budget - 75% Reduction	Irrigation	☑	75%	**90%**	--	--

4 - Drought Response Actions - Stage 4

North Coast County Water District

Drought Response Actions						
Action Description	**End Use(s)**	**Implement Program**	**End Use Savings (%)**	**Implementation Rate**	**Source of Default Savings Estimate**	**Source of Default Implementation Rate**
► Agency Drought Actions / Restrictions						
► Residential						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	☑	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☑	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	☑	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	☑	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	☑	**40%**	**90%**	--	--
Establish Water Budget - 20% Reduction	All Residential Uses	☐	20%	50%	--	--
► CII						
Conduct CII Surveys Targeting High Water Users	All CII uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☑	79%	50%		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	☑		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	☐	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☑	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	☑	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	☑	**40%**	**90%**	--	--
Establish Water Budget - 20% Reduction	All CII uses	☐	20%	50%	--	--
Establish Water Budget - 30% Reduction	All CII uses	☐	30%	50%	--	--

4 - Drought Response Actions - Stage 4

North Coast County Water District

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
▶ **Residential Customer Actions to Encourage**						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	☐			--	--
Install a Water-Efficient Showerhead	Showers/Baths	☐			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	☐			--	--
Fill the Bathtub Halfway	Showers/Baths	☐			--	--
Wash Only Full Loads of Clothes	Clothes Washers	☐			--	--
Install a High-Efficiency Toilet	Toilets	☐			--	--
Take Shorter Showers	Showers/Baths	☐			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	☐			--	--
Reduce Outdoor Irrigation	Irrigation	☐			--	--
Install Drip-Irrigation	Irrigation	☐			--	--
Use Mulch	Irrigation	☐			--	--
Plant Drought Resistant Trees and Plants	Irrigation	☐			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	☐			--	--
Flush Less Frequently	Toilets	☐			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	☐			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	☐			--	--

5 - Estimated Water Savings - Stage 4

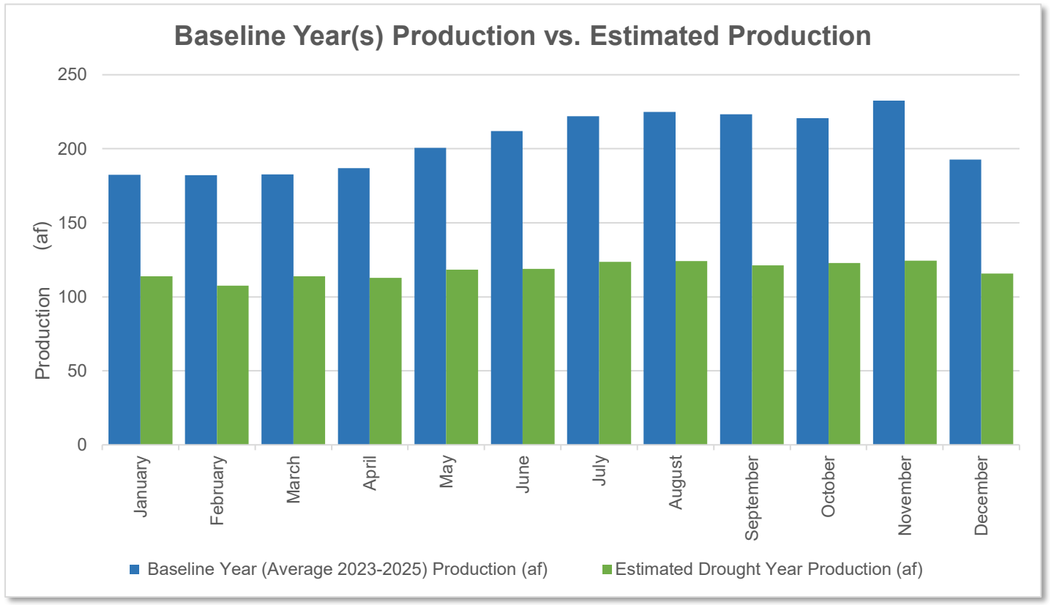
North Coast County Water District

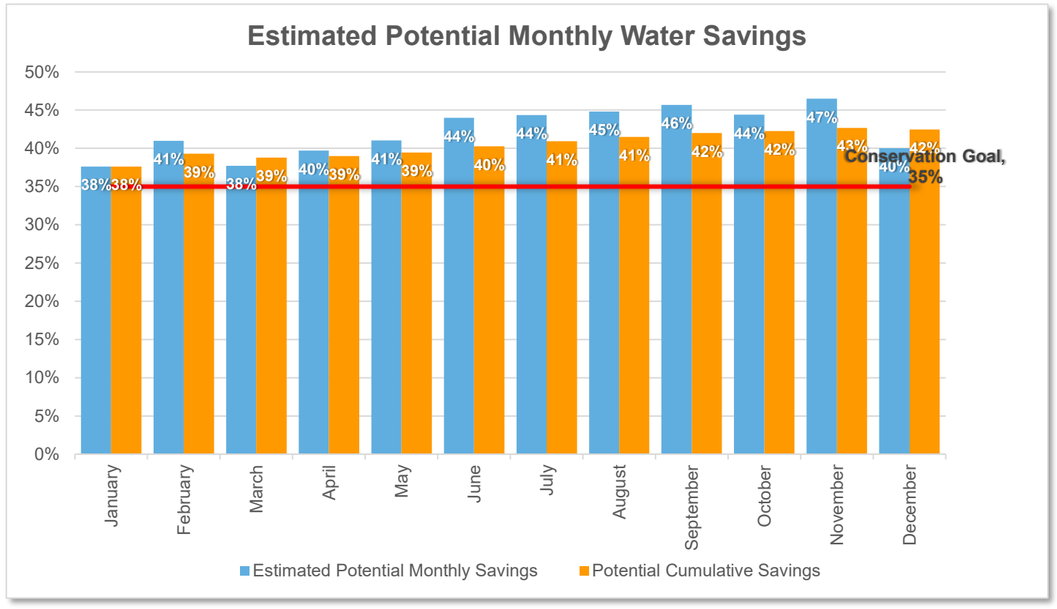
Estimated Monthly Water Use and Savings Summary

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 (Average 2023-2025) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	183	114	38%	38%	35%	
February	182	107	41%	39%	35%	
March	183	114	38%	39%	35%	
April	187	113	40%	39%	35%	
May	201	118	41%	39%	35%	
June	212	119	44%	40%	35%	
July	222	124	44%	41%	35%	
August	225	124	45%	41%	35%	
September	223	121	46%	42%	35%	
October	221	123	44%	42%	35%	
November	232	124	47%	43%	35%	
December	193	116	40%	42%	35%	



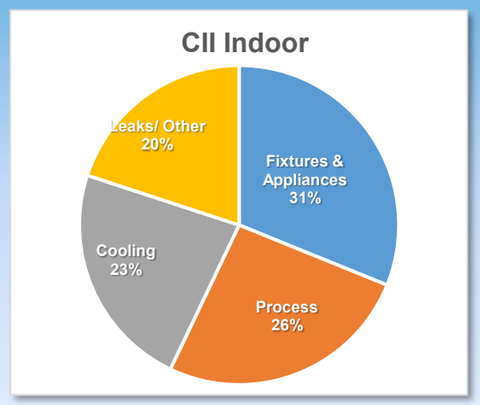


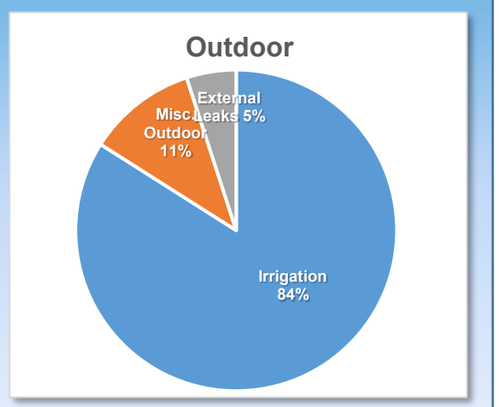
4 - Drought Response Actions - Stage 5

North Coast County Water District

Maximum Savings Potential		
Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.		
Minimum Residential Indoor GPCD	24	R-GPCD
Maximum Residential Outdoor Savings	100%	of Baseline Residential Outdoor Water Use
Maximum CII Indoor Savings	100%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	100%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	100%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
Resulting Total Maximum Annual Savings Potential	**55%**	of Total Baseline Production

Assumed Proportion of Water Use by End Uses and Sector





4 - Drought Response Actions - Stage 5

North Coast County Water District

Drought Response Actions

Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (--) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.

Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
► **Possible Mandatory Prohibitions**	All Outdoor	☑	14%	**75%**	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	☐			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	☐	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	☐	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	☐	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	☐	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	☐			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	☐			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	☐	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--

4 - Drought Response Actions - Stage 5

North Coast County Water District

Drought Response Actions						
Action Description	**End Use(s)**	**Implement Program**	**End Use Savings (%)**	**Implementation Rate**	**Source of Default Savings Estimate**	**Source of Default Implementation Rate**
► Agency Drought Actions / Restrictions						
► Agency Actions						
Media Campaign, Newspaper Articles, Website	All	☑	0.5%	50%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	☑		50%	--	--
Water Efficiency Workshops, Public Events	All	☑	0.5%	25%	EBMUD, 2011	--
Water Bill Inserts	All	☑	0.5%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	☑	100%		--	--
Home or Mobile Water Use Reports	All	☑	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	☑	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	☑	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	☐	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	☐	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	☐			--	--
Moratorium on New Connections	All	☑			--	--
Move to Monthly Metering / Billing	All	☑	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	☑			--	--
Establish Drought Hotline	All	☐			--	--
Reduce Distribution System Pressures	Non Revenue Water	☐	4.5%	100%	CUWCC, 2010; DWR, 2015	--
► Dedicated Irrigation						
Conduct Irrigation Account Surveys	Irrigation	☑	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	**100%**	**100%**		
Prohibit use of Potable Water for Irrigation	Irrigation	☑	100%	50%		
Require Repair of all Leaks within 24 hours	External Leaks	☐	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	☐	25%	50%	--	--
Establish Water Budget - 50% Reduction	Irrigation	☐	50%	50%	--	--
Establish Water Budget - 75% Reduction	Irrigation	☑	**100%**	**100%**	--	--

4 - Drought Response Actions - Stage 5

North Coast County Water District

Drought Response Actions						
Action Description	**End Use(s)**	**Implement Program**	**End Use Savings (%)**	**Implementation Rate**	**Source of Default Savings Estimate**	**Source of Default Implementation Rate**
► Agency Drought Actions / Restrictions						
► Residential						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	☑	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☑	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	☑	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	☑	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	☑	**40%**	**95%**	--	--
Establish Water Budget - 20% Reduction	All Residential Uses	☐	20%	50%	--	--
► CII						
Conduct CII Surveys Targeting High Water Users	All CII uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☑	79%	50%		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	☑		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	☐	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☑	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	☑	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	☑	**85%**	**90%**	--	--
Establish Water Budget - 20% Reduction	All CII uses	☐	20%	50%	--	--
Establish Water Budget - 30% Reduction	All CII uses	☐	30%	50%	--	--

4 - Drought Response Actions - Stage 5

North Coast County Water District

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
▶ **Residential Customer Actions to Encourage**						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	☐			--	--
Install a Water-Efficient Showerhead	Showers/Baths	☐			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	☐			--	--
Fill the Bathtub Halfway	Showers/Baths	☐			--	--
Wash Only Full Loads of Clothes	Clothes Washers	☐			--	--
Install a High-Efficiency Toilet	Toilets	☐			--	--
Take Shorter Showers	Showers/Baths	☐			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	☐			--	--
Reduce Outdoor Irrigation	Irrigation	☐			--	--
Install Drip-Irrigation	Irrigation	☐			--	--
Use Mulch	Irrigation	☐			--	--
Plant Drought Resistant Trees and Plants	Irrigation	☐			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	☐			--	--
Flush Less Frequently	Toilets	☐			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	☐			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	☐			--	--

5 - Estimated Water Savings - Stage 5

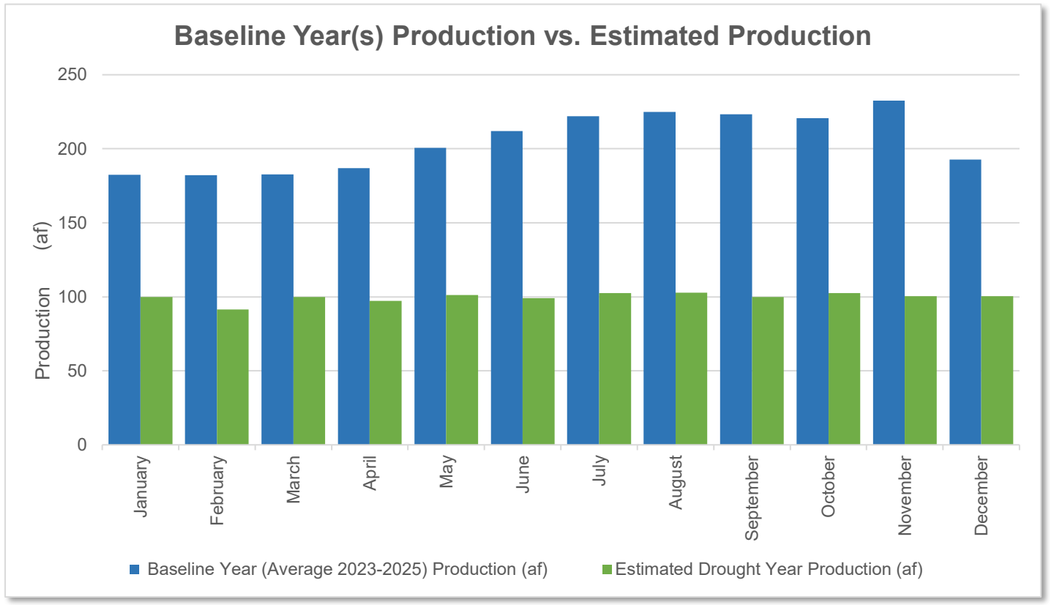
North Coast County Water District

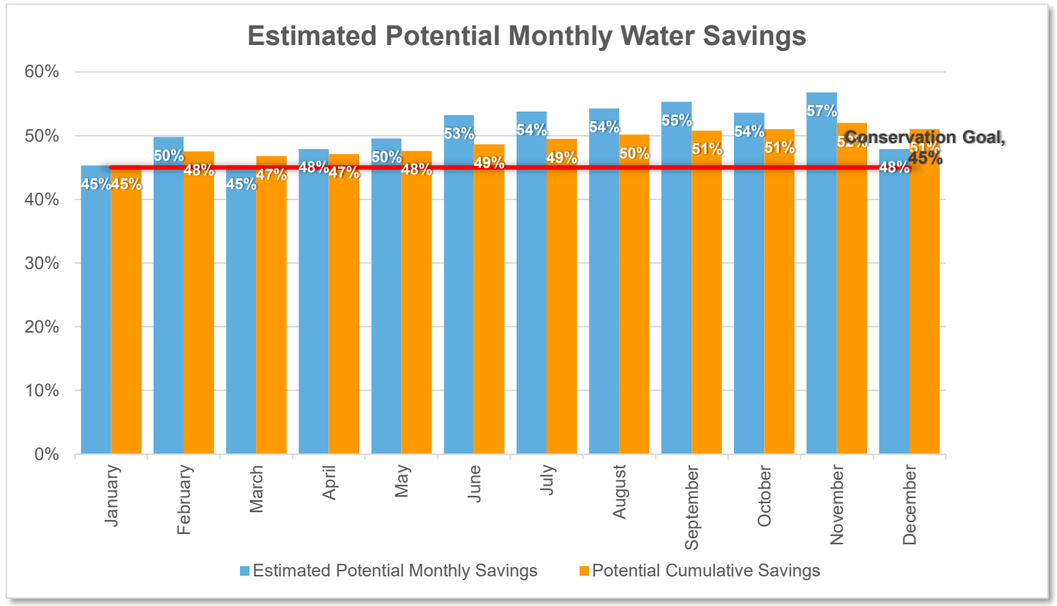
Estimated Monthly Water Use and Savings Summary

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 (Average 2023-2025) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	183	100	45%	45%	45%	
February	182	91	50%	48%	45%	
March	183	100	45%	47%	45%	
April	187	97	48%	47%	45%	
May	201	101	50%	48%	45%	
June	212	99	53%	49%	45%	
July	222	103	54%	49%	45%	
August	225	103	54%	50%	45%	
September	223	100	55%	51%	45%	
October	221	102	54%	51%	45%	
November	232	101	57%	52%	45%	
December	193	100	48%	51%	45%	



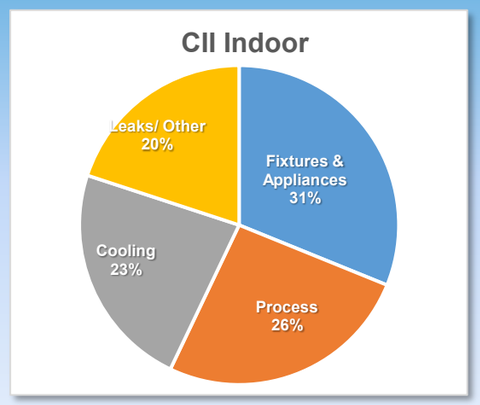


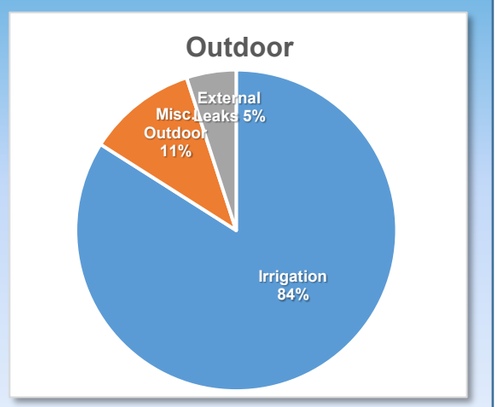
4 - Drought Response Actions - Stage 6

North Coast County Water District

Maximum Savings Potential		
Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.		
Minimum Residential Indoor GPCD	22	R-GPCD
Maximum Residential Outdoor Savings	100%	of Baseline Residential Outdoor Water Use
Maximum CII Indoor Savings	100%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	100%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	100%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
Resulting Total Maximum Annual Savings Potential	**59%**	of Total Baseline Production

Assumed Proportion of Water Use by End Uses and Sector





4 - Drought Response Actions - Stage 6

North Coast County Water District

Drought Response Actions

Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (--) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.

Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
► **Possible Mandatory Prohibitions**	All Outdoor	☑	14%	**75%**	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	☐			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	☐	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	☐	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	☐	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	☐	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	☐			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	☐			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	☐	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	☐	0.5%	50%	EBMUD, 2011	--

4 - Drought Response Actions - Stage 6

North Coast County Water District

Drought Response Actions						
Action Description	**End Use(s)**	**Implement Program**	**End Use Savings (%)**	**Implementation Rate**	**Source of Default Savings Estimate**	**Source of Default Implementation Rate**
► Agency Drought Actions / Restrictions						
► Agency Actions						
Media Campaign, Newspaper Articles, Website	All	☑	0.5%	50%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	☑		50%	--	--
Water Efficiency Workshops, Public Events	All	☑	0.5%	25%	EBMUD, 2011	--
Water Bill Inserts	All	☑	0.5%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	☑	100%		--	--
Home or Mobile Water Use Reports	All	☑	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	☑	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	☑	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	☐	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	☐	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	☐			--	--
Moratorium on New Connections	All	☑			--	--
Move to Monthly Metering / Billing	All	☑	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	☑			--	--
Establish Drought Hotline	All	☐			--	--
Reduce Distribution System Pressures	Non Revenue Water	☐	4.5%	100%	CUWCC, 2010; DWR, 2015	--
► Dedicated Irrigation						
Conduct Irrigation Account Surveys	Irrigation	☑	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	☑	100%	50%		
Require Repair of all Leaks within 24 hours	External Leaks	☐	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	☐	25%	50%	--	--
Establish Water Budget - 50% Reduction	Irrigation	☐	50%	50%	--	--
Establish Water Budget - 75% Reduction	Irrigation	☑	**100%**	**100%**	--	--

4 - Drought Response Actions - Stage 6

North Coast County Water District

Drought Response Actions						
Action Description	**End Use(s)**	**Implement Program**	**End Use Savings (%)**	**Implementation Rate**	**Source of Default Savings Estimate**	**Source of Default Implementation Rate**
► Agency Drought Actions / Restrictions						
► Residential						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	☑	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☐	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	☑	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	☑	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 50% Reduction	All Residential Uses	☑	**40%**	**100%**	--	--
Establish Water Budget - 20% Reduction	All Residential Uses	☐	20%	50%	--	--
► CII						
Conduct CII Surveys Targeting High Water Users	All CII uses	☑	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	☐	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	☑	79%	50%		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	☑		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	☐	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	☐	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	☑	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	☑	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	☑	**90%**	**90%**	--	--
Establish Water Budget - 20% Reduction	All CII uses	☐	20%	50%	--	--
Establish Water Budget - 30% Reduction	All CII uses	☐	30%	50%	--	--

4 - Drought Response Actions - Stage 6

North Coast County Water District

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
▶ **Residential Customer Actions to Encourage**						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	☐			--	--
Install a Water-Efficient Showerhead	Showers/Baths	☐			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	☐			--	--
Fill the Bathtub Halfway	Showers/Baths	☐			--	--
Wash Only Full Loads of Clothes	Clothes Washers	☐			--	--
Install a High-Efficiency Toilet	Toilets	☐			--	--
Take Shorter Showers	Showers/Baths	☐			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	☐			--	--
Reduce Outdoor Irrigation	Irrigation	☐			--	--
Install Drip-Irrigation	Irrigation	☐			--	--
Use Mulch	Irrigation	☐			--	--
Plant Drought Resistant Trees and Plants	Irrigation	☐			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	☐			--	--
Flush Less Frequently	Toilets	☐			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	☐			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	☐			--	--

5 - Estimated Water Savings - Stage 6

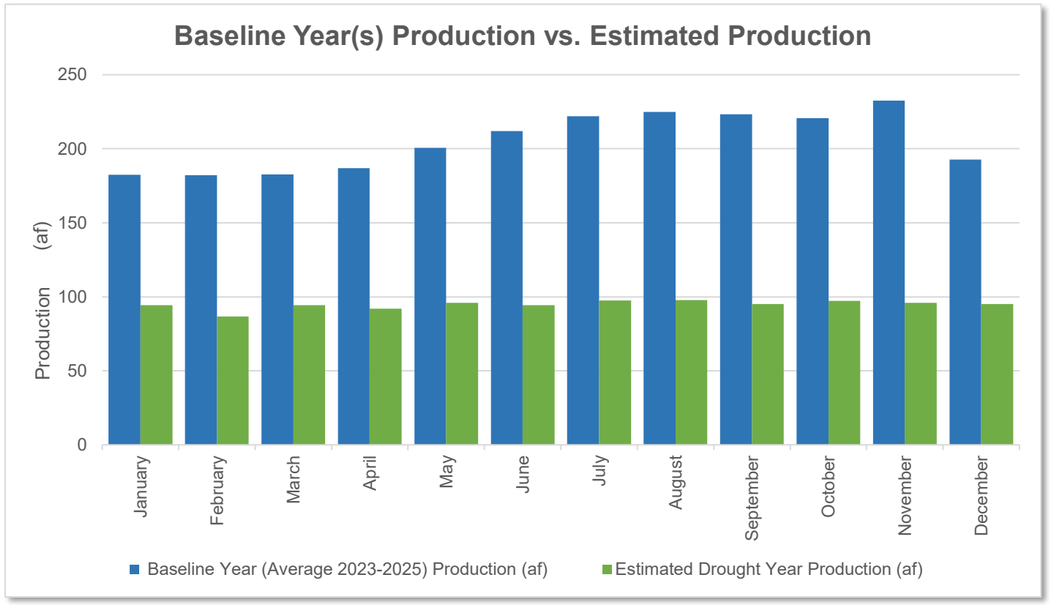
North Coast County Water District

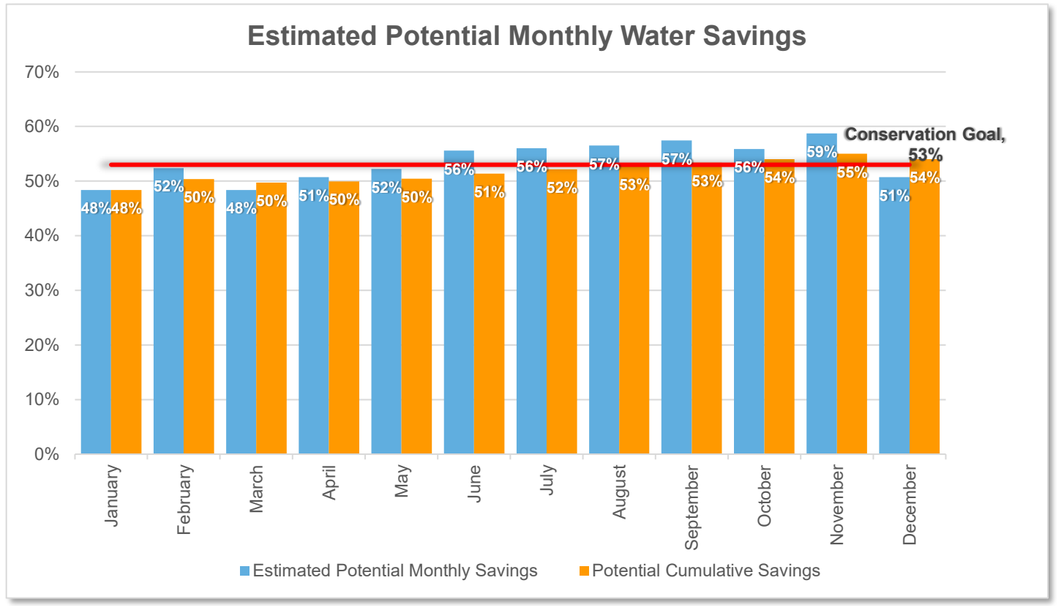
Estimated Monthly Water Use and Savings Summary

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 (Average 2023-2025) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	183	94	48%	48%	53%	
February	182	87	52%	50%	53%	
March	183	94	48%	50%	53%	
April	187	92	51%	50%	53%	
May	201	96	52%	50%	53%	
June	212	94	56%	51%	53%	
July	222	98	56%	52%	53%	
August	225	98	57%	53%	53%	
September	223	95	57%	53%	53%	
October	221	97	56%	54%	53%	
November	232	96	59%	55%	53%	
December	193	95	51%	54%	53%	





Attachment 3: SFPUC Emergency Response Procedures

SECTION 10 PREPARATION FOR CATASTROPHIC SUPPLY INTERRUPTION

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

10.1 EMERGENCY PREPAREDNESS PLANS

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

In addition, the SFPUC's enterprises each have their own emergency plans (in alignment with the SFPUC EOP), which detail that entity's specific emergency management organization, roles and responsibilities, emergency policies and procedures, and response to hazardous events (e.g., hazardous materials, power interruption, etc.). In 2025, the SFPUC developed a Water Emergency Operations Plan (Water EOP) to comply with the America's Water Infrastructure Act passed in 2018. The Water EOP integrates directly into, and functions as an annex to, the SFPUC EOP. The Water EOP addresses SFPUC water transmission and distribution systems and identifies the agency's enterprises, divisions, and bureaus with direct roles and responsibilities for those systems. The SFPUC EOP functions as a front end for the SFPUC's enterprise EOPs, covering emergency response at the department level, while each enterprise EOP covers enterprise-specific information on the enterprise's emergency organization and response procedures specific to enterprise responsibilities, assets, technical scope, and operations.

The SFPUC exercises its EOPs on a regular basis by conducting emergency exercises and 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

10.2 EMERGENCY DRINKING WATER PLANNING

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

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

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

10.3 POWER OUTAGE PREPAREDNESS AND RESPONSE

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

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

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

10.4 SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

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

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

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

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

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

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

- **EBMUD-Hayward-SFPUC Emergency Intertie:** An intertie that may transfer up to 30 MGD among East Bay Municipal Utility District (EBMUD), the City of Hayward (an SFPUC Wholesale Customer), and SFPUC to boost water supply reliability during emergencies. EBMUD and the SFPUC own these facilities jointly, while the City of Hayward maintains and operates them in coordination with EBMUD and the SFPUC.
- **SFPUC-Valley Water Intertie:** The SFPUC and Valley Water maintain a 40-MGD intertie between their two systems at Milpitas to exchange water during emergencies and planned maintenance (as mentioned in Section 10.3). The intertie has been used on several occasions during maintenance of Valley Water's system.
- **South Bay Aqueduct Intertie:** An intertie connecting the South Bay Aqueduct and the SFPUC's San Antonio Reservoir that the SFPUC used in 1991-1992 for a two-year water transfer. The SFPUC may upgrade this intertie to receive State Water Project water in the event of a future emergency.

The WSIP also includes projects related to standby power facilities at various locations. These projects provide 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 also has a Hazards and Climate Resilience Plan which was last updated in July 2025, see www.onesanfrancisco.org/hazards-and-climate-resilience-plan. This plan is a roadmap to 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.

Attachment 4: North Coast County Water District Hazard Mitigation Plan

29. NORTH COAST COUNTY WATER DISTRICT

29.1 LOCAL HAZARD MITIGATION PLANNING TEAM

Primary Point of Contact
Adrianne Carr, General Manager
2400 Francisco Blvd.
Pacifica, CA 94044
650-355-3462
acarr@nccwd.com

Alternate Point of Contact
Scott Dalton, Asst. General Manager - Operations
2400 Francisco Blvd.
Pacifica, CA 94044
650-355-3462
sdalton@nccwd.com

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 29-1.

Table 29-1. Local Mitigation Planning Team Members

Name	Title
Adrianne Carr	General Manager
Scott Dalton	Asst. General Manager - Operations
Mary McLoughlin	Management Analyst
Stephanie Dalton	Management Analyst
Norm Regnart	Plant Supervisor

29.2 JURISDICTION PROFILE

29.2.1 Overview

The North Coast County Water District is a special district created in 1944 to provide potable water service to the coastal area south of the City of Daly City, west of the City of South San Francisco and City of San Bruno, and north of the City of Montara. The District began with the acceptance, from the County of San Mateo, of the assets and operation of Salada Beach Public Utility District; the District's designated service area expanded throughout the years with the acquisition of Vallemar County Water District, San Pedro Water System, and the Sharp Park Sanitary District. The District also acquired land by purchase or otherwise acquiring the land from private landowners. Later, in 1957, the City of Pacifica incorporated 9 unincorporated communities which coincided primarily with the North Coast County Water District's service area.

Presently, the District is one of the San Francisco Public Utilities Commission's twenty-seven wholesale customers and receives approximately 2,700 acre-feet of water deliveries annually, or 2.4 million gallons per day. This water is conveyed through a distribution system containing approximately 132 miles of pipelines ranging from 2-inches to 24-inches in diameter. The District operates 5 pump stations, 12 storage tanks, and 61 pressure

regulating stations separating, but linking together, the 31 pressure zones. Pursuant to 22 CCR 64413.3 and the Water Supply Permit, the District is classified as a D4 distribution system.

The North Coast County Water District also operates a small, recycled water system with 1 pump station, 1 tank and 7 service connections (e.g., City of Pacifica, Jefferson Union High School District, Pacifica School District, Caltrans). The District has opened a Residential Recycled Water Fill Station for residents to fill up to a 55-gallon container with recycled water for watering their gardens.

A five-member elected Board of Directors governs the District. The district currently employs a staff of 20.

The Board of Directors assumes responsibility for the adoption of this plan; the General Manager will oversee its implementation.

29.2.2 Service Area

The District serves a population of 38,331. Its service area covers 8,019 acres in City of Pacifica plus 606 acres of unincorporated land south of the City, extending up the slope of San Pedro Mountain.

The current total service area is 8,625 acres. As of January 1, 2021, the district serves 12,261 water connections.

29.2.3 Assets

Table 29-2 summarizes the assets of the district and their value.

Table 29-2. Special Purpose District Assets

Asset	Value
Property	
San Pedro Valley Park (Watershed)—513+/- Acres	$26,500,000
2400 Francisco Blvd: APN: 016-322-230—0.79 Acres	$316,000
Milagra Site: APN: 016-460-0030—17.83 Acres	$7,132,000
Sharp Park Tank Site: APN: 017-470120—0.30 Acres	$120,000
Gypsy Hill Tank Site: APN: 016-442-03—3.10 Acres	$1,240,000
Royce Tank Site: APN: 022-150-370—3.09 Acres	$1,236,000
Vallemar Tank Site: APN: 018-160-020—0.24 Acres	$96,000
Christen Hill Tank Site: APN: 009-610-060—1.00 Acres	$400,000
Hickey Tank Site: APN: 009-570-440—0.25 Acres	$100,000
Park Pacifica Site: APN: 023-622-440—0.82 Acres	$328,000
Sheila Tank Site APN: 023-110-010—1.00 Acres	$400,000
Tapis Tank Site: APN: 023-110-050—0.40 Acres	$160,000
Fassler Tank Site APN: 022-330-070—0.50 Acres	$200,000
Skyline Intertie: APN: 009-320-170—0.25 Acres	$100,000
Total:	***$38,328,000***
Critical Infrastructure and Equipment	
Milagra Tank (5MG)	$5,000,000
Sharp Park Tank (.5MG)	$600,000
Gypsy Hill Tank Site (3MG)	$2,500,000

Asset	Value
Royce Tank Site (3MG, 5MG, .75MG)	$8,750,000
Vallemar Tank Site (.2MG)	$400,000
Christen Hill Tank Site (3.8MG)	$3,000,000
Hickey Tank Site (.6MG)	$750,000
Park Pacifica Tank Site (1MG)	$1,200,000
Sheila Tank (.1MG)	$350,000
Tapis Tank (.4MG)	$500,000
Fassler Tank (.5MG)	$600,000
Total:	***$23,650,000***
Critical Facilities	
Main Pump Station located at the SFPUC Harry Tracy Treatment Plant	$1,250,000
Milagra Pump Station	$650,000
Royce Pump Station	$500,000
Park Pacifica Pump Station	$450,000
District Office	$2,500,000
Total:	***$5,350,000***

29.3 CURRENT TRENDS

Total customers have remained relatively constant since 2010. Population in the service area is projected to grow by approximately 3 percent over the next 10 years.

29.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The "Analysis of Mitigation Actions" table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 29-3.
- An assessment of fiscal capabilities is presented in Table 29-4.
- An assessment of administrative and technical capabilities is presented in Table 29-5.
- An assessment of education and outreach capabilities is presented in Table 29-6.
- Classifications under various community mitigation programs are presented in Table 29-7.
- The community's adaptive capacity for the impacts of climate change is presented in Table 29-8.

Table 29-3. Planning and Regulatory Capability

Plan, Study or Program	Date of Most Recent Update	Comment
Capital Improvement Plan	Updated and Approved Annually	20 year master plan approved in 2016
Emergency Operations Plan	2018	
State Building Code	2020	
Standard Specifications and Construction Details	2013	
SWRCB Sanitary Survey	2018	

Table 29-4. Fiscal Capability

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Federal Grant Programs	Yes
Other	No

Table 29-5. Administrative and Technical Capability

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Contract Support
Engineers or professionals trained in building or infrastructure construction practices	Yes	Contract Support
Planners or engineers with an understanding of natural hazards	Yes	Contract Support
Staff with training in benefit/cost analysis	Yes	Contract Support
Surveyors	Yes	Contract Support
Personnel skilled or trained in GIS applications	Yes	Field Operations/GIS Technician
Scientist familiar with natural hazards in local area	Yes	General Manager
Emergency manager	Yes	Assistant General Manager
Grant writers	Yes	Contract Support
Other	No	

Table 29-6. Education and Outreach

Criterion	Response
Do you have a public information officer or communications office?	No
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? ***If yes, please briefly describe***	No
Do you use social media for hazard mitigation education and outreach? ***If yes, please briefly describe***	No
Do you have any citizen boards or commissions that address issues related to hazard mitigation? ***If yes, please briefly specify***	No
Do you have any other programs already in place that could be used to communicate hazard-related information? ***If yes, please briefly describe***	Yes Genasys Mass Notifications – contacts customers via text, phone, and email
Do you have any established warning systems for hazard events? ***If yes, please briefly describe***	Yes Genasys Mass Notifications/Website

Table 29-7. Community Classifications

	Participating?	Classification	Date Classified
FIPS Code	**No**	**N/A**	**N/A**
DUNS#	**Yes**	**050380039**	**Unknown**
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

Table 29-8. Adaptive Capacity for Climate Change

Criterion	Jurisdiction Rating[a]
Technical Capacity	
Jurisdiction-level understanding of potential climate change impacts	High
Comment: *The District's 2020 Urban Water Management Plan discusses climate and climate change considerations. Changing climate affects both water use and supplies. Extreme and higher temperatures lead to increased water use and severe and prolonged droughts could lead to less water available.*	
Jurisdiction-level monitoring of climate change impacts	High
Comment: *District participates in and follows climate change discussion and planning in the region.*	
Technical resources to assess proposed strategies for feasibility and externalities	High
Comment: *Contract Support*	
Jurisdiction-level capacity for development of greenhouse gas emissions inventory	High
Comment: *Contract Support*	
Capital planning and land use decisions informed by potential climate impacts	High
Comment: *Contract Support*	
Participation in regional groups addressing climate risks	Low
Comment: *NCCWD is a member of the Bay Area Water Supply & Conservation Agency (BAWSCA)*	

Criterion	Jurisdiction Rating[a]
Implementation Capacity	
Clear authority/mandate to consider climate change impacts during public decision-making processes	High
Comment: *NCCWD is governed by an elected five-member board, which is mandated to consider climate change impacts in documents such as the Urban Water Management Plan. Staff may make recommendations to Board.*	
Identified strategies for greenhouse gas mitigation efforts	Medium
Comment:	
Identified strategies for adaptation to impacts	Medium
Comment: *Explore other energy conservation measures and possible collaboration(s)with other regional organizations*	
Champions for climate action in local government departments	Medium
Comment: *Fleet operates several hybrid vehicles*	
Political support for implementing climate change adaptation strategies	High
Comment: *Board and staff support strategies that would reduce climate change impacts*	
Financial resources devoted to climate change adaptation	High
Comment: *District budget and capital plans*	
Local authority over sectors likely to be negative impacted	Low
Comment: *District does not have authority over other sectors*	
Public Capacity	
Local residents knowledge of and understanding of climate risk	Unsure
Comment:	
Local residents support of adaptation efforts	Unsure
Comment:	
Local residents' capacity to adapt to climate impacts	Unsure
Comment:	
Local economy current capacity to adapt to climate impacts	Unsure
Comment:	
Local ecosystems capacity to adapt to climate impacts	Unsure
Comment:	

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

29.5 INTEGRATION REVIEW

For hazard mitigation planning, "integration" means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

29.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Capital Improvement Plan -** The capital improvement plan includes projects that can help mitigate potential hazards. The District will act to ensure consistency between the hazard mitigation plan and the current and future capital improvement plans. The hazard mitigation plan may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment.
- **Emergency Operations Plan**—The results of the risk assessment were used in the development of the emergency operations plan.

29.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Post-Disaster Recovery Plan**—The District does not have a recovery plan and intends to develop one as a mitigation planning action during the next five years. The plan will build on the mitigation goals and objectives identified in the mitigation plan.

29.6 RISK ASSESSMENT

29.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 29-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Table 29-9. Past Natural Hazard Events

Type of Event	FEMA Disaster #	Date	Damage Assessment
Tsunami (Warning)	N/A	2011	Not Available. The 8.9 earthquake in Japan set off a Tsunami warning for the West Coast of California. Staff was called in to move vehicles and equipment to higher ground since the corporation yard is at sea level. No damage to facilities or infrastructure.
Landslide	N/A	1997	Not Available. Mudslide in the Pedro Point Area of Pacifica washed out a road leading to a water tank site.
Landslide	N/A	1993	Not Available. Landslide in the Vallemar Area of Pacifica caused water piping to separate. Piping was repaired and a flexible expansion joint fitting installed.
Severe Weather	N/A	1991	Not Available. Freezing caused service lines to fail.
Loma Prieta Earthquake	DR-845	1989	Not Available. Damage occurred to one water tank's piping connection. Pipe cracked; a repair clamp was installed.

29.6.2 Hazard Risk Ranking

Table 29-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

Table 29-10. Hazard Risk Ranking (Social Equity Lens added)

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide/Mass Movements	63	High
2	Sea Level Rise / Climate Change	45	High
3	Flood	45	High
4	Earthquake	42	High
5	Severe Weather	24	Medium
6	Tsunami	21	Medium
7	Drought	9	Low
8	Dam Failure	0	Low
9	Wildfire	0	Low

29.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Coastal areas with cliffs, such as NCCWD's service area, are highly susceptible to landslides, from either intense precipitation and/or earthquakes. This poses a threat to some District assets.
- All of the NCCWD's service area is in a seismic hazard zone, at various risk levels, which poses a threat to some assets.
- Tsunamis are rare events, but NCCWD's service area does contain tsunami hazard areas.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

29.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 29-11 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Table 29-11. Status of Previous Plan Actions

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
NCCWD-1 Seismically Retrofit Water Storage Tanks and storage tank piping connections, including anchoring to foundation and flexible expansion joints to allow for movement. ***Comment:*** *Ongoing*			✓	NCW-1
NCCWD-2 Increase existing storage capacity. ***Comment:*** *In progress*			✓	NCW-2
NCCWD-3 Improve and add additional interconnections with neighboring agencies. ***Comment:*** *Has not been initiated*			✓	NCW-4

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
NCCWD-4 Piping upgrades to include strengthening vulnerable piping crossing and running in the close vicinity to known faults as well as improving piping to increase flow capacities.			✓	NCW-3
Comment: *Ongoing*				
NCCWD-5 Develop and implement a program to capture perishable data after significant events within the District's GIS program to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.			✓	NCW-5
Comment: *Ongoing*				
NCCWD-6 Integrate the hazard mitigation plan into other plans and programs that support infrastructure investment choices, such as the capital improvement program and the 20 Year Master Plan.			✓	NCW-6
Comment: *Initiated, in progress*				
CCWD-7 Develop a long term plan and execute the plan for the District's Corporation Yard and offices.	✓			
Comment: *Initiated, in progress – completion forthcoming*				
NCCWD-8 Re-establishing existing and/or establishing new sources for supplemental potable water.	✓			
Comment: *Initiated, in progress – completion forthcoming*				
Action G-1— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.			✓	NCW-7
Comment: *Ongoing*				
Action G-2— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.			✓	NCW-7
Comment: *Ongoing*				

29.8 HAZARD MITIGATION ACTION PLAN

Table 29-12 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 29-13 identifies the priority for each action. Table 29-14 summarizes the mitigation actions by hazard of concern and mitigation type.

Table 29-12. Hazard Mitigation Action Plan Matrix

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline[a]
Action NCW-1— Seismically retrofit Water Storage Tanks and storage tank piping connections, including anchoring to foundation and flexible expansion joints to allow for movement.						
Hazards Mitigated: Earthquake						
Existing	1, 4, 7, 9, 13, 14	NCCWD	N/A	Medium	Staff Time, General Funds, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short term
Action NCW-2— Increase existing storage capacity at targeted sites.						
Hazards Mitigated: Earthquake, landslide, wildfire, drought						
New & Existing	1, 4, 6, 7, 9,14	NCCWD	N/A	High	Staff Time, General Funds	Long term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline[a]
Action NCW-3— Piping upgrades to include strengthening vulnerable piping crossing and running in the close vicinity to known faults as well as improving piping to increase flow capacities..						
Hazards Mitigated: Earthquake, fire, drought, climate change						
New & Existing	1, 4, 7, 13, 14	NCCWD	N/A	High	Staff Time, General Funds, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Long term
Action NCW-4— Improve and add additional interconnections with neighboring agencies.						
Hazards Mitigated: Earthquake, landslide, severe weather, wildfire, dam failure, drought, climate change, Sea Level Rise						
New & Existing	1, 2, 7, 8, 10	NCCWD	N/A	High	Staff Time, General Funds between neighboring agencies	Long-Term
Action NCW-5— Develop and implement a program to capture perishable data after significant events within the District's GIS program to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.						
Hazards Mitigated: Landslide, climate change, flood, earthquake, severe weather, tsunami, drought, Sea Level Rise						
New & Existing	1, 4, 6,7	NCCWD	N/A	Low	Staff Time, General Funds	Short term
Action NCW-6— Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the Urban Water Management Plan, 5 year capital improvement plan, and 20 year master plan.						
Hazards Mitigated: Earthquake, flood, landslide, climate change, severe weather, tsunami, drought, Sea Level Rise						
Existing	1, 4, 5, 6, 7, 12, 14	NCCWD	N/A	Low	Staff Time, General Funds	Short term
Action NCW-7— Actively participate in the County-wide initiatives and plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan						
Hazards Mitigated: Earthquake, flood, wildfire, climate change, tsunami, drought, landslide, dam failure, Sea Level Rise						
New & Existing	1, 7, 9, 13, 14	NCCWD	N/A	Low	Staff Time, General Funds	Ongoing
Action NCW-8— Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following: development of alternative water supplies, increase recycled water usage.						
Hazards Mitigated: Earthquake, Landslide, wildfire, flooding, drought, Sea Level Rise						
New & Existing	1, 2, 5, 6, 7.9, 10, 14	NCCWD	N/A	High	Staff Time, General Funds, Grant Funding	Long term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

Table 29-13. Mitigation Action Priority

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority[a]	Outside Funding Source Pursuit Priority[a]
NCW-1	6	High	Medium	Yes	Yes	Yes	High	High
NCW-2	6	High	High	Yes	No	No	Medium	Low
NCW-3	5	High	High	Yes	Yes	Yes	High	Medium
NCW-4	5	High	High	Yes	No	No	Low	Low
NCW-5	4	Low	Low	Yes	No	Yes	Medium	Low
NCW-6	7	Medium	Low	Yes	No	Yes	High	Low
NCW-7	5	Medium	Low	Yes	No	Yes	High	Low
NCW-8	8	High	High	Yes	Yes	No	Medium	High

a. See the introduction to this volume for explanation of priorities.

Table 29-14. Analysis of Mitigation Actions

Hazard Type	Action Addressing Hazard, by Mitigation Type[a]							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
High-Risk Hazards								
Landslide/Mass Movements	NCW-5,6	NCW-4	NCW-6			NCW-2,4	NCW-2,6	NCW-4,6
Sea level Rise / Climate Change	NCW-5, 6, 8		NCW-6,8			NCW-8	NCW-8	NCW-8
Flood	NCW-5,6		NCW-6					
Earthquake	NCW-6	NCW-1, 3, 4	NCW-6			NCW-2, 3, 4		NCW-4,7
Medium-Risk Hazards								
Severe Weather	NCW-5,6	NCW-4	NCW-6			NCW-4		NCW-4
Tsunami	NCW-5,6		NCW-6					
Low-Risk Hazards								
Drought	NCW-6,8		NCW-6,8	NCW-8		NCW-2,8	NCW-2	NCW-8

a. See the introduction to this volume for explanation of mitigation types.

29.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **NCCWD 2020 Urban Water Management Plan-**This plan was used as a planning document for water supply and system planning
- **NCCWD 2021 Risk and Resilience Assessment Report-**This report was used to assess risk from various natural hazards and threats.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

29.10 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Classes available for Public Agencies from FEMA designed to help the Agencies better understand risk and vulnerability in their specific location. Perhaps these classes can also help agencies who are interested in mitigation planning to apply for grants.

Appendix F: Letters from North Coast County Water District to SWRCB, BAWSCA, and SFPUC

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Phone (650) 355-3462
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December 28, 2016

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
Cal/EPA Headquarters
1001 "I" Street, 24th Floor
Sacramento, CA 95814-0100
commentletters@waterboards.ca.gov

Re: Comment Letter – 2016 Bay-Delta Plan Amendment & SED

Dear Ms. Townsend:

The North Coast County Water District (NCCWD) submits the following comments regarding the *Recirculated Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay-Sacramento/San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality* (SED). In addition, NCCWD would like to incorporate by reference separate comments submitted by the Bay Area Water Supply and Conservation Agency (BAWSCA) and the San Francisco Public Utilities Commission (SFPUC) that provide more detail of the SED proposal's impact on NCCWD service area and the region.

Under the SED, the State Water Resources Control Board (SWRCB) proposes substantial changes to flow objectives for the Tuolumne River. These changes are anticipated to result in significantly reduced surface water available for diversions, thereby causing significant, potentially unavoidable impacts to water supply and the environment. Below we provide relevant information that the SWRCB must consider in conducting its analysis of the SED's impacts:

- As a wholesale customer of SFPUC that purchases 100% of its potable water supply from the San Francisco Regional Water System, water supply available to NCCWD under the SED proposal could be reduced more than 50% under drought conditions for multiple consecutive years.

- NCCWD has made significant strides in water conservation since 2000. Residential per capita water use decreased 32% from 85.35 gallons per capita per day (gpcd) to 57.9 gpcd.

  Based on NCCWD's 2015 Urban Water Management Plan, this significant cut to water supply would force NCCWD to take a number of significant actions including, instituting

Stage 4 rationing that would limit per capita water use to approximately 30 gallons per person per day. At this usage level, NCCWD customers would face extreme hardship. At 30 gallons per person per day, all NCCWD customers would need to install rainwater cisterns and graywater systems to simply water any plants, flush toilets, or wash pets. This is unacceptable when alternatives exist to prevent such hardship.

- Since outdoor use represents a relatively small proportion of NCCWD's commercial, industrial, and institutional account water demand, commercial, industrial, and institutional customers generally have fewer opportunities to reduce water use without changing their operations or incurring significant economic impacts.

In the light of these aforementioned impacts as well as those articulated in the BAWSCA and SFPUC comment letters incorporated here by reference, NCCWD strongly requests that environmental and economic impacts of any shortage on the San Francisco Regional Water System, and the associated lost jobs and delayed development, be fully and adequately analyzed as part of the SWRCB's proposed flow alternatives. Such full and adequate analysis should be given at least equal weight with all other elements of the SWRCB's subsequent deliberations and decision making.

Last, the Governor has indicated his strong support for negotiated voluntary agreements to resolve these issues. NCCWD requests that the SWRCB provide adequate time for a voluntary agreements to be reached amongst the stakeholders prior to any action on the SED. Please give this settlement process a chance for success instead of expediting implementation of the current proposal. NCCWD shares BAWSCA's commitment to continue working closely with the diverse interests and stakeholders to develop that shared solution.

Sincerely,

Joshua Cosgrove
President

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Pacifica, CA 94044
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SINCE 1944

Phone (650) 355-3462
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May 21, 2021

Steven Ritchie
Assistant General Manager of Water Enterprise
San Francisco Public Utilities Commission
525 Golden Gate Ave, 13th Floor
San Francisco, CA 94102

Re: NCCWD Urban Water Management Plan

Dear Mr. Ritchie,

The North Coast County Water District (NCCWD) is one of the San Francisco Public Utilities Commission (SFPUC) wholesale customers under the November 2018 Amended and Restated Water Supply Agreement with the City and County of San Francisco. NCCWD relies solely on water provided by the SFPUC to meet the potable water needs of its customers.

NCCWD is preparing its 2020 Urban Water Management Plan (UWMP). NCCWD appreciates all the information the SFPUC has provided to NCCWD regarding the regional water supply, both with and without the implementation of the Bay Delta Plan. NCCWD was shocked when it saw the huge cutbacks that would be imposed on NCCWD in drought years with the implementation of the Bay-Delta Plan. The SFPUC modeling shows system-wide water supply reductions of up to 49%, which results in reductions to NCCWD of up to 54% in multiple year droughts. This potential cutback far exceeds the level of service goal included in the Water Supply Agreement of not more than 20% shortage during drought years. NCCWD urges the SFPUC to expedite water supply projects to meet its supply assurance obligations of 184 million gallons per day (MGD) to its wholesale customers and NCCWD's Individual Supply Guarantee of 3.84 MGD. We note that the supply reliability letter you provided on January 21, 2021 does not reflect amounts that meet these obligations.

SFPUC has initiated litigation in connection with the Bay-Delta Plan and has been advocating for a voluntary agreement in that proceeding to prevent these drastic water supply cutbacks. It is essential that SFPUC pursue the voluntary agreement aggressively in order to assure adequate water supply for the health and safety of the customers of NCCWD in times of drought. NCCWD customers have done a remarkable job of using water efficiently and conserving water over the years. In 2020, our water usage was 60 gallons per capita per day overall with a residential use of 48 gallons per capita per day. NCCWD will not be able to reduce its water consumption by 54% in a drought given these past and sustained conservation efforts without significant risks to the health and safety of its customers.

NCCWD understands that the SFPUC is in a difficult situation too. However, NCCWD expects SFPUC will take the steps necessary to ensure that it meets its "goal of not more than 20 percent system-wide shortage in any year of the design drought."

NCCWD appreciates the SFPUC's efforts toward these important matters and that the SFPUC takes seriously its obligations to all its wholesale customers, including NCCWD.

Sincerely,

Thomas J. Piccolotti
President, Board of Directors
North Coast County Water District

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May 21, 2021

Ms. Nicole Sandkulla
Chief Executive Officer & General Manager
Bay Area Water Supply & Conservation Agency
155 Bovet Road, Suite 650
San Mateo CA 94402

Re: NCCWD Urban Water Management Plan

Dear Nicole:

While the North Coast County Water District (NCCWD) appreciates all the time and effort that the Bay Area Water Supply and Conservation Agency (BAWSCA) has put into assisting its member agencies prepare the 2020 Urban Water Management Plan (UWMP), NCCWD disagrees with the use of "equal allocation cutbacks" for allocating regional water supplies among the BAWSCA member agencies. For planning purposes under the 2020 UWMPs, BAWSCA recommends that the Wholesale Customers adopt an "equal allocation cutback," in which each agency will have its supply reduced equally for regional water supply shortages greater than 20%, in lieu of the adopted Tier 2 Plan. This results in water supply reductions to NCCWD of up to 54% in multiple year droughts.

This equal allocation cutback methodology has inequitable results, particularly when considering past water conservation efforts and existing per capita water usage. NCCWD customers have done a remarkable job of using water efficiently and implementing long term water conservation measures that have lasting results. In 2020 NCCWD's overall water usage was 60 gallons per capita per day, with a residential usage at 48 gallons per capita per day. The equal allocation cutback approach penalizes NCCWD's investment in these water conservation efforts and threatens the health and safety of NCCWD's water customers.

Given the many concerns that NCCWD and others have expressed about this "equal allocation of cutbacks" methodology, NCCWD must go on record to say that while we are using this method merely for planning purposes for the 2020 UWMP at your suggestion, NCCWD is not in agreement with this methodology. We believe that BAWSCA understands how problematic inequities would arise if the equal allocation cutback methodology were used, so NCCWD requests that BAWSCA proactively lead the effort to develop an equitable methodology among the BAWSCA member agencies for regional water supply shortages that exceed 20%.

NCCWD relies solely on water provided by the SFPUC to meet the needs of its customers. NCCWD was shocked by the huge cutbacks that will be imposed in drought years with the implementation of the Bay-

Delta Plan. The projected system-wide water supply reductions of up to 49% in multiple year droughts far exceeds the level of service goal included in the November 2018 Amended and Restated Water Supply Agreement with the City and County of San Francisco, which BAWSCA was instrumental in negotiating. The Water Supply Agreement provides that the SFPUC has a "goal of not more than 20 percent system-wide shortage in any year of a design drought." Because BAWSCA administers the Water Supply Agreement on behalf of all the wholesale customers, NCCWD requests that BAWSCA work with the SFPUC to ensure that SFPUC meets this level of service goal. We expect that BAWSCA will urge the SFPUC to expedite water supply projects to meet its supply assurance obligations of 184 million gallons per day (MGD) to its wholesale customers and NCCWD's Individual Supply Guarantee of 3.84 MGD.

We also want to acknowledge and support the efforts that BAWSCA has made to advocate on behalf of the Wholesale Customers of the Hetch Hetchy water system for a voluntary settlement agreement in the Bay-Delta proceeding in order to avoid the very severe water supply cutbacks that would occur with the implementation of the Bay-Delta Plan that was adopted by the State Water Resources Control Board in December of 2018.

Again, NCCWD appreciates all that BAWSCA does for its member agencies, and we look forward to working with you to ensure that SFPUC provides adequate water supply to all Wholesale Customers during drought years.

Sincerely,

Thomas J. Piccolotti
President, Board of Directors
North Coast County Water District

Appendix G: Resolution No. XXX, Adopting The 2025 Urban Water Management Plan, Resolution No. XXX, Adopting the 2025 Water Shortage Contingency Plan, for the North Coast County Water District

Prepared by:

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