2020 Urban Water Management Plan

Salinas District

June 2021

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List of Acronyms

AB	Assembly Bill
AF	acre-foot
AFY	acre-feet per year
AMI	advanced metering infrastructure
AWWA	American Water Works Association
BMO	Basin Management Objective
BMP	Basin Management Plan
CalAm	California American Water
CAP	Customer Assistance Program
CCR	California Code of Regulations
CII	Commercial, Institutional, and Industrial
CPUC	California Public Utilities Commission
CSIP	Castroville Seawater Intrusion Project
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DAC	Disadvantaged Community
DDW	Division of Drinking Water
DMM	Demand Management Measure
DWR	Department of Water Resources
EO	Executive Order
EPA	Environmental Protection Agency
FORA	Fort Ord Reuse Authority
ft	feet
GMP	Groundwater Management Plan
GPCD	gallons per capita per day
GRC	general rate case
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
ILI	infrastructure leakage index
IPR	indirect potable reuse
IRWMP	Integrated Regional Water Management Plan
IWWTP	Industrial Wastewater Treatment Plant
JPA	Joint Powers Authority
kWh	kilowatt hour
kWh/AF	kilowatt hours per acre-foot
MCL	Maximum Contaminant Level
MCWD	Marina Coast Water District
MCWRA	Monterey County Water Resources Agency
MGD	million gallons per day

MRWPCA	Monterey Regional Water Pollution Control Agency
PVWMA	Pajaro Valley Water Management Agency
PWS	Public Water Systems
RA	Regional Alliance
RUWMP	Regional Urban Water Management Plan
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SVBGSA	Salinas Valley Basin Groundwater Sustainability Agency
SWIG	Seawater Intrusion Working Group
SWRCB	State Water Resources Control Board
TAP	Technical Assistance Program
UMWP	urban water management plan
WSA	Water Supply Assessment
WSCP	Water Shortage Contingency Plan

Chapter 1
Introduction and Overview

This chapter 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 UWMP Guidebook 2020.[1] Specifically, this chapter contains the following sections:

1.1 Background and Purpose

1.2 Urban Water Management Planning and the California Water Code

1.3 Relationship to Other Planning Efforts

1.4 Plan Organization

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

1.6 Lay Description

1.1 Background and Purpose

California Water Service Company (Cal Water) is an investor-owned public utility supplying water service to approximately 1.8 million Californians through over 481,000 connections. Its 25 districts serve 63 communities spanning from the Chico-Hamilton City District in the northern portion of the state to the Palos Verdes District in southern California. California Water Service Group, Cal Water's parent company, also provides water service to communities in Washington, New Mexico, and Hawaii.[2] While water rates are set separately for each of Cal Water's 25 districts, oversight of the water rate setting process and district operations is provided by the California Public Utilities Commission (CPUC).

Cal Water began serving the Salinas District (also referred to herein as the "District") in 1962, which includes the Country Meadows, Salinas, Salinas Hills, Las Lomas, and Oak Hills Public Water Systems (PWS). Water served by the District comes from local groundwater.

This UWMP is a foundational document and source of information about Salinas District's historical and projected water demands, water supplies, supply reliability and potential

[1] The UWMP Guidebook 2020 is available at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

[2] In addition, Cal Water operates the City of Hawthorne's water system on behalf of the City.

vulnerabilities, water shortage contingency planning, and demand management programs. Among other things, it is used as:

- A long-range planning document by Cal Water for water supply and system planning; and
- A source for data on population, housing, water demands, water supplies, and capital improvement projects used in:
    - Regional water resource management plans prepared by wholesale water suppliers and other regional planning authorities (as applicable),
    - General Plans prepared by cities and counties, and
    - Statewide and broad regional water resource plans prepared by the California Department of Water Resources (DWR), the State Water Resources Control Board (SWRCB), or other state agencies.

The District's last UWMP was completed in 2016, referred to herein as the "2015 UMWP." This Plan is an update to the 2015 UWMP and carries forward information from that plan that remains current and relevant, and provides additional information as required by subsequent amendments to the UWMP Act (CWC §10610 – 10657). Although this Plan is an update to the 2015 UWMP, it was developed to be a self-contained, stand-alone document and does not require readers to reference information contained in previous UWMP updates.

1.2 Urban Water Management Planning and the California Water Code

The UWMP Act requires urban water suppliers to prepare 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 purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet annually 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 as a result of the governor's call for a statewide 20 percent reduction in urban water use by 2020, referred to as "20x2020," the Water Conservation Act of 2009, and "SB X7-7." This amendment required urban retail water suppliers to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. Beginning in 2016, urban retail water suppliers were required to comply with the water conservation requirements in SB X7-7 in order to be eligible for state water grants or loans. Chapter 5 of this plan contains the data and calculations used to determine compliance with these requirements.

A subsequent substantial revision to the UWMP Act was made in 2018 through a pair of bills (i.e., Assembly Bill 1668 and Senate Bill 606), referred to as "Making Water Conservation a California

Way of Life" or the "2018 Water Conservation Legislation." These changes include, among other things, additional requirements for Water Shortage Contingency Plans (WSCPs), expansion of dry year supply reliability assessments to a five-year drought period, establishment of annual drought risk assessment procedures and reporting, and new conservation targets referred to as "annual water use objectives," which will require retailers to continue to reduce water use beyond the 2020 SB X7-7 targets. The UWMP Act contains numerous other requirements that an UWMP must satisfy. Appendix A to this Plan lists each of these requirements and where in the Plan they are addressed.

1.3 Relationship to Other Planning Efforts

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

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

1.4 Plan Organization

The organization of this Plan follows the same sequence as outlined in the UWMP Guidebook 2020.[3]

Chapter 1 - Introduction and Overview

Chapter 2 - Plan Preparation

Chapter 3 - System Description

Chapter 4 - Water Use Characterization

Chapter 5 - SB X7-7 Baseline and Targets

Chapter 6 - Water Supply Characterization

[3] The UWMP Guidebook 2020 is available at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

Chapter 7 - Water Supply Reliability Assessment

Chapter 8 - Water Shortage Contingency Planning

Chapter 9 - Demand Management Measures

Chapter 10 - Plan Adoption, Submittal, and Implementation

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

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

Although not required by the UWMP Act, in the UWMP Guidebook 2020,[4] DWR recommends that all suppliers that are participating in, or may participate in, receiving water from a proposed project that is considered a "covered action" under the Delta Plan—such as a (1) multiyear water transfer; (2) conveyance facility; or (3) new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta)—provide information in their UWMP to demonstrate consistency with the Delta Plan policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code of Regulations, Title 23, Section 5003).

The Salinas District's sole source of water supply is groundwater, and therefore the District does not receive water or plan to receive water from a "covered action" under the Delta Plan. As such, this requirement is not applicable.

1.6 Lay Description

☑ ***CWC § 10630.5***

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

[4] The UWMP Guidebook 2020 is available at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

This Urban Water Management Plan (UWMP or Plan) is prepared for the Cal Water Salinas District (also referred to as the "District"), which serves drinking water to a population of approximately 123,300 in and around the five service areas that comprise of the District. This UWMP serves as a foundational planning document and includes descriptions of historical and projected water demands, and water supplies, and the resulting reliability during a set of defined water supply conditions over a 20-year planning horizon. This document also describes the actions the District is taking to promote water conservation, both by the District itself and by its customers (referred to as "demand management measures"), and includes a plan to address potential water supply shortages such as drought or other impacts to supply availability (the "Water Shortage Contingency Plan"). This UWMP is updated every five years in accordance with state requirements under the Urban Water Management Planning Act and amendments (Division 6 Part 2.6 of the California Water Code [CWC] §10610 – 10656). Past plans developed for the District are available on the California Department of Water Resources (DWR) Water Use Efficiency Data Portal website: https://wuedata.water.ca.gov/. This document includes 10 chapters, which are summarized below.

Chapter 1- Introduction and Overview

This chapter presents the background and purpose of the UWMP, identifies the Plan organization, and provides this lay description overview of the document. For districts that rely on water from the Sacramento-San Joaquin Delta, this section also discusses and demonstrates consistency with the Delta Plan. The Salinas District, however, does not receive water from a "covered action" under the Delta Plan, and this discussion is not applicable.

Chapter 2 - Plan Preparation

This chapter discusses key structural aspects related to the preparation of the UWMP, and describes the coordination and outreach conducted as part of the preparation of the Plan, including coordination with local agencies and other community organizations (i.e., City of Salinas and Monterey County), relevant Groundwater Sustainability Agencies (GSAs), and the public.

Chapter 3 - System Description

This chapter provides a description of the Salinas District's water system and the service area, including information related to the climate, population, and demographics. The Salinas District operates five physically distinct public water systems (PWS): Country Meadows Mutual PWS, Salinas PWS, Salinas Hills PWS, Las Lomas PWS, and Oak Hills PWS. All five PWSs are located in Monterey County. The Salinas District has a population of approximately 123,317 and has a moderate climate characterized by warm dry summers and mild winters. The majority of the 15 inches of average annual precipitation falls during late autumn, winter, and spring. The service areas include residential, commercial, mixed residential and commercial, and industrial uses. All water customers are considered urban (i.e., non-agricultural water users).

Chapter 4 - Water Use Characterization

This chapter provides a description and quantifies the Salinas District's current and projected demands through the year 2045. The District provides drinking water (also referred to as "potable water") to customers. Water demands refer not only to the water used by customers, but also includes the water used as part of the system's maintenance and operation, as well as unavoidable losses inherent in the operation of a water distribution system. Water demand within the District was 15,711 acre-feet per year (AFY) on average between 2016 and 2020. Taking into account historical water use, expected population increase and other growth, climatic variability, and other assumptions, water demand within the District is projected to increase to 18,853 AFY by 2045, a change of 20 percent compared to the 2016-2020 average. In dry year periods, water demands are expected to be somewhat higher, potentially up to 19,842 AFY by 2045 during an extended five-year drought.

Chapter 5 - SB X7-7 Baseline and Targets

In this chapter, the Salinas District demonstrates compliance with its per capita water use target for the year 2020. The Water Conservation Act of 2009 (Senate Bill X7-7) was enacted in November 2009 and requires the state of California to achieve a 20 percent reduction in urban per capita water use by December 31, 2020. In order to achieve this, each urban retail water supplier was required to establish water use targets for 2015 and 2020 using methodologies established by DWR. The Salinas District is in compliance with its 2020 water use target of 120 gallons per capita per day (GPCD), having reduced its water use in 2020 to 119 GPCD. The Salinas District is also a member of a "Regional Alliance" for purposes of SB X7-7 compliance. The Regional Alliance's 2020 water use is 116 GPCD, which is in compliance with and below its 2020 target of 120 GPCD.

Chapter 6 - Water Supply Characterization

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

The sole source of water supply for the Salinas District is groundwater, and there are no new sources of supply currently planned. The Salinas District pumps groundwater from the 180/400-Foot Aquifer Subbasin (DWR Basin No. 3-004.01), the Eastside Aquifer Subbasin (DWR Basin No. 3-004.02), the Langley Area Subbasin (DWR Basin No. 3-004.09), the Monterey Subbasin (DWR Basin No. 3-004.10) of the Salinas Valley Basin, and the Pajaro Valley Subbasin (DWR Basin No. 3-002.01) of the Corralitos Groundwater Basin. All subbasins underlying the District except for the Monterey Subbasin have been prioritized by DWR as "high". The Monterey Subbasin has been prioritized by DWR as "medium". The 180/400-Foot Aquifer Subbasin and the Pajaro Valley Subbasin are also considered by DWR to be critically overdrafted. None of the subbasins are adjudicated.

The respective Groundwater Sustainability Agencies (GSAs)[5] for the 180/400-Foot Aquifer Subbasin completed a Groundwater Sustainability Plan (GSP) in January 2020. The Pajaro Valley Water Management Agency GSA submitted a Basin Management Plan (BMP) as an alternative to a GSP for the Pajaro Valley Subbasin in December 2016, which was approved by DWR as functionally equivalent to a GSP in July 2019. The Salinas Valley Basin GSA is currently preparing GSPs for the Eastside Aquifer Subbasin, the Langley Area Subbasin, and the Monterey Subbasin, which are anticipated to be completed by January 2022 per the Sustainable Groundwater Management Act (SGMA). Based on available information, including that which has been developed by the GSAs to date, Cal Water expects that its groundwater supply for the Salinas District will fully meet future demands, with the exception of small shortfalls under single dry and multiple dry year conditions in 2040 in certain PWSs (i.e., the combined Salinas PWS and Country Meadows Mutual PWS). Storage in the underlying groundwater subbasins will provide a buffer against years with decreased precipitation, while wetter years will recharge natural supplies.

Calculating and reporting of water system energy intensity is a new requirement for the 2020 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 Salinas District is estimated to be 561 kilowatt hours per acre-foot of water (kWh/AF).

Chapter 7 - Water Supply Reliability Assessment

This chapter assesses the reliability of the Salinas District's water supplies, with a specific focus on potential constraints such as groundwater supply availability, water quality, and climate change. The intent of this chapter is to identify any potential constraints that could affect the reliability of the District's supply (such as drought conditions) to support the District's planning efforts to ensure that its customers are well served. Water service reliability is assessed during normal, single dry-year, and multiple dry-year hydrologic conditions. Based on this analysis, the Salinas District expects the available supplies to be sufficient to meet projected demands in all hydrologic conditions, including a five-year drought period, and considering the impacts of climate change. 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.

[5] GSAs collectively prepared the 180/400-Foot Aquifer Subbasin GSP include Salinas Valley Basin GSA, Marina Coast Water District GSA, and County of Monterey GSA.

Chapter 8 - Water Shortage Contingency Planning

This chapter describes the Water Shortage Contingency Plan (WSCP) for the Salinas District. The WSCP serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will be implemented at various shortage level scenarios. For example, implementing customer water budgets and surcharges, 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 percent to greater than 50 percent shortage.

Chapter 9 - Demand Management Measures

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

Chapter 10 - Plan Adoption, Submittal, and Implementation

This chapter provides information on a public hearing, the adoption process for the UWMP 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, Cal Water held a formal public hearing to present information on its Salinas District UWMP and WSCP on May 13, 2021, 5:00 PM. This UWMP and the corresponding WSCP were submitted to DWR within 30 days of adoption and by the July 1, 2021 deadline.

Chapter 2
Plan Preparation

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

2.1 Public Water Systems

2.2 Regional Planning

2.3 Individual or Regional Planning and Compliance

2.4 Plan Preparation, Standard Units, and Basis for Reporting

2.5 Coordination and Outreach

2.1 Public Water Systems

The Salinas District operates the five Public Water Systems (PWS) listed in Table 2-1 (i.e., Country Meadows Mutual PWS, Salinas PWS, Salinas Hills PWS, Las Lomas PWS, and Oak Hills PWS). Public Water Systems are the systems that provide drinking water for human consumption and are regulated by the State Water Resources Control Board (SWRCB), Division of Drinking Water. The SWRCB requires that water agencies report water usage and other relevant PWS information via the electronic Annual Reports to the Drinking Water Program (eARDWP). These data are used by the state to determine, among other things, whether an urban retail water supplier has reached the threshold (3,000 or more connections or 3,000 acre-feet of water supplied) for submitting an UWMP.

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

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020
CA2710010	Salinas	24,835	14,585
CA2710013	Las Lomas	620	242
CA2710019	Oak Hills	885	370
CA2710012	Salinas Hills	1,634	1,270
CA2701929	Country Meadows Mutual	see notes	see notes
	TOTAL	27,974	16,467

NOTES: The number of municipal connections and volume of water supplied in the Country Meadows Mutual Public Water System (PWS) in 2020 are included in the values for the Salinas PWS because the Country Meadows Mutual PWS is grouped with the Salinas PWS in the demand model, which combines projections for both systems.

2.2 Regional Planning

Regional planning can deliver mutually beneficial solutions to all agencies involved by reducing costs for the individual agency, assessing water resources at the appropriate geographic scale, and allowing for solutions that cross jurisdictional boundaries. California Water Service Company (Cal Water) participates in regional water resources planning initiatives throughout California in the regions in which its 25 water districts are located. Cal Water participated in the 2018 Update of the Greater Monterey County Integrated Regional Water Management Plan (IRWMP), which covers the majority of the District, with the exception of just the northernmost edge of the Los Lomas PWS. Cal Water is also participating in the development of the Groundwater Sustainability Plans (GSPs) for the underlying groundwater subbasins.

2.3 Individual or Regional Planning and Compliance (Regional Alliance)

Urban water suppliers may elect to prepare individual or regional UWMPs. The Salinas District has elected to prepare an individual UWMP covering its five public water systems (see Table 2-2).

Urban retail water suppliers may report on the requirements of SB X7-7 (2009 California Conservation Act) individually or as a member of a "Regional Alliance." As described in Chapter 5, the Salinas District is a member of a Regional Alliance and this UWMP provides information on the District’s compliance with its SB X7-7 water conservation targets both as an individual urban retail water supplier and as a member of a Regional Alliance.

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

<table>
<tr><th>Select Only One</th><th colspan="2">Type of Plan</th><th>Name of RUWMP or Regional Alliance
if applicable</th></tr>
<tr><td>X</td><td colspan="3">Individual UWMP</td></tr>
<tr><td rowspan="2"></td><td></td><td>Water Supplier is also a member of a RUWMP</td><td></td></tr>
<tr><td>X</td><td>Water Supplier is also a member of a Regional Alliance</td><td>California Water Service - Central Coast Regional Alliance</td></tr>
<tr><td></td><td colspan="2">Regional Urban Water Management Plan (RUWMP)</td><td></td></tr>
<tr><td colspan="4">NOTES: The Salinas District is a member of a Regional Alliance. Chapter 5 provides information on the District's progress towards meeting its water conservation targets under SB X7-7 both as an individual urban retail water supplier and as a member of its Regional Alliance.</td></tr>
</table>

2.4 Plan Preparation, Standard Units, and Basis for Reporting

☑ ***CWC § 10608.12 (t)***

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

☑ ***CWC § 10617***

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

☑ ***CWC § 10621 (a)***

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

☑ ***CWC § 10621 (f)***

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

Per California Water Code (CWC) §10617, the Salinas 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 of water annually. It is therefore obligated under CWC §10621(f) to develop and submit an UWMP to the California Department of Water Resources (DWR) by July 1, 2021. The Salinas District is an urban retail water supplier, as defined by CWC §10608.12 (t) and §10617, and as identified in Table 2-3. The Salinas District is not a wholesale water supplier.

Annual volumes of water reported in this UWMP are measured in acre-feet (AF) and are reported on a calendar year basis (Table 2-3). Water use and planning data reported in this UWMP for calendar year 2020 cover the full twelve months of the year, as required by the UWMP Guidelines.

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

Type of Supplier	
	Supplier is a wholesaler
X	Supplier is a retailer
Fiscal or Calendar Year	
X	UWMP Tables are in calendar years
	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP	
Unit	AF
NOTES:	

2.5 Coordination and Outreach

☑ ***CWC § 10620 (c) (3)***

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

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

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

☑ ***CWC § 10642***

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

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

2.5.1 Wholesale and Retail Coordination

☑ ***CWC § 10631 (h)***

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

Urban retail water suppliers relying on one or more wholesalers for water supply are required to provide these wholesalers with information regarding projected water supply and demand. As shown in Table 2-4, the Salinas District does not derive any of its water supply from a wholesale water supplier.

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

The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
N/A
NOTES: The Salinas District does not derive any of its water supply from a wholesale water supplier.

2.5.2 Coordination with and Notice to Other Agencies and the Community

☑ ***CWC § 10620 (d) (3)***

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

☑ ***CWC § 10642***

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

The Salinas District coordinated with cities, counties, and other community organizations during preparation of this UWMP. Cal Water provided notice to these entities and the communities it serves 60 days prior to the public hearing it held on May 13, 2021, to present the draft of the UWMP, address questions, and receive comments. Cities and counties receiving the public hearing notification from Salinas District as required per CWC §10621 (b) are listed in Table 10-1 in Chapter 10 of this Plan.

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

2.5.3 Coordination with Land Use Authorities

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

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

Cal Water coordinated with the Monterey County and City of Salinas staff to review and confirm that appropriate land use assumptions were used to develop the UWMP demand projections. Correspondence with the land use authorities is included in Appendix B.

Chapter 3
System Description

☑ ***CWC § 10631 (a)***

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

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

This chapter describes the Salinas District (also referred to herein as the "District") water system and service area, including climate, population, demographics, and land uses to help in understanding various elements of water supply and demand. This chapter includes the following sections:

3.1 General Description

3.2 Service Area Boundary Map

3.3 Service Area Climate

3.4 Service Area Population and Demographics

3.5 Land Uses within Service Area

3.1 General Description

The District has served the Salinas area since 1962. The District is owned and operated by California Water Service Company (Cal Water), an investor-owned water utility regulated by the California Public Utilities Commission (CPUC). The District has five Public Water Systems (PWS), which serve the City of Salinas and the surrounding communities of Las Lomas, Oak Hills, Salinas Hills, and Country Meadows.

The District's water supply comes from local groundwater. In total, the District currently has 38 wells, 23 storage tanks, and over 300 miles of pipeline to pump and deliver approximately 14 million gallons of local groundwater daily. The District delivers water to residential, commercial, industrial, and governmental customers. Residential customers account for most of the District's service connections and about half of its water demands.

3.2 Service Area Boundary Map

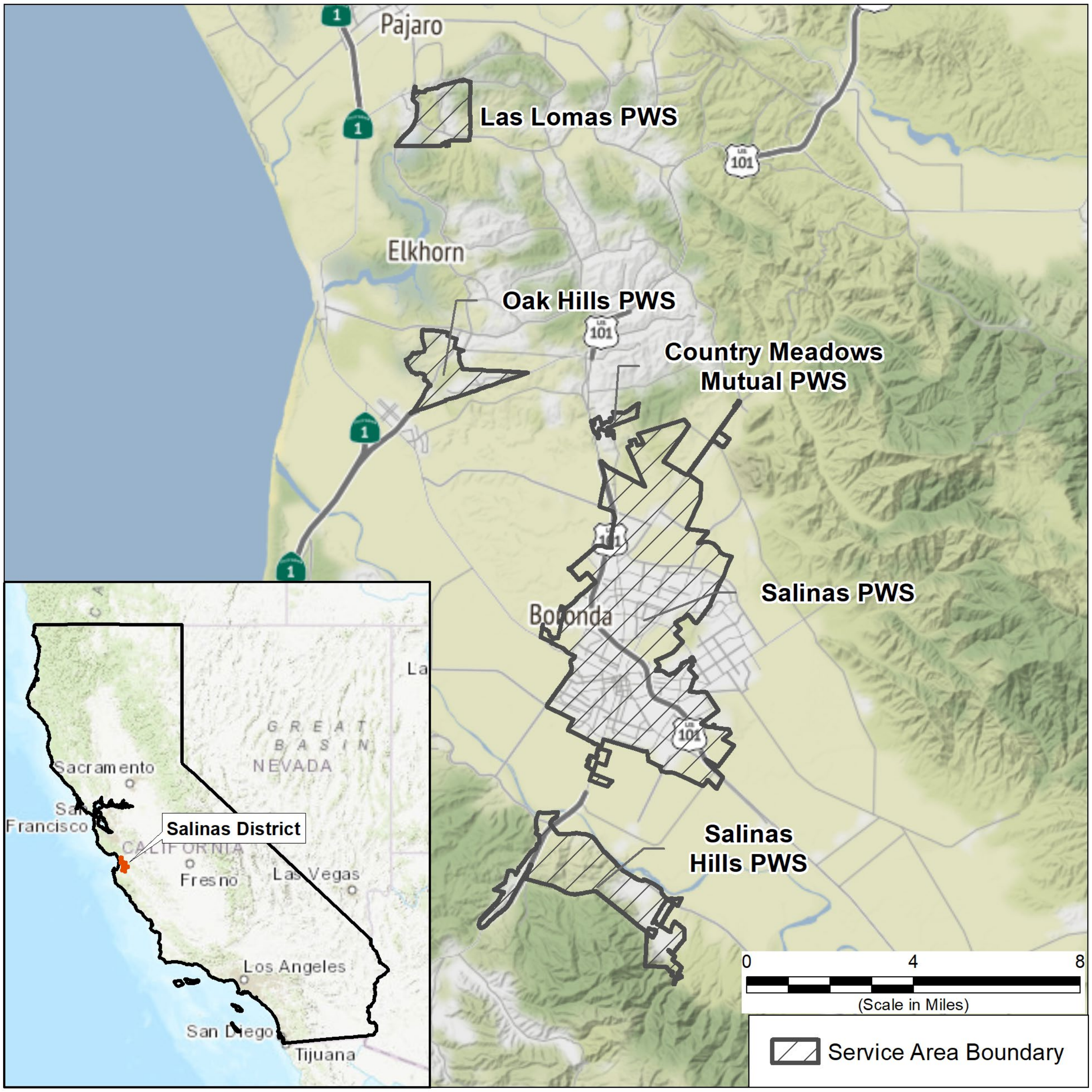
Figure 3-1 shows the location of the District and its current service area boundaries. The District is in northern Monterey County, about 15 miles northeast of the City of Monterey. Major transportation corridors serving the area include State Highway 101, State Routes 68, 183, and 156. The Southern Pacific Railroad runs a line through the region and the Salinas Municipal Airport supplies air transportation services.

The District is in the northern section of the Central Coast hydrologic region and is within both the Pressure and Eastside sub-areas of the Salinas Valley groundwater basin. The most significant geological features in the area are two strike-slip faults -- the San Andreas Fault lies 13 miles to the east and the Rinconada Fault lies five miles to the west of the District. A major earthquake on either fault has the potential to disrupt District water service.

Land primarily used for agricultural production surrounds the District's service area. Some of this agricultural land is expected to be converted to urban uses in coming decades. Additionally, new residential and commercial developments have been proposed within the City of Salinas. As discussed later in this chapter, it is expected that some of the new development that has been proposed would be served by the District's Salinas PWS and Oak Hills PWS. This includes new development associated with the proposed Castroville Oaks Project[6] and the City of Salinas West Area[7] and Central Area[8] Specific Plans.

[6] California Water Service, 2020. Water Supply Assessment for the Castroville Oaks Project, Salinas District, prepared by EKI Environment & Water, Inc., dated June 5, 2020.
[7] City of Salinas, 2019. Draft West Area Specific Plan, prepared by AECOM, Inc., dated February 2019.
[8] City of Salinas, 2020. Draft Central Area Specific Plan, dated June 2020.

Figure 3-1. District Location and Service Boundaries



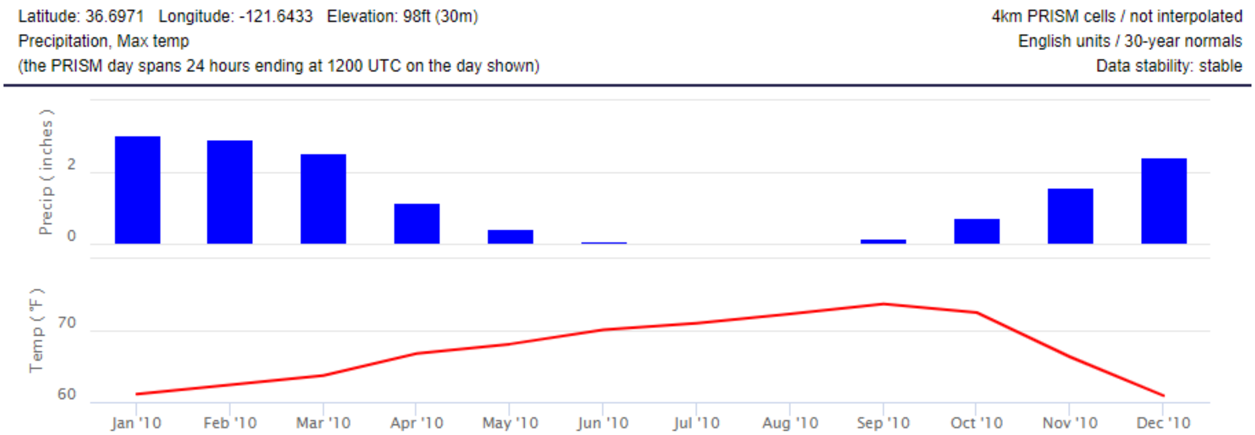
3.3 Service Area Climate

The District's climate is characterized by warm dry summers and mild winters (see Figure 3-2).[9] Most rainfall occurs between October and May. Precipitation totals in the summer months are

[9] Precipitation and temperature data downloaded from: https://prism.oregonstate.edu/explorer/. These data represent a 30-year period from 1980 through 2010. The x-axis reflects the end of the 30-year time series.

negligible. On average, the District receives 15 inches of rainfall annually. Maximum daily air temperature averages 72 degrees Fahrenheit during the summer months. In the winter, it averages 62 degrees Fahrenheit.

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



Based on a review of data downloaded from the Oregon State PRISM dataset for 1895 to 2019, rainfall varies significantly from year-to-year, as it does in most of California.[10] The standard deviation in annual rainfall is 4.9 inches, or approximately one-third of average annual rainfall.[11] Consecutive years of below average rainfall are common. Since 1895, runs of below average rainfall lasting three or more years have occurred nine times and runs lasting five or more years have occurred two times. The longest run lasted eight years, from 1923 through 1930. Rainfall was slightly above average in 1931 and then below average for the next four years, thus for the period 1923 through 1935, rainfall was below average in 12 out of 13 years. While rainfall in the region is highly variable, there has been no statistically significant trend in the mean or variance of annual rainfall since 1895.

The District's climate has been warming. Since 1895, average daily temperature has increased at an average rate of 0.015 degrees Fahrenheit per year. Mean annual temperature for 2010-2019 was 2.2 degrees Fahrenheit higher than for 1900-1909.

3.4 Service Area Population and Demographics

The District's service area population was 123,317 in 2020. The District estimates its service area population using census block population counts from decadal census data. The census estimates are converted to average population per single- and multi-family service, which are applied to service counts for years between the decadal censuses. This method is similar to the way in which

[10] Downloaded from: https://prism.oregonstate.edu/explorer/. The x-axis reflects the end of the 30-year time series.
[11] The standard deviation measures the typical, or average, year-to-year variation in annual rainfall.

the California Department of Water Resources (DWR) Population Tool estimates service area population. The two methods generate nearly identical population estimates in most cases.[12]

Table 3-1 shows current and projected service area population. Projected population is based on historical rates of service area growth plus future development to be served by the District identified in the Castroville Oaks Project Water Supply Assessment (WSA) and the City of Salinas West Area and Central Area Specific Plans. Between 2020 and 2045, the District's service area population is expected to increase by 24 percent.

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

Population Served	2020	2025	2030	2035	2040	2045
	123,317	128,869	134,820	140,774	146,725	152,672
NOTES:						

Table 3-2 summarizes City of Salinas demographics information. These data are from the U.S. Census American Community Survey 2019 5-Year Estimates.[13] Relative to the rest of California, the City of Salinas's population is slightly older and more racially diverse, with a large percentage of the population identifying as Hispanic or Latino. Educational attainment in City of Salinas is lower that for the state, as is median household income.

Housing age in Salinas is similar to the rest of California. In Salinas, 27 percent of homes were built after 1990; in California, the figure is 25 percent. Homes built after 1990 are more likely to have plumbing fixtures meeting current state and federal water and energy efficiency standards.

[12] California Water Service, 2016. 2015 Urban Water Management Plan: Salinas District, dated June 2016.
[13] U.S. Census Bureau, 2019. 2015-2019 American Community Survey 5-year Estimates, dated 2019. Retrieved from: https://data.census.gov/cedsci/.

Table 3-2. Demographic and Housing Characteristics

Demographics	City of Salinas	California
Median Age (years)	38.5	36.5
Racial Makeup (%)		
White	39.9	63.8
Black or African American	2.4	7.0
American Indian and Alaska Native	1.2	1.9
Asian	7.0	16.7
Native Hawaiian	0.3	0.8
Some other race	53.0	15.1
Hispanic or Latino (of any race) (%)	79.3	39.0
Educational Attainment (%)		
Bachelor's Degree or Higher	11.6	33.9
Primary Language Spoken at Home (%)		
English Only or Speak English "very well"	62.2	82.2
Limited English-Speaking Households	19.5	8.9
Median Household Income (%)	61,527	75,235
Population below Federal Poverty Level (%)	16.8	13.4
Housing	**City of Salinas**	**California**
Median Year Built	1975	1975
Year Housing Built (%)		
2010 or Later	1.5	3.5
2000 to 2009	8.7	11.2
1990 to 1999	16.4	10.9
Before 1990	73.4	74.5

3.5 Land Uses within Service Area

The Salinas PWS, which supplies water service to parts of the City of Salinas, is primarily zoned for residential, commercial, mixed residential and commercial, and industrial uses. The City of Salinas Official Zoning Map is provided in Appendix D. The District's other PWS's – Las Lomas, Oak Hills, Salinas Hills, and Country Meadows Mutual – are primarily zoned for low- and medium-density residential and surrounded by lands that are mostly in agricultural production.

As noted above, the District expects to provide water service to three proposed developments: the Castroville Oaks Project, the City of Salinas West Area Specific Plan, and the City of Salinas Central Area Specific Plan. The District expects to serve all the Castroville Oaks and West Area Specific Plan developments and half the Central Area Specific Plan development.[14]

Based on planning documents available at the time this Plan was prepared, Table 3-3 summarizes proposed land uses associated with these projects.[15]

Table 3-3. Proposed Land Use Developments Affecting Future District Water Uses

	Castroville Oaks Project	City of Salinas West Area Specific Plan	City of Salinas Central Area Specific Plan
Residential Housing Units	215	4,340	3,911
Commercial Area (Sq. Ft.)	0	571,500	489,700
Park/Open Space Area (Acres)	11	50	44
School Area (Acres)	0	91	38
Residential Population	650	15,928	14,353
Timeframe Assumed for Water Supply Planning Purposes	2020-2025	2022-2046	2023-2047

[14] Alco Water Service is expected to serve the other half of the Central Area Specific Plan development.

[15] California Water Service, 2020. Water Supply Assessment for the Castroville Oaks Project, Salinas District, prepared by EKI Environment & Water, Inc., dated June 5, 2020; City of Salinas, 2019. Draft West Area Specific Plan, prepared by AECOM, Inc., dated February 2019; City of Salinas, 2020. Draft Central Area Specific Plan, dated June 2020.

Chapter 4
Water Use Characterization

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

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.

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

This chapter describes and quantifies the Salinas District's (also referred to herein as the "District") past, current, and projected water uses through 2045. For the purposes of the Urban Water Management Plan (UWMP or Plan), the terms "water use" and "water demand" are used interchangeably. This chapter has the following subsections:

4.1 Non-Potable Versus Potable Water Use

4.2 Past, Current, and Projected Water Uses by Sector

4.3 Climate Change Considerations

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

4.1 Non-Potable Versus Potable Water Use

This Plan distinguishes between recycled, potable, and raw water uses and supplies. Recycled water is addressed comprehensively in Chapter 6, but a summary of recycled water demand is included in Table 4-3 of this chapter. The primary focus of this chapter is the historical and projected potable water uses in the District.

4.2 Past, Current, and Projected Water Uses by Sector

☑ ***CWC § 10631 (d)***

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.

4.2.1 Past and Current Water Use

Table 4-1 shows water use in 2016-2020 by use type (referred to as "sector" in CWC §10631). Per capita water use has been decreasing in the District since the early 2000s. Several factors have contributed to this reduction. Cal Water implemented conservation pricing starting in 2009, providing stronger financial incentives to use water efficiently, and starting around 2012 Cal Water roughly tripled the level of expenditure on conservation programs aimed at helping customers use less water. Additionally, appliance efficiency standards and plumbing codes have contributed to significant improvement over time in the average water use efficiency of the installed base of appliances and plumbing fixtures. For example, a new toilet uses roughly one-third the amount of water as a toilet manufactured in the 1980s, while a new clothes washer uses about half the amount of water as an older washer.[16] Water use in 2020 was 21 percent lower than its peak use in 2005, despite continued population growth.

[16] Water Research Foundation (2016). Residential End Uses of Water, Version 2, prepared by DeOreo, William B., Peter Mayer, Benedykt Dziegielewski, and Jack Kiefer.

Currently, residential uses account for 52 percent of demand, non-residential 42 percent, and distribution system losses 6 percent.

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

Use Type	Additional Description *(as needed)*	Level of Treatment When Delivered	Volume (a)				
			2016	2017	2018	2019	2020
Single Family		Drinking Water	6,254	6,565	6,750	6,618	7,154
Multi-Family		Drinking Water	1,349	1,392	1,434	1,406	1,422
Commercial		Drinking Water	4,211	4,385	4,713	4,629	4,340
Institutional/Gov't		Drinking Water	725	886	927	924	870
Industrial		Drinking Water	1,422	1,521	1,545	1,565	1,689
Other Potable		Drinking Water	-248	120	385	240	21
Landscape		Drinking Water	2	3	2	1	1
Losses	(b)	Drinking Water	515	838	406	605	971
		TOTAL	14,228	15,709	16,162	15,989	16,467

NOTES:
(a) Volumes are in units of AF.
(b) Real and apparent losses.

4.2.2 Projected Water Use

Table 4-2 shows projected water use through 2045. Projected water use is estimated as a function of expected service growth and a forecast of average water use per service for each of the use types shown in the table.

As discussed in Chapter 3, the District's population and service growth projections include increases associated with three proposed developments: the Castroville Oaks Project, the City of Salinas West Area Specific Plan, and the City of Salinas Central Area Specific Plan. In combination, the District expects these developments will add about 2,600 acre-feet per year (AFY) to District water uses by 2045. In addition to these three proposed developments, the projection includes increases in new services based on historical rates of service growth within each of the District's five Public Water Systems (PWS). Historically, this growth has been low. Therefore, the proposed developments are the primary driver for the projections.

As described later in the chapter, average water use per service is adjusted over the forecast period to account for anticipated reductions in water use due to the ongoing effects of appliance standards and plumbing codes, the District's conservation and customer assistance programs, and growth in the inflation-adjusted cost of water service and household income. These factors, in combination, are projected to attenuate the projected increase in water use associated with proposed development. While the District projects total population will increase by 24 percent between 2020 and 2045, it expects total water use to increase by just 15 percent.

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

Use Type	Additional Description *(as needed)*	Projected Water Use (a)				
		2025	2030	2035	2040	2045
Single Family		7,174	7,346	7,561	7,781	8,063
Multi-Family		1,496	1,595	1,702	1,812	1,929
Commercial		4,400	4,482	4,597	4,717	4,846
Institutional/Gov't		967	1,097	1,232	1,367	1,502
Industrial		1,670	1,670	1,670	1,670	1,670
Other Potable		24	24	24	24	24
Landscape		1	1	1	1	1
Losses	(b)	876	772	787	802	817
	TOTAL	16,609	16,988	17,575	18,175	18,853

NOTES:
(a) Volumes are in units of AF.
(b) Real and apparent losses.

The District does not expect to meet future demand with recycled water, as shown in Table 4-3. There is potential to use recycled water in the District and Cal Water will actively investigate recycled water opportunities. However, as discussed in Chapter 6, given the planning and schedule uncertainty of regional recycled water projects, there is currently no projected recycled water supply for the District through the year 2045.

Table 4-3. Total Gross Water Use (Potable and Non-Potable) (DWR Table 4-3)

	2020	2025	2030	2035	2040	2045
Potable Water, Raw, Other Non-potable *From DWR Tables 4-1 and 4-2*	16,467	16,609	16,988	17,575	18,175	18,853
Recycled Water Demand *From DWR Table 6-4*	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage						
TOTAL WATER USE	16,467	16,609	16,988	17,575	18,175	18,853

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

4.2.3 Distribution System Water Loss

☑ ***CWC § 10631 (3)***

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

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

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

Table 4-4 shows distribution system water losses for the previous five years. 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 water lost 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 California Code of Regulations (CCR) §638.1 et seq to quantify distribution system water losses using the American Water Works Association (AWWA) Free Water Audit Software (referred to as "water loss audit reports"). The water loss audit reports the District submits to DWR provide the basis for the 2016-2019 estimates shown in Table 4-4 and are available through DWR's Water Use Efficiency Data Portal.[17] The District's 2020 water loss audit report had not been completed at the time this Plan was prepared.[18] The 2020 estimate shown in Table 4-4 is therefore drawn from the District's preliminary draft water loss audit results.

Table 4-4. 12 Month Water Loss Audit Reporting (DWR Table 4-4)

Reporting Period Start Date	Volume of Water Loss (a)
01/2016	515
01/2017	838
01/2018	406
01/2019	605
01/2020	971
NOTES: (a) Volumes are in units of AF.	

[17] DWR's Water Use Efficiency Data Portal: https://wuedata.water.ca.gov/awwa_plans
[18] The District's regulatory deadline for filing its 2020 water loss audit report to the state is October 1, 2021.

CWC §10631 (3)(c) requires that this UWMP demonstrate whether the distribution loss standards enacted by the State Water resources Control Board (SWRCB) pursuant to §10608.34 have been met. However, the SWRCB has yet to establish these standards, and thus consistency with these standards cannot be demonstrated herein.

4.2.4 Future Water Savings in Projected Water Use

☑ ***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.

As affirmed in Table 4-5, the District has included both future water savings (discussed below) and lower income residential demands (discussed in Section 4.2.5) in the projections of future water use.

Table 4-5. Inclusion in Water Use Projections (DWR Table 4-5)

Are Future Water Savings Included in Projections?	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	Section 4.2.4
Are Lower Income Residential Demands Included In Projections?	Yes
NOTES:	

As noted above, the District has adjusted the forecast of average water use per service for the effects of appliance standards and plumbing codes, conservation programs, and increases in the real cost of water service and household income. These adjustments are described below.

The District uses forecasts of per capita water savings from appliance standards and plumbing codes prepared for DWR to adjust its projections of average water use per service.[19] These forecasts incorporate the effects of the following codes and regulations:

- Assembly Bill (AB) 715, enacted in 2007, requires that any toilet or urinal sold or installed in California on or after January 1, 2014 cannot have a flush rating exceeding 1.28 and 0.5 gallons per flush, respectively. AB 715 superseded the state's previous standards for toilet and urinal water use set in 1991 of 1.6 and 1.0 gallons per flush, respectively. On April 8, 2015, in response to the Governor's Emergency Drought Response Executive Order (EO B-29-15), the California Energy Commission approved new standards for urinals requiring that they not consume more than 0.125 gallons per flush, 75% less than the standard set by AB 715.
- Water use standards for residential and commercial clothes washers and dishwashers are established by the U.S. Department of Energy through its authority under the federal Energy Policy and Conservation Act. Water use efficiency is summarized by the water factor for the appliance which measures the gallons of water used per cycle per cubic foot of capacity. A typical top-loading residential clothes washer manufactured in the 1990s had a water factor of around 12. In 2015, the allowable water factor for top- and front-loading residential clothes was reduced to 8.4 and 4.7, respectively. In 2018, water factor standard for top-loading residential clothes washers will be reduced to 6.5. In 2010 the allowable water factor for top- and front-loading commercial clothes washers was reduced to 8.5 and 5.5, respectively. The maximum water factor for Energy Star compliant top- and front-loading washers is 3.7 and 4.3, respectively. The U.S. Environmental Protection Agency estimates that Energy Star washers made up at least 60 percent of the residential market and 30 percent of the commercial market in 2011.[20] An Energy Star compliant washer uses about two-thirds less water per cycle than washers manufactured in the 1990s. Federal dishwasher water use efficiency standards were last updated in 2013. The maximum water use for standard and compact sized dishwashers is 5.0 and 3.5 gallons per cycle, respectively.
- New construction and renovations in California are now subject to CalGreen Code requirements. CalGreen includes prescriptive indoor provisions for maximum water consumption of plumbing fixtures and fittings in new and renovated properties. CalGreen also allows for an optional performance path to compliance, which requires an overall aggregate 20% reduction in indoor water use from a calculated baseline using a set of worksheets provided with the CalGreen guidelines.
- Senate Bill (SB) 407, enacted in 2009, mandates that all buildings in California come up to current State plumbing fixture standards within this decade. This law establishes

[19] M.Cubed, 2016. Projected Statewide and County-Level Effects of Plumbing Codes and Appliance Standards on Indoor GPCD, technical memorandum prepared for the California Department of Water Resources, dated August 2016.

[20] EPA Energy Star Unit Shipment and Market Penetration Report Calendar Year 2011 Summary.

requirements that residential and commercial property built and available for use on or before January 1, 1994 replace plumbing fixtures that are not water conserving, defined as "noncompliant plumbing fixtures." This law also requires effective January 1, 2017 that a seller or transferor of single-family residential property show to the purchaser or transferee, in writing, the specified requirements for replacing plumbing fixtures and whether the real property includes noncompliant plumbing. Similar disclosure requirements went into effect for multi-family and commercial transactions January 1, 2019. SB 837, passed in 2011, reinforces the disclosure requirement by amending the statutorily required transfer disclosure statement to include disclosure about whether the property follows SB 407 requirements.

The District's 2015 Conservation Master Plan forms the basis for the forecast of water savings from conservation programs. Cal Water used the Alliance for Water Efficiency's Water Conservation Tracking Tool to estimate expected water savings from planned program implementation.[21]

Projected increases in water service costs and household income form the basis for the adjustments to average water use due to changes in the real cost of water service. The forecast uses the historical rate of increase in District water rates to project future water service costs. It uses Caltrans income projections for Monterey County to estimate changes in household income. It uses empirically derived estimates of price and income demand elasticity to adjust future water demand for changes in these variables.[22]

Table 4-6 shows the combined water savings from plumbing codes and appliance standards, conservation programs, and increases in the real cost of water service.

Table 4-6. Future Water Savings from Plumbing Codes, Conservation Programs, and Water Rates (AF)

2025	2030	2035	2040	2045
567	983	1,306	1,618	1,851

[21] Alliance for Water Efficiency Water Conservation Tracking Tool: https://www.allianceforwaterefficiency.org/resources/topic/water-conservation-tracking-tool

[22] M.Cubed, 2018. California Water Service 2020 Test Year Sales Forecast: 2018 General Rate Case, prepared for California Water Service by M.Cubed, dated January 2018.

4.2.5 Water Use by Lower Income Households in Water Use Projections

☑ **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 Senate Bill No. 1087 (SB 1087), Chapter 727, passed in 2005, amended Government Code §65589.7 and CWC §10631.1. This law requires that local governments supply a copy of their adopted housing element to water and sewer providers. Additionally, it requires that water providers grant priority for service allocations to developments that include housing units for lower income families and workers. The UWMP Act requires that water providers estimate water demands by lower income single and multi-family households.

Cal Water must serve all development that occurs within its service area, regardless of the income level of the future residents. Cal Water does not keep records of the income level of its customers and does not discriminate when supplying water to any development. It is the responsibility of the city or county with land use authority over a given area to approve or not approve developments within Cal Water's service areas. Cal Water has a Customer Assistance Program (CAP) to help with water service affordability. CAP discounts the monthly service charge of qualifying lower income households.

Table 4-7 shows projected water use by lower income households. These demands are part of the projected residential water use in Table 4-2. Cal Water used the City of Salinas General Plan Housing Element to estimate the number of lower income households which is the basis for the estimates in Table 4-7.[23]

Table 4-7. Lower Income Household Projected Water Use (AF)

2025	2030	2035	2040	2045
4,075	4,202	4,354	4,509	4,696

[23] City of Salinas 2015-2023 Housing Element, Table 15. Accessed from: https://www.cityofsalinas.org/sites/default/files/Departments_Files/Community_Development_Files/General_Plan_Files/Adopted_Salinas_HE_2015-2023_1.pdf

4.2.6 Characteristic Five-Year Water Use

☑ ***CWC § 10635(b)(3)***

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

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

CWC §10635(b) is a new requirement for 2020 UWMPs. A critical part of this new statutory language is the requirement to prepare a five-year Drought Risk Assessment (see Chapter 7). As a first step, DWR suggests that water suppliers estimate their unconstrained water demand for the next five years (2021-2025). Unconstrained water demand is water use in the absence of drought water use restrictions. Drought conditions cause unconstrained demands to increase. The Drought Risk Assessment presented in Chapter 7 accounts for this increase in unconstrained water demand. Cal Water's demand forecast model separately estimates water use for normal, wet, and dry weather conditions. Table 4-8 shows unconstrained demands for 2021-2025 for normal weather and multiple-dry-year scenarios.

Table 4-8. Characteristic Five-Year Water Use (AF)

Weather Scenario	2021	2022	2023	2024	2025
Multi-Year Dry	17,240	17,292	17,357	17,424	17,489
Normal	16,371	16,420	16,482	16,547	16,609
NOTES: The table shows unconstrained demand (i.e., demand in the absence of drought water use restrictions).					

4.3 Climate Change Considerations

☑ ***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.

Climate strongly influences District water demand, both in terms of its level and seasonal pattern. Cal Water has analyzed the effect of climate and weather variability on both aspects of demand.[24] Using this information, Cal Water has estimated the effect of alternative climate warming scenarios on future water demand.[25] Table 4-9 summarizes the results of this analysis. It shows that for plausible emission scenarios and corresponding temperature increases, climate change may, on average, increase future District demands by 2 to 3 percent compared to current climate conditions. Two points are worth noting. First, this is the average effect. There is significant variation about the mean. Second, this is a ceteris paribus, or all else equal, result. It assumes existing levels and types of landscaping. However, landscaping choices are partly a function of climate and as the climate changes, so too may these choices. It is reasonable to think households and businesses will adapt their landscaping as the climate warms. This adaptation may mitigate some of the expected demand increase shown in the table.

Table 4-9. Climate Change Effect on Demand

Emissions Scenario	Change in Mean Temperature by 2040 (degree F)	Change from Current Mean Temperature (%)	Effect on Demand (%)
Lower Emissions Scenario (B1)	2.5	3.4%	2.0%
Higher Emissions Scenario (A2)	2.7	3.7%	2.1%
80%ile Temperature Scenario	3.6	4.9%	2.8%
NOTES: Predicted temperature increases for Southwest United States for alternative emission scenarios reported in Kunkel et al. (2013). Predicted effect on demand derived from weather response models estimated with historical monthly water use, temperature, and rainfall data.			

[24] A&N Technical Services, 2014. Cal Water Long-Term Water Demand Forecast Model. Report prepared for California Water Service Company. December 2014.

[25] Table 4-9 uses climate scenarios for the southwestern United States. These in turn rely on alternative greenhouse gas emission scenarios. Emissions under scenario A2 are higher than under scenario B2. The 80th percentile scenario is the 80th percentile temperature change for the full suite of emission scenarios. For further information, see Kunkel, K.E, L.E. Stevens, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, K.T. Redmond, and J.G. Dobson, 2013. Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 5. Climate of the Southwest U.S., NOAA Technical Report NESDIS 142-5, dated 2013.

Chapter 5
SB X7-7 Baseline and Targets

☑ ***CWC § 10608.24 (b)***

Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

☑ ***CWC § 10608.28***

(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

(1) Through an urban wholesale water supplier.

(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).

(3) Through a regional water management group as defined in Section 10537.

(4) By an integrated regional water management funding area.

(5) By hydrologic region.

(6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

The Water Conservation Act of 2009, also known as Senate Bill (SB) X7-7, requires that urban retail water suppliers reduce their per capita water use by 20 percent by 2020. SB X7-7 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" (CWC §10608.12). The Salinas District meets both criteria. The state will assess each urban retail water supplier's 2020 per capita water use against the target it established in its 2015 urban water management plan (UWMP).

This chapter demonstrates the District's compliance with its SB X7-7 per capita water use target and includes the following sections:

5.1 Wholesale Suppliers

5.2 Updates to the 2015 UWMP Calculations

5.3 Service Area Population

5.4 Baseline Periods, Baseline GPCD, and Confirmed SB X7-7 2020 Target

5.5 Demonstration of Compliance with SB X7-7 2020 Target

5.6 Demonstration of Compliance with Regional Alliance SB X7-7 2020 Target

5.1 Wholesale Suppliers

SB X7-7 does not directly apply to wholesale water suppliers. Wholesale suppliers may adopt programs and policies that support SB X7-7 compliance by the retail water suppliers they serve. They may also take part in a Regional Alliance (discussed below) set up to satisfy SB X7-7 requirements on a regional basis. As discussed in Chapter 2, the District is not a wholesale water supplier and does not receive water supply from any wholesale water supplier. This section therefore does not apply.

5.2 Updates to the 2015 UWMP Calculations

Urban retail water suppliers may update or correct the water use and population data they used to establish their 2020 target in their 2015 UWMP. The District has not made any changes to these data.

5.3 Service Area Population

Service area population estimation must satisfy the requirements in Methodology 2 – Service Area Population – of DWR's *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*. Cal Water's population estimation method is similar to the method used by DWR's Population Tool.[26] DWR reviewed and accepted Cal Water's population estimation method as part of the review of its 2015 UWMPs. Cal Water used this method to estimate the District's 2020 service area population. As reported in Chapter 3, the District's 2020 population was 123,317.

[26] Cal Water estimates service area population using census block population data with the LandView 5 and MARPLOT software programs. In census years, the method estimates service area population using the population counts of census blocks with centroids falling within the District's service boundary. In off-census years, the method estimates population by adjusting the census year estimates for changes in the number of single- and multi-family service connections and dwelling units. As shown in the District's 2015 UWMP, estimates prepared using this method and DWR's Population Tool typically differ by less than a percent. Cal Water prefers using its method to be consistent with its other planning documents.

5.4 Baseline Periods, Baseline GPCD, and Confirmed SB X7-7 2020 Target

Table 5-1 shows the District's 5- and 10-year baseline periods, baseline per capita water use (GPCD), and 2020 target. Supporting population and water use data are in Appendix F.

Table 5-1. SB X7-7 Baselines and Targets Summary (DWR Table 5-1)

Baseline Period	Start Year	End Year	Average Baseline GPCD	Confirmed 2020 Target GPCD
10-15 year	1999	2008	150	120
5 Year	2003	2007	155	
NOTES:				

5.5 Demonstration of Compliance with SB X7-7 2020 Target

Table 5-2 shows that 2020 per capita water use was less than target GPCD. Supporting population and water use data are in Appendix F. This shows that the District has complied with SB X7-7.

Table 5-2. SB X7-7 2020 Compliance (DWR Table 5-2)

2020 GPCD			2020 Confirmed Target GPCD	Did Supplier Achieve Targeted Reduction for 2020?
Actual 2020 GPCD	2020 TOTAL Adjustments	Adjusted 2020 GPCD *(Adjusted if applicable)*		
119			120	Yes
NOTES:				

5.6 Demonstration of Compliance with Regional Alliance SB X7-7 2020 Target

An urban retail water supplier can satisfy SB X7-7 requirements either individually or as part of a Regional Alliance. The District formed a regional alliance with Cal Water's King City District. The name of this Regional Alliance is California Water Service – Central Coast Regional Alliance. Table 5-3 shows 2020 per capita water use for this Regional Alliance. Table 5-4 demonstrates compliance with the Regional Alliance's 2020 target GPCD. Supporting population and water use data are in Appendix F.

Table 5-3. SB X7-7 Regional Alliance – 2020 GPCD (DWR RA 2020 GPCD Table)

Participating Member Agency Name	2020 Actual GPCD*	2020 Population	(2020 GPCD) X (2020 Population)	Regional Alliance 2020 GPCD (Actual)
Cal Water Salinas District	119	123,317	14,674,723	
Cal Water King City District	95	15,736	1,494,920	
Regional Alliance Totals	214	139,053	16,169,643	116

**All participating agencies must submit individual SB X7-7 Tables, as applicable, showing the individual agency's calculations. These tables are: SB X7-7 Tables 0 through 6, Table 7, any required supporting tables (as stated in SB X7-7 Table 7), and SB X7-7 Table 9, as applicable. These individual agency tables will be submitted with the individual or Regional Urban Water Management Plan.*

Table 5-4. SB X7-7 Regional Alliance – 2020 Compliance (DWR RA 2020 Compliance Table)

2020 Actual GPCD	Optional Adjustment for Economic Growth[1]	Adjusted 2020 Actual GPCD	2020 Target GPCD [2]	Did Alliance Achieve Targeted Reduction for 2020?
116		116	120	YES

[1]Adjustments for economic growth can be applied to either the individual supplier's data or to the aggregate regional alliance data (but not both), depending upon availability of suitable data and methods. [2] 2020 Target GPCD will be taken from the Regional Alliance's SB X7-7 Verification Form, Weighted Target Table.

Chapter 6
Water Supply Characterization

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

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

This chapter provides a description of the Salinas District's (also referred to herein as the "District") current water supplies, including a discussion of the underlying groundwater basins and their management, and potential supply sources, such as surface water, stormwater, and recycled water, as well as assessment of the energy intensity used to operate the Salinas District treatment and distribution system. This chapter includes the following sections:

6.1 Purchased Water

6.2 Groundwater

6.3 Surface Water

6.4 Stormwater

6.5 Wastewater and Recycled Water

6.6 Desalinated Water Opportunities

6.7 Water Exchanges and Transfers

6.8 Future Water Projects

6.9 Summary of Existing and Planned Sources of Water

6.10 Special Conditions

6.11 Energy Intensity

6.1 Purchased Water

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

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

California Water Service Company (Cal Water) does not currently purchase any imported water to meet demands in its Salinas District.

6.2 Groundwater

☑ ***CWC § 10631***

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

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

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

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

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

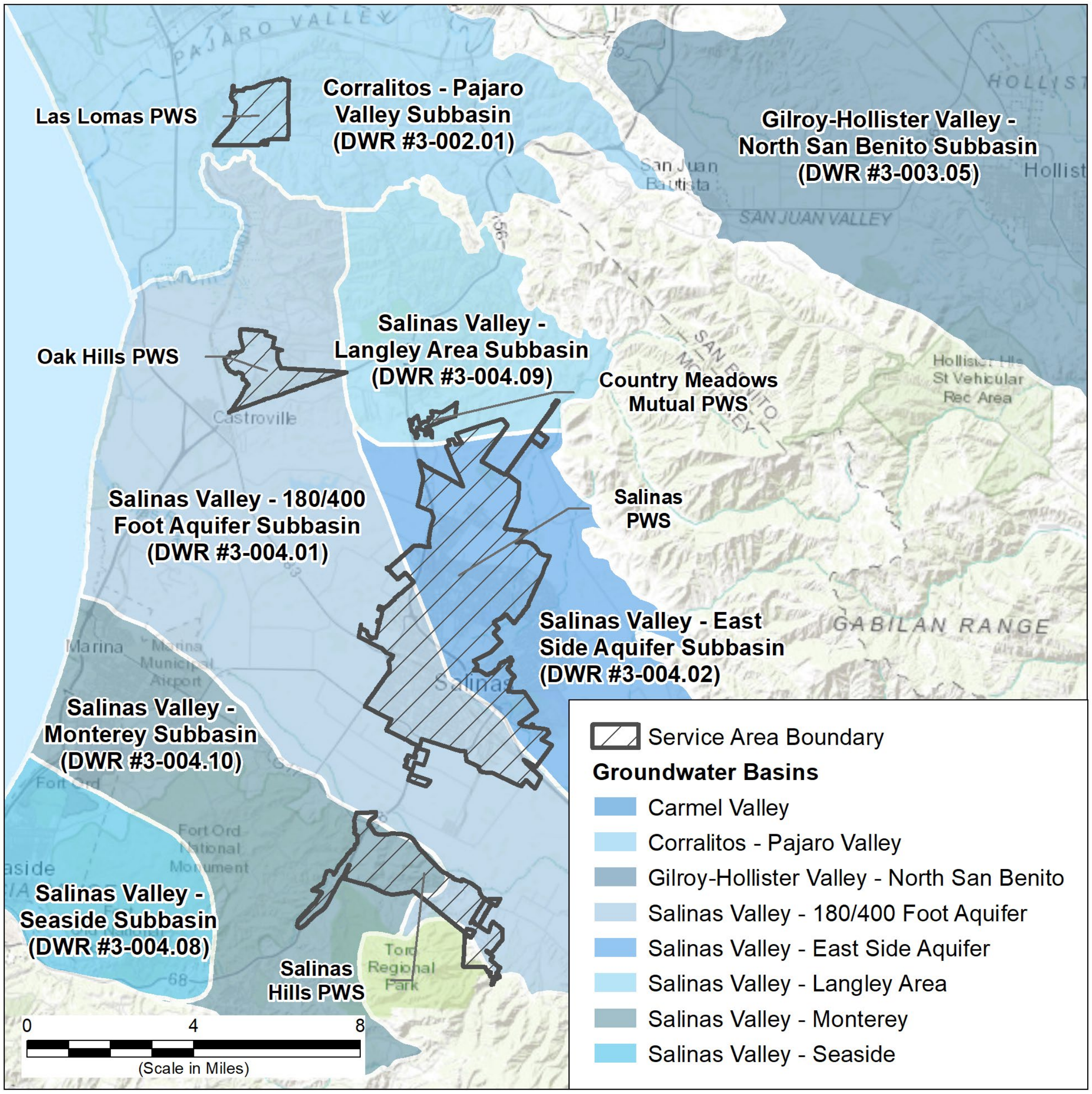
Groundwater is the sole source of water supply for the Salinas District. This section includes information regarding the basin(s) description, groundwater management, and Cal Water coordination with the local Groundwater Sustainability Agencies (GSAs), followed by a discussion of historical pumping and supply sufficiency, which is further supported by information provided in Appendix G.

6.2.1 Basin Description and Status

As shown on Figure 6-1, the Public Water Systems (PWSs) that comprise the Salinas District overlie the following groundwater subbasins:

- the 180/400-Foot Aquifer Subbasin of the Salinas Valley Groundwater Basin (California Department of Water Resources [DWR] Basin No. 3-004.01),
- the Eastside Aquifer Subbasin of the Salinas Valley Groundwater Basin (DWR Basin No. 3-004.02),
- the Langley Area Subbasin of the Salinas Valley Groundwater Basin (DWR Basin No. 3-004.09),
- the Monterey Subbasin of the Salinas Valley Groundwater Basin (DWR Basin No. 3-004.10), and
- the Pajaro Valley Subbasin (DWR Basin No. 3-002.01) of the Corralitos Groundwater Basin.

Figure 6-1. Groundwater Basins Underlying the Salinas District



Basin Description

The 180/400-Foot Aquifer Subbasin, the Eastside Subbasin, the Langley Area Subbasin, and the Monterey Subbasin are all part of the larger Salinas Valley Groundwater Basin, an approximately 90-mile-long alluvial basin underlying the elongated, intermountain valley of the Salinas River.

The 180/400-Foot Aquifer Subbasin is bounded by the Monterey Bay to the northwest. The northern boundary is shared with the Pajaro Valley Subbasin. The northeastern boundary is shared throughout most of its length by the adjacent Eastside Subbasin, and to the north with a shorter length of the Langley Area Subbasin. The northeastern boundary generally coincides with the northeastern limit of confining conditions in the 180/400-Foot Aquifer Subbasin and the location of State Highway 101. The southeastern boundary is shared with the Forebay Aquifer Subbasin, and the southwestern boundary is shared with the Monterey Subbasin. The 180/400-Foot Aquifer Subbasin boundaries generally coincide with those of the Pressure Subarea of the Monterey County Water Resources Agency (MCWRA).

The Eastside Aquifer Subbasin extends from approximately five miles north of the City of Salinas to twenty-five miles south of the town of Gonzales along the eastern side of the lower Salinas Valley. The subbasin boundaries are generally correlative with those of the East Side Subarea of the MCWRA. It is bounded on the southeast by the Forebay Aquifer Subbasin, on the southwest by the 180/400-Foot Aquifer Subbasin, on the north by the Langley Subbasin.

The Langley Area Subbasin lies in the northeastern corner of Monterey County and the Salinas Valley Groundwater Basin. It is bounded by the Gabilan Range to the east, the Pajaro Groundwater Basin to the north, the 180/400-Foot Aquifer Subbasin to the west, and the Eastside Aquifer Subbasin to the south.

The Monterey Subbasin is located at the northwestern end of the Salinas Valley Groundwater Basin, and includes the portions of the Monterey Bay coastal plain, south of the approximate location of the Reliz Fault, as well as upland areas to the southeast of the coastal plain. The subbasin is bordered by the 180/400-Foot Aquifer Subbasin to the northeast and by the adjudicated Seaside Subbasin to the southwest.

The Pajaro Valley Subbasin is bordered on the northeast by the coastal Santa Cruz Mountains and on the southwest by the Pacific Ocean. The northern boundary of the subbasin is generally considered to be the drainage divide between the Aptos Creek watershed and the Pajaro River watershed; the southern boundary of the subbasin is generally considered to be the drainage divide between Elkhorn Slough and Morro Coho Slough.

Basin Status

All of the subbasins underlying the Salinas District are not adjudicated. In its recent evaluation of California groundwater basins, DWR determined that the 180/400-Foot Aquifer Subbasin and the Pajaro Valley Subbasin are both in a condition of critical overdraft.[27]

Pursuant to the Sustainable Groundwater Management Act (SGMA) all of the subbasins underlying the District, except for the Monterey Subbasin, are designated as high priority basins under DWR's 2019 Phase 2 Basin Prioritization.[28] The Monterey Subbasin is designated as medium priority basin. Under DWR's prioritization process, basins are ranked on eight

[27] DWR, 2019. Sustainable Groundwater Management Act 2018 Basin Prioritization, State of California, dated January 2019.

[28] DWR, 2019. Sustainable Groundwater Management Act 2018 Basin Prioritization, State of California, dated January 2019.

components. If a basin is assigned more than 14 total points it is designated as “medium priority” and if it is assigned more than 21 total points, it is defined as “high priority.”

For the 180/400-Foot Aquifer Subbasin, the main factors driving its designation include the number of public supply wells (4 out of 5 possible ranking points), irrigated acreage per square mile (5 out of 5 possible points), groundwater reliance (5 out of 5 possible points), and adverse habitat impacts (2 out of 2 possible points). [29] Further, since the 180/400-Foot Aquifer Subbasin is critically overdrafted, the subbasin is assigned 40 priority points, which is the maximum total points under DWR’s ranking system.

For the Eastside Aquifer Subbasin, the main factors driving its designation include the number of public supply wells (4 out of 5 possible points), irrigated acreage per square mile (4 out of 5 possible points), groundwater reliance (5 out of 5 possible points), and adverse habitat impacts (2 out of 2 possible points). For the Langley Area Subbasin, the main factors driving its designation include number of public supply wells (5 out of 5 possible points), number of total wells (5 out of 5 possible points), and groundwater reliance (4 out of 5 possible points). For the Monterey Subbasin, the main factors driving its designation include number of public supply wells (4 out of 5 possible points), and groundwater reliance (3.5 out of 5 possible points).

For the Pajaro Valley Subbasin, the main factors driving its designation include number of public supply wells (5 out of 5 possible points), number of total wells (5 out of 5 possible points), and groundwater reliance (5 out of 5 possible points). Since the Pajaro Valley Subbasin is critically overdrafted, the subbasin is assigned 40 priority points.

Additional details on the subbasins are given in the DWR's Groundwater Bulletin 118, [30] as well as in the key documents described below related to groundwater management of the subbasins, which are incorporated into this Urban Water Management Plan (UWMP) by reference:

- The Monterey County Groundwater Management Plan (GMP) (applicable to the Salinas Valley Groundwater Basin in Monterey County) includes detailed descriptions of basin hydrogeology, groundwater conditions, and groundwater monitoring practices, and is available on the Monterey County website:
  https://www.co.monterey.ca.us/home/showdocument?id=22563

- The Salinas Valley Groundwater Basin 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan (GSP), including current groundwater conditions, hydrogeologic conceptual model, water budget, local sustainable management criteria, and projects and

[29] DWR’s 2019 Phase 2 Basin Prioritization used the basin’s total possible ranking points assigned to each of the eight components to determine the priority. A basin is defined as High Priority if it has more than 21 total ranking points.
[30] Current Bulletin 118 information is available on DWR’s website: https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118

programs for reaching sustainability in the subbasin by 2040, is available on the DWR SGMA Portal website:

https://sgma.water.ca.gov/portal/gsp/preview/29

- The Pajaro Valley Water Basin Management Plan (BMP), including basin hydrology, groundwater conditions, project and program development, conservation, and BMP implementation, is available on the DWR SGMA Portal website:

  https://sgma.water.ca.gov/portal/alternative/print/22

- Draft chapters of the Eastside Aquifer Subbasin GSP, including the Introduction, Plan Area, Hydrogeologic Conceptual Model, Groundwater Conditions, and Monitoring Network chapters, are available on the Salinas Valley Basin GSA website:

  https://svbgsa.org/east-side-subbasin/

- Draft chapters of the Langley Area Subbasin GSP, including the Introduction, Plan Area, Hydrogeologic Conceptual Model, Groundwater Conditions, and Monitoring Network chapters, are available on the Salinas Valley Basin GSA website:

  https://svbgsa.org/langley-subbasin/

- Draft chapters of the Monterey Subbasin GSP, including the Stakeholder Engagement and Communication Strategy, Plan Area, Hydrogeologic Conceptual Model, Groundwater Conditions, are available on the Salinas Valley Basin GSA website:

  https://svbgsa.org/monterey-subbasin/

  and the Marina Coast Water District (MCWD) GSA website:

  https://www.mcwd.org/gsa_about.html#

- It is anticipated that following adoption of the Eastside Aquifer Subbasin GSP, the Langley Area Subbasin GSP, and the Monterey Subbasin GSP (anticipated by January 31, 2022), the final GSPs will be available on the DWR SGMA Portal website:

  https://sgma.water.ca.gov/portal/gsp/all

6.2.2 Non-SGMA Groundwater Management

180/400-Foot Aquifer, Eastside Aquifer, Langley Area, and Monterey Subbasins

Prior to the passage of SGMA in 2014, the 180/400-Foot Aquifer Subbasin, the Eastside Aquifer Subbasin, the Langley Area Subbasin, and the Monterey Subbasin were included in the Monterey County GMP, which met the requirements of California's AB 3030 Groundwater Management Act.[31] Chapter 2 of the Monterey County GMP describes the groundwater management goal and management objectives and Chapter 4 outlined the various components (i.e., implementation activities). The Monterey County GMP provides a comprehensive overview of the Salinas Valley

[31] Monterey County website: https://www.co.monterey.ca.us/home/showdocument?id=22563

Groundwater Basin and recommends various management strategies for the basin. Specifically, this document provides the framework for the management of groundwater resources in the Salinas Valley Groundwater Basin (exclusive of the Seaside and Paso Robles subareas) and acts as a guidance document for future groundwater projects.

The Basin Management Objectives (BMOs) adopted in the Monterey County GMP included the following: (1) Development of Integrated Water Supplies to Meet Existing and Project Water Requirements; (2) Determination of Sustainable Yield and Avoidance of Overdraft; and (3) Preservation of Groundwater Quality for Beneficial Use.

The Monterey County GMP is the current groundwater management program for the Eastside Aquifer Subbasin, the Langley Area Subbasin, and the Monterey Subbasin until the GSPs for these subbasins are adopted.

Pajaro Valley Subbasin

Prior to the passage of SGMA in 2014, the Pajaro Valley Subbasin BMP was developed to be a “basin-wide groundwater management plan” that met the requirements of California’s AB 3030 Groundwater Management Act. The goals of the Pajaro Valley BMP include, among others, (1) Managing local groundwater resources toward the avoidance and prevention of conditions of long-term overdraft, land subsidence, and water quality degradation; (2) Including reasonable measures to prevent further increases in the amount of long-term overdraft, and accomplishing continuing reduction in long-term overdraft; (3) Efficiently and economically managing existing and supplemental water supplies in order to prevent further increases in, and to accomplish continuing reduction of, long-term overdraft and to provide and ensure sufficient water supplies for president and anticipated needs; (4) Defining the appropriate course of action towards optimizing the use of available supplies and solving seawater intrusion than overdraft problems; and (5) Accomplishing these tasks through a community-based process that is inclusive and adaptive.

Existing water supply facilities, along with the implementation of projects and programs described in the BMP, taken together, were projected to result in a balanced groundwater basin without seawater intrusion.

6.2.3 SGMA Groundwater Management

In 2014, the California State Legislature enacted SGMA with subsequent amendments in 2015. The SGMA requires the formation of GSAs and the development and implementation of GSPs for groundwater basins that are designated by DWR as medium or high priority. As high or medium priority and non-adjudicated basins, the 180/400-Foot Aquifer Subbasin, the Eastside Aquifer Subbasin, the Langley Area Subbasin, the Monterey Subbasin, and the Pajaro Valley Subbasin are subject to the requirements of SGMA, including the requirement to be covered by one or more GSAs and to prepare and submit to DWR one or more GSPs.

As DWR-designated critically overdrafted basins, the GSA for the 180/400-Foot Aquifer Subbasin submitted a GSP to DWR by the 31 January 2020 deadline, and the GSA for the Pajaro Valley Subbasin submitted the BMP as an alternative to a GSP in December 2016, which was approved by DWR as functionally equivalent to a GSP in July 2019. The GSPs for the Eastside Aquifer Subbasin, the Langley Area Subbasin, and the Monterey Subbasin are under preparation and will be submitted to DWR by 31 January 2022.

180/400-Foot Aquifer Subbasin

Pursuant to SGMA requirements, local GSA-eligible entities formed the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) to develop and implement the GSPs for the Salinas Valley Groundwater Basin in 2017. The Salinas Valley Groundwater Basin consists of nine subbasins, of which six fall entirely or partially under the SVBGSA's jurisdiction. The SVBGSA developed the GSP for the 180/400-Foot Aquifer Subbasin in coordination with the MCWD GSA and the County of Monterey Groundwater Sustainability Agency (County GSA), and in concert with the GSPs for its five other Salinas Valley Subbasins.

The 180/400-Foot Aquifer Subbasin GSP covers all of the 89,700 acres of the 180/400-Foot Aquifer Subbasin, including portions of the Salinas District. The SVBGSA is a Joint Powers Authority (JPA) with membership comprising the County of Monterey, MCWRA, City of Salinas, City of Soledad, City of Gonzales, City of King, Castroville Community Services District, and Monterey One Water. The SVBGSA is governed by an eleven-member Board of Directors (Board), representing public and private groundwater interests throughout the Salinas Valley Basin. In addition, an Advisory Committee ensures participation by, and input to, the Board by constituencies whose interests are not directly represented on the Board. The SVBGSA's activities are coordinated by a General Manager. Cal Water holds an alternate seat on the Board. Cal Water is also involved with the Seawater Intrusion Working Group (SWIG).

Eastside Aquifer Subbasin

Pursuant to SGMA requirements, the Eastside Aquifer Subbasin falls entirely within the jurisdiction of the SVBGSA. The SVBGSA established individual subbasin planning committees to advise the Board on each of the subbasins under its jurisdiction for which it is developing a GSP. Development of the Eastside Aquifer Subbasin GSP is being guided by the Eastside Subbasin Planning Committee, which comprises local representatives from the subbasin.

The GSP development process in the Eastside Aquifer Subbasin is ongoing and the GSP is anticipated to be complete and submitted to DWR by the statutory deadline of 31 January 2022.

Langley Area Subbasin

Pursuant to SGMA requirements, the Langley Area Subbasin falls entirely within the jurisdiction of the SVBGSA. The SVBGSA established individual subbasin planning committees to advise the Board on each of the subbasins under its jurisdiction for which it is developing a GSP.

Development of the Langley Area Subbasin GSP is being guided by the Langley Area Subbasin Planning Committee, which consists of local representatives from the Subbasin including Cal Water.

The GSP development process in the Langley Area Subbasin is ongoing and the GSP is anticipated to be complete and submitted to DWR by the statutory deadline of 31 January 2022.

Monterey Subbasin

Pursuant to SGMA requirements, the Monterey Subbasin is within the jurisdiction of the MCWD GSA and SVBGSA, and the Monterey Subbasin GSP is being prepared by the two GSAs. The MCWD GSA and SVBGSA have successfully entered into a Framework Agreement regarding responsibilities and coordination for GSP development in the Monterey Subbasin. Cal Water holds a seat on the Monterey Subbasin committee.

The GSP development process in the Monterey Subbasin is ongoing and the GSP is anticipated to be complete and submitted to DWR by the statutory deadline of 31 January 2022.

Pajaro Valley Subbasin

Pursuant to SGMA requirements, Pajaro Valley Water Management Agency (PVWMA) became a GSA in August 2015. PVWMA has formed an Ad Hoc Sustainable Groundwater Committee to evaluate technical information presented by staff and consultants related to the existing and projected conditions of the groundwater basin, consider sustainable management criteria that would avoid significant and unreasonable impacts to the groundwater basin, and make recommendations to the PVWMA Board. The Committee is comprised of 17 voting members, 12 appointed, and five selected through an open application process. The composition of the Committee is structured to provide a diverse representative cross-section of community stakeholder interests, as well as incorporate water managers within the Pajaro Valley Subbasin. Cal Water has a representative as the committee member of the Ad Hoc Sustainable Groundwater Committee.

PVWMA is currently updating the Alternative GSP under the oversight of the Ad Hoc Sustainable Groundwater Committee. An updated plan is due 1 January 2022.

6.2.4 Cal Water Coordination with Groundwater Sustainability Agencies

Cal Water's groundwater basin management philosophy continues to be to work collaboratively with all stakeholders in the basins where we operate and to do what is best for the groundwater basin including the sharing of burden(s) and benefits on an equitable basis with said stakeholders. Cal Water recognizes and deeply supports the goals, objectives, and intended outcomes of the SGMA. Moreover, the company recognizes the numerous challenges of implementing the legislation along a variety of technical, legal, political, and financial/economic dimensions, particularly when the geographical diversity of the Cal Water's service territory is considered. None-the-less, Cal Water intends to take an active role in the local and state-wide management of groundwater resources over the next 5 to 25+ years by fully supporting and participating in the principal edicts of SGMA. A number of specific steps that the Cal Water has taken with respect to this position and role include (among others):

- Coordination with public agencies to ensure that Cal Water's presence, rights and interests, as well as historical and current resource management concerns are honored/incorporated within the GSA and GSP formulation process(es);
- Coordination with applicable local and regulatory agencies to ensure that Cal Water is at full participation, while also meeting the requirements and expectations set forth by SGMA;
- Enhanced use of digital/electronic groundwater monitoring equipment and other new technology aimed at measuring withdrawal rates, pumping water levels, and key water quality parameters within the context of day-to-day operations;
- Full participation within the SVBGSA where possible, including serving on committees for the Langley, Monterey, and Upper Valley Subbasins and maintaining an alternate seat on the SVBGSA Board;
- Participation in the development of GSP's and formulation of groundwater models being constructed in basins where Cal Water has an operating presence;
- Participation in individual and/or joint projects aimed at mitigating seawater intrusion (including the SWIG) and other "undesirable results" where appropriate;
- Inclusion of sound groundwater management principles and data in all applicable technical reports, studies, facility master plans, and UWMPs (including this 2020 update), particularly as these undertakings relate or pertain to water resource adequacy and reliability;
- Inclusion of sound groundwater management principles and data in all general rate case (GRC) filings and grant applications to ensure that resource management objectives remain visible and central to Cal Water's long-term planning/budgeting efforts.

6.2.5 Historical Pumping and Supply Sufficiency

As described in Section 2.1, the Salinas District is made up five separate PWSs. Groundwater used by the Salinas District is extracted from the subbasins that underlie the District. The District currently owns and operates a total of 38 wells located throughout the service area: two in the Country Meadows PWS, 25 in the Salinas PWS, seven in the Salinas Hills PWS, two in the Las Lomas PWS, and two in the Oak Hills PWS. The Salinas District wells are located within the District service area boundaries shown on Figure 6-1.

The District also operates 41 booster pumps, 23 storage tanks, and more than 300 miles of pipeline which are distributed amongst the PWSs, enabling the local groundwater wells to pump to storage during non-peak demand periods and provide peak day demand. The District has sufficient production capacity to supply all of the District's current annual average day and maximum day demand.

As noted above, groundwater is the only source of supply for the Salinas District. Table 6-1 lists the amount of groundwater pumped by Cal Water over the past five years. The available groundwater supply has been sufficient to meet all of the District's demands in the past five years and all prior years (see Appendix G).

Appendix G presents an analysis of the availability of groundwater supply for the District based on an assumed apportioned allocation of the underlying subbasins' sustainable yield and review of relevant assessments included in GSPs and other documents. Based on the available information, the groundwater supply is expected to be sufficient to meet the projected future District demands through 2040 in normal years, and in most of the District under single dry year and multiple dry year conditions. In the combined Salinas PWS/Country Meadows Mutual PWS there are minor shortfalls (2% and 4%, respectively) anticipated in 2040 under single dry year and multiple dry year conditions. The shortfalls are anticipated to increase slightly in 2045. However, through implementation of the District's Water Shortage Contingency Plan (WSCP) and other supply augmentation measures, the projected shortfalls are anticipated to be alleviated.

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

	Supplier does not pump groundwater. The supplier will not complete the table below.					
	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	180/400-Foot Aquifer Subbasin	5,408	5,962	6,150	6,061	6,228
Alluvial Basin	Eastside Aquifer Subbasin	7,547	8,362	8,582	8,490	8,750
Alluvial Basin	Langley Area Subbasin	352	390	400	396	408
Alluvial Basin	Monterey Subbasin	686	724	798	798	839
Alluvial Basin	Pajaro Valley Subbasin	236	270	232	245	242
	TOTAL	14,228	15,709	16,162	15,989	16,467

NOTES:
(a) Volumes are in units of AF.
(b) For purposes of the UWMP, pumping in each subbasin is estimated based on demands and the proportion of service area overlying each subbasin.

6.3 Surface Water

Cal Water does not currently impound or divert surface water as a means to meet demands in the Salinas District.

6.4 Stormwater

There are no plans to divert stormwater for beneficial uses in the Salinas District.

6.5 Wastewater and Recycled Water

☑ ***CWC § 10633***

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

The recycling of wastewater potentially offers several potential benefits to Cal Water and its customers. Perhaps the greatest of these benefits is to help maintain a sustainable groundwater supply either through direct recharge, or by reducing potable supply needs by substituting recycled water for certain appropriate uses (e.g., landscape irrigation) now being served by potable water. Currently, however, no wastewater is recycled for recharge or direct reuse within the Salinas District.

6.5.1 Recycled Water Coordination

Monterey One Water (previously the Monterey Regional Water Pollution Control Agency) and the MCWRA formed a partnership to build the Monterey County Reclamation Projects: the Salinas Valley Reclamation Project recycled water plant and the Castroville Seawater Intrusion Project (CSIP) distribution system. The recycled water facilities are located outside of the Salinas District area. There are no current plans to bring recycled water into the District area, however, Cal Water will be coordinating with the City of Salinas and Monterey County regarding the potential to bring recycled water into the District and continue to develop a list of customers that could utilize recycled water.

6.5.2 Wastewater Collection, Treatment, and Disposal

☑ ***CWC § 10633 (a)***

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

☑ ***CWC § 10633 (b)***

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

Wastewater from the District is collected by City of Salinas, City of Watsonville, California American Water (CalAm), and Alco Water Service. A summary of the wastewater collection, treatment, and disposal for the Salinas District is shown in Table 6-2 and Table 6-3, including estimates of the volume of wastewater collected from Salinas District customers in 2020. The estimate is calculated by annualizing 90 percent of January water use in the service area.

The City of Salinas operates and maintains the sewer system that serves a major portion of the District. The system consists of gravity sewers, pumping stations, and force mains to collect wastewater from residential and industrial customers. The wastewater collected by the City of Salinas is conveyed through an underground pipeline for treatment at the Monterey One Water Regional Treatment Plant which is located outside the Salinas District boundaries. The plant has a capacity to treat 29.6 million gallons per day (MGD) of wastewater. The wastewater conveyed to the Monterey One Water Regional Treatment Plant undergoes primary and secondary treatment. The secondary effluent then takes one of three paths: (1) ocean discharge, (2) influent for tertiary treatment and discharge for crop irrigation, or (3) influent for advanced purification and discharge for groundwater replenishment.[32]

Wastewater that undergoes tertiary treatment can be recycled for crop irrigation through the CSIP. A three-step treatment process is used which consists of flocculation, tertiary filters, and chlorine disinfection. After treatment, the recycled water is held temporarily in an 80 acre-feet (AF) storage pond before it is distributed to farmlands in the CSIP system. Four billion gallons of recycled water is produced each year for food crop irrigation to further reduce groundwater pumping in the vulnerable CSIP area.[33] During the summer months, 100 percent of the treated effluent (approximately 4,400 acre-feet per year [AFY]) from the plant is recycled for agricultural irrigation of artichokes and a variety of other crops. Wastewater is not recycled during the winter months, but is discharged without chlorination to Monterey Bay. Wastewater that undergoes the advanced purification process (using ozone, membrane filtration, reverse osmosis, and advanced

[32] Monterey One Water website: Regional Treatment Plant | Monterey One Water, CA, accessed on 21 January 2021.

[33] Monterey One Water website: Castroville Seawater Intrusion Project Overview | Monterey One Water, CA, accessed on 21 January 2021.

oxidation) can be turned into purified water for groundwater recharge. The Advanced Water Purification Facility has a capacity of 5 MGD.[34]

The City of Watsonville, CalAm, and Alco Water Service operate and maintain separate wastewater treatment facilities that serve a small portion of the District. None of the wastewater treatment facilities are located within the District service area. The sewer system operated by the City of Watsonville consists of over 120 miles of sanitary sewer pipeline and 13 lift stations. Wastewater collected by the City of Watsonville is transported to the Watsonville Wastewater Treatment Facility, which can process up to 12 MGD of wastewater during dry weather and 36 MGD during wet weather.[35] The wastewater is treated to the advanced secondary treatment level for ocean discharge and advanced tertiary treatment level for food crop irrigation.[36] CalAm operates several small community wastewater facilities in the Monterey County area. Alco Water Service operates a wastewater treatment facility near Toro Park. Volumes of wastewater collected by the City of Watsonville, CalAm, and Alco are shown in Table 6-2.

[34] Monterey One Water website: https://www.montereyonewater.org/261/Pure-Water-Monterey-Overview, accessed on 21 January 2021.
[35] City of Watsonville website: https://cityofwatsonville.org/812/Wastewater-Division, accessed on 6 April 2021.
[36] Ibid.

Table 6-2. Wastewater Collected Within Service Area in 2020 (DWR Table 6-2)

	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2020 service area covered by wastewater collection system *(optional)*					
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party? *(optional)*
City of Salinas	Estimated	9,524	Monterey One	Monterey One Water Regional Treatment Plant	No	
City of Watsonville	Estimated	180	City of Watsonville	Watsonville Wastewater Treatment Facility	No	
California American Water	Estimated	596	California American Water	Various Community Wastewater Treatment Facilities	No	
Alco Water	Estimated	162	Alco Water	Toro Park Wastewater Treatment Facility	No	
Total Wastewater Collected from Service Area in 2020:		10,462				

NOTES:
(a) Volumes are in units of AF.
(b) The Monterey One Water Regional Treatment Plant serves portions of the Salinas PWS and Oak Hills PWS; the Watsonville Wastewater Treatment Facility serves the Las Lomas PWS; the Toro Park Wastewater Treatment Facility serves portions of the Salinas Hills PWS; and the various community wastewater treatment facilities operated by California American Water serve portions of Salinas Hills, Oak Hills, and Salinas PWS. All remaining customers in the Salinas District are served by septic systems.

Table 6-3. Wastewater and Discharge Within Service Area in 2020 (DWR Table 6-3)

X	No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.											
							2020 volumes					
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)*	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
						Total					
NOTES:											

6.5.3 Recycled Water System and Recycled Water Beneficial Uses

☑ ***CWC § 10633 (c-g)***

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

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

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

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

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

Currently, as shown in Table 6-4 and Table 6-5, no wastewater is recycled for direct reuse within the Salinas District and there is no current use of recycled water in the District.

Recycled water is generated by the Monterey One Water through CSIP for crop irrigation or at the Advanced Water Purification Facility for groundwater recharge. Monterey One Water entered a joint water supply planning process with Fort Ord Reuse Authority (FORA) and MCWD in 2015 to identify the "Additional Water Augmentation Component." Water supply options being evaluated include brackish water and seawater desalination, increased water conservation measures, additional advanced treated water, and indirect potable reuse/groundwater recharge and replenishment (IPR).[37] In addition, Monterey One Water is currently designing and permitting to expand its Pure Water Monterey Groundwater Replenishment Project to include constructing facilities capable of providing advanced treatment, conveyance and injection of purified water for groundwater recharge, drought reserve, and irrigation.[38]

While none of the above projects are anticipated to occur within the District boundaries or directly impact District supplies, Cal Water will actively investigate recycled water opportunities as part of forthcoming water supply reliability studies. However, given the uncertainty in planning and schedule, there is currently no actual or projected recycled water supply for the Salinas District through the year 2045.

[37] MCWD GSA, 2021. Monterey Subbasin Groundwater Sustainability Plan Draft Chapters 1 thought 4, dated January 2021

[38] Monterey One Water, 2018. Progress Report on Pure Water Monterey Expansion, dated May 2018.

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

X	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.									
Name of Supplier Producing (Treating) the Recycled Water:										
Name of Supplier Operating the Recycled Water Distribution System:										
Supplemental Water Added in 2020 (volume)										
Source of 2020 Supplemental Water										
Beneficial Use Type	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity)	General Description of 2020 Uses	Level of Treatment	2020	2025	2030	2035	2040	2045
				Total:						
				2020 Internal Reuse						
NOTES:										

Table 6-5. 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5)

X	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below.	
Beneficial Use Type	2015 Projection for 2020	2020 Actual Use
Total		
NOTES:		

6.5.4 Actions to Encourage and Optimize Future Recycled Water Use

At this time, as shown in Table 6-6, Cal Water does not have plans to initiate/expand the use of recycled water within the Salinas District. However, Cal Water continues to actively investigate recycled water opportunities.

Cal Water's supply portfolio in some districts already includes recycled water; elsewhere, Cal Water is participating in studies of the possibility of adding this supply source. Cal Water is eager to expand its portfolio to provide recycled water to its customers wherever feasible, and to form partnerships with other agencies and jurisdictions to accomplish this. However, any such project must be economically feasible and approval of such an investment by the California Public Utilities Commission (CPUC) is contingent on a demonstration that it is beneficial to ratepayers.

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

X	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
Section 6.5.4	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
		Total	
NOTES:			

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.

There is potential to use desalinated water as a source of supply in the Salinas District. However, the District is significantly inland from the ocean and distribution may be cost prohibitive. As such there are no desalination projects that Cal Water is actively pursuing with sufficient certainty to be reflected in this UWMP.

The GSPs for subbasins that underlying the District provide list of Projects and Management Actions, which could be implemented to achieve sustainability goal. Based on the information that is available, for example, SVBGSA listed "Desalination Water from the Seawater Barrier Extraction Wells" as an alternative project in the 180/400-Foot Aquifer Subbasin GSP given that the following plants are in various planning and design stages in the Monterey Bay Area:

- Monterey Peninsula Water Supply Project desalination plant, 6.4 MGD (7,100 AFY)
- Deep Water Desalination Plant, 22 MGD (25,000 AFY)
- People's Water Supply Project desalination plant, 12 MGD (13,400 AFY)

Two of the desalination plants are being considered at Moss Landing: DeepWater Desal Project and the People's Desalination Project. These two plants are currently envisioned to be able to receive influent source water flows of 49 MGD (55,000 AFY) in the case of DeepWater Desal and 30 MGD (33,600 AFY) for the People's Desalination Project.[39]

6.7 Water Exchanges and Transfers

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

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

6.7.1 Exchanges

Cal Water has not identified any water exchange opportunities to date for the Salinas District that it is actively pursuing with sufficient certainty to be reflected in this UWMP.

[39] SVBGSA, 2020. 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan, dated January 2020.

6.7.2 Transfers

Cal Water has not identified any water transfer opportunities to date for the Salinas District that it is actively pursuing with sufficient certainty to be reflected in this UWMP.

6.7.3 Emergency Interties

The District currently does not have any emergency interties. However, the District is actively pursuing an intertie between Salinas PWS and Country Meadows Mutual PWS, which is expected to be in development through 2022. Other potential interties include Pajaro Valley Water Management Agency with Las Lomas PWS, Castroville Community Services District with Oak Hills PWS, and Salinas PWS with Salinas Hills PWS.

6.8 Future Water Projects

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

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

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

Cal Water has an active well maintenance program to monitor all of the wells and identify which wells need to be replaced to maintain the reliability of the system. Cal Water has included plans to install two wells for the Salinas PWS in its next rate case.

Given the projected shortfalls in 2040 and 2045 in the Salinas and Country Meadows PWSs of the Salinas District under single dry and multiple dry year conditions, Cal Water is actively exploring and evaluating potential new supply sources to augment existing groundwater supplies. Cal Water performed a Preliminary Water Supply Reliability Study (Preliminary Study)[40] for the Salinas PWS, which is the main system of the District. The analysis performed was a pre-feasibility level study to identify potential water supply options for the Salinas PWS. While the study focused on the potential needs of the Salinas PWS, some of the projects identified could serve the other PWSs as well.

[40] Cal Water, 2009. Long-Term Water Supply Plan for the Salinas District, dated July 2009.

The Preliminary Study's supply evaluation initially considered 38 projects and selected eight for further analysis. These options fit into two categories: (1) direct delivery, where Cal Water would invest in physical assets for a direct groundwater offset in the Salinas District, and (2) indirect delivery, where Cal Water would pay to participate in a project operated by another agency to reduce groundwater pumping elsewhere in the basin, allowing Cal Water to continue pumping in the Salinas District. The projects analyzed included ocean desalination, diversion of surface supplies, and non-potable recycled supplies.

The projects identified in the Preliminary Study will serve as the foundation for the more detailed assessment of the entire District's supply reliability as part of Cal Water's King City/Salinas Water Supply Reliability Study (Reliability Study) scheduled for 2021. The Reliability Study will incorporate integrated resource planning methods, which are a comprehensive form of resource planning process that will create, or utilize existing, statistical models to support scenario planning and the development of a portfolio of water supply options for assessing water reliability across the scenarios. Its ultimate objective is to identify long-term supplies that sustainably support each community's needs.

Further, because of the projects built, being built, and still planned in the Salinas Valley Basin by MCWRA and as part of the relevant GSPs, there are early indications that achieving sustainability is feasible and Cal Water will be able to continue to rely exclusively on groundwater to meet present and future demands within the District. However, the District is also actively exploring and evaluating potential new supply sources to augment existing groundwater supplies. At this time these efforts are preliminary and no new sources have been specifically identified and quantified herein, as shown in Table 6-7 below.

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

X	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?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier
	Y/N	*If Yes, Supplier Name*				
NOTES:						

6.9 Summary of Existing and Planned Sources of Water

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

☑ ***CWC § 10631 (b) (2)***

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

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

Table 6-8 summarizes the actual volumes of groundwater production for calendar year 2020, as applicable. As discussed above, groundwater is the sole source of water supply for the Salinas District, and it will be used to serve all projected demands within the Salinas District through 2045. Therefore, the groundwater supply amounts shown in Table 6-9 equal the projected demand in each year (see also Appendix G)[41].

It should be noted that none of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes. Any determination of Cal Water's water rights, as an overlying owner, appropriator, municipal water purveyor or otherwise, is beyond the scope of this report and the UWMP statutes and regulations. The SVBGSA continues to evaluate any and all options to enhance groundwater supplies in the underlying subbasins; however, at current, most of the subbasin GSPs have not been fully developed. Cal Water actively participates in the preparation of these GSPs and monitors any potential changes to groundwater availability in the future.

[41] Cal Water expects that, under all hydrologic conditions, its groundwater supply for the Salinas District will fully meet future demands, with the exception of small shortfalls under single dry and multiple dry year conditions in 2040 and 2045 in certain PWSs (i.e., the combined Salinas PWS and Country Meadows Mutual PWS).

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

Water Supply	Additional Detail on Water Supply	2020		
		Actual Volume	Water Quality	Total Right or Safe Yield *(optional)*
Groundwater (not desalinated)	180/400-Foot Aquifer Subbasin	6,228	Drinking Water	
Groundwater (not desalinated)	Eastside Aquifer Subbasin	8,750	Drinking Water	
Groundwater (not desalinated)	Langley Area Subbasin	408	Drinking Water	
Groundwater (not desalinated)	Monterey Subbasin	839	Drinking Water	
Groundwater (not desalinated)	Pajaro Valley Subbasin	242	Drinking Water	
	Total	16,467		

NOTES:
(a) Volumes are in units of AF.
(b) For purposes of the UWMP, pumping in each subbasin is estimated based on demands and the proportion of service area overlying each subbasin.

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

Water Supply	Additional Detail on Water Supply	Projected Water Supply									
		2025		2030		2035		2040		2045	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Groundwater (not desalinated)	180/400-Foot Aquifer Subbasin	6,316		6,453		6,670		6,892		7,144	
Groundwater (not desalinated)	Eastside Aquifer Subbasin	9,135		9,393		9,760		10,134		10,549	
Groundwater (not desalinated)	Langley Area Subbasin	426		438		455		472		492	
Groundwater (not desalinated)	Monterey Subbasin	511		490		481		471		465	
Groundwater (not desalinated)	Pajaro Valley Subbasin	221		214		209		205		203	
	Total	16,609		16,988		17,575		18,175		18,853	

NOTES:
(a) Volumes are in units of AF.
(b) The projected water supply is based on an assumed proportionated sustainable yield for the District (see Appendix G).

6.10 Special Conditions

6.10.1 Climate Change Effects

Cal Water is committed to incorporating climate change considerations into its ongoing water supply planning. Section 4.3 of this UWMP includes a description of plausible changes to projected demands under climate change conditions, and Cal Water is currently working to consider the effects of climate change in future demand modeling. The impact of climate change on District supplies is addressed in detail in the key resources described below, which are incorporated into this Plan by reference:

- Cal Water is currently in the process of developing a multi-phase climate change study. Phase 1, which primarily consisted of a literature and tools review of previous and complementary studies, was completed in December 2020.[42] Phase 2 will include (1) District-level vulnerability assessments of Cal Water's facilities, operations and services (where these have not yet been completed) and (2) an assessment of risks, specifically potential impacts to the various water supplies and water demand due to climate change to project vulnerability to supply shortages for each Cal Water district. Phase 2 is expected to be completed by December 2021. Phase 3 will focus on an assessment of climate-driven impacts to water supply resources and demand. The executive summary of Phase 1 of this study is included in this Plan in Appendix H.

- In 2016, Cal Water completed a study of climate change impacts on a representative subset of its districts, to gain a better understanding of the potential impacts of climate change on the availability of its diverse supplies.[43] The 2016 study relied on the best available projections of changes in climate (temperature and precipitation) through the end of the century to examine how surface water flows and groundwater recharge rates may change. The executive summary of this study is included in this Plan in Appendix H.

- Appendix G of this Plan assesses the sufficiency of the Salinas District's groundwater supplies to meet projected demands under dry year conditions, including during normal years, single dry years and an extended five-year drought period, based on historical drought hydrology and projected future climate change conditions. The analysis in Appendix G includes assesses the sufficiency of available supplies in terms of the proportionated sustainable yield for each PWS in the District, based on review of relevant assessments as part of GSPs and other references developed to date, which includes the

[42] ICF, 2020. California Water Service Climate Change – Water Resource Monitoring and Adaptation Plan – Phase 1, prepared by ICF, dated December 17, 2020.
[43] California Water Service Company, 2016. Potential Climate Change Impacts on the Water Supplies of California Water Service, prepared by Gary Fiske and Associates, Inc. and Balance Hydrologics, Inc., dated January 2016.

effects of climate change.

- SGMA dictates that GSPs include basin-wide water budget models under various climate change scenarios, including 2070 future conditions which account for the effects of estimated climate change.

  The 180/400-Foot Aquifer Subbasin has completed a GSP in January 2020, which is available on the DWR SGMA Portal website:
  https://sgma.water.ca.gov/portal/gsp/preview/29.

  The Pajaro Valley Subbasin has adopted a BMP as an alternative GSP in December 2016, which was approved by DWR as functionally equivalent to a GSP in July 2019 and is available on the DWR SGMA Portal website:
  https://sgma.water.ca.gov/portal/alternative/print/22.

  The SVBGSA is currently preparing GSPs for the Eastside Aquifer Subbasin, the Langley Area Subbasin, and, along with the Marina Coast Water District GSA, for the Monterey Subbasin, which are to be completed by January 2022 per the SGMA.

  Draft chapters of the Eastside Aquifer Subbasin GSP are available on the Salinas Valley Basin GSA website:
  https://svbgsa.org/east-side-subbasin/

  Draft chapters of the Langley Area Subbasin GSP are available on the Salinas Valley Basin GSA website:
  https://svbgsa.org/langley-subbasin/

  Draft chapters of the Monterey Subbasin GSP are available on the SVBGSA website and the MCWD GSA website:
  https://svbgsa.org/monterey-subbasin/
  https://www.mcwd.org/gsa_about.html#

  It is anticipated that following adoption of the Eastside Aquifer Subbasin GSP, the Langley Area Subbasin GSP, and the Monterey Subbasin GSP (anticipated by January 31, 2022), the final GSPs will be available on the DWR website:
  https://sgma.water.ca.gov/portal/gsp/all

6.10.2 Regulatory Conditions and Project Development

Emerging regulatory conditions may affect planned future projects and the characterization of future water supply availability and analysis. The Salinas District does not have any current plans to develop additional supply sources. If the District does move forward with any plans to develop supply projects, emerging regulatory conditions will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates (e.g., if for some reason future supply projects rely directly or indirectly on water from the Sacramento-San Joaquin Delta, issues surrounding the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary [Bay-Delta Plan] will be considered).

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). The District does not have any current plans to develop additional supply sources. If the District does move forward ahead 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.

Under SGMA, GSAs have the authority to implement projects and management actions that help each basin reach its sustainability goal, including such actions as setting allocations for groundwater pumping, prohibiting development of new groundwater wells, or implementing fees for pumping volumes. As described in Section 6.2, the GSP for the 180/400-Foot Aquifer Subbasin was completed in January 2020, and the Alternative GSP for the Pajaro Valley Subbasin was approved by the DWR in July 2019. Other GSP development efforts are on-going.

The 180/400-Foot Aquifer Subbasin GSP stated that there may need to be temporary pumping reductions to achieve necessary rises in groundwater elevation, in order to address the significant seawater intrusion occurring within the 180/400-Foot Aquifer Subbasin due to persistent inland groundwater gradients. However, detailed plans or timing of such reduction is unknown. One of the projects proposed in the 180/400-Foot Aquifer Subbasin GSP is a pumping allowance program / water charges framework to be implemented across the Salinas Valley Basin. The proposed program would assign pumping allowances to groundwater users and collect fees based on their use relative to the assigned allowances. Currently, groundwater use in the subbasin is dominated by agricultural uses (i.e., 82 percent of total pumping) as shown in Appendix G. The mechanism of implementing the planned pumping allowances is currently uncertain and may have significant impacts to the Salinas Valley Basin's water supply. Development of the pumping allowance program is planned for the first three years of the GSP implementation phase (i.e., 2021 through 2024).

The GSPs for the Eastside Aquifer Subbasin, the Langley Area Subbasin, and the Monterey Subbasin are still under development, and until those GSPs are adopted, the three subbasins are currently being managed by AB 3030 GMPs. Cal Water is actively participating in the GSP development process in these subbasins. If actions such as a pumping allowance program are implemented by the GSAs, Cal Water will report and consider these actions as a part of its future supply planning efforts.

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 UWMP Guidebook 2020 is used to report water-related energy-consumption data for the Salinas District. Calendar year 2019 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 Salinas District during calendar year 2019 based on reported utility bills is 9,238,807 kilowatt hour (kWh). Table 6-10 shows the energy consumed for each acre-foot (AF) of water entering the distribution system in the Salinas District, including energy associated with the pumping, treatment, conveyance, and distribution of drinking water, but not including energy associated with the treatment of wastewater. Based on this, the energy intensity is estimated to be 561 kilowatt hours per acre-foot (kWh/AF).

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

Urban Water Supplier: *Salinas District*

Water Delivery Product

Retail Potable Deliveries

Enter Start Date for Reporting Period	1/1/2019	Urban Water Supplier Operational Control		
End Date	12/31/2019			
Is upstream embedded in the values reported?		Sum of All Water Management Processes	Non-Consequential Hydropower	
Water Volume Units Used	AF	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*16,467*	*0*	*16467*
Energy Consumed (kWh)		*9,238,807*	*0*	*9238807*
Energy Intensity (kWh/volume)		*561.0*	*0.0*	*561.0*

Quantity of Self-Generated Renewable Energy

N/A kWh

Data Quality

Metered Data

Data Quality Narrative:

Utility bills for the associated time period are used as the source for energy consumption data.

Narrative:

Total energy consumption represents the energy consumed during pumping, treatment, conveyance, and distribution.

Chapter 7
Water Supply Reliability Assessment

☑ ***CWC § 10620 (f)***

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

☑ ***CWC § 10630.5***

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

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

7.1 Constraints on Water Sources

7.2 Reliability by Type of Year

7.3 Supply and Demand Assessment

7.4 Water Supply Management Tools and Options

7.5 Drought Risk Assessment

7.1 Constraints on Water Sources

Groundwater is the sole supply for the Salinas District. Cal Water has identified several potential constraints on future groundwater supply availability, including water quality and climate change. These constraints, along with the associated management strategies are summarized in the following sections.

7.1.1 Supply Availability

As discussed in Chapter 6 and Appendix G, Cal Water expects that, under all hydrologic conditions, its groundwater supply for the Salinas District will fully meet future demands, with the exception of small shortfalls under single dry and multiple dry year conditions in 2040 and 2045 in certain Public Water Systems (PWSs) (i.e., the combined Salinas PWS and Country Meadows Mutual PWS). Storage in the underlying groundwater subbasins will provide a buffer against years with decreased precipitation, while wetter years will recharge natural supplies.

Appendix G presents an analysis of the availability of groundwater supply for the District based on estimated sustainable yield proportionated to the PWSs service areas within the District. Based on the available information, the available groundwater supply is expected to be sufficient to meet the projected future demands of the District in normal, single dry, and multiple dry year periods through 2045 for the Salinas Hills PWS, Oak Hills, PWS and Las Lomas PWS service areas. For the Salinas PWS and Country Meadows Mutual PWS, the groundwater supply is sufficient to meet projected demand under all conditions through 2035, and under normal year conditions through 2045. Under single dry and multiple dry year conditions, small shortages (2% and 3%, respectively) are anticipated in 2040, and relatively small shortages (6% and 7%, respectively) are anticipated in 2045. However, through implementation of Cal Water's Water Shortage Contingency Plan (WSCP), and proactive steps to increase supplies (see Section 6.8) and promote conservation, shortfalls are expected to be alleviated.

It should be noted that none of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes. Any determination of Cal Water's water rights, as an overlying owner, appropriator, municipal water purveyor or otherwise, is beyond the scope of this report and the Urban Water Management Plan (UWMP) statutes and regulations. The Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) continues to evaluate any and all options to enhance groundwater supplies in the basin; however, at current, most of the subbasin Groundwater Sustainability Plans (GSPs) have not been fully developed. Cal Water actively participates in the preparation of these GSPs and monitors any potential changes to groundwater availability in the future.

Cal Water holds certain water rights to groundwater it has pumped and used as an overlying owner and appropriator. Cal Water's water rights have been dedicated to a public use, and Cal Water is required by the California Public Utilities Commission to provide water to all customers within its designated service area under reasonable rules and regulations. Further, under California law municipal water rights and uses have a higher priority and are entitled to more protection than other uses of water, including in connection with the Sustainable Groundwater Management Act (SGMA). Use of water for domestic purposes is recognized as the "highest use" of water in the State of California pursuant to Water Code Section 106, and the rights of urban water purveyors should be protected to the fullest extent necessary for existing and future uses, pursuant to Water Code Section 106.5.

SGMA was intended to preserve the security of water rights in the state to the greatest extent possible, and was not intended to determine, modify or alter any surface water or groundwater rights or priorities. (Water Code §10720.1(b), 10720.5(a) and (b).) SGMA should therefore not reduce, adversely impact or limit Cal Water's present or future exercise of its domestic water rights or its obligation to serve its municipal customers, and Cal Water's rights should be subject to less restrictions and limitations than any other types of water rights or uses.

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. Cal Water has and will continue to meet all state and federal water quality regulations. All drinking water standards are set by the U.S. Environmental Protection Agency (USEPA) under the authorization of the Federal Safe Drinking Water Act of 1974. In California, the State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW) can either adopt the USEPA standards or set more stringent standards, which are then codified in Title 22 of the California Code of Regulations. There are two general types of drinking water standards:

- **Primary Maximum Contaminant Levels (MCLs)** are health protective standards and are established using a very conservative risk-based approach for each constituent that takes into potential health effects, detectability and treatability, and costs of treatment. Public water systems may not serve water that exceeds Primary MCLs for any constituent.

- **Secondary MCLs** are based on the aesthetic qualities of the water such as taste, odor, color, and certain mineral content, and are considered limits for constituents that may affect consumer acceptance of the water.

Cal Water routinely monitors its wells and the water that is treated and served to customers to ensure that water delivered to customers meets these drinking water standards. The results of this testing are reported to the SWRCB DDW following each test and are summarized annually in Water Quality Reports (also known as "Consumer Confidence Reports"), which are provided to customers by mail and made available on Cal Water's website: https://www.calwater.com/waterquality/water-quality-reports/. Additionally, a detailed review of the water quality conditions of the underlying groundwater subbasins are provided in the GSPs covering these subbasins, which are available on the DWR SGMA Portal website: https://sgma.water.ca.gov/portal/gsp/all.

Although there is the potential for some regulated constituents to be present in source water, as documented in the Water Quality Reports, the District's monitoring, management, and treatment of its water results in high quality drinking water meeting all drinking water standards being served to customers. Cal Water tracks changes in constituent concentrations to proactively address water quality issues before they impact supply reliability.[44] In the event that water quality constituents are detected in source water at concentrations requiring treatment, the District is able to take impacted wells offline to implement appropriate treatment. Further, as part of the siting process for all new wells, Cal Water evaluates the presence of groundwater contamination and avoids placing wells in areas of known contamination.

Given Cal Water's proactive monitoring and management of water quality in its source water supplies, water quality is not expected to impact the reliability of the District's available supplies through 2045.

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 on supplies that Cal Water has previously performed and those planned for the near term, as well as those related to SGMA efforts for the underlying subbasins. The impact of climate change on District supplies is discussed further in Appendix G of this UWMP, and the resources included therein. The anticipated effects of climate change have been directly factored into the District's assessment of its supply reliability. As discussed in Section 6.10, Cal Water is actively working to further quantify and consider future climate change impacts as part of its ongoing supply and operations planning.

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

7.2 Reliability by Type of Year

☑ ***CWC § 10631 (b)***

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

☑ ***CWC § 10631 (b)(1)***

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

☑ ***CWC § 10635 (a)***

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

Per the UWMP Guidebook 2020, the water service reliability assessment includes three unique year types:

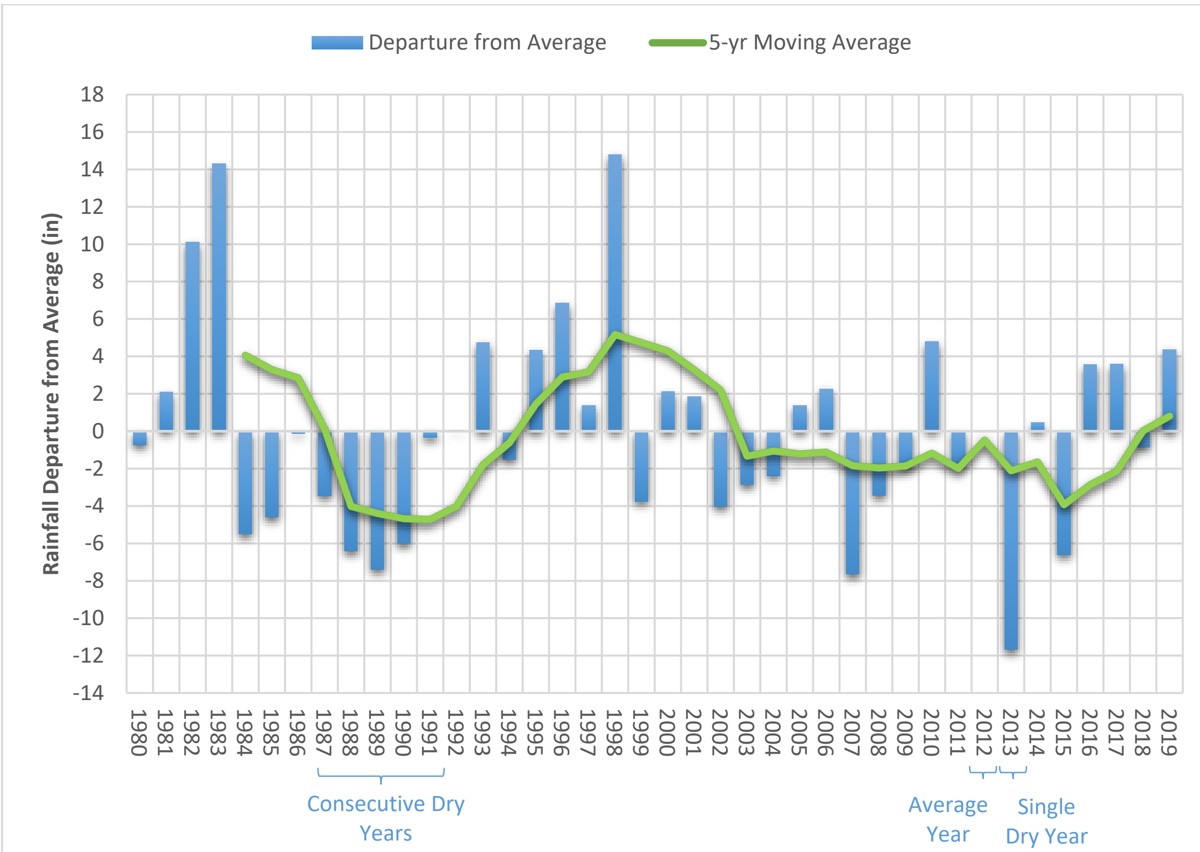
- A normal hydrologic year represents the water supplies available under normal conditions, this could be an averaged range of years or a single representative year,
- A single dry year represents the lowest available water supply, and
- A five-consecutive year drought represents the driest five-year period in the historical record.

Identification of these dry year periods consistent with the UWMP Guidebook 2020 methodology is provided below. However, it should be noted that because the District relies on groundwater as its sole supply source, and thus only pumps the amount of groundwater necessary to meet demands in a given year, these values do not represent, restrict or limit the total supply available to the District in a given year, but rather reflect the fact that the available groundwater supply is sufficient to meet the demands as needed.

Figure 7-1 compares annual rainfall to the historic average (15.43 inches). The designation of Base Years for drought planning shown in Table 7-1 below comes from the data underlying this chart. The Cal Water production data record for the Salinas District begins in the year 1980. Therefore, the following year type analysis uses the historical period from 1980 to 2019.

A normal hydrologic year occurred in 2012 when precipitation was approximately 0.3 percent below the historic average for the period from 1980 to 2019. The driest year occurred in 2013 when the rainfall was approximately 76% percent below average (3.75 inches). This is taken as the single dry year shown in Table 7-1. The multiple dry water years used to represent a five-consecutive year drought are 1987 through 1991. This period represents the driest five-year period on record for the historical period from 1980 to 2019, with an average precipitation of 10.7 inches per year.

Figure 7-1. Deviation of Annual Rainfall from Long-Term Average



Source: PRISM Climate Group, Oregon State University, http://prism.oregonstate.edu

The projected "volume available" estimates presented in Table 7-1 are equal to the maximum demands across projected years and year types shown in Table 7-2, Table 7-3, and Table 7-4. For example, the assumed volume available in a representative single dry year in Table 7-1 is equal to the projected single dry year demand for the year 2045 as shown in Table 7-3.

It should be noted that the volumes in Table 7-1, Table 7-2, Table 7-3, and Table 7-4 do not represent the total amount of groundwater that may be available to the District in a given year, but rather reflect the fact that the groundwater supply sources has always been sufficient to meet demands, and is projected to continue to be sufficient to meet demands in the future, in combination with the Salinas District's WSCP and other proactive measures taken by the District.

It should also be noted that none of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes. Any determination of Cal Water's water rights, as an overlying owner, appropriator, municipal water purveyor or otherwise, is beyond the scope of this report and the UWMP statutes and regulations.

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

<table>
<tr><th rowspan="4">Year Type</th><th rowspan="4">Base Year</th><th colspan="3">Available Supplies if Year Type Repeats</th></tr>
<tr><td></td><td colspan="2">Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP.
Location ____________________________</td></tr>
<tr><td>X</td><td colspan="2">Quantification of available supplies is provided in this table as either volume only, percent only, or both.</td></tr>
<tr><td colspan="2">Volume Available</td><td>% of Average Supply</td></tr>
<tr><td>Average Year</td><td>2012</td><td colspan="2">18,853</td><td></td></tr>
<tr><td>Single-Dry Year</td><td>2013</td><td colspan="2">19,464</td><td></td></tr>
<tr><td>Consecutive Dry Years 1st Year</td><td>1987</td><td colspan="2">19,842</td><td></td></tr>
<tr><td>Consecutive Dry Years 2nd Year</td><td>1988</td><td colspan="2">19,842</td><td></td></tr>
<tr><td>Consecutive Dry Years 3rd Year</td><td>1989</td><td colspan="2">19,842</td><td></td></tr>
<tr><td>Consecutive Dry Years 4th Year</td><td>1990</td><td colspan="2">19,842</td><td></td></tr>
<tr><td>Consecutive Dry Years 5th Year</td><td>1991</td><td colspan="2">19,842</td><td></td></tr>
<tr><td colspan="5">NOTES:
(a) Volumes are in units of AF.
(b) Available volumes presented here are the maximum demands across projected years in Table 7-2, 7-3 and 7-4. Because the District relies on groundwater as its sole supply source, and thus only pumps the amount of groundwater necessary to meet demands in a given year, these values do not represent the total supply available to the District in a given year, but rather reflect the fact that the available groundwater supply is sufficient to meet the demands as needed.</td></tr>
</table>

7.3 Supply and Demand Assessment

Water supply and demand patterns change during normal, single dry, and multiple dry years. Cal Water has relied on the demand modeling described in Chapter 4 to forecast demands for normal, single dry and multiple dry years. As described above and detailed in Appendix G, Cal Water's groundwater supply for the Salinas District is expected to be able to serve those demands in all year types through 2035, and through 2045 under normal year conditions, with the exception of small shortfalls in the combined Salinas PWS / Country Meadows Mutual PWS under single dry and multiple dry year conditions in 2040 and 2045.[45]

Table 7-2 shows the projected supply and demand totals for a normal year. The supply and demand totals are consistent with those in Table 6-9 and Table 4-3, respectively. Table 7-3 shows the projected supply and demand totals for the single dry year, and Table 7-4 shows the projected supply and demand totals for multiple dry year periods extending five years.[46] It should be noted that none of the subbasins that the District overlies are adjudicated, and the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes. Any determination of Cal Water's water rights, as an overlying owner, appropriator, municipal water purveyor or otherwise, is beyond the scope of this report and the UWMP statutes and regulations.

While the analysis of sufficiency of groundwater supply in Appendix G shows potential water supply shortages in the Salinas PWS and Country Meadows Mutual PWS by 2040 under single dry and multiple dry year condition, Cal Water has already undertaken water supply reliability planning efforts to evaluate and identify water supply and/or demand management efforts to address the potential water supply shortages identified in this chapter. As discussed in Section 6.8, Cal Water performed a Preliminary Water Supply Reliability Study (Preliminary Study) to identify potential water supply options for the Salinas PWS should further analysis show a need for additional supplies. The Preliminary Study identified projects for further analysis to serve as the foundation for the more detailed assessment of the entire District's supply reliability under Cal Water's King City/Salinas Water Supply Reliability Study (Reliability Study) scheduled for 2021.

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

[46] Each set of tables (Tables 7-2 through 7-2D, Tables 7-3 through 7-3D, and Tables 7-4 through 7-4D) show a comparison for the District as a whole, plus comparisons for each PWS, as evaluated in Appendix H and by the District's demand forecast model.

Table 7-2. Normal Year Supply and Demand Comparison – Districtwide (DWR Table 7-2)

	2025	2030	2035	2040	2045
Supply totals *From DWR Table 6-9*	16,609	16,988	17,575	18,175	18,853
Demand totals *From DWR Table 4-3*	16,609	16,988	17,575	18,175	18,853
Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-2A. Normal Year Supply and Demand Comparison – Salinas PWS and Country Meadows Mutual PWS

	2025	2030	2035	2040	2045
Supply totals	15,226	15,655	16,267	16,891	17,147
Demand totals	15,226	15,655	16,267	16,891	17,583
Difference	0	0	0	0	(436)

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.
(c) Projected supply in 2045 is based on proportionated sustainable yield for the Salinas PWS and the Country Meadows Mutual PWS (see Appendix G). A small (2.5%) shortfall is identified in 2045 under normal year conditions. However, as discussed in Appendix G and Section 6.8 of the Plan, Cal Water is actively working to evaluate and develop new supplies to fill this gap. Therefore, sufficient groundwater supply is anticipated to meet the future demands of the Salinas District (and each PWS) under normal year conditions during the planning horizon.

Table 7-2B. Normal Year Supply and Demand Comparison – Salinas Hills PWS

	2025	2030	2035	2040	2045
Supply totals	773	742	728	714	705
Demand totals	773	742	728	714	705
Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that the District overlies are adjudicated, and the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-2C. Normal Year Supply and Demand Comparison – Oak Hills PWS

	2025	2030	2035	2040	2045
Supply totals	388	376	371	365	362
Demand totals	388	376	371	365	362
Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-2D. Normal Year Supply and Demand Comparison – Las Lomas PWS

	2025	2030	2035	2040	2045
Supply totals	221	214	209	205	203
Demand totals	221	214	209	205	203
Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-3. Single Dry Year Supply and Demand Comparison – Districtwide (DWR Table 7-3)

	2025	2030	2035	2040	2045
Supply totals	17,152	17,542	18,147	18,765	19,464
Demand totals	17,152	17,542	18,147	18,765	19,464
Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-3A. Single Dry Year Supply and Demand Comparison – Salinas PWS and Country Meadows Mutual PWS

	2025	2030	2035	2040	2045
Supply totals	15,718	16,160	16,790	17,147	17,147
Demand totals	15,718	16,160	16,790	17,433	18,147
Difference	0	0	0	(285)	(1,000)

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.
(c) Projected supplies in 2040 and 2045 are based on proportionated sustainable yield for the Salinas PWS and the Country Meadows Mutual PWS (see Appendix G).

Table 7-3B. Single Dry Year Supply and Demand Comparison – Salinas Hills PWS

	2025	2030	2035	2040	2045
Supply totals	804	772	757	742	733
Demand totals	804	772	757	742	733
Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-3C. Single Dry Year Supply and Demand Comparison – Oak Hills PWS

	2025	2030	2035	2040	2045
Supply totals	400	388	382	377	373
Demand totals	400	388	382	377	373
Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-3D. Single Dry Year Supply and Demand Comparison – Las Lomas PWS

	2025	2030	2035	2040	2045
Supply totals	230	223	218	214	211
Demand totals	230	223	218	214	211
Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-4. Multiple Dry Years Supply and Demand Comparison – Districtwide (DWR Table 7-4)

		2025	2030	2035	2040	2045
First year	Supply totals	17,489	17,886	18,501	19,130	19,842
	Demand totals	17,489	17,886	18,501	19,130	19,842
	Difference	0	0	0	0	0
Second year	Supply totals	17,489	17,886	18,501	19,130	19,842
	Demand totals	17,489	17,886	18,501	19,130	19,842
	Difference	0	0	0	0	0
Third year	Supply totals	17,489	17,886	18,501	19,130	19,842
	Demand totals	17,489	17,886	18,501	19,130	19,842
	Difference	0	0	0	0	0
Fourth year	Supply totals	17,489	17,886	18,501	19,130	19,842
	Demand totals	17,489	17,886	18,501	19,130	19,842
	Difference	0	0	0	0	0
Fifth year	Supply totals	17,489	17,886	18,501	19,130	19,842
	Demand totals	17,489	17,886	18,501	19,130	19,842
	Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-4A. Multiple Dry Years Supply and Demand Comparison – Salinas PWS and Country Meadows Mutual PWS

		2025	2030	2035	2040	2045
First year	Supply totals	16,022	16,472	17,114	17,147	17,147
	Demand totals	16,022	16,472	17,114	17,768	18,495
	Difference	0	0	0	(621)	(1,348)
Second year	Supply totals	16,022	16,472	17,114	17,147	17,147
	Demand totals	16,022	16,472	17,114	17,768	18,495
	Difference	0	0	0	(621)	(1,348)
Third year	Supply totals	16,022	16,472	17,114	17,147	17,147
	Demand totals	16,022	16,472	17,114	17,768	18,495
	Difference	0	0	0	(621)	(1,348)
Fourth year	Supply totals	16,022	16,472	17,114	17,147	17,147
	Demand totals	16,022	16,472	17,114	17,768	18,495
	Difference	0	0	0	(621)	(1,348)
Fifth year	Supply totals	16,022	16,472	17,114	17,147	17,147
	Demand totals	16,022	16,472	17,114	17,768	18,495
	Difference	0	0	0	(621)	(1,348)

NOTES:

(a) Volumes are in units of AF.

(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

(c) Projected supplies in 2040 and 2045 are based on proportionated sustainable yield for the Salinas PWS and the Country Meadows Mutual PWS (see Appendix G).

Table 7-4B. Multiple Dry Years Supply and Demand Comparison – Salinas Hills PWS

		2025	2030	2035	2040	2045
First year	Supply totals	823	790	775	759	750
	Demand totals	823	790	775	759	750
	Difference	0	0	0	0	0
Second year	Supply totals	823	790	775	759	750
	Demand totals	823	790	775	759	750
	Difference	0	0	0	0	0
Third year	Supply totals	823	790	775	759	750
	Demand totals	823	790	775	759	750
	Difference	0	0	0	0	0
Fourth year	Supply totals	823	790	775	759	750
	Demand totals	823	790	775	759	750
	Difference	0	0	0	0	0
Fifth year	Supply totals	823	790	775	759	750
	Demand totals	823	790	775	759	750
	Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-4C. Multiple Dry Years Supply and Demand Comparison – Oak Hills PWS

		2025	2030	2035	2040	2045
First year	Supply totals	408	395	389	384	380
	Demand totals	408	395	389	384	380
	Difference	0	0	0	0	0
Second year	Supply totals	408	395	389	384	380
	Demand totals	408	395	389	384	380
	Difference	0	0	0	0	0
Third year	Supply totals	408	395	389	384	380
	Demand totals	408	395	389	384	380
	Difference	0	0	0	0	0
Fourth year	Supply totals	408	395	389	384	380
	Demand totals	408	395	389	384	380
	Difference	0	0	0	0	0
Fifth year	Supply totals	408	395	389	384	380
	Demand totals	408	395	389	384	380
	Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

Table 7-4D. Multiple Dry Years Supply and Demand Comparison – Las Lomas PWS

		2025	2030	2035	2040	2045
First year	Supply totals	236	228	223	219	216
	Demand totals	236	228	223	219	216
	Difference	0	0	0	0	0
Second year	Supply totals	236	228	223	219	216
	Demand totals	236	228	223	219	216
	Difference	0	0	0	0	0
Third year	Supply totals	236	228	223	219	216
	Demand totals	236	228	223	219	216
	Difference	0	0	0	0	0
Fourth year	Supply totals	236	228	223	219	216
	Demand totals	236	228	223	219	216
	Difference	0	0	0	0	0
Fifth year	Supply totals	236	228	223	219	216
	Demand totals	236	228	223	219	216
	Difference	0	0	0	0	0

NOTES:
(a) Volumes are in units of AF.
(b) None of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes.

7.4 Water Supply Management Tools and Options

☑ ***CWC § 10620 (f)***

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

Cal Water coordinates on an ongoing basis with all relevant agencies in the region to optimize the use of regional water supplies. This includes Monterey County, City of Salinas, the relevant Groundwater Sustainability Agencies (GSAs), and other public and private entities with which Cal Water can collaborate to protect and enhance local groundwater and surface water resources.

Cal Water is currently in the process of developing multiple regional water supply reliability studies using integrated resource planning practices to create a long-term supply reliability strategy through 2050 for Cal Water districts throughout California. The studies will create long-term strategies to address a wide range of water supply challenges including climate change, new regulatory requirements (e.g., SGMA), and potential growth in demands due to new development. These water supply reliability studies will be completed on a rolling basis over the next several years, with all studies anticipated to be complete by 2024. The Salinas District will be included in the Salinas Valley Water Reliability Study.

Cal Water also has its own aggressive and comprehensive water conservation program that has and will continue to reduce per-capita usage and therefore demands on critical water sources. Cal Water is committed to helping its customers use water efficiently and has developed a range of water conservation programs to support this goal. To ensure that it is providing the right mix of programs in the most cost-effective manner possible, Cal Water routinely conducts comprehensive conservation program analysis and planning. This is done on a five-year cycle in tandem with the UWMP. Cal Water's Conservation Master Plan[47] provides the basis for the information on the implementation of and expected water savings from Demand Management Measures (DMMs) presented in Chapter 9.

Cal Water also monitors and supports the goals of the Greater Monterey County Integrated Regional Water Management Plan (IRWMP). These goals include:

- Improve water supply reliability and protect groundwater and surface water supplies,
- Protect and improve surface, groundwater, estuarine, and coastal water quality, and ensure the provision of high-quality, potable, affordable drinking water for all communities in the region,
- Develop, fund, and implement integrated watershed approaches to flood management through collaborative and community supported processes,
- Protect, enhance, and restore the region's ecological resources while respecting the rights of private property owners,
- Promote regional communication, cooperation, and education regarding water resource management.
- Ensure the provision of high-quality, potable, affordable water and healthy conditions for disadvantaged communities (DACs).
- Adapt the region's water management approach to deal with impacts of climate change using science-based approaches, and minimize regional causal effects.

[47] Cal Water, 2016. Conservation Master Plan, dated March 2016.

7.5 Drought Risk Assessment

☑ ***CWC § 10635(b)***

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

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

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

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

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

7.5.1 Data, Methods, and Basis for Water Shortage Condition

Appendix G presents an evaluation of the sufficiency of the Salinas District's groundwater supplies to meet projected water demands in dry year conditions, including an extended five-year drought period extending from 2021 through 2025. This evaluation considers historical drought hydrology and plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

7.5.2 Drought Risk Assessment Water Source Reliability

As described in Chapter 6, groundwater is the sole source of water supply for the Salinas District. As described further in Appendix G, Cal Water has historically been able to meet all District demands in extended dry year periods.

Table 7-5 provides a comparison of the water supply sources available to the Salinas District with the total projected water use for an assumed drought period of 2021 through 2025. This includes current climate change conditions. It should be noted that the supply values shown in the table do not represent the total supply available to the District in a given year, but rather reflect the fact that the District only pumps the amount of groundwater necessary to meet demands in a given year. None of the subbasins that the District overlies are adjudicated, and the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes. Any determination of Cal Water's water rights, as an overlying owner, appropriator, municipal water purveyor or otherwise, is beyond the scope of this report and the UWMP statutes and regulations. In general, the District has sufficient supplies to meet demands in all year types and it is not anticipated that WSCP actions will be required in the District during the drought period shown in Table 7-5. However, during state, regional, or extreme circumstances, the WSCP would be implemented to reduce demand.

Although water shortage conditions are not expected to arise due to near-term drought, Cal Water has developed a WSCP (Appendix I) to address potential water shortage conditions resulting from any cause (e.g., droughts, impacted distribution system infrastructure, regulatory-imposed shortage restrictions, etc.). The WSCP identifies a variety of actions that Cal Water will implement to reduce demands and further ensure supply reliability at various levels of water shortage.

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

2021	Total
Total Water Use	17,240
Total Supplies	17,240
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	

2022	Total
Total Water Use	17,292
Total Supplies	17,292
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	

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

2023	Total
Total Water Use	17,357
Total Supplies	17,357
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	

2024	Total
Total Water Use	17,424
Total Supplies	17,424
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	

2025	Total
Total Water Use	17,489
Total Supplies	17,489
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	

NOTES:
(a) Volumes are in units of AF.
(b) Because the District has sufficient supplies to meet the demands shown in the table, it is not anticipated that WSCP actions will be required.

Chapter 8
Water Shortage Contingency Planning

☑ ***CWC § 10640***

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

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

The Water Shortage Contingency Plan (WSCP) for the Salinas District (also referred to herein as "District") is included in this Urban Water Management Plan (UWMP) as Appendix I. 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 percent to greater than 50 percent 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 I.

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

Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	Demand reduction (See Table 8-2)
2	Up to 20%	Demand reduction (See Table 8-2)
3	Up to 30%	Demand reduction (See Table 8-2)
4	Up to 40%	Demand reduction (See Table 8-2)
5	Up to 50%	Demand reduction (See Table 8-2)
6	>50%	Demand reduction (See Table 8-2)
NOTES:		

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

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?
1	Other	8%	1. Limit landscape irrigation to specific times 2. Customers must repair leaks, breaks, and malfunctions in a timely manner 3. Restrict or prohibit runoff from landscape irrigation 4. Prohibit application of potable water to outdoor landscapes within 48 hours of measurable rainfall 5. Prohibit use of potable water for washing hard surfaces 6. Lodging establishments must offer opt out of linen service 7. Require shut-off nozzles on hoses for vehicle washing with potable water 8. Restaurants may only serve water upon request 9. No watering of landscape of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission, and the Department of Housing and Community	Yes

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?
			Development, or other state agency 10. Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	
1	Other	--	1. Expand Public Information/Media Campaign 2. Water Bill Inserts 3. Promote online water waste reporting 4. Expand Rebates or Giveaways of Plumbing Fixtures and Devices 5. Expand Rebates for Landscape Irrigation Efficiency 6. Expand CII Water Use Surveys 7. Expand Res Water Use Surveys	No
2	Other	13%	1. Continue with Stage 1 restrictions and prohibitions except where superseded by more stringent actions. 2. Prohibit the use of non-recirculating systems in all new conveyer car wash and commercial laundry systems 3. Prohibit the use of single pass cooling systems in new connections 4. No watering of landscape of newly constructed homes and buildings in a	Yes

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?
			manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development 5. Landscape - Limit landscape irrigation to 1-3 days/week	
2	Other	--	1. Continue with Stage 1 actions except where superseded by more stringent actions. 2. Water Efficiency Workshops, Public Events 3. Offer Water Use Surveys 4. Provide Rebates or Giveaways of Plumbing Fixtures and Devices 5. Provide Rebates for Landscape Irrigation Efficiency	No
3	Other	23%	1. Continue with Stage 2 restrictions and prohibitions except where superseded by more stringent actions. 2. Landscape - Prohibit irrigation of ornamental turf on public street medians with potable water 3. Prohibit Filling Ornamental Lakes or Ponds 4. Prohibit use of potable water for	Yes

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?
			construction and dust control 5. Prohibit use of potable water for street washing	
3	Other	--	1. Continue with Stage 2 actions except where superseded by more stringent actions. 2. Home or Mobile Water Use Reports 3. Decrease Frequency and Length of Line Flushing 4. Reduce System Water Loss 5. Increase Water Waste Patrols/Enforcement 6. Implement Drought Rate Structure and Customer Water Budgets (Res) 7. Implement Drought Rate Structure and Customer Water Budgets (CII)	No
4	Other	32%	1. Continue with Stage 3 restrictions and prohibitions except where superseded by more stringent actions. 2. Prohibit vehicle washing except with recirculated water or low-volume systems 3. Prohibit use of water for recreational purposes such as water parks and the filling of pools	Yes

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?
4	Other	--	1. Continue with Stage 3 actions except where superseded by more stringent actions. 2. Promote / Expand Use of Recycled Water	No
5	Other	47%	1. Continue with Stage 4 restrictions and prohibitions except where superseded by more stringent actions. 2. Require net zero demand Increase on new water service connections 3. Prohibit single-pass cooling systems	Yes
5	Other	--	1. Continue with Stage 4 actions except where superseded by more stringent actions. 2. Require Pool Covers	No
6	Other	55%	1. Continue with Stage 5 restrictions and prohibitions except where superseded by more stringent actions. 2. Moratorium on new water service connections 3. Prohibit all landscape irrigation	Yes
NOTES:				

Table 8-3. Supply Augmentation and Other Actions (DWR Table 8-3)

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)*
NOTES:			

Chapter 9
Demand Management Measures

☑ ***CWC § 10631 (e)***

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

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

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

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

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

(vi) Water conservation program coordination and staffing support.

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

This chapter presents a summary of past and planned demand management measure (DMM) implementation in the Salinas District (also referred to as the "District"), as well as an overview of the expected water savings.

This chapter has the following sections:

9.1 Demand Management Measures for Wholesale Agencies

9.2 Demand Management Measures for Retail Suppliers

9.3 Implementation over the Past Five Years

9.4 Implementation to Achieve Water Use Targets

9.5 Water Use Objectives

9.1 Demand Management Measures for Wholesale Agencies

Because the District is a retail water supplier, this section does not apply.

9.2 Demand Management Measures for Retail Suppliers

California Water Service Company (Cal Water) centrally administers its conservation programs. This section groups Cal Water's programs by 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

Following are descriptions of the conservation programs Cal Water runs within each of these DMM categories. The District's Conservation Master Plan, provided in Appendix J, contains additional information on Cal Water's conservation programs.

9.2.1 Water Waste Prevention Ordinances

The California Public Utilities Commission authorizes and oversees Cal Water's enforcement of water waste prevention and water use restrictions via Rule 14.1 or Schedule 14.1. Cal Water coordinates its efforts to prevent water waste with the proper local governmental entities. For the Salinas District, this includes the City of Salinas and Monterey and Santa Cruz counties.

Rule 14.1 defines the District's Water Shortage Contingency Plan (WSCP, Appendix I), including its prohibitions on water waste and restrictions on water use. Prohibitions include:

- Use of potable water through a broken or defective plumbing fixture or irrigation system when Cal Water has notified the customer in writing to repair the broken or defective plumbing fixture or irrigation system, and the customer has failed to effect such repairs within seven (7) business days of receipt of such notice.
- The application of potable water to landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures.
- The use of a hose that dispenses potable water to wash vehicles, including cars, trucks, buses, boats, aircraft, and trailers, whether motorized or not, except where the hose is

fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.

Restrictions on water use during shortages include, but are not necessarily limited to:

- Outdoor irrigation restrictions in terms of time of day and weekly frequency.
- Obligations to fix leaks, breaks, or malfunctions within five (5) business days of written notification by Cal Water.
- Application of potable water to driveways and sidewalks.
- The use of potable water in a water feature, except where the water is part of a recirculating system.
- The application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall.
- The serving of drinking water other than upon request in eating or drinking establishments.
- Irrigation of ornamental landscape on public street medians.
- Irrigation outside of newly constructed homes and buildings with potable water in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.
- Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language.
- Limits on filling ornamental lakes or ponds.
- Use of potable water for street cleaning with trucks, except for initial wash-down for construction purposes.
- Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.

9.2.2 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 meters all service connections and bills customers for water use monthly. Cal Water may install advanced metering infrastructure (AMI) in the future to improve metering accuracy and supply prompt feedback to customers about water use and leaks. Cal Water is currently piloting (AMI) in several districts. AMI may be used by Cal Water in the future to detect and alert households of leaks and other possible problems as well as to provide customers with tailored water use information to help them use water more efficiently.

9.2.3 Conservation Pricing

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

9.2.4 Public Education and Outreach

The District's public outreach program is divided into four components, as follows:

Public Information Program – Cal Water operates an extensive public information program to provide information to customers on ways to use water efficiently and to market its conservation programs through multiple media outlets, including the Cal Water website, direct mail and bills, digital media, social media, and email.

School Education Program - Cal Water's school education program includes the Cal Water H2O Challenge, a project-based learning competition for grades 4-6, individual student competitions for grades K-12 and general information and learning materials for students and teachers. Cal Water deploys its school education program in all its districts. Cal Water H2O Challenge is a project-based competition for classrooms, grades 4-6. The program is offered in partnership with DoGoodery, the California Association of Science Educators (CASE), and the WestEd K-12 Alliance. The program aligns with the Common Core State Standards and the Next Generation Science Standards. The Cal Water H2O Challenge offers a unique opportunity for upper elementary teachers to facilitate their students' learning of standards-based content, while developing the core understanding of environmental principles necessary to becoming science-literate citizens.

Smart Landscape Tune-Up Program – This program provides customers with an irrigation system evaluation and installation of approved efficient irrigation system equipment, such as a smart irrigation controller and high-efficiency sprinkler nozzles. The program also includes irrigation system adjustments and detection and repair of irrigation system leaks. This program is available to all Cal Water customers at no charge.

Residential Customer Portal – Through its residential customer portal, Cal Water provides tailored assistance to each residential customer via customized water-efficiency targets, water savings calculators, and customer-specific recommendations for programs and water-saving tips.

Non-Residential Customer Assistance – Cal Water provides tailored assistance to commercial customers through customized incentives, commercial water surveys, and large landscape water use surveys. The non-residential assistance program helps commercial customers efficiently use water for sanitation/cleaning, heating/cooling, process, and landscape purposes.

9.2.5 Programs to Assess and Manage Distribution System Real Loss

As discussed above, reducing distribution system losses is one of the main focuses of the new Making Water Conservation a California Way of Life regulations. In preparation for these new requirements, Cal Water took part in the California Water Loss Technical Assistance Program (TAP) in both 2016 and 2017. Cal Water annually conducts distribution system audits using the American Water Works Association (AWWA) Free Water Audit Software. It has also developed a Water Loss Control Plan and Water Loss Control Policy to guide future water loss management with respect to:

- Meeting CPUC and state water loss standards and regulations
- Improving audit data and validity scores
- Implementing cost-effective water loss control actions

To coordinate and oversee water loss management actions across its multiple districts, Cal Water has added a Water Loss Program Analyst position to its conservation staff.

9.2.6 Water Conservation Program Coordination and Staffing Support

The CPUC reviews and authorizes Cal Water conservation program and staffing level in a general rate case every three years. Currently, Cal Water has nine full-time conservation positions: as follows:

- Director of Water Resource Sustainability,
- Conservation Program Manager,
- Research, Analytics and Reporting Manager,
- Water Resource Sustainability Analyst,
- Water Loss Program Analyst,
- Three Conservation Program Coordinators, and
- Conservation Assistant.

These staff manage all aspects of Cal Water's conservation programs that are run in 24 districts serving a combined population of 1.8 million people.

9.2.7 Other Demand Management Measures

In addition to the DMM programs described above, Cal Water operates rebate, give-away, and direct installation programs aimed at plumbing fixture replacement and irrigation equipment and landscape efficiency improvements. Following are brief descriptions of each of these DMMs.

High-Efficiency Toilet Replacement – This program replaces old toilets with MaP certified high-efficiency toilets via financial rebates, direct installation, or direct distribution.[48] Current rebate amounts are up to $50/toilet for residential toilet replacement and up to $100/toilet for commercial toilet replacement.

High-Efficiency Urinal Replacement – This program replaces old urinals with high-efficiency urinals meeting the state's 0.125 gallon per flush water use standard via financial rebates and direct installation. While available to all non-residential customers, the program targets sites with higher-than-average bathroom utilization, such as restaurants and office buildings. The current rebate amount is up to $150/urinal.

Clothes Washer Replacement – This program provides a financial rebate to replace an old inefficient clothes washer with a new high-efficiency washer. The program is available to all residential and multi-family customers. The current rebate amount is up to $150/washer.

[48] For information on MaP certified toilets, see: https://www.map-testing.com/.

Residential Conservation Kit Distribution – This program offers residential customers conservation kits featuring a range of water-saving plumbing retrofit devices. The kits are available at no charge and include two high-efficiency showerheads (1.5 gpm), two bathroom faucet aerators (1.0 gpm), one kitchen faucet aerator (1.5 gpd), toilet leak tablets, and an outside multi-function, full-stop hose nozzle.

Smart Irrigation Controller Installation – This program provides a financial rebate for the installation of a smart irrigation controller that automatically adjusts watering schedule in response to changing weather conditions. The current rebate amount is $125/controller for residential customers and $25/station for commercial customers.

High-Efficiency Sprinkler Nozzle Rebate – This program provides a financial rebate for the installation of high-efficiency sprinkler nozzles. This program is available to all Cal Water customers. The current rebate amount is $5/nozzle.

Large Rotary Nozzle Rebate – This program provides a financial rebate for the installation of high-efficiency large rotary nozzles. This program is available to all Cal Water customers. The current rebate amount is up to $30/nozzle toward the nozzle purchase cost and up to $8/spray body toward installation cost, if installed by a C-27 licensed landscape contractor.

Spray Body with Integrated Pressure Regulation and Check Valve Rebate – This program provides a financial rebate for the installation of high-efficiency spray bodies with integrated pressure regulation. This program is available to all Cal Water customers. The current rebate amount is up to $10/body toward the spray body purchase cost and up to $8/spray body toward installation cost, if installed by a C-27 licensed landscape contractor.

Turf Replacement Rebate – This program provides a financial rebate for replacement of turf with approved drought-tolerant landscaping. Cal Water operated this program in 2015/16 as a drought response measure. The program will be re-started as part of Cal Water's irrigation equipment/landscape upgrade program offerings.

Table 9-1 summarizes the DMMs available to District customers at the time this Plan was prepared.

Table 9-1. Cal Water DMMs Available to District Customers

Programs Offered	Customer Eligibility		
	Single-Family	Multi-Family	Commercial
Plumbing Fixture Replacement			
High-Efficiency Toilet Replacement	✓	✓	✓
High-Efficiency Urinal Replacement			✓
High-Efficiency Clothes Washer Rebate	✓	✓	
Conservation Kits	✓	✓	
Irrigation Equipment/Landscape Upgrades			
Smart Irrigation Controller Rebate	✓	✓	✓
High-Efficiency Sprinkler Nozzle Rebate	✓	✓	✓
Large Rotary Nozzle Rebate		✓	✓
Spray Body Rebate		✓	✓
Turf Replacement Rebate	✓	✓	✓
Customer Assistance			
Smart Landscape Tune-Up Program	✓	✓	✓
Residential Customer Portal	✓		
Non-Residential Customer Assistance		✓	✓

9.3 Implementation over the Past Five Years

Table 9-2 summarizes program implementation for the previous five years. Estimated water savings do not include savings from water waste prevention ordinances, conservation pricing, public information, or distribution system water loss management. Cal Water uses the Alliance for Water Efficiency’s Water Conservation Tracking Tool to estimate water savings.

Table 9-2. Implementation of Customer DMMs: 2016-2020

Indoor Programs	2016 – 2020 Total	Average Annual
Toilets & Urinals (number distributed)	3,735	747
Clothes Washers (number distributed)	453	91
Conservation Kits (number distributed)	373	75
Outdoor Programs		
Smart Controllers (number distributed)	81	16
Nozzles & Spray Bodies (number distributed)	623	125
Turf Buy-Back (sq ft removed)	31,125	6,225
Residential Assistance Programs		
Surveys/Audits (homes receiving)	10	2
Non-Residential Assistance Programs		
Surveys/Audits (sites receiving)	2	0
Large Landscape Reports (sites receiving)	102	20
Estimated Water Savings (AF)	652	130
Note: Estimated water savings for 2016-2020. DMMs will continue to generate savings after 2020 for their useful life.		

9.4 Implementation to Achieve Water Use Targets

All the DMMs described above contributed to the District's compliance with its SB X7-7 2020 target GPCD.

9.5 Water Use Objectives (Future Requirements)

CWC §10609 requires that urban retail water suppliers develop new water use objectives that are based on specific standards for certain water use sectors. These water use objectives will not be developed until 2023. Suppliers are encouraged in this UWMP cycle to consider how they will align their conservation management actions to meet these future obligations.

As noted above, Cal Water's conservation programs are subject to review and approval by the CPUC every three years as part of a general rate case. In making conservation program recommendations to the CPUC, Cal Water carefully considers how they will advance multiple goals, including compliance with the pending state water use objectives. Specific goals identified in Cal Water's most recent general rate case included:

- Maintaining continuity with and furthering implementation of conservation programs authorized by the previous general rate case.

- Preserving gains in water conservation achieved during the 2013-2017 drought.
- Ensuring Cal Water districts follow state regulations and policies for water conservation, water loss management, and groundwater management, including Executive Order B-37-16, SB 555, and the Sustainable Groundwater Management Act (SGMA).
- Advancing cost-effective water use efficiency alternatives in districts with high water supply costs.

Cal Water developed a scoring method to adjust conservation programs and budgets to further these goals. The method specifically considers five important policy drivers:

1. State Conservation Standards and Water Use Objectives
2. SGMA Compliance
3. SB 555 Water Loss Management Requirements
4. Commercial, Institutional, and Industrial (CII) Water Management
5. Avoided Water Cost and Affordability

The method assigns greater weight to the State Conservation Standards and Water Use Objectives and SGMA Compliance policy drivers, reflecting their importance to overall water resources management.

A district's SGMA score depends on its groundwater basin priority, basin adjudication status, and groundwater dependence. The method assigns the highest scores to districts in unadjudicated basins that are critically overdrafted or high priority and where groundwater makes up more than 45 percent of the district's water supply. The Salinas District ranked in the top third of Cal Water districts for this policy driver.

A district's State Conservation Standards and Water Use Objectives score depends on:

- Total landscape area
- Total turf area
- Number of large residential landscapes
- Difference between current indoor residential water use and indoor water use standard
- Difference in current total water use and simulated total water use objective

The Salinas District ranks in the bottom third of Cal Water's districts for this policy driver.

A district's SB 555 Water Loss Management score depends on the district's infrastructure leakage index (ILI) from its most recent validated water loss audit. The ILI is a performance indicator of real (physical) water loss from the water distribution system. A high ILI indicates possible distribution system inefficiencies and may also indicate significant water system leakage.

The Salinas District ranks in the bottom third of Cal Water's districts for this policy driver.

A district's CII Water Management score is a function of the amount of CII water use in the district. The Salinas District ranks in the middle of Cal Water's districts for this policy driver.

A district's Avoided Water Cost and Affordability score is a function of its avoided cost of water supply, as estimated by the California Urban Water Conservation Council (CUWCC)/Water Research Foundation Avoided Cost Model. The Salinas District ranks in the bottom third of Cal Water's districts for this policy driver.

Cal Water used the resulting scores as the basis for proposed changes in district conservation budgets in its most recent general rate case. These proposed budget adjustments ranged from 5 to 25 percent. The recommended adjustment for the Salinas District was 12.5 percent.

Chapter 10
Plan Adoption, Submittal, and Implementation

☑ ***CWC § 10621 (b)***

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

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

10.1 Inclusion of All 2020 Data

10.2 Notice of Public Hearing

10.3 Public Hearing and Adoption

10.4 Plan Submittal

10.5 Public Availability

10.6 Notification of Public Utilities Commission

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

10.1 Inclusion of All 2020 Data

This UWMP includes the water use and planning data for the entire calendar year of 2020, per the UWMP Guidebook 2020.

10.2 Notice of Public Hearing

☑ ***CWC § 10642***

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

Prior to adopting the Plan, California Water Service Company (Cal Water) held a formal public hearing to present information on its Salinas District (also referred to herein as the "District") 2020 UWMP and WSCP on May 13, 2021, 5:00 PM.[49]

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

10.2.1 Notice to Cities and Counties

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

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

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

[49] Restrictions related to the COVID-19 pandemic prevented the District from holding an in-person public hearing as previously planned.

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

City Name	60 Day Notice	Notice of Public Hearing
City of Salinas	X	X
County Name	**60 Day Notice**	**Notice of Public Hearing**
Monterey County	X	X
Other Agency Name	**60 Day Notice**	**Notice of Public Hearing**
Salinas Valley Basin Groundwater Sustainability Agency	X	X
Monterey Regional Water Pollution Control Agency	X	X
NOTES:		

10.2.2 Notice to the Public

Notification to the public and to cities and counties also provided instructions on how to view the 2020 UWMP and WSCP prior to the hearing, the revision schedule, and contact information of the UWMP and WSCP preparer. A copy of this notice is included in Appendix C.

10.3 Public Hearing and Adoption

☑ ***CWC § 10608.26***

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

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

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

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

☑ ***CWC § 10621 (b)***

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

The deadline for public comments on the UWMP and WSCP was May 20, 2021, one week after the public hearing. The final Plan was formally adopted by Cal Water's Vice President of Engineering on June 20, 2021, and was submitted to California Department of Water Resources (DWR) within 30 days of approval. Appendix J presents a copy of the signed Resolution of Plan Adoption. Appendix B contains the following:

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

10.4 Plan Submittal

☑ ***CWC § 10621 (f)***

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

☑ ***CWC § 10635 (c)***

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

☑ ***CWC § 10644 (a)***

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

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

This UWMP and WSCP were submitted to DWR within 30 days of adoption and by the July 1, 2021 deadline. The submittal was done electronically through Water Use Efficiency Data Portal, an online submittal tool. The adopted Plan was also sent to the California State Library and to the cities and counties listed in Table 10-1.

10.5 Public Availability

☑ ***CWC § 10645***

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

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

On or about April 28, 2021, electronic versions of the draft 2020 UWMP and WSCP were made available for review by visiting Cal Water’s website: https://www.calwater.com/conservation/uwmp-review/.[50]

[50] Restrictions related to the COVID-19 pandemic prevented the District from making a printed hard-copy available for public review as previously planned.

10.6 Notification of Public Utilities Commission

☑ ***CWC § 10621 (c)***

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

Cal Water is an urban water supplier regulated by the California Public Utilities Commission. Cal Water included the District's most recent UWMP and WSCP as part of its general rate case filings.

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

☑ ***CWC § 10644 (b)***

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

If the 2020 UWMP or WSCP is amended, each of the steps for notification, public hearing, adoption and submittal will also be followed for the amended document.

Appendix A: UWMP Act Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
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	Chapter 1
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.	Summary	Section 1.6
x	x	Section 2.2	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.	Plan Preparation	Section 2.4 and Table 2-1
x	x	Section 2.6	10620(d)(2)	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.	Plan Preparation	Section 2.5 and Table 2-4
x	x	Section 2.6.2	10642	Provide supporting documentation that the water 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	Section 2.5
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Section 2.5.1
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	N/A
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Chapter 3
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.4 and Table 3-1

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.4 and Table 3-2
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Setion 3.4 and Table 3-2
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.5
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2 and Tables 4-1 to 4-3
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.2.3
x	x	Section 4.2.6	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	Section 4.2.4 and Tables 4-5 and 4-6
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.2.4
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Section 4.2.3 and Table 4-4
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.2.5 and Table 4-7
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 7.5.1
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.5 and Table 5-2
	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 water suppliers achieve targeted water use reductions.	Baselines and Targets	N/A
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.4

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.4
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Section 5.5
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.	System Supplies	Chapter 7
x	x	Sections 6.1	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	Section 7.1.3
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	Section 6.9 and Table 6-9
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.8
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Section 6.9
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2
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 water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.2.1
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	Section 6.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Section 6.2
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.2.5 and Table 6-1
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	Section 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	Section 6.7
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)	Section 6.5.2 and Tables 6-4 and 6-5
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)	Section 6.5.3 and Table 6-5
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)	Section 6.5.3
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 a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.3 and Table 6-4
x	x	Section 6.2.5	10633(f)	Describe the actions 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.	System Supplies (Recycled Water)	Section 6.5.3
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)	Section 6.5.3 and Table 6-6
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	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)	Section 6.5.2 and Table 6-3
x	x	Section 6.2.8, Section 6.3.7	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 5 consecutive water years.	System Supplies	Section 6.8 and Table 6-7
x	x	Section 6.4 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	Section 6.11 and Table 6-10
x	x	Section 7.2	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	Section 7.1.2
x	x	Section 7.2.4	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	Section 7.4
x	x	Section 7.3	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 water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.2 and Tables 7-2 to 7-4
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	Section 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 5 consecutive years.	Water Supply Reliability Assessment	Section 7.5
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	Section 7.5
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 7.5 and Table 7-5

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
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	Section 7.5
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Appendix G
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Appendix G
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Appendix G
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 G
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 G
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent 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 G
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Appendix G
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Appendix G
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 G

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Appendix G
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 G
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 G
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Appendix G
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 G
x	x	Section 8.5 and 8.6	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 G
x		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 G
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 G
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Appendix G
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 G
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 G
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 G
x		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 G

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Appendix G
x		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 G
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.3
x	x	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	Section 10.4
	x	Sections 9.1 and 9.3	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		Sections 9.2 and 9.3	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	Chapter 9
x		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	Section 10.3
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 urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 10.2
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 10.4

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Chapter 10
x	x	Section 10.2.2	10642	The water 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	Section 10.2.1
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
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	Section 10.6
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 10.7

Appendix B: Correspondence

- UWMP Notice of Preparation
- District Mailing List
- Growth Projection and Land Use Letter
- UWMP and WSCP Public Draft Comments

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

Notice of Preparation of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update

The Urban Water Management Planning Act (California Water Code §10608–10656) requires that California Water Service (Cal Water) update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every 5 years.

Cal Water is currently reviewing its existing UWMP and associated WSCP, which were updated in 2016, and considering revisions for each plan. Coordination with other water suppliers, cities, counties, and community organizations in the region is an important part of the preparation of Cal Water's UWMP and WSCP. We are available to discuss the assumptions used in the development of the plans including available water supply, water demands, land use, as well as other aspects of the plans.

A draft of the 2020 UWMP and WSCP will be made available for public review and a public hearing will be scheduled in Spring 2021. We will notify you when the draft is available for review, how to access it, and details regarding the public hearing.

The updated UWMP and WSCP are due by July 1, 2021. If you would like more information regarding our 2015 UWMP and WSCP and the schedule for updating these documents, or if you would like to participate in the preparation of the 2020 UWMP and WSCP, please contact:

Michael Bolzowski
Senior Engineer
California Water Service
Phone: (408) 367-8338
Email: PlanningInfo@calwater.com

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Community Development Director
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meganh@ci.salinas.ca.us

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Planning Director
County of Monterey
duganj@co.monterey.ca.us

Bolzowski, Michael R.

From:	Storms, Maximilian (Max)
Sent:	Monday, May 10, 2021 9:23 AM
To:	boardclerk@mrwpca.com
Cc:	Hurley, Michael; Bloom, Marc A.; Sanchez, Albert; McCusker, Kevin
Subject:	Cal Water's 2020 Draft UWMP for Salinas District
Attachments:	Salinas (M1W) - Cal Water UWMP_Land Use Coordination.pdf

Mr. Sciuto,

California Water Service (Cal Water) is currently updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to reflect water service conditions in the Salinas District. The Salinas District serves portions of the City of Salinas and segments of unincorporated Monterey County.

The State requires all urban water suppliers that provide water for municipal purposes either directly or indirectly to more than 3,000 customers or supply more than 3,000 acre-feet of water annually to prepare an UWMP and WSCP at least once every five years. These documents support Cal Water's long-term resource planning to ensure that adequate water supplies are available to meet existing and future water demands under defined conditions.

Cal Water's estimates of future water demands are based on demographic projections and current and projected land use forecasts. For the Salinas District, Cal Water's water demand forecast is tied to Census Block population counts from decadal Census data. The decadal Census estimates are converted to average population per single- and multi-family service, which are applied to service counts for years between the decadal Censuses. Projected population is based on population and employment forecasts for Monterey County generated by the California Department of Transportation's (Caltrans) long-term socio-economic forecast model.

The UWMP also incorporates water supply assessments (WSA) for projects in or near the Salinas District into the demand forecast. As additional large-scale projects and/or specified land use planning processes arise (e.g., general plans, specific plans), additional WSAs will be developed to consider their impacts on available supplies.

We have attached the current public review draft of the UWMP, and incorporated WSCP for your review. Please share this with others in your organization that may be interested in the information.

Cal Water is available to discuss the assumptions used in the development of the UWMP for the Salinas District, including available supply, water demands, land use, as well as any other aspects of the plan.

Should you have any questions or comments, please contact Michael Bolzowski at mbolzowski@calwater.com.

Sincerely,

Michael Hurley
WATER RESOURCES MANAGER
CALIFORNIA WATER SERVICE
(323) 430-0250

Bolzowski, Michael R.

From:	Storms, Maximilian (Max)
Sent:	Monday, May 10, 2021 9:20 AM
To:	duganj@co.monterey.ca.us
Cc:	Hurley, Michael; McCusker, Kevin; Bloom, Marc A.; Sanchez, Albert
Subject:	FW: Cal Water's 2020 Draft UWMP for Salinas District
Attachments:	Salinas (CPD) - Cal Water UWMP_Land Use Coordination.pdf

Mr. Dugan,

California Water Service (Cal Water) is currently updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to reflect water service conditions in the Salinas District. The Salinas District serves portions of the City of Salinas and segments of unincorporated Monterey County.

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Should you have any questions or comments, please contact Michael Bolzowski at mbolzowski@calwater.com.

Sincerely,

Michael Hurley
WATER RESOURCES MANAGER
CALIFORNIA WATER SERVICE
(323) 430-0250

Bolzowski, Michael R.

From:	Storms, Maximilian (Max)
Sent:	Monday, May 10, 2021 9:18 AM
To:	meganh@ci.salinas.ca.us
Cc:	Hurley, Michael; Bloom, Marc A.; Sanchez, Albert; McCusker, Kevin
Subject:	Cal Water's 2020 Draft UWMP for Salinas District
Attachments:	Salinas (CDM) - Cal Water UWMP_Land Use Coordination.pdf

Ms. Hunter,

California Water Service (Cal Water) is currently updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to reflect water service conditions in the Salinas District. The Salinas District serves portions of the City of Salinas and segments of unincorporated Monterey County.

The State requires all urban water suppliers that provide water for municipal purposes either directly or indirectly to more than 3,000 customers or supply more than 3,000 acre-feet of water annually to prepare an UWMP and WSCP at least once every five years. These documents support Cal Water's long-term resource planning to ensure that adequate water supplies are available to meet existing and future water demands under defined conditions.

Cal Water's estimates of future water demands are based on demographic projections and current and projected land use forecasts. For the Salinas District, Cal Water's water demand forecast is tied to Census Block population counts from decadal Census data. The decadal Census estimates are converted to average population per single- and multi-family service, which are applied to service counts for years between the decadal Censuses. Projected population is based on population and employment forecasts for Monterey County generated by the California Department of Transportation's (Caltrans) long-term socio-economic forecast model.

The UWMP also incorporates water supply assessments (WSA) for projects in or near the Salinas District into the demand forecast. As additional large-scale projects and/or specified land use planning processes arise (e.g., general plans, specific plans), additional WSAs will be developed to consider their impacts on available supplies.

We have attached the current public review draft of the UWMP, and incorporated WSCP for your review. Please share this with others in your organization that may be interested in the information.

Cal Water is available to discuss the assumptions used in the development of the UWMP for the Salinas District, including available supply, water demands, land use, as well as any other aspects of the plan.

Should you have any questions or comments, please contact Michael Bolzowski at mbolzowski@calwater.com.

Sincerely,

Michael Hurley
WATER RESOURCES MANAGER
CALIFORNIA WATER SERVICE
(323) 430-0250

Bolzowski, Michael R.

From:	Storms, Maximilian (Max)
Sent:	Monday, May 10, 2021 9:21 AM
To:	Buche, Brent Ext.8982
Cc:	Hurley, Michael; McCusker, Kevin; Sanchez, Albert; Bloom, Marc A.
Subject:	FW: Cal Water's 2020 Draft UWMP for Salinas District
Attachments:	Salinas (MCWRA) - Cal Water UWMP_Land Use Coordination.pdf

Mr. Buche,

California Water Service (Cal Water) is currently updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to reflect water service conditions in the Salinas District. The Salinas District serves portions of the City of Salinas and segments of unincorporated Monterey County.

The State requires all urban water suppliers that provide water for municipal purposes either directly or indirectly to more than 3,000 customers or supply more than 3,000 acre-feet of water annually to prepare an UWMP and WSCP at least once every five years. These documents support Cal Water’s long-term resource planning to ensure that adequate water supplies are available to meet existing and future water demands under defined conditions.

Cal Water's estimates of future water demands are based on demographic projections and current and projected land use forecasts. For the Salinas District, Cal Water's water demand forecast is tied to Census Block population counts from decadal Census data. The decadal Census estimates are converted to average population per single- and multi-family service, which are applied to service counts for years between the decadal Censuses. Projected population is based on population and employment forecasts for Monterey County generated by the California Department of Transportation’s (Caltrans) long-term socio-economic forecast model.

The UWMP also incorporates water supply assessments (WSA) for projects in or near the Salinas District into the demand forecast. As additional large-scale projects and/or specified land use planning processes arise (e.g., general plans, specific plans), additional WSAs will be developed to consider their impacts on available supplies.

We have attached the current public review draft of the UWMP, and incorporated WSCP for your review. Please share this with others in your organization that may be interested in the information.

Cal Water is available to discuss the assumptions used in the development of the UWMP for the Salinas District, including available supply, water demands, land use, as well as any other aspects of the plan.

Should you have any questions or comments, please contact Michael Bolzowski at mbolzowski@calwater.com.

Sincerely,

Michael Hurley
WATER RESOURCES MANAGER
CALIFORNIA WATER SERVICE
(323) 430-0250

Appendix C: Public Meeting Notice

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

Good afternoon!

We hope that this note finds you well.

We wanted to provide you with an update on the preparation of our updated Urban Water Management Plans and Water Shortage Contingency Plans.

These plans are a critical component of the steps we take to ensure there are sufficient water supplies to meet the current and future water needs of our customers, and we look forward to working with you on this important project.

Please let us know if you have any questions or need any additional information.

Cal Water Community Affairs

California Water Service
Quality. Service. Value.

Urban Water Management Plan and
Water Shortage Contingency Plan - 2020 Update

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

Schedule of upcoming actions:

After a public review period, a public meeting to receive comments on the Draft UWMP and WSCP will be held. As the information becomes available for each service area, the electronic copy of the UWMP, WSCP, and information on the public meeting, including a link to participate, will be available at the following internet address:

https://www.calwater.com/conservation/uwmp-review/

If you are unable to attend the scheduled public meeting but want to provide comments regarding the proposed UWMP or WSCP, you may send your comments via email to PlanningInfo@calwater.com.

Reliability Runs Deep

CALIFORNIA NEWSPAPER SERVICE BUREAU

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Telephone (213) 229-5300 / Fax (213) 229-5481
Visit us @ WWW.LEGALADSTORE.COM

EMILY HERNANDEZ
CALIFORNIA WATER SERVICE CO/PLANNING DEPT.
1720 NORTH FIRST ST.
SAN JOSE, CA 95112

CNS 3466009

COPY OF NOTICE

Notice Type: HRG NOTICE OF HEARING

Ad Description: CALIFORNIA WATER SERVICE - SALINAS DISTRICT

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

04/29/2021 , 05/06/2021

The charge(s) for this order is as follows. An invoice will be sent after the last date of publication. If you prepaid this order in full, you will not receive an invoice.

Publication	$506.02
Total	$506.02

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

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

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

Further, Section 10632 of the CWC requires that every urban water supplier shall prepare and adopt a Water Shortage Contingency Plan (WSCP) as part of its plan (UWMP). Section 10632.2 provides that,

"An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan...or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1." The WSCP will be incorporated as an appendix of the UWMP.

One of Cal Water's service areas is the Salinas District, which is located in Monterey County. The Salinas District serves portions of the City of Salinas and segments of unincorporated Monterey County lands, including the Las Lomas, Oak Hills, and Salinas Hills public water systems. As a defined urban water supplier, Cal Water is preparing an update to its UWMP that will address the water service conditions in the Salinas District. It is Cal Water's intent to adopt that UWMP, and the incorporated WSCP, and file that plan as required with the Department of Water Resources, the California State Library, and any city or county within which Cal Water provides service no later than 30 days after adoption.

Schedule of upcoming actions:

On or about April 28, 2021, an electronic copy of the Draft 2020 UWMP and WSCP will be available for review. After a public review period, a public meeting to receive comments on the Draft UWMP and WSCP Plan for the Salinas District will be held online on May 13, 2021, at 5:00 p.m. The electronic copy of the UWMP, WSCP, and additional information on the public meeting, including a link to participate, is available at the following internet address: www.calwater.com/conservation/uwmp

If you are unable to attend the scheduled public meeting but want to provide comments regarding the proposed UWMP or WSCP, you may send your comments via email to PlanningInfo@calwater.com. Cal Water will receive comments on the Draft 2021 UWMP and WSCP from April 28 through May 20, 2021.

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

4/29/21

CNS-3466009#

MONTEREY COUNTY HERALD

California Water Service

May 13, 2021

Quality. Service. Value.

2020 Urban Water Management Plan
2020 Water Shortage Contingency Plan
Salinas District

Meeting Agenda

- Purpose and objectives
- Introduce California Water Service (CWS) staff and consultants
- Presentation of the 2020 Urban Water Management Plan (UWMP)
- Presentation of 2020 Water Shortage Contingency Plan (WSCP)
- Drought update
- Public comments and questions

2020 UWMP Update: Outreach

- Preliminary information sent to relevant entities in February 2021
- Second notice sent to relevant entities in May 2021
- Two notices posted in local newspaper
- Draft 2020 UWMP and WSCP available for review at https://www.calwater.com/conservation/uwmp-review/
- Public hearing

Urban Water Management Planning Act

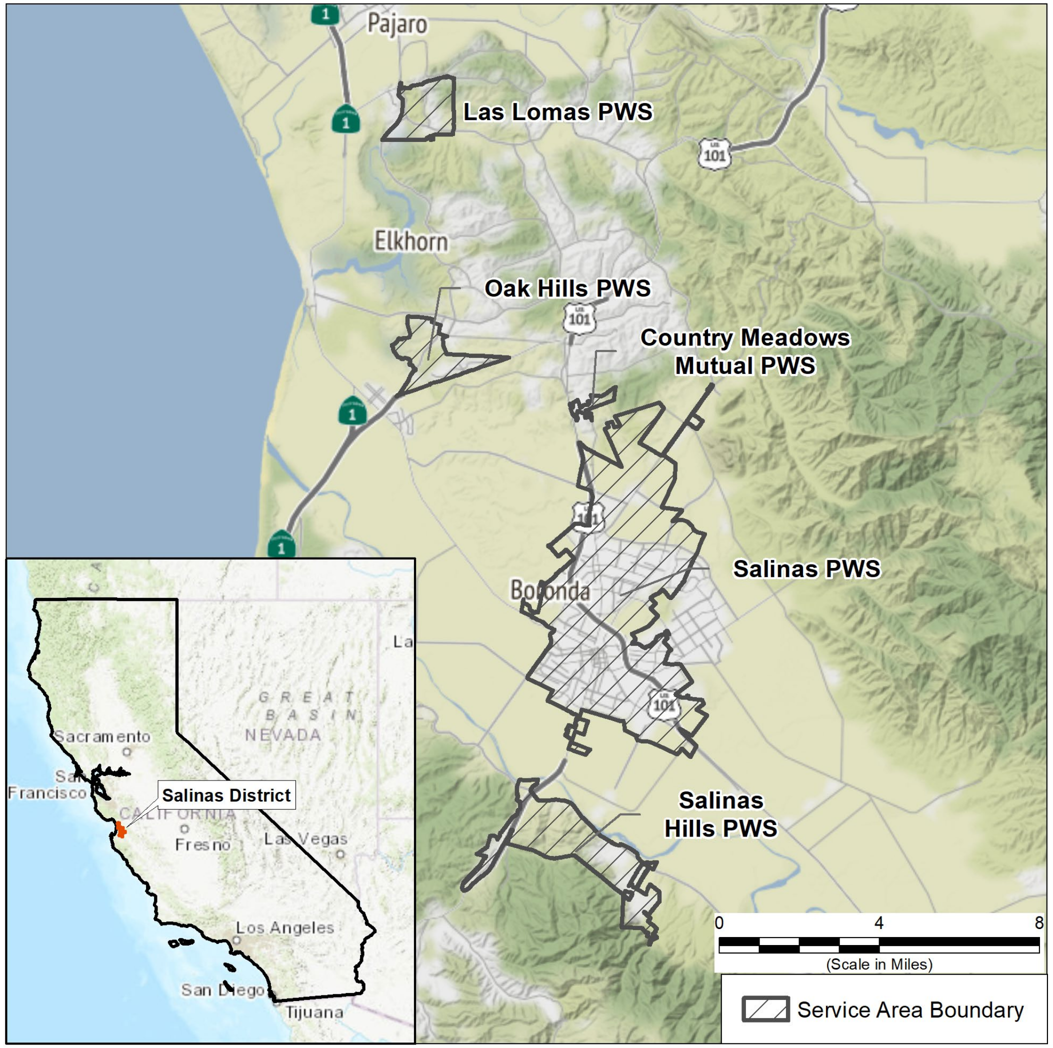
- California Water Code Part 2.6 Chapters 1-4 (Sections 10610-10656)
- Threshold: Utilities with 3,000+ services or 3,000+ acre-feet per year (AFY) water sales
- At least a 20-year planning horizon
- Must be updated every 5 years
- Must be submitted by July 1, 2021
- Supports long-term water resource planning to ensure adequate supplies
- Basis for SB-610 Water Supply Assessments

UWMP Elements

- Service area description
- Population forecast
- Supply and demand projections through 2045 in normal, single dry and multiple dry years
- Water supply reliability
- Demand Management Measures
- Climate change
- WSCP

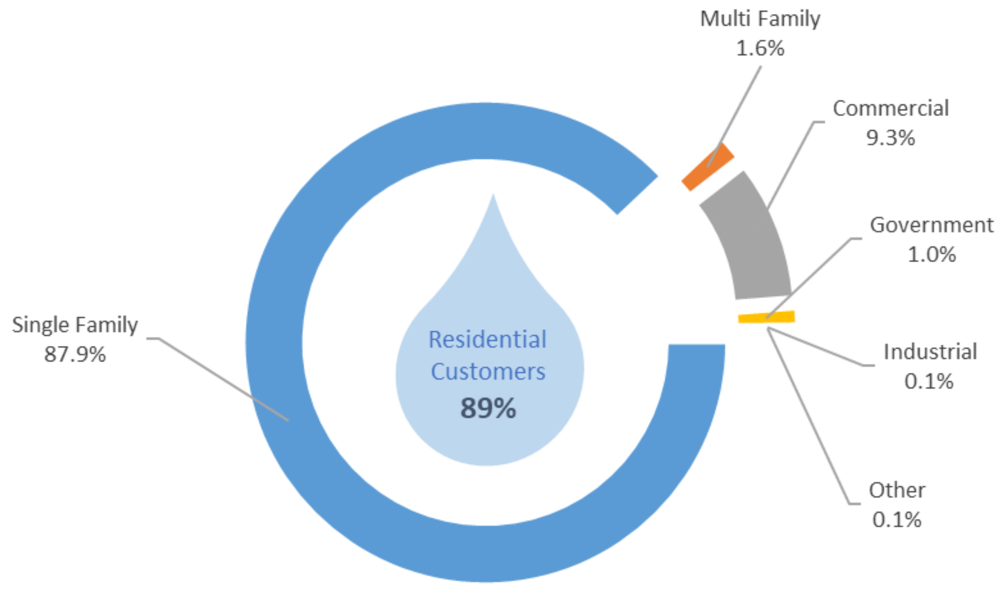
District Overview

- Serving community since 1962
- Five separate Public Water Systems
- Uses groundwater produced by 46 wells
- Distribution through system of:
  - 30 storage tanks
  - 300 miles of pipeline



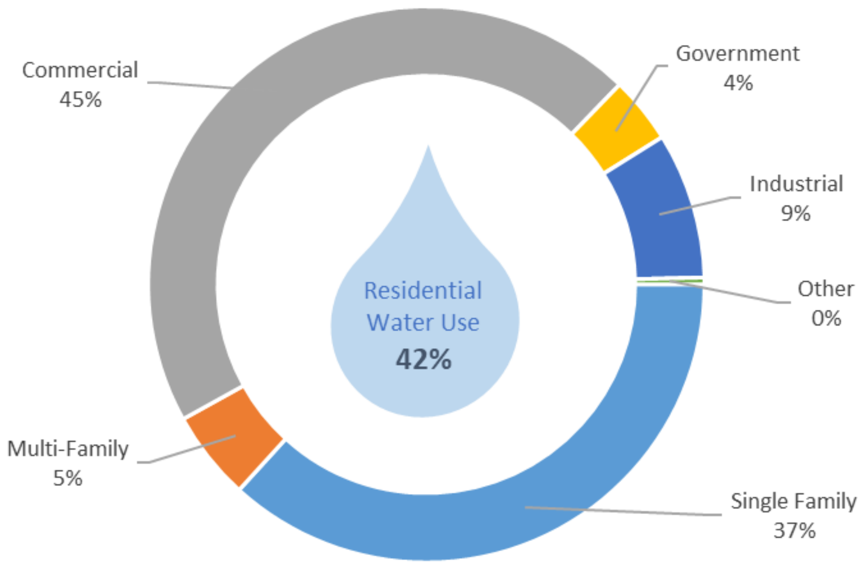
Distribution of Services/Demand

Services



Note: values may not sum to 100% due to independent rounding.

Demand



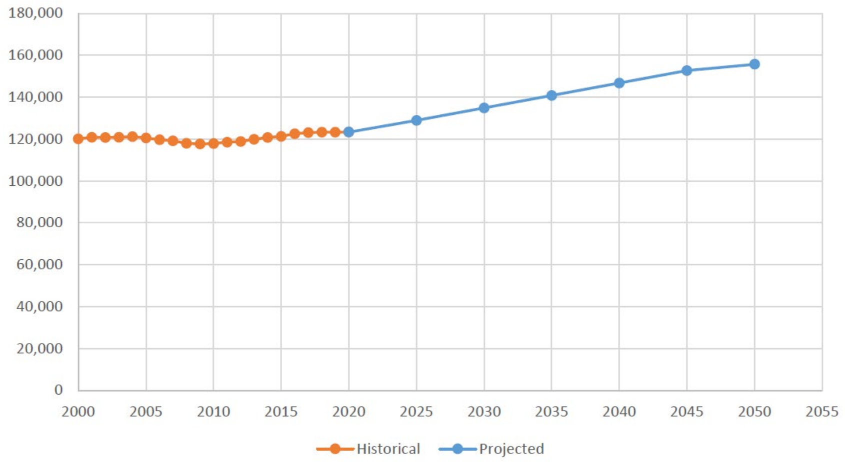
Note: values may not sum to 100% due to independent rounding.

Demand Projection Methodology

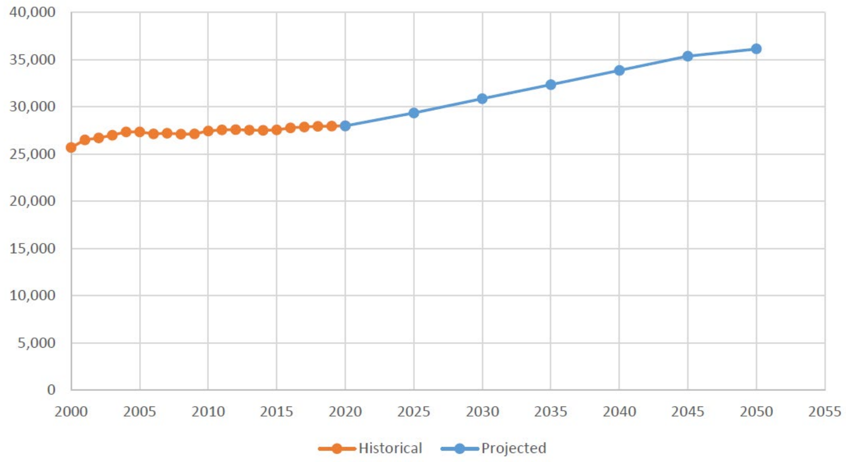
- Forecast horizon is 30 years
- Annual time-step
- Generates normal-, wet-, and dry-year demand forecasts
- Directly considers impacts of climate change
- Demand model uses historical data on services, sales, production, and population from Cal Water's Production Analysis Worksheets (PAWS)
- Regional Growth Forecast: housing and employment growth forecasts based on county-level forecasts prepared by Caltrans

Population & Account Projections

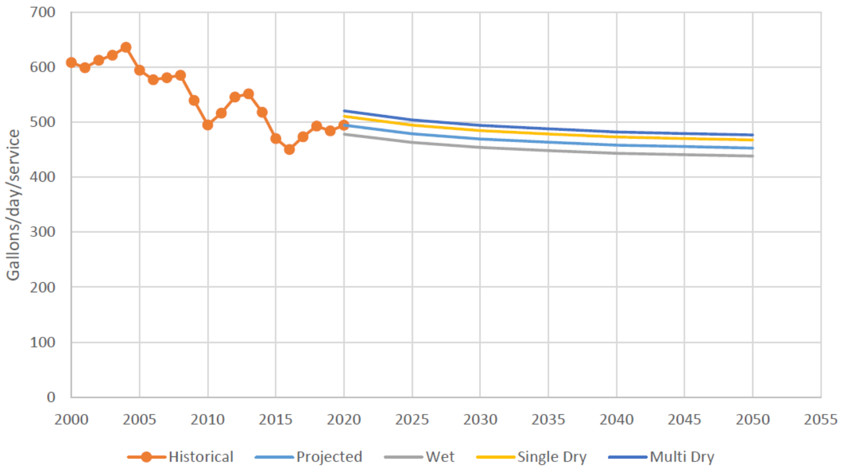
Historical and Projected Population



Historical and Projected Services

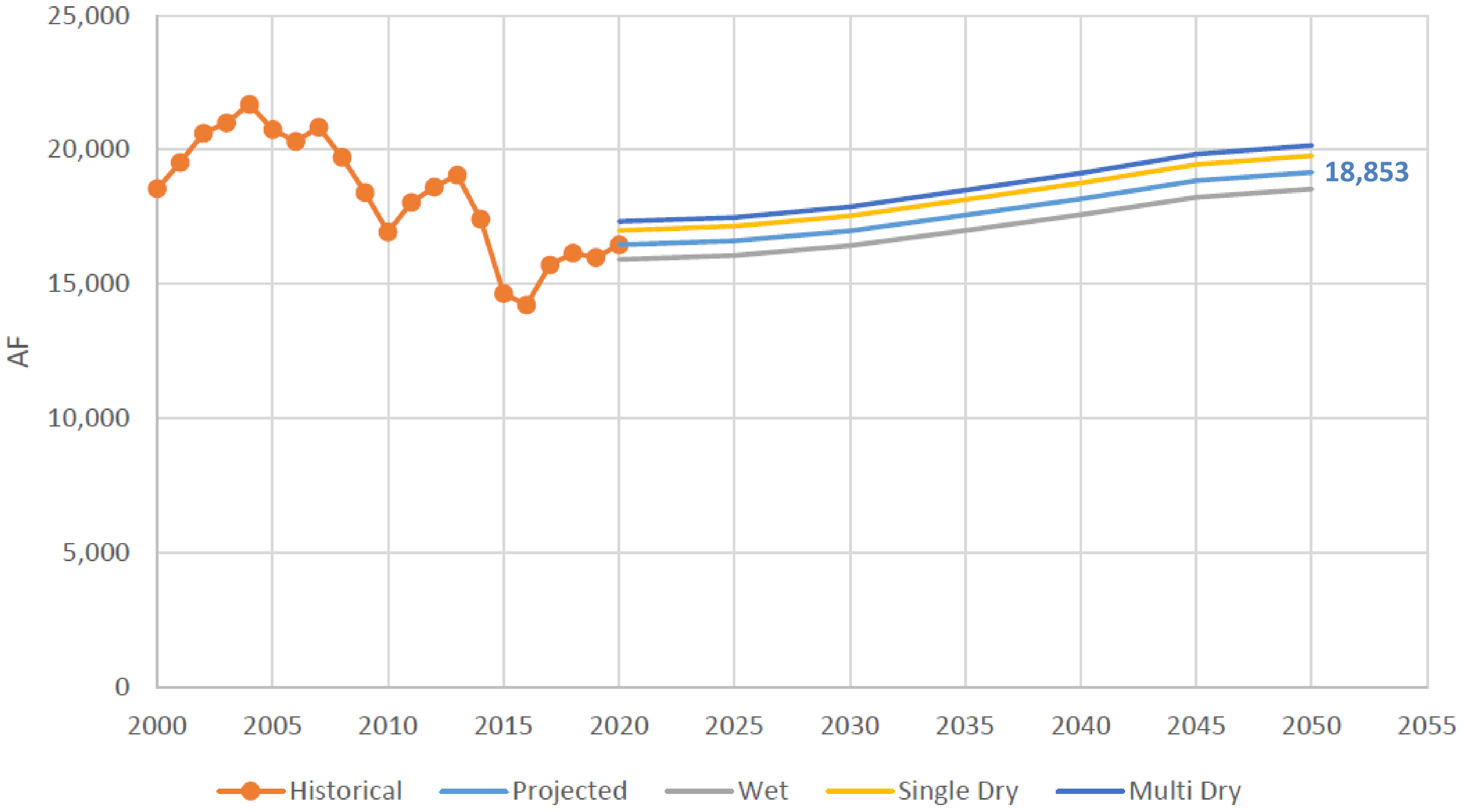


Average Demand Per Service



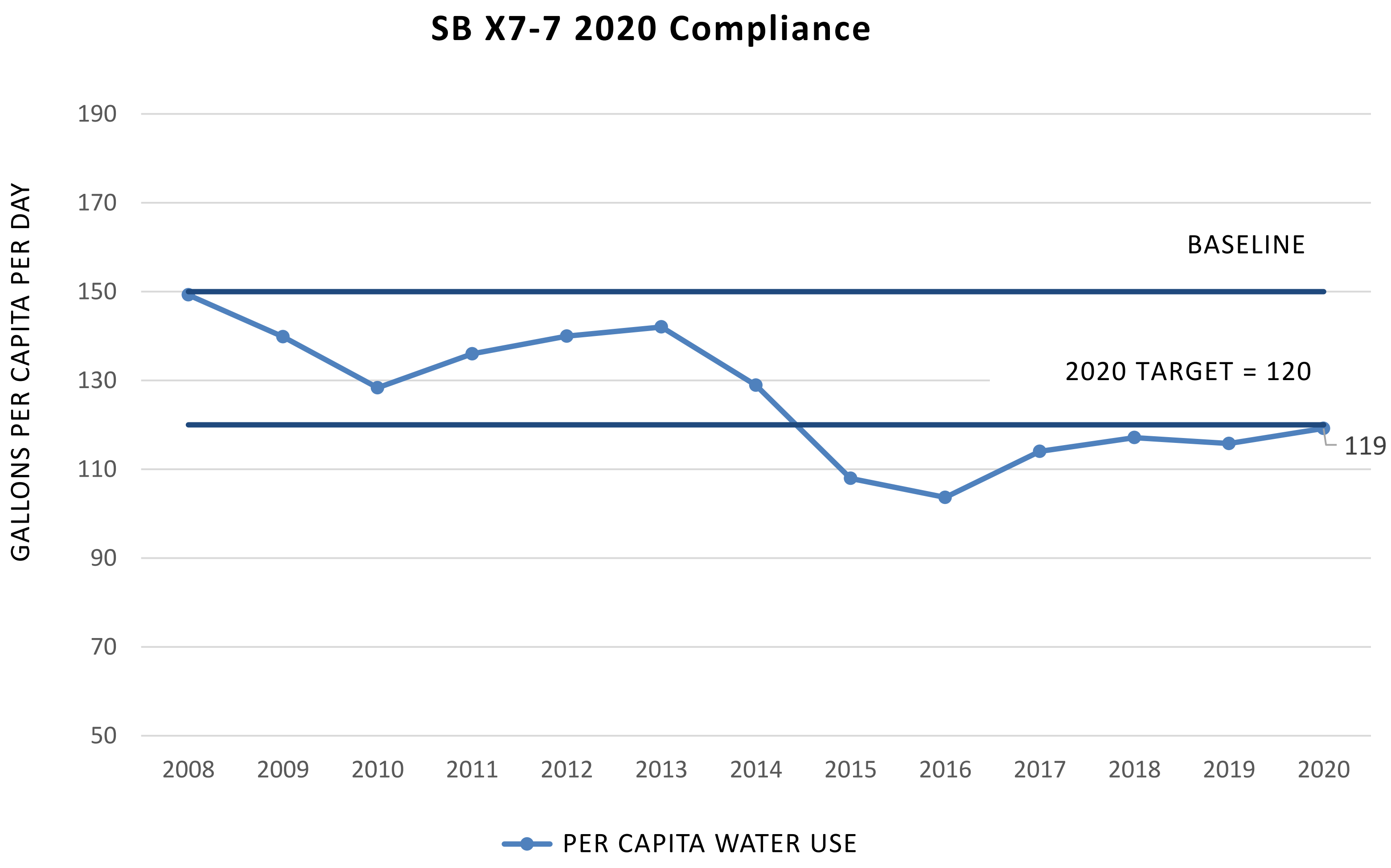
Demands for Potable Water - Projected

- 2045 demand projected to be 18,853 acre-feet per year
- 14% increase relative to 2020 demands



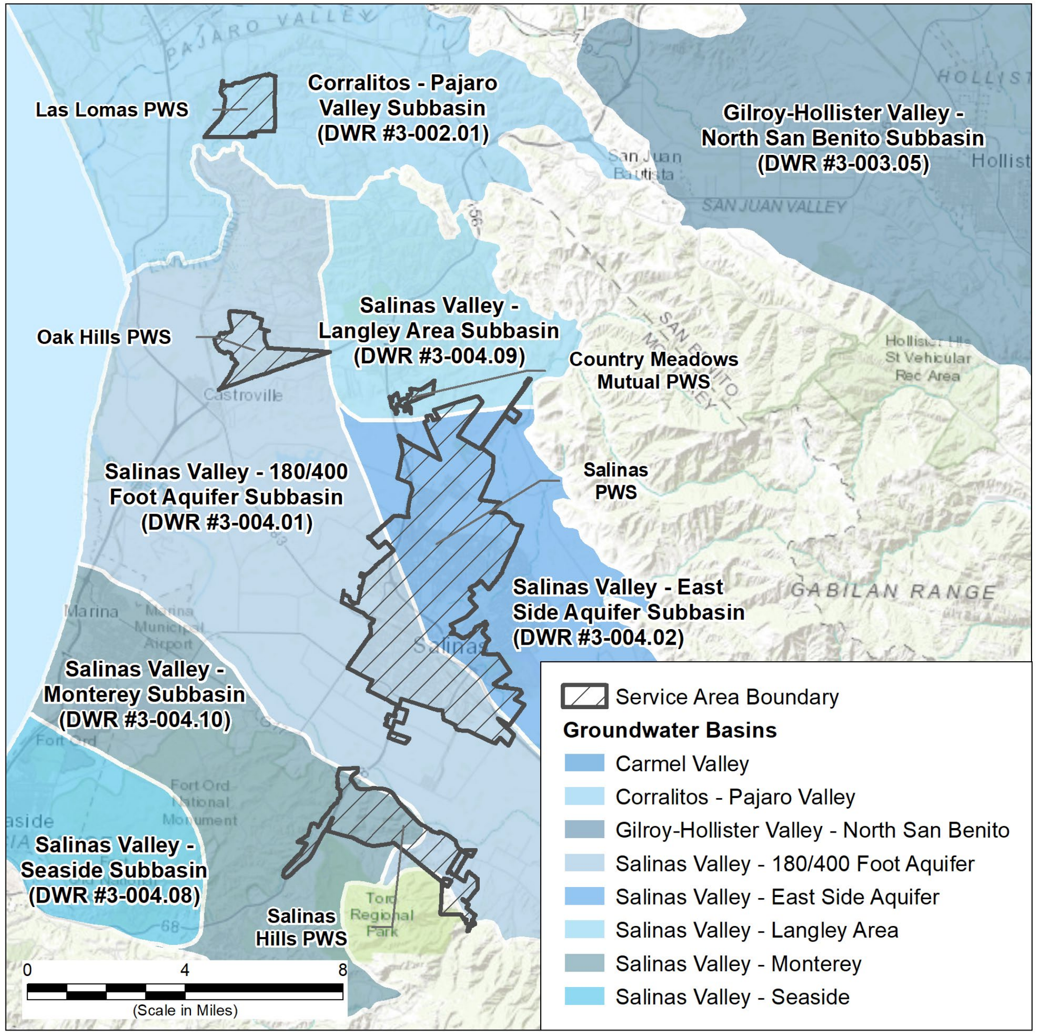
SB X7-7 (20% by 2020)

- Goal is to reduce per capita urban water use below baseline by:
  - 10% by Dec. 31, 2015
  - 20% by Dec. 31, 2020
- Salinas District met its 2020 Target



Water Supply Sources

- Groundwater pumped from the following basins
  - 180/400 Aquifer Subbasin
  - Eastside Aquifer Subbasin
  - Langley Area Subbasin
  - Monterey Subbasin
  - Pajaro Valley Subbasin
- No current or projected use of recycled water or other supply sources

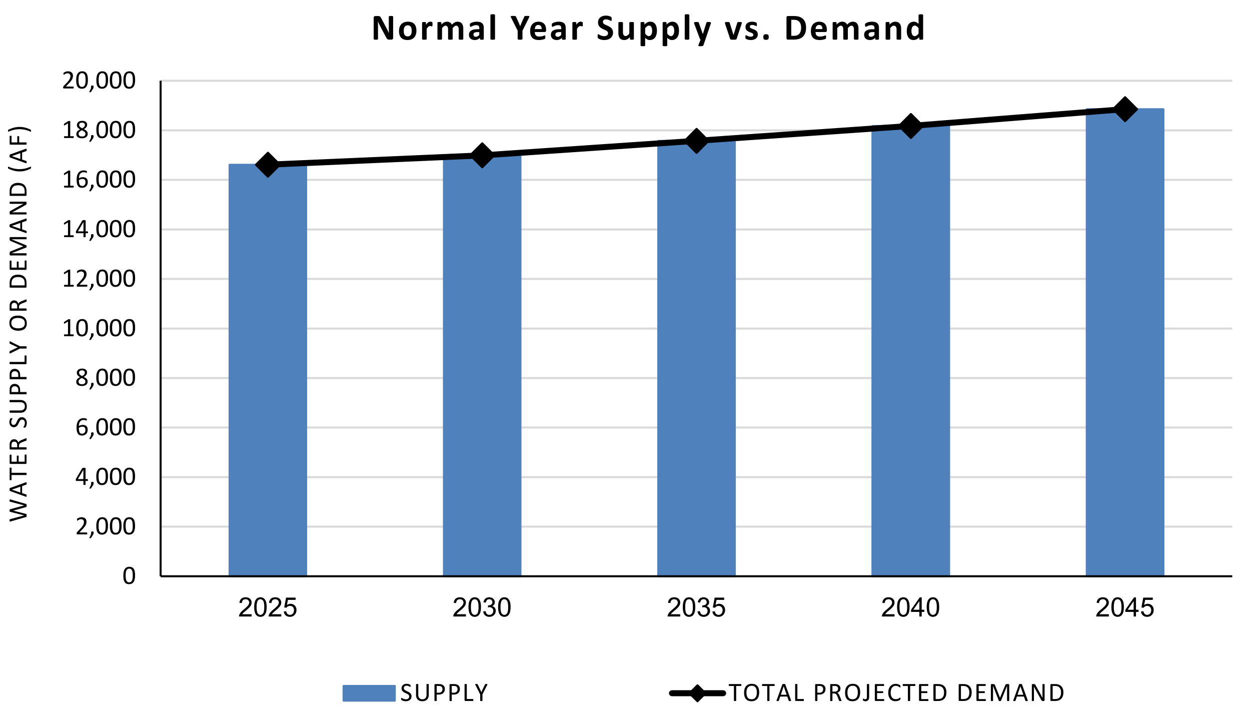


Local Topics – Salinas District

- Implementation of Sustainable Groundwater Management Act (SGMA) is in early stages and may impact future supply reliability
  - 180/400-Foot Aquifer Subbasin and Pajaro Valley Subbasin are both considered “critically overdrafted”
  - 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan (GSP) and Pajaro Valley Water Basin Management Plan (BMP) are available via DWR SGMA Portal
  - Eastside Aquifer Subbasin GSP, Langley Area Subbasin GSP, and Monterey Subbasin GSP anticipated by January 31, 2022
- Cal Water is actively engaging in SGMA implementation and will incorporate any impacts into ongoing supply planning

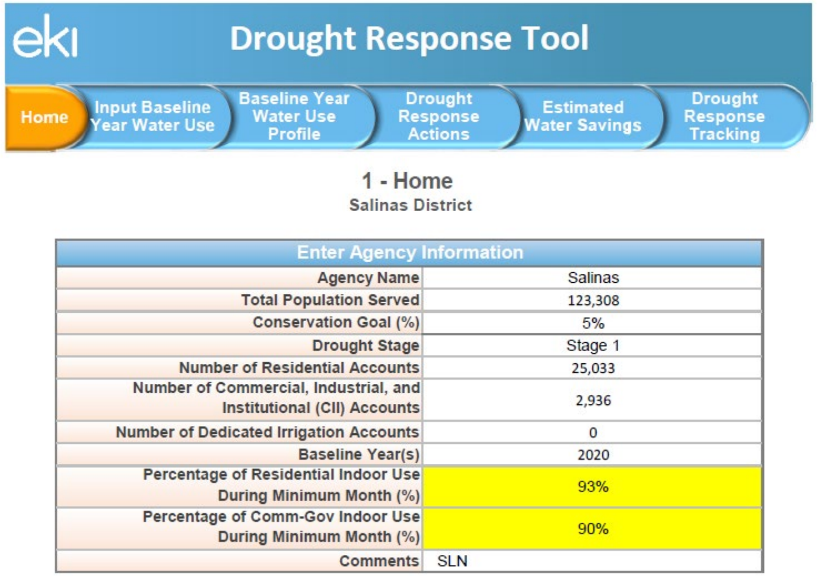
Supply Sufficiency

- Supply sufficiency analysis is based on assumed area-based apportionment of sustainable yield of the underlying basins
- Under single dry and multiple dry year conditions, small shortages are anticipated in the Salinas PWS and Country Meadows Mutual PWS in 2040 and 2045
- Shortages will be addressed by the WSCP and other proactive measures



Water Shortage Contingency Plan Elements

- Comprehensive drought response plan
  - Annual assessment of water supply reliability
  - Six standard shortage stages (10% to >50%)
  - Shortage response actions
  - Communication protocols
  - Monitoring, enforcement, and reporting
- Quantitatively assessed using Drought Response Tool



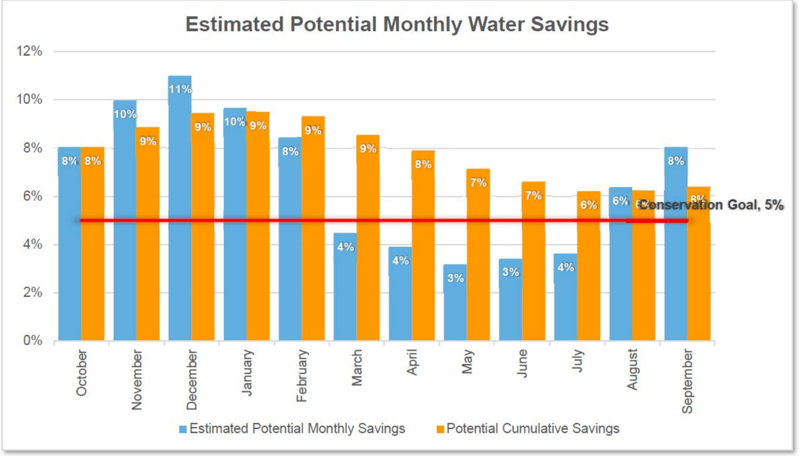
eki Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

Salinas District

Enter Agency Information	
Agency Name	Salinas
Total Population Served	123,308
Conservation Goal (%)	5%
Drought Stage	Stage 1
Number of Residential Accounts	25,033
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,936
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	90%
Comments	SLN



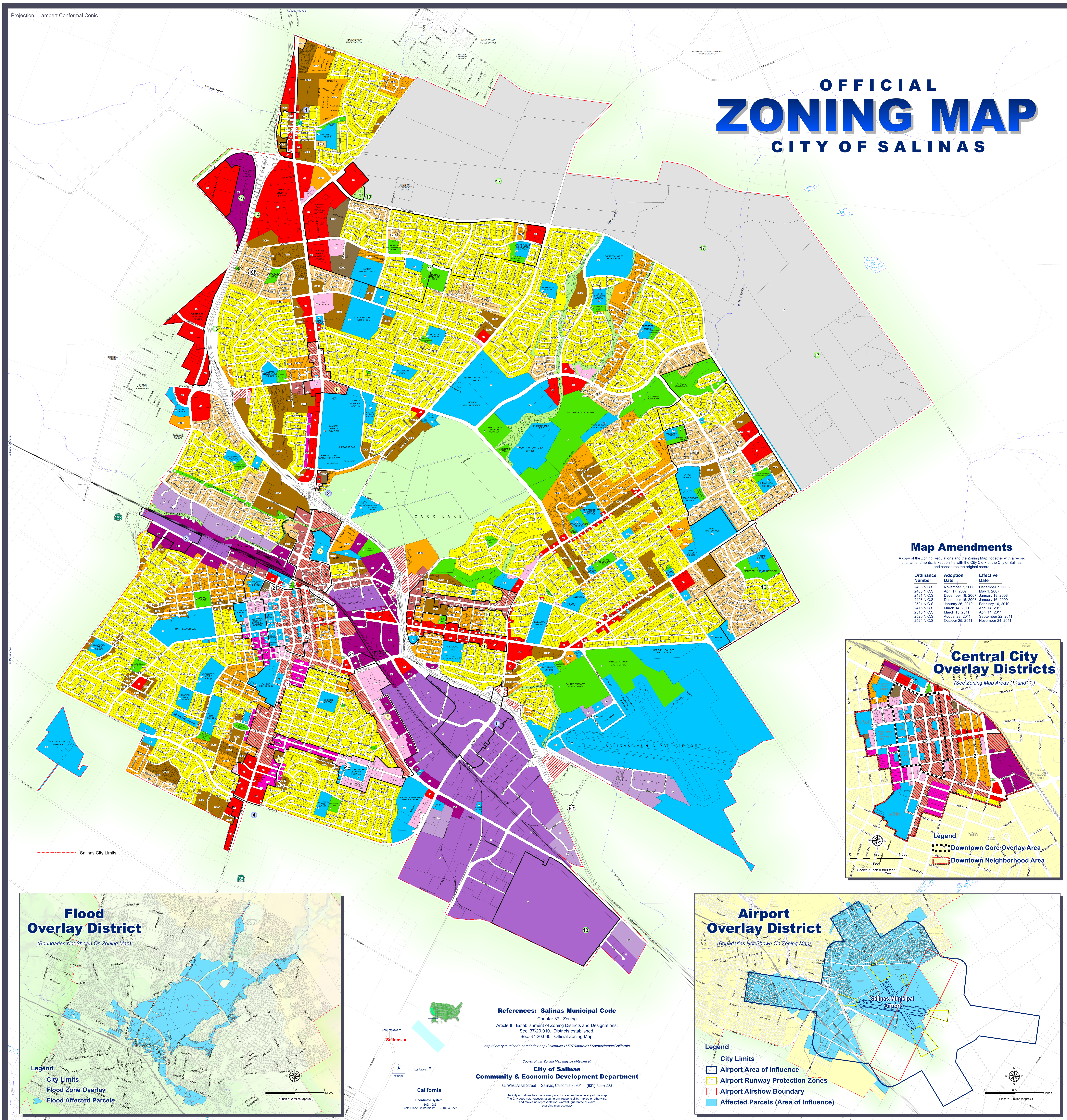
Drought Update

- Governor has issued drought emergencies in 41 counties
- Cal Water is monitoring drought conditions in all of its service territories
  - Established a Drought Response Committee
  - Proactively developing conservation messaging
- Cal Water is closely coordinating its drought response with other water agencies and regulatory bodies
- Cal Water will follow the protocols outlined in the WSCP as needed
  - Based on local conditions or state mandates

Questions or Comments

- Draft 2020 UWMP and 2020 WSCP available at **https://www.calwater.com/conservation/uwmp-review/**
- Provide any questions or comments on the Comment Form
- Comments on any parts of the UWMP will be accepted through May 20, 2021
- Send 2020 UWMP and WSCP comments to: planninginfo@calwater.com

Appendix D: The City of Salinas Official Zoning Map



Zoning District Legend

A	Agriculture
R-L-5.5	Residential Low Density
R-M-3.6	Residential Medium Density
R-M-2.9	Residential Medium Density
R-H-2.1	Residential High Density
R-H-1.8	Residential High Density
CO/R	Commercial Office / Residential
CO	Commercial Office
CR	Commercial Retail
CT	Commercial Thoroughfare
MX	Mixed Use
MAF	Mixed Arterial Frontage
IGC	Industrial - General Commercial
IBP	Industrial - Business Park
IG	Industrial - General
PS	Public / Semipublic
P	Parks
OS	Open Space
NE	Neighborhood Edge/Low Density Residential
NG-1	Neighborhood General 1/Medium Denisty Residential
NG-2	Neighborhood General 2/High Density Residential
VC	Village Center
NI	New Urbanism Interim

Overlay Legend

Gateway Overlay Districts:

1 West Boronda Road @ U.S. 101
2 North Main Street @ U.S. 101
3 West Market Street @ Davis Road
4 South Main Street @ Blanco Road
5 Sanborn Road @ U.S. 101

Focused Growth Overlay Districts:

6 FG 1 Laurel Drive at North Main Street
7 FG 2 North Main Street/Soledad Street
8 FG 3 South Main Street
9 FG 4 Abbott Street
10 FG 5 East Alisal Street/East Market Street

Specific Plan Overlay Districts:

11 SP-1 Harden Ranch
12 SP-2 Williams Ranch
13 SP-3 Westridge Center
14 SP-4 Salinas Auto Center
15 SP-5 Mountain Valley
16 SP-6 Boronda Crossing
17 SP-NI New Urbanism Interim
18 SP-7 Salinas Ag-Industrial Center
19 SP-8 Gateway Center Specific Plan Overlay

Other:

20 East Romie Lane Corridor Overlay District
21 Central City Overlay District
22 Downtown Core Area

SALINAS, CALIFORNIA
a great place to live, work, & visit

Scale: 1 inch = 1000 feet / .19 miles (approx.) / .30 kilometers (approx.)
5 Acres
20 Acres
40 Acres
Scale: 1 sq. inch = approx. 23 acres
Rev: March 2012

Appendix E: Summary of Demand Projection Methodology and Assumptions

Cal Water Long-Term Demand Forecast Model Overview

Forecast Domain

The forecast model generates separate forecasts for each customer class and distribution system. Table 1 lists Cal Water districts and distribution systems. Table 2 lists customer classes.

Forecast Horizon and Time Step

The forecast horizon is 30 years. The forecast has an annual time-step.

Normal, Wet, and Dry Year Forecasts

The forecast model generates normal-, wet-, and dry-year demand forecasts. The normal-year forecast is the default forecast. The wet- and dry-year forecasts can be substituted for the default forecast as necessary for system planning purposes. The model produces two different dry year forecasts: the single dry year forecast and the multiple dry year forecast. The latter represents the expected effect of prolonged drought conditions on unconstrained water demand.[1]

Relationship to GRC Sales Forecast

The first year of the forecast can be set to the current GRC sales forecast or actual consumption.

Relationship to PAWS

The demand model uses historical data on services, sales, production, and population from Cal Water's Production Analysis Worksheets (PAWS).

Accounting Rules

The model uses the following accounting rules to ensure forecast consistency:

- Population and conservation savings forecasts are functions of the service forecast.
- The sales forecast for a distribution system is the sum of the class-level sales forecasts for the distribution system. The production forecast for a distribution system is the sum of the sales and non-revenue water (NRW) forecasts for the distribution system.
- The sales and production forecasts for a district are the sum of the sales and production forecasts for its distribution systems.

Volume Units

Sales and production forecasts are in acre-feet (AF). Average sales and per capita forecasts are in gallons per day.

Per Capita Water Use

The model generates per capita forecasts for water use by single-family customers, water use by multi-family customers, water use by all residential customers, and water use by all district customers.

[1] Unconstrained demand is what demand would be in the absence of water use restrictions or policies intended to curtail water use.

Service Forecast

The forecast model generates three alternative service forecasts:

- Average Y-Y Change in Services. The model bases the forecast on the historical year-to-year (y-y) change in the number of services. This forecast assumes additive growth.
- Average Y-Y % Change in Services. The model bases the forecast on the historical y-y percentage change in services. This forecast assumes exponential growth.
- Regional Growth Forecast. The model uses regional housing and employment growth forecasts to project future services. Districts in the Bay Area use census-tract level growth forecasts prepared by the Association of Bay Area Governments (ABAG). Districts in Southern California use census-tract-level growth forecasts prepared by the Southern California Association of Governments (SCAG). The remaining districts use county-level forecasts prepared by Caltrans.

Regional Forecasts

Table 3 lists the regional forecasts in the model. Table 4 summarizes how the model uses the regional forecasts to project future services.

Service Floors and Ceilings

The forecast can include floors and ceilings on the service growth. The floor (ceiling) is the minimum (maximum) number of services allowed in the forecast.

User-Specified Growth Rates

The model allows user-specified growth rates.

Water Supply Assessments

The user can add to the forecast projected services and water use from Water Supply Assessments prepared for proposed development projects. The user can specify how much of this projected growth in services and water use the model should treat as additive to the baseline forecast.

Population Forecasts

The population projection is a function of the residential service projections to ensure internal consistency. Population in year t is:

$$Population_t = \left[\frac{persons}{service}\right]_{SFR} \cdot SFRservices_t + \left[\frac{persons}{service}\right]_{MFR} \cdot MFRservices_t$$

For multi-family services, the calculation of average persons per service uses the equation below. The model uses county assessor data linked to Cal Water customer data to estimate average dwelling units per parcel and average parcels per service. It uses census data to estimate average persons per dwelling unit.

$$\left[\frac{persons}{service}\right]_{MFR} = \frac{Avg\ Dwelling\ Units}{Parcel} \cdot \frac{Avg\ Parcels}{Service} \cdot \frac{Avg\ Persons}{Dwelling\ Unit}$$

Sales/Service Forecast

The model generates separate forecasts of sales/service for each customer class and distribution system.

Sales/Service Initialization

The model user sets sales/service for first year of the forecast to either current year water use or the most recent General Rate Case sales forecast. The 2020 UWMP projections start with 2020 actual sales/service.

Sales/Service Adjustments

In each forecast year, the model adjusts the previous year's sales/service estimate for:

1. Rebound from the 2012-16 drought
2. Passive water savings from plumbing codes and appliance standards
3. Active water savings from Cal Water conservation programs
4. Real changes in the marginal cost of water service
5. Real changes in per capita income

The user can select which adjustments to apply. The 2020 UWMP projections include all the adjustments except the drought rebound adjustment. The 2020 UWMP projections exclude the drought rebound adjustment because analysis of recent consumption trends showed that further rebound from the 2012-2016 drought was unlikely.

A description of each adjustment follows.

Drought Rebound

The model adjusts the sales/service forecast for demand recovery following the 2012-2016 drought. The model makes this adjustment using data on the growth in sales/service between 2016 and 2017. The model assumes some of the savings achieved during the drought will be permanent. The user can set the level of permanent drought savings. The default setting is 20%.

Passive Water Savings

The model uses DWR projections of water savings from plumbing/building codes to forecast passive water savings.[2] The model extends the DWR projections, which run through 2040, to 2050.

Active Water Savings

The model uses conservation program savings projections from Cal Water's 2015 Conservation Master Plans to forecast active water savings.

Price and Income Adjustments

The model adjusts average sales for expected changes in real income and cost of water service. The adjustment equation is:[3]

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[2] M.Cubed. 2016. Projected Statewide and County-Level Effects of Plumbing Codes and Appliance Standards on Indoor GPCD. Technical Memorandum prepared by David Mitchell for the California Department of Water Resources. August 30, 2016.

[3] The model uses a constant-elasticity-of-demand specification: $Q_t = AP_t^{\varepsilon} I_t^{\delta}$

$$\Delta Q_t = Q_0 \left(1 - \left(\frac{P_t}{P_0}\right)^{\varepsilon} \left(\frac{I_t}{I_0}\right)^{\delta}\right)$$

where Q_0 is sales/service in the base year of the forecast, $\left(\frac{P_t}{P_0}\right)$ and $\left(\frac{I_t}{I_0}\right)$ are the price of water and income relative to the base year of the forecast, and ε and δ are empirically derived estimates of price and income elasticity.

Sales Forecast

The sales forecast is the product of the service and average use per service forecasts.

Non-Revenue Water Forecast

The non-revenue water forecast is a function of the services forecast. The forecast starts with an initial estimate of non-revenue water, expressed in gallons/connection/day. The model decomposes this estimate into real and apparent loss. The model assumes future apparent loss is equal to the average apparent loss for the five year before the start of the forecast. In the case of real loss, the model assumes Cal Water's loss management program will reduce real losses over time. The amount of reduction depends on the staring estimate of real loss. If this estimate is 10 gallons/connection/day or less, the model assumes no further reduction. Otherwise, the model assumes real losses (in gallons/connection/day) will decrease until they are equal to 75% of the average real loss for the five years before the start of the forecast or the State Water Board draft real water loss standard for the distribution system, whichever is greater.[4] The model assumes the reduction in real loss will occur between 2020 and 2030.

Production Forecast

The production forecast is the sum of the sales and NRW forecasts.

Normal, Wet, Single Dry, and Multiple Dry Year Projections

The model generates normal, wet, single dry, and multiple dry year forecasts of sales and production. The model bases these forecasts on empirically derived relationships between monthly water sales, rainfall, and air temperature estimated for each Cal Water district.[5]

- Wet year – minus one standard deviation weather effect on sales and production
- Single dry year – plus one standard deviation weather effect on sales and production
- Multiple dry year – plus 1.6 standard deviations weather effect on sales and production

In the case of the dry year forecasts, the model is forecasting demand in the absence of drought water use restrictions or other policies that would limit water use in dry years.

[4] The State Water Board did not develop a draft water loss standard for every Cal Water distribution system. For those without a draft standard, the model assumes real losses will decrease until they are equal to 75% of the average real loss for the five year before the start of the forecast.
[5] A&N Technical Services, Cal Water Long Term Water Demand Forecast Model, December 2014.

Table 1. Long-Term Demand Model Districts and Systems

Label	District-System	Notes
AV	**Antelope Valley District**	
AV-FMT	Fremont System	
AV-LAN	Lancaster System	
AV-LKH	Lake Hughes System	
AV-LVY	Leona Valley System	
BG	**Bear Gulch District**	No sub-systems in district
BK	**Bakersfield District**	
BK-BK	Bakersfield System	
BK-NG	North Garden System	
CH	**Chico District**	
CH-CH	Chico System	
CH-HAM	Hamilton City System	
DIX	**Dixon District**	No sub-systems in district
DOM	**Dominguez District**	No sub-systems in district
ELA	**East Los Angeles District**	No sub-systems in district
HAW	**Hawthorne District**	No sub-systems in district
HR	**Hermosa-Redondo District**	No sub-systems in district
KC	**King City District**	No sub-systems in district
KRV	**Kern River Valley District**	
KRV-BDFLO	Lower Bodfish System	
KRV-BDFUP	Upper Bodfish System	
KRV-KNVARD	Kernville & Arden System	Includes KNV, KRVArdenWaterCo, COUN, MSH, POND
KRV-LKL	Lakeland System	
KRV-ONX	Onyx System	
KRV-SLK	South Lake System	Includes SQM
KRV-SPM	Split Mountain System	
LAS	**Los Altos District**	No sub-systems in district
LIV	**Livermore District**	No sub-systems in district

Label	**District-System**	**Notes**
MPS	**Mid-Peninsula District**	
MPS-SM	San Mateo System	
MPS-SC	San Carlos System	
MRL	**Marysville District**	No sub-systems in district
ORO	**Oroville District**	No sub-systems in district
PV	**Palos Verdes District**	No sub-systems in district
RDV	**Redwood Valley District**	
RDV-ARM	Armstrong System	
RDV-CSP	Coast Springs System	
RDV-HKN	Hawkins Water System	
RDV-LUC	Lucerne System	
RDV-NOH	Noel Heights System	
RDV-RPD	Rancho del Paradiso System	
SEL	**Selma District**	No sub-systems in district
SLN	**Salinas District**	
SLN-SLN	Salinas System	Includes Bolsa Knolls, Country Meadows
SLN-SLNH	Salinas Hills System	Includes Buena Vista, Indian Springs
SLN-OH	Oak Hill System	
SLN-LL	Las Lomas System	
SSF	**South San Francisco District**	No sub-systems in district
STK	**Stockton District**	No sub-systems in district
VIS	**Visalia District**	No sub-systems in district
WIL	**Willows District**	No sub-systems in district
WLK	**Westlake District**	No sub-systems in district

Table 2. Long-Term Demand Model Customer Classes

Label	Description	Revenue Class #
SFR	Single-Family Residential	1
FLT	Single-Family Flat Rate	4
RES	SFR + FLT	1, 4
MFR	Multi-Family	15
COM	Commercial/Business	2
GOV	Government/Public Authority	11
IND	Industrial	3
OTH	Other/miscellaneous	8,13
IRR	Dedicated irrigation customers	7

Table 3. Regional Forecasts used in First Generation Long-term Demand Model Forecasts

Regional Forecast	Version	Range
ABAG	Plan Bay Area 2040, GEOID10-level summary	2010 to 2040
SCAG	RTP07 GEOID10-level	2010 to 2035
Caltrans	2017 County Forecasts	2010 to 2050

Table 4. Regional Growth Rates used in the Service Growth Forecasts

Service Class	ABAG	SCAG	Caltrans
SFR	y-y % change in single-family dwelling units	y-y % change in all residential dwelling units	y-y % change in single-family dwelling units
MFR	y-y % change in multi-family dwelling units	y-y % change in all residential dwelling units	y-y % change in multi-family dwelling units
COM	y-y % change in total number of jobs	y-y % change in total number of jobs	y-y % change in county employment in retail, wholesale, information, financial, professional, and leisure sectors
GOV	y-y % change in gov't, information, and construction jobs	y-y % change in total number of jobs	y-y % change in county employment in federal, state, local government and education and healthcare sectors
IND	y-y % change in manufacturing jobs	y-y % change in total number of jobs	y-y % change in county employment in manufacturing sectors

Historical and Projected Services, Water Sales, and Total Production

District Demand Projection Report
Salinas

6/4/2021

General Rate Case Sales Baseline 2020

Historical Data Range First Year 2000
Last Year 2020

Forecast Range First Year 2020
Last Year 2050

Service Growth Basis Historical Y-Y Growth

Service Growth Rates

	Caltrans	Historical %Y-Y[1]			
Class	Projected	5-Yr	10-Yr	15-Yr	20-Yr
RES[2]	0.5%	0.3%	0.2%	0.2%	0.4%
MFR	0.5%	0.5%	1.6%	2.0%	1.5%
COM	0.7%	0.4%	0.1%	-0.1%	0.7%
GOV	0.7%	0.4%	-0.6%	2.7%	2.1%
IND	0.5%	-1.1%	-0.8%	-13.5%	-9.6%
TOT		0.3%	0.2%	0.2%	0.4%

Water Supply Assessments

	WSA Name	Completion Date	Incorporated into Forecast (Y/N)
1	Castroville Oaks Project	6/5/20	Y
2	Central Specific Plan	Draft	Y
3	West Specific Plan	Draft	Y
4			
5			

Sales Forecast Adjustments

Drought Rebound	OFF
Plumbing Code	ON
Active Conservation	ON
Price Response	ON
Income Response	ON

Non-Revenue Water (NRW) Basis

Real loss (gal/con/day):
2016-2020 average if <= 10 gal/con/day
Draft Water Board standard or 75% of 2016-2020 average, whichever is greater, by 2030.
Apparent loss (gal/con/day): 2016-2020 average.

1. Account reclassifications can impact historical %Y-Y growth rates for individual customer classes.
2. RES = Metered and unmetered single-family residential customers.

District Demand Projection Report
Salinas

Historical Service Counts

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2000	22,658	324	2,252	192	227	41	0	25,694
2001	23,108	324	2,518	192	308	38	0	26,488
2002	23,278	324	2,552	194	311	33	0	26,692
2003	23,535	324	2,579	198	312	32	0	26,980
2004	23,846	324	2,625	197	311	38	0	27,341
2005	23,878	324	2,639	196	268	31	0	27,336
2006	23,866	323	2,648	191	61	27	0	27,116
2007	23,959	322	2,648	198	34	32	5	27,198
2008	23,830	342	2,616	256	33	29	6	27,112
2009	23,819	368	2,571	310	32	23	3	27,126
2010	24,148	371	2,557	310	33	21	2	27,442
2011	24,269	381	2,535	307	33	15	2	27,542
2012	24,301	396	2,525	303	33	18	2	27,578
2013	24,239	410	2,528	298	34	17	2	27,528
2014	24,221	420	2,530	292	32	16	2	27,513
2015	24,255	425	2,538	287	32	22	1	27,560
2016	24,421	433	2,554	287	30	26	1	27,752
2017	24,502	435	2,561	287	30	30	1	27,846
2018	24,562	435	2,577	289	30	31	1	27,925
2019	24,587	435	2,584	290	30	26	1	27,953
2020	24,601	435	2,588	293	30	25	1	27,973
2021								
2022								
2023								
2024								
2025								
2026								
2027								
2028								
2029								
2030								

CAGR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
5-Year	0.3%	0.5%	0.4%	0.4%	-1.1%	2.6%	0.0%	0.3%
10-Year	0.2%	1.6%	0.1%	-0.6%	-0.8%	1.8%	-6.7%	0.2%
15-Year	0.2%	2.0%	-0.1%	2.7%	-13.5%	-1.4%		0.2%
20-Year	0.4%	1.5%	0.7%	2.1%	-9.6%	-2.4%		0.4%

CAGR = Compound Annual Growth Rate

Historical Sales (AF)

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2000	9,206	1,682	4,696	790	1,012	120	0	17,506
2001	9,485	1,659	4,852	805	866	104	0	17,771
2002	9,907	1,642	4,755	823	1,128	61	0	18,315
2003	9,894	1,600	4,892	826	1,501	74	0	18,788
2004	10,316	1,592	5,160	840	1,502	73	0	19,483
2005	9,698	1,467	4,952	717	1,322	48	0	18,204
2006	9,348	1,389	4,675	698	1,386	34	0	17,530
2007	9,217	1,430	4,862	795	1,335	36	22	17,697
2008	9,192	1,529	4,715	1,005	1,292	25	13	17,771
2009	8,430	1,521	4,367	940	1,117	17	3	16,396
2010	7,865	1,427	4,155	732	1,021	16	3	15,218
2011	7,916	1,496	4,320	828	1,351	18	3	15,930
2012	8,256	1,526	4,589	922	1,535	26	3	16,858
2013	8,376	1,490	4,829	1,045	1,222	42	3	17,006
2014	7,501	1,437	4,751	943	1,268	64	3	15,967
2015	6,550	1,373	4,369	813	1,380	27	2	14,514
2016	6,254	1,349	4,211	725	1,422	41	2	14,003
2017	6,565	1,392	4,385	886	1,521	20	3	14,771
2018	6,750	1,434	4,713	927	1,545	42	2	15,413
2019	6,618	1,406	4,629	924	1,565	13	1	15,156
2020	7,154	1,422	4,340	870	1,689	21	1	15,496
2021								
2022								
2023								
2024								
2025								
2026								
2027								
2028								
2029								
2030								

CAGR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
5-Year	1.8%	0.7%	-0.1%	1.4%	4.1%	-4.8%	-12.2%	1.3%
10-Year	-0.9%	0.0%	0.4%	1.7%	5.2%	2.6%	-9.0%	0.2%
15-Year	-2.0%	-0.2%	-0.9%	1.3%	1.6%	-5.4%		-1.1%
20-Year	-1.3%	-0.8%	-0.4%	0.5%	2.6%	-8.4%		-0.6%

CAGR = Compound Annual Growth Rate

District Demand Projection Report
Salinas

Historical Sales/Service (GPD)

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2000	363	4,634	1,862	3,672	3,981	2,604		608
2001	366	4,570	1,720	3,741	2,511	2,450		599
2002	380	4,523	1,663	3,785	3,238	1,638		613
2003	375	4,407	1,694	3,724	4,296	2,074		622
2004	386	4,386	1,755	3,808	4,311	1,724		636
2005	363	4,041	1,675	3,264	4,405	1,371		594
2006	350	3,840	1,576	3,265	20,282	1,127		577
2007	343	3,964	1,639	3,585	35,061	1,010	3,869	581
2008	344	3,992	1,609	3,506	34,965	757	1,918	585
2009	316	3,689	1,516	2,708	31,176	657	945	540
2010	291	3,433	1,451	2,109	27,615	680	1,310	495
2011	291	3,505	1,521	2,408	36,536	1,045	1,186	516
2012	303	3,441	1,623	2,716	41,521	1,306	1,455	546
2013	308	3,243	1,705	3,130	32,079	2,217	1,428	552
2014	276	3,054	1,676	2,883	35,375	3,563	1,428	518
2015	241	2,885	1,537	2,528	38,503	1,078	1,959	470
2016	229	2,781	1,472	2,254	42,320	1,422	1,359	450
2017	239	2,856	1,529	2,755	45,254	603	2,344	474
2018	245	2,942	1,633	2,863	45,990	1,210	1,408	493
2019	240	2,886	1,599	2,846	46,574	434	924	484
2020	260	2,918	1,497	2,650	49,708	741	1,021	495
2021								
2022								
2023								
2024								
2025								
2026								
2027								
2028								
2029								
2030								

CAGR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
5-Year	1.5%	0.2%	-0.5%	0.9%	5.2%	-7.2%	-12.2%	1.0%
10-Year	-1.1%	-1.6%	0.3%	2.3%	6.1%	0.9%	-2.5%	0.0%
15-Year	-2.2%	-2.1%	-0.7%	-1.4%	17.5%	-4.0%		-1.2%
20-Year	-1.7%	-2.3%	-1.1%	-1.6%	13.5%	-6.1%		-1.0%

CAGR = Compound Annual Growth Rate

Historical Production (AF)

YEAR	SALES	NRW	PROD
2000	17,506	1,054	18,560
2001	17,771	1,755	19,526
2002	18,315	2,314	20,629
2003	18,788	2,226	21,013
2004	19,483	2,222	21,705
2005	18,204	2,549	20,752
2006	17,530	2,780	20,310
2007	17,697	3,152	20,848
2008	17,771	1,948	19,719
2009	16,396	2,022	18,417
2010	15,218	1,722	16,941
2011	15,930	2,113	18,043
2012	16,858	1,758	18,615
2013	17,006	2,055	19,060
2014	15,967	1,454	17,422
2015	14,514	145	14,659
2016	14,003	225	14,228
2017	14,771	938	15,709
2018	15,413	749	16,162
2019	15,156	833	15,989
2020	15,496	971	16,467
2021			
2022			
2023			
2024			
2025			
2026			
2027			
2028			
2029			
2030			

NRW %	NRW GPD/Svc
5.7%	37
9.0%	59
11.2%	77
10.6%	74
10.2%	73
12.3%	83
13.7%	92
15.1%	103
9.9%	64
11.0%	67
10.2%	56
11.7%	68
9.4%	57
10.8%	67
8.3%	47
1.0%	5
1.6%	7
6.0%	30
4.6%	24
5.2%	27
5.9%	31

CAGR	SALES	NRW	PROD
5-Year	1.3%	46.2%	2.4%
10-Year	0.2%	-5.6%	-0.3%
15-Year	-1.1%	-6.2%	-1.5%
20-Year	-0.6%	-0.4%	-0.6%

	NRW GPD/Svc
	45.8%
	-5.8%
	-6.4%
	-0.8%

CAGR = Compound Annual Growth Rate

Historical GPCD

		GPCD	
YEAR	POPULATION	RESIDENTIAL	TOTAL
2000	120,010	81	138
2001	120,820	82	144
2002	120,658	85	153
2003	120,784	85	155
2004	121,061	88	160
2005	120,432	83	154
2006	119,578	80	152
2007	119,051	80	156
2008	117,929	81	149
2009	117,569	76	140
2010	117,821	70	128
2011	118,450	71	136
2012	118,729	74	140
2013	119,799	74	142
2014	120,653	66	129
2015	121,226	58	108
2016	122,522	55	104
2017	122,980	58	114
2018	123,184	59	117
2019	123,268	58	116
2020	123,317	62	119
2021			
2022			
2023			
2024			
2025			
2026			
2027			
2028			
2029			
2030			

CAGR	POPULATION	RESIDENTIAL GPCD	TOTAL GPCD
5-Year	0.3%	1.2%	2.0%
10-Year	0.5%	-1.3%	-0.7%
15-Year	0.2%	-1.9%	-1.7%
20-Year	0.1%	-1.3%	-0.7%

CAGR = Compound Annual Growth Rate

Projected Services

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2020	24,601	435	2,588	293	30	25	1	27,973
2021	24,830	446	2,613	301	30	29	1	28,250
2022	25,058	457	2,639	310	30	29	1	28,523
2023	25,286	468	2,664	318	30	29	1	28,796
2024	25,515	479	2,689	326	30	29	1	29,069
2025	25,743	490	2,715	334	30	29	1	29,342
2026	25,996	501	2,741	344	30	29	1	29,642
2027	26,250	512	2,767	355	30	29	1	29,942
2028	26,503	522	2,793	365	30	29	1	30,243
2029	26,756	533	2,819	375	30	29	1	30,543
2030	27,010	544	2,845	385	30	29	1	30,844
2031	27,263	555	2,871	395	30	29	1	31,144
2032	27,516	566	2,897	405	30	29	1	31,444
2033	27,770	577	2,923	416	30	29	1	31,744
2034	28,023	587	2,949	426	30	29	1	32,045
2035	28,276	598	2,975	436	30	29	1	32,345
2036	28,530	609	3,001	446	30	29	1	32,645
2037	28,783	620	3,027	456	30	29	1	32,945
2038	29,036	631	3,053	466	30	29	1	33,245
2039	29,290	642	3,079	476	30	29	1	33,546
2040	29,543	652	3,105	486	30	29	1	33,846
2041	29,796	663	3,131	496	30	29	1	34,146
2042	30,049	674	3,157	507	30	29	1	34,446
2043	30,302	685	3,183	517	30	29	1	34,746
2044	30,555	696	3,209	527	30	29	1	35,047
2045	30,808	706	3,235	537	30	29	1	35,347
2046	30,934	712	3,257	541	30	29	1	35,504
2047	31,060	718	3,278	546	30	29	1	35,661
2048	31,185	723	3,300	550	30	29	1	35,818
2049	31,311	729	3,322	554	30	29	1	35,975
2050	31,437	734	3,343	558	30	29	1	36,133

Projected Sales (AF)

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2020	7,154	1,422	4,340	870	1,689	21	1	15,496
2021	7,067	1,420	4,347	889	1,670	24	1	15,418
2022	7,085	1,438	4,359	908	1,670	24	1	15,486
2023	7,114	1,457	4,372	928	1,670	24	1	15,568
2024	7,145	1,477	4,386	948	1,670	24	1	15,651
2025	7,174	1,496	4,400	967	1,670	24	1	15,733
2026	7,211	1,515	4,415	993	1,670	24	1	15,830
2027	7,248	1,535	4,431	1,019	1,670	24	1	15,929
2028	7,278	1,555	4,448	1,045	1,670	24	1	16,021
2029	7,312	1,575	4,465	1,071	1,670	24	1	16,119
2030	7,346	1,595	4,482	1,097	1,670	24	1	16,216
2031	7,387	1,616	4,505	1,124	1,670	24	1	16,328
2032	7,423	1,637	4,528	1,151	1,670	24	1	16,434
2033	7,470	1,659	4,551	1,178	1,670	24	1	16,552
2034	7,515	1,680	4,574	1,205	1,670	24	1	16,670
2035	7,561	1,702	4,597	1,232	1,670	24	1	16,788
2036	7,601	1,724	4,621	1,259	1,670	24	1	16,900
2037	7,643	1,746	4,645	1,286	1,670	24	1	17,014
2038	7,689	1,768	4,668	1,313	1,670	24	1	17,133
2039	7,734	1,790	4,692	1,340	1,670	24	1	17,251
2040	7,781	1,812	4,717	1,367	1,670	24	1	17,372
2041	7,833	1,835	4,742	1,394	1,670	24	1	17,500
2042	7,889	1,858	4,768	1,421	1,670	24	1	17,632
2043	7,945	1,882	4,794	1,448	1,670	24	1	17,765
2044	8,006	1,905	4,820	1,475	1,670	24	1	17,902
2045	8,063	1,929	4,846	1,502	1,670	24	1	18,035
2046	8,080	1,941	4,864	1,511	1,670	24	1	18,093
2047	8,099	1,954	4,882	1,520	1,670	24	1	18,151
2048	8,120	1,967	4,901	1,528	1,670	24	1	18,212
2049	8,142	1,980	4,919	1,537	1,670	24	1	18,274
2050	8,166	1,993	4,937	1,546	1,670	24	1	18,338

Projected Sales/Service (GPD)

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2020	260	2,918	1,497	2,650	49,708	741	1,021	495
2021	254	2,842	1,485	2,633	49,708	741	1,021	487
2022	252	2,809	1,475	2,620	49,708	741	1,021	485
2023	251	2,780	1,465	2,608	49,708	741	1,021	483
2024	250	2,752	1,456	2,596	49,708	741	1,021	481
2025	249	2,725	1,447	2,586	49,708	741	1,021	479
2026	248	2,702	1,438	2,575	49,708	741	1,021	477
2027	247	2,679	1,430	2,566	49,708	741	1,021	475
2028	245	2,658	1,422	2,557	49,708	741	1,021	473
2029	244	2,638	1,414	2,549	49,708	741	1,021	471
2030	243	2,618	1,407	2,541	49,708	741	1,021	469
2031	242	2,601	1,401	2,537	49,708	741	1,021	468
2032	241	2,583	1,395	2,533	49,708	741	1,021	467
2033	240	2,568	1,390	2,530	49,708	741	1,021	465
2034	239	2,554	1,385	2,526	49,708	741	1,021	464
2035	239	2,540	1,380	2,523	49,708	741	1,021	463
2036	238	2,527	1,375	2,520	49,708	741	1,021	462
2037	237	2,514	1,370	2,518	49,708	741	1,021	461
2038	236	2,502	1,365	2,515	49,708	741	1,021	460
2039	236	2,491	1,361	2,512	49,708	741	1,021	459
2040	235	2,480	1,356	2,510	49,708	741	1,021	458
2041	235	2,471	1,352	2,507	49,708	741	1,021	458
2042	234	2,462	1,349	2,504	49,708	741	1,021	457
2043	234	2,453	1,345	2,501	49,708	741	1,021	456
2044	234	2,445	1,341	2,499	49,708	741	1,021	456
2045	234	2,438	1,337	2,496	49,708	741	1,021	456
2046	233	2,434	1,333	2,491	49,708	741	1,021	455
2047	233	2,431	1,330	2,487	49,708	741	1,021	454
2048	232	2,428	1,326	2,483	49,708	741	1,021	454
2049	232	2,426	1,322	2,478	49,708	741	1,021	453
2050	232	2,423	1,318	2,474	49,708	741	1,021	453

Projected Production (AF)

YEAR	SALES	NRW	PROD
2020	15,496	971	16,467
2021	15,418	952	16,371
2022	15,486	934	16,420
2023	15,568	915	16,482
2024	15,651	895	16,547
2025	15,733	876	16,609
2026	15,830	856	16,685
2027	15,929	835	16,764
2028	16,021	814	16,835
2029	16,119	793	16,913
2030	16,216	772	16,988
2031	16,328	775	17,103
2032	16,434	778	17,212
2033	16,552	781	17,333
2034	16,670	784	17,454
2035	16,788	787	17,575
2036	16,900	790	17,690
2037	17,014	793	17,807
2038	17,133	796	17,929
2039	17,251	799	18,050
2040	17,372	802	18,175
2041	17,500	805	18,305
2042	17,632	808	18,441
2043	17,765	811	18,576
2044	17,902	814	18,716
2045	18,035	817	18,853
2046	18,093	820	18,913
2047	18,151	823	18,975
2048	18,212	826	19,038
2049	18,274	829	19,103
2050	18,338	832	19,170

% NRW	NRW GPD/Svc
5.9%	31
5.8%	30
5.7%	29
5.5%	28
5.4%	27
5.3%	27
5.1%	26
5.0%	25
4.8%	24
4.7%	23
4.5%	22
4.5%	22
4.5%	22
4.5%	22
4.5%	22
4.5%	22
4.5%	22
4.5%	21
4.4%	21
4.4%	21
4.4%	21
4.4%	21
4.4%	21
4.4%	21
4.4%	21
4.3%	21
4.3%	21
4.3%	21
4.3%	21
4.3%	21
4.3%	21

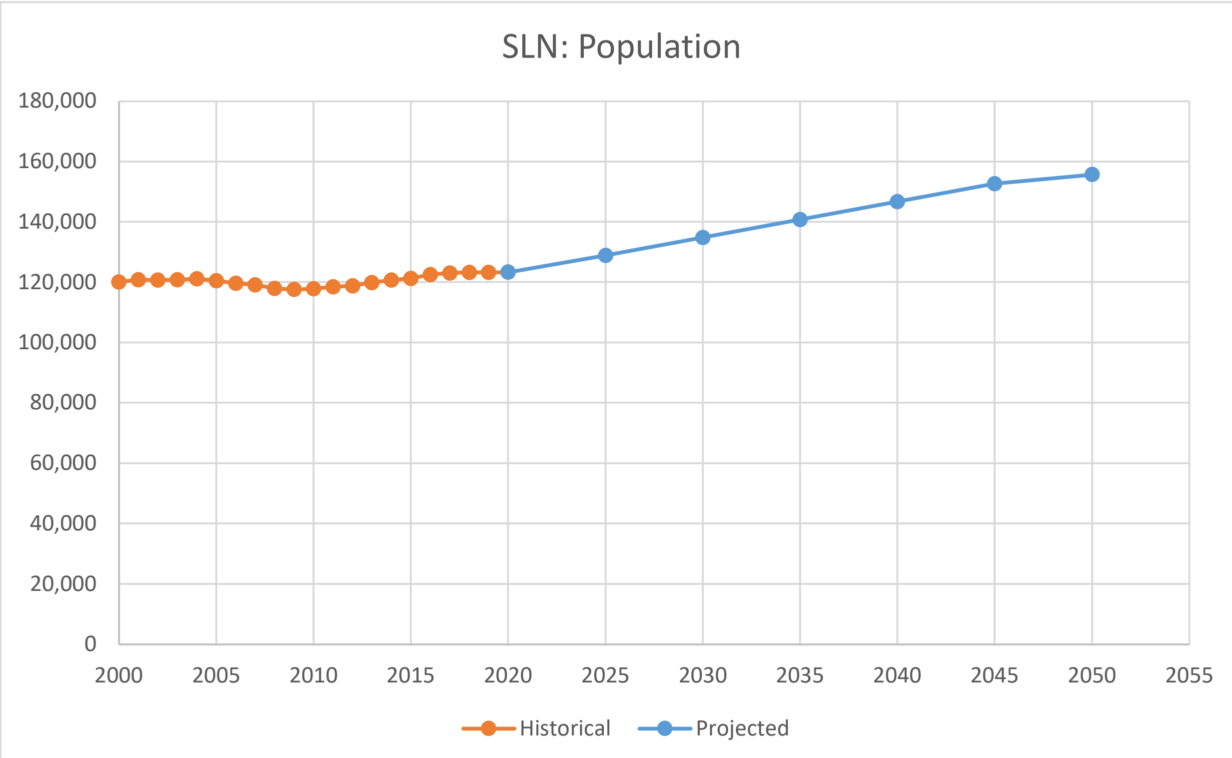
Projected GPCD

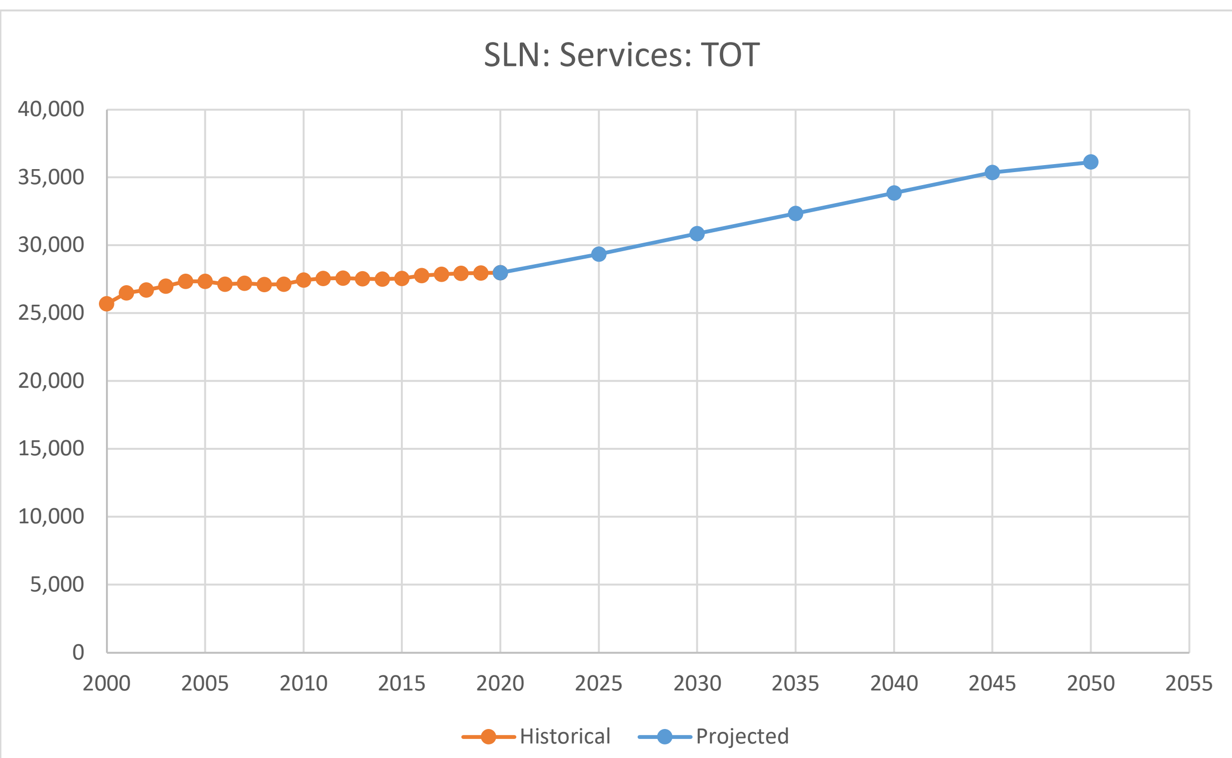
		GPCD	
YEAR	POPULATION	RESIDENTIAL	TOTAL
2020	123,317	79	119
2021	124,427	77	117
2022	125,538	77	117
2023	126,648	76	116
2024	127,759	76	116
2025	128,869	76	115
2026	130,059	75	115
2027	131,249	75	114
2028	132,439	74	113
2029	133,630	74	113
2030	134,820	74	112
2031	136,011	73	112
2032	137,202	73	112
2033	138,392	73	112
2034	139,583	73	112
2035	140,774	72	111
2036	141,964	72	111
2037	143,155	72	111
2038	144,345	72	111
2039	145,535	71	111
2040	146,725	71	111
2041	147,914	71	110
2042	149,104	71	110
2043	150,293	71	110
2044	151,482	71	110
2045	152,672	71	110
2046	153,269	71	110
2047	153,866	70	110
2048	154,463	70	110
2049	155,060	70	110
2050	155,658	70	110

Normal, Single-Year, and Multi-Year Dry Year Demand (AF)

YEAR		NORMAL		SINGLE DRY YEAR	% OF NORMAL		MULTI DRY YEAR	% OF NORMAL
2020		16,467		17,008	103%		17,344	105%
2021		16,371		16,908	103%		17,240	105%
2022		16,420		16,958	103%		17,292	105%
2023		16,482		17,022	103%		17,357	105%
2024		16,547		17,088	103%		17,424	105%
2025		16,609		17,152	103%		17,489	105%
2026		16,685		17,231	103%		17,569	105%
2027		16,764		17,312	103%		17,651	105%
2028		16,835		17,385	103%		17,726	105%
2029		16,913		17,465	103%		17,807	105%
2030		16,988		17,542	103%		17,886	105%
2031		17,103		17,661	103%		18,006	105%
2032		17,212		17,773	103%		18,120	105%
2033		17,333		17,898	103%		18,248	105%
2034		17,454		18,022	103%		18,374	105%
2035		17,575		18,147	103%		18,501	105%
2036		17,690		18,266	103%		18,622	105%
2037		17,807		18,386	103%		18,744	105%
2038		17,929		18,512	103%		18,872	105%
2039		18,050		18,637	103%		19,000	105%
2040		18,175		18,765	103%		19,130	105%
2041		18,305		18,899	103%		19,267	105%
2042		18,441		19,039	103%		19,409	105%
2043		18,576		19,179	103%		19,551	105%
2044		18,716		19,323	103%		19,698	105%
2045		18,853		19,464	103%		19,842	105%
2046		18,913		19,526	103%		19,905	105%
2047		18,975		19,589	103%		19,969	105%
2048		19,038		19,655	103%		20,036	105%
2049		19,103		19,722	103%		20,104	105%
2050		19,170		19,790	103%		20,174	105%

Charts


SLN: Population
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected


SLN: Services: TOT
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
2000
2005
2010
2015
2020
2025
2030
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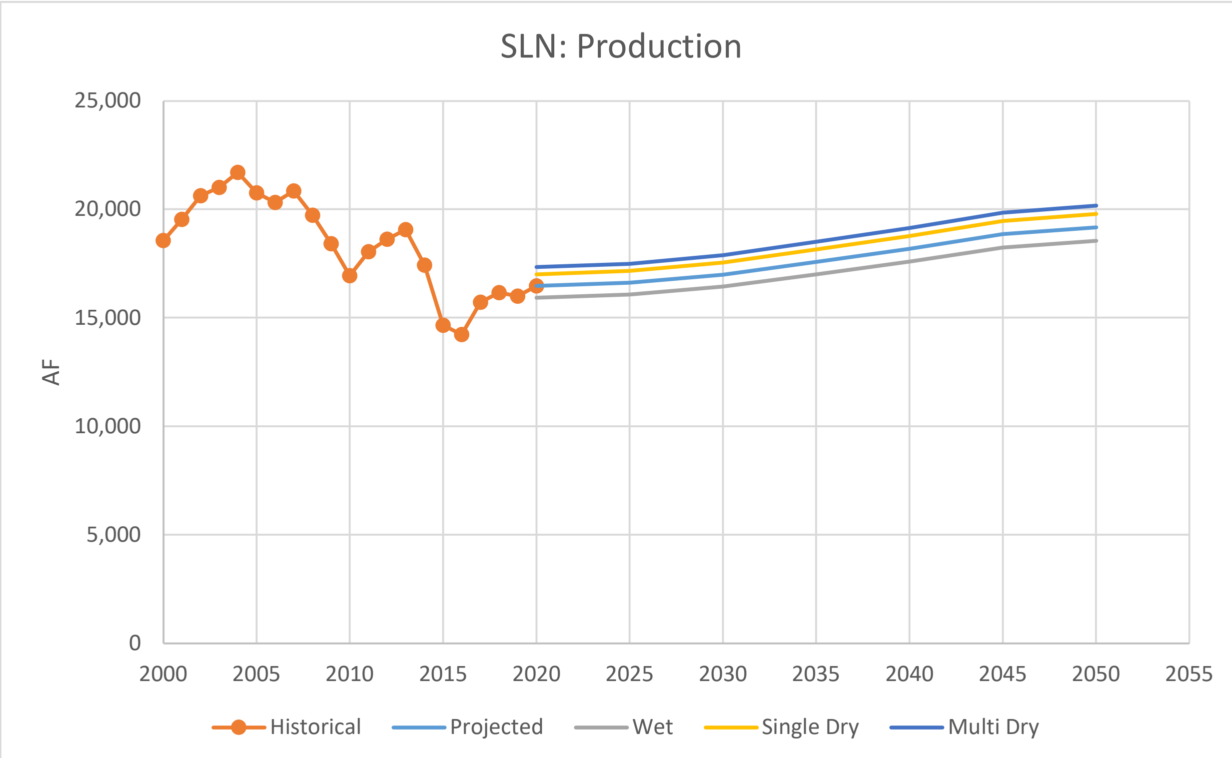
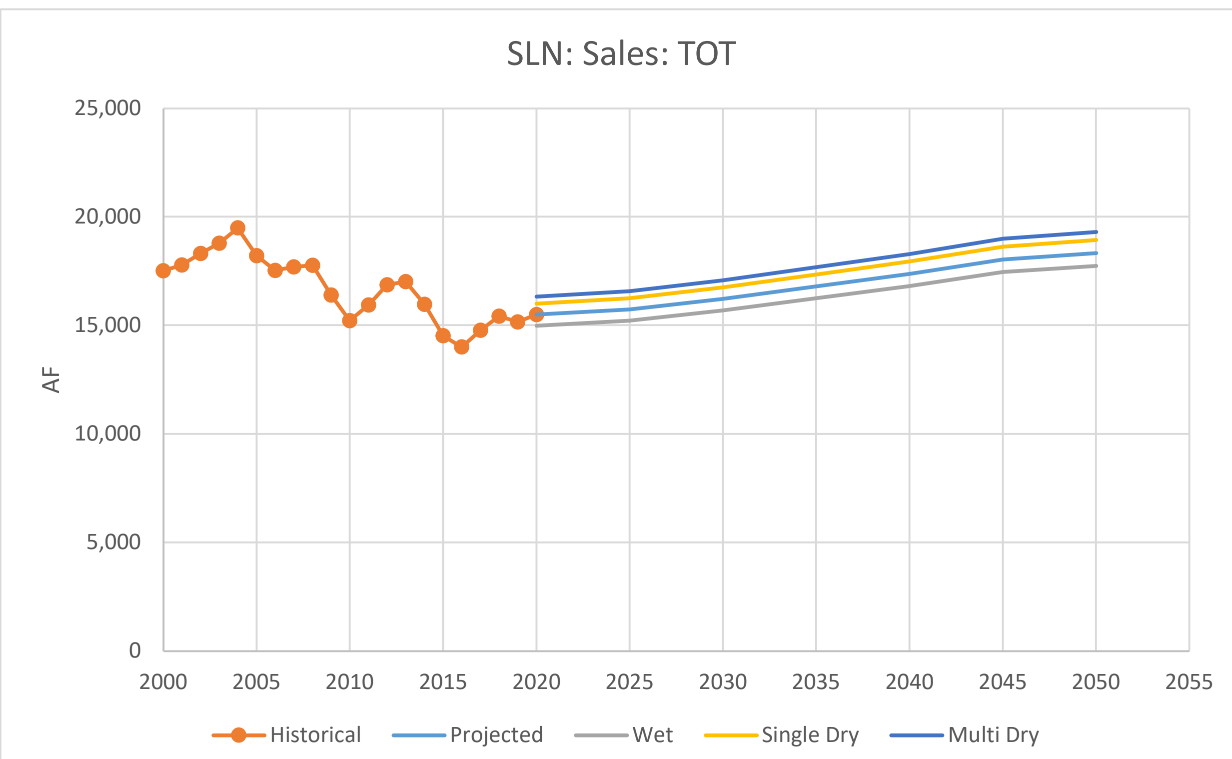
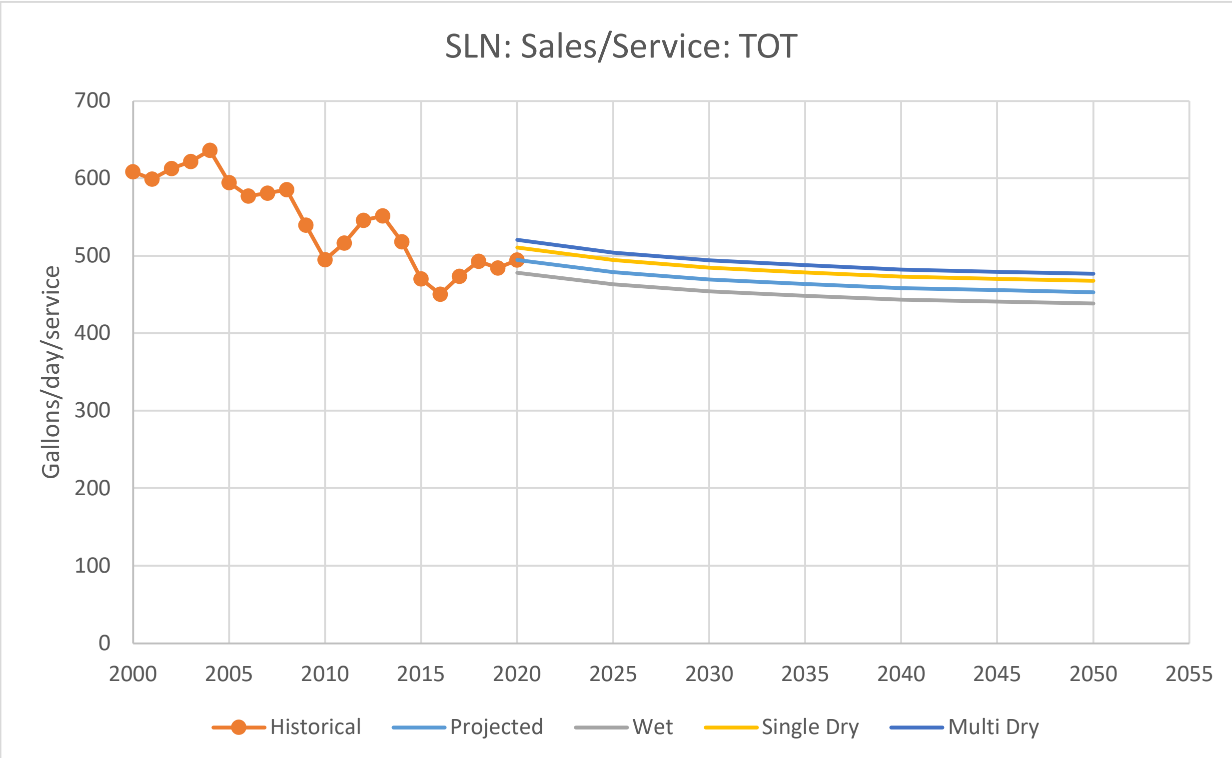
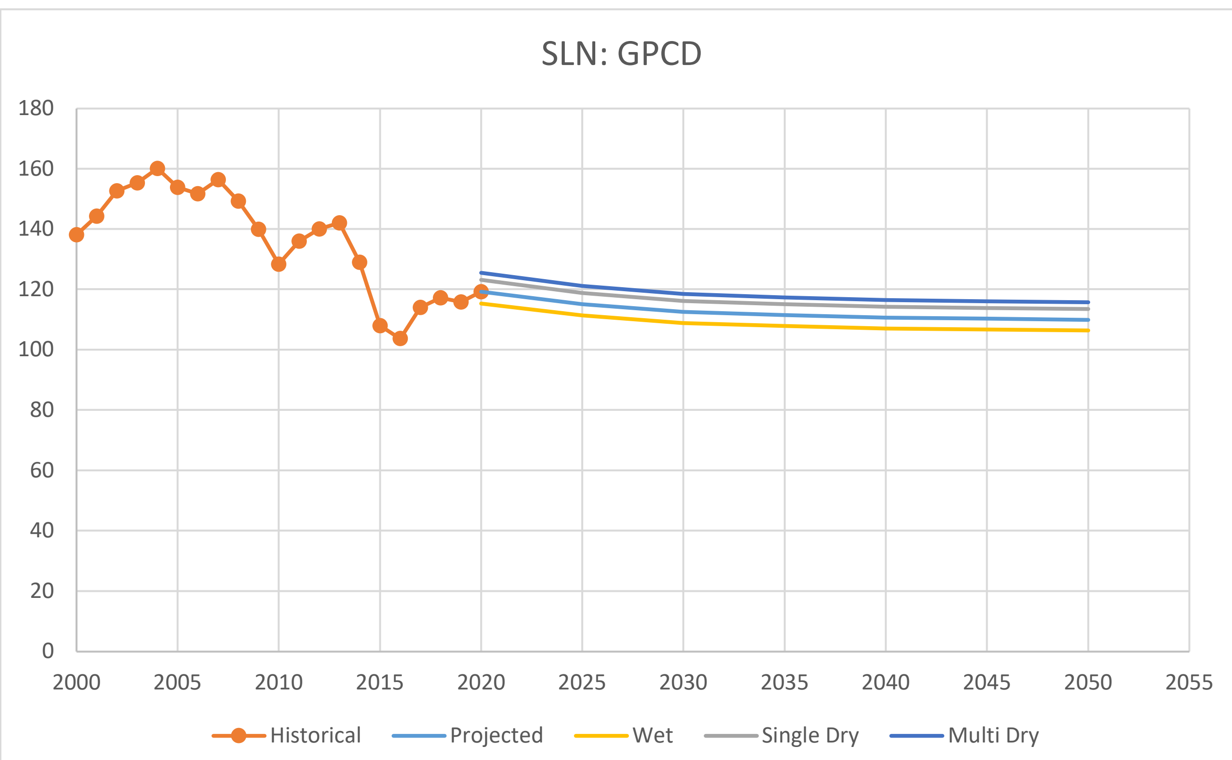
2040
2045
2050
2055
Historical
Projected


SLN: Production
25,000
20,000
15,000
10,000
5,000
0
AF
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected
Wet
Single Dry
Multi Dry


SLN: Sales: TOT
25,000
20,000
15,000
10,000
5,000
0
AF
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected
Wet
Single Dry
Multi Dry


SLN: Sales/Service: TOT
Gallons/day/service
0
100
200
300
400
500
600
700
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected
Wet
Single Dry
Multi Dry


SLN: GPCD
0
20
40
60
80
100
120
140
160
180
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected
Wet
Single Dry
Multi Dry

Appendix F: DWR SB X7-7 Verification Forms

Water Conservation Act of 2009
SB X7-7
Verification Forms

Salinas District

2020 Urban Water Management Plan
Appendix F

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	19,719	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	1999	
	Year ending baseline period range[3]	2008	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range[4]	2007	

[1] If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. [2] The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

[3] The ending year must be between December 31, 2004 and December 31, 2010.

[4] The ending year must be between December 31, 2007 and December 31, 2010.

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☐	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☑	**4. Other** DWR recommends pre-review
NOTES: Cal Water uses a population estimation methodology based on overlaying Census Block data from the 2000 and 2010 Censuses with the District's service area. LandView 5 and MARPLOT software are used with these data to estimate population per dwelling unit for 2000 and 2010. The per dwelling unit population estimates are then combined with Cal Water data on number of dwelling units served to estimate service area population for non-Census years. Cal Water also estimated service area population using DWR's Population Tool. The estimates prepared using Cal Water's methodology and DWR's Population Tool differed by less than one percent. Cal Water is electing to use the population estimates produced by its methodology in order to maintain consistency with population projections it has prepared in other planning documents and reports.	

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	1999	117,867
Year 2	2000	120,376
Year 3	2001	121,182
Year 4	2002	121,019
Year 5	2003	121,132
Year 6	2004	121,408
Year 7	2005	120,742
Year 8	2006	119,925
Year 9	2007	119,103
Year 10	2008	117,911
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	121,132
Year 2	2004	121,408
Year 3	2005	120,742
Year 4	2006	119,925
Year 5	2007	119,103
2015 Compliance Year Population		
2015		121,203

SB X7-7 Table 4: Annual Gross Water Use *								
Baseline Year *Fm SB X7-7 Table 3*		**Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**Deductions**					**Annual Gross Water Use**
			Exported Water	**Change in Dist. System Storage** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use**	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1999	18,690			-		-	18,690
Year 2	2000	18,560			-		-	18,560
Year 3	2001	19,526			-		-	19,526
Year 4	2002	20,629			-		-	20,629
Year 5	2003	21,013			-		-	21,013
Year 6	2004	21,705			-		-	21,705
Year 7	2005	20,752			-		-	20,752
Year 8	2006	20,310			-		-	20,310
Year 9	2007	20,848			-		-	20,848
Year 10	2008	19,719			-		-	19,719
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**20,175**
5 Year Baseline - Gross Water Use								
Year 1	2003	21,013			-		-	21,013
Year 2	2004	21,705			-		-	21,705
Year 3	2005	20,752			-		-	20,752
Year 4	2006	20,310			-		-	20,310
Year 5	2007	20,848			-		-	20,848
5 year baseline average gross water use								**20,926**
2015 Compliance Year - Gross Water Use								
2015		14,659	-		-		-	**14,659**
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3								

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)
Complete one table for each source.

Name of Source		Wells		
This water source is:				
☑	The supplier's own water source			
☐	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional* *(+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1999	18,690		18,690
Year 2	2000	18,560		18,560
Year 3	2001	19,526		19,526
Year 4	2002	20,629		20,629
Year 5	2003	21,013		21,013
Year 6	2004	21,705		21,705
Year 7	2005	20,752		20,752
Year 8	2006	20,310		20,310
Year 9	2007	20,848		20,848
Year 10	2008	19,719		19,719
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2003	21,013		21,013
Year 2	2004	21,705		21,705
Year 3	2005	20,752		20,752
Year 4	2006	20,310		20,310
Year 5	2007	20,848		20,848
2015 Compliance Year - Water into Distribution System				
2015		14,659		14,659

** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)

Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1999	117,867	18,690	142
Year 2	2000	120,376	18,560	138
Year 3	2001	121,182	19,526	144
Year 4	2002	121,019	20,629	152
Year 5	2003	121,132	21,013	155
Year 6	2004	121,408	21,705	160
Year 7	2005	120,742	20,752	153
Year 8	2006	119,925	20,310	151
Year 9	2007	119,103	20,848	156
Year 10	2008	117,911	19,719	149
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**150**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2003	121,132	21,013	155
Year 2	2004	121,408	21,705	160
Year 3	2005	120,742	20,752	153
Year 4	2006	119,925	20,310	151
Year 5	2007	119,103	20,848	156
5 Year Average Baseline GPCD				**155**
2015 Compliance Year GPCD				
2015		121,203	14,659	**108**

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	150
5 Year Baseline GPCD	155
2015 Compliance Year GPCD	108

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		Supporting Documentation
☑	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D *Contact DWR for these tables*
☐	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
150	**120**

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	Calculated 2020 Target[2]	**Confirmed 2020 Target**
155	147	120	**120**

[1] Maximum 2020 Target is 95% of the 5 Year Baseline GPCD
[2] 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

Appendix G: Analysis of Sufficiency of Groundwater Supply

Appendix G
Analysis of Sufficiency of Groundwater Supply

As described in Chapter 6 of the Urban Water Management Plan (UWMP or Plan), the sole source of supply for the California Water Service Company (Cal Water) Salinas District (also referred to herein as the "District") is groundwater pumped from the underlying subbasins: the 180/400-Foot Aquifer Subbasin (California Department of Water Resources [DWR] Basin No. 3-004.01), the Eastside Aquifer Subbasin (DWR Basin No. 3.004.02), the Langley Area Subbasin (DWR Basin No. 3-004.09), and the Monterey Subbasin (DWR Basin No. 3-004.10) of the Salinas Valley Basin, and the Pajaro Valley Subbasin (DWR Basin No. 3.002.01) of the Corralitos Basin. To assess the sufficiency of this supply to meet projected demands, an analysis of the sustainable yield of the underlying subbasins, assumed to be apportioned to the District's service area, is presented below. This analysis supports the supply sufficiency discussion included in Section 6.2.5 of the Plan, as well as the water supply reliability assessment and Drought Risk Assessment included in Chapter 7 of the Plan. This analysis also includes consideration of the effects of climate change on supply reliability and drought risk.

1. Groundwater Supply Reliability

☑ ***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:

…

(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.

☑ ***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.

The Salinas District is made up of five public water systems (PWSs): the Salinas PWS, Las Lomas PWS, Oak Hills PWS, Salinas Hills PWS, and Country Meadows Mutual PWS. The Salinas District relies on groundwater from the 180/400-Foot Aquifer Subbasin, the Eastside Aquifer Subbasin, the Langley Area Subbasin, the Monterey Subbasin, and the Pajaro Valley Subbasin. Table G-1 shows the PWSs and their underlying subbasins. Figure 6-1 of the Plan shows the location of the PWS service areas with respect to the underlying subbasins. The following analysis assesses the condition of the subbasins and the sufficiency of groundwater supply to meet the future demands of the Salinas District (and each PWS) under all conditions (i.e., normal, single dry, and multiple dry years including a five-year drought period) based on historical drought hydrology and climate change conditions. For the purposes of this analysis, and as shown in Table 7-1 of the Plan, 2012 represents a historical normal year condition, 2013 represents a single dry year condition, and the period from 1987 through 1991 represents a multiple dry year condition. A description of the data and methods used in the analysis is provided below.

Table G-1 – Salinas District Public Water Systems and Their Underlying Subbasins

Salinas District PWS	Underlying Subbasin(s)
Country Meadows Mutual PWS	Langley Area Subbasin
Las Lomas PWS	Pajaro Valley Subbasin
Oak Hills PWS	Langley Area Subbasin
	180/400-Foot Aquifer Subbasin
Salinas PWS	Langley Area Subbasin
	180/400-Foot Aquifer Subbasin
	Eastside Aquifer Subbasin
Salinas Hills PWS	Monterey Subbasin
	180/400-Foot Aquifer Subbasin

1.1 Location, Amount, and Sufficiency of Groundwater Supply

District Historical Pumping

Groundwater pumping within the Salinas District over the period from 2005 through 2020 is summarized in Table G-2. Due to successful conservation efforts and response to the historic drought spanning water years 2012-2015, water demand and thus District groundwater pumping volumes were significantly lower from 2015 through 2020 (i.e., averaging 15,536 acre-feet per year; AFY) than they had been in the previous 10 years (i.e., averaging 19,013 AFY). It should be noted that none of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes. Any determination of Cal Water's water rights, as an overlying owner, appropriator, municipal water purveyor or otherwise, is beyond the scope of this report and the UWMP statutes and regulations.

Overview of Basin Pumping

A significant portion of groundwater pumping in the subbasins underlying the District is for agricultural use (with exception of the Monterey Subbasin). From a regional and basin-wide standpoint, urban pumping (including pumping by the Salinas District) is a relatively small fraction of total groundwater pumping. It is therefore likely that management of agricultural groundwater use, rather than urban use, will be a much larger determining factor in achieving and maintaining groundwater sustainability in these subbasins in the future. Further detail on the breakdown of agricultural versus urban pumping in each of the subbasins underlying the District, based on available information, is provided below.

180/400-Foot Aquifer Subbasin

Average annual groundwater pumping from 1995 through 2014 in the 180/400-Foot Aquifer Subbasin totaled approximately 108,100 AFY, including approximately 89,000 AFY for irrigated agriculture and 18,900 AFY for urban use.[1] These data show that urban pumping accounted for approximately 17 percent of total pumping in the subbasin.

Eastside Aquifer Subbasin

Annual groundwater pumping for calendar year 2018 in the Eastside Aquifer Subbasin totaled 89,567 AFY, including 75,629 AFY for irrigated agriculture and 13,938 AFY for urban use.[2,3] These data show that urban pumping accounted for approximately 16 percent of total pumping in the subbasin.

Langley Area Subbasin

The Monterey County Water Resources Agency (MCWRA) has collected groundwater extraction information since 1993 within its hydrologic subareas. However, only a small southern portion of the Langley Area Subbasin is covered by the MCWRA hydrologic subareas, meaning that groundwater extraction in the rest of the subbasin is largely unreported. This is a data gap that is expected to be addressed during the Langley Area Subbasin Groundwater Sustainability Plan (GSP) implementation.[4] Approximately 6 percent of the land use within the Langley Area Subbasin is classified as urban,[5] therefore urban use is estimated to be a relatively small fraction of total water use in the subbasin.

Monterey Subbasin

The majority of the Monterey Subbasin is undeveloped land. The primary developed land use within the subbasin is urban, in the City of Marina. Small areas of agriculture are located along the northern subbasin boundary adjoining the 180/400-Foot Aquifer Subbasin. Urban and

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[1] Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA), 2020. Salinas Valley Groundwater Basin 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan, dated January 2020.

[2] Monterey County Water Resources Agency, 2019. 2018 Groundwater Extraction Summary Report, dated September 2019.

[3] The Eastside Aquifer Subbasin is generally coincident with the East Side Subarea in the 2018 Groundwater Extraction Summary Report.

[4] SVBGSA, 2020. Salinas Valley: Langley Area Subbasin Groundwater Sustainability Plan Draft Chapters 1 through 4, dated June 2020.

[5] Ibid.

agriculture water uses in the subbasin rely entirely on groundwater.[6] Marina Coast Water District (MCWD) currently supplies 3,200 AFY of groundwater within the Marina-Ord Area of the subbasin. Groundwater demand in the Corral de Tierra area of the subbasin (which includes portions of the Salinas District) is currently estimated to be 1,256 AFY.[7]

Pajaro Valley Subbasin

Groundwater pumping for water year 2019 in the Pajaro Valley Subbasin totaled 42,269 AFY, including 34,255 AFY for irrigated agriculture and 8,014 AFY for Municipal & Industrial (M&I) use.[8] These data show that M&I pumping accounted for approximately 17 percent of total pumping in the subbasin.

Overview of Groundwater Basin Conditions

As shown in Attachment G-1,[9] groundwater levels in the underlying subbasin have declined year-over-year during below average, dry or critically dry years due to reduced net recharge,[10] such as during 1987 to 1991 and 2012 to 2016, and increased from previous lows during above normal and wet years due to relatively higher net recharge, such as during 1977 to 1983 and 1995 to 1998. Despite the overall declining trends, this pattern of water level increases during climatically wet periods indicates that the subbasins are generally able to recover from dry periods.

1.2 Analysis of Sufficiency of Future Groundwater Supply for the District

Groundwater supply sufficiency can be considered in the context of pumping within a basin's sustainable yield. As defined under the Sustainable Groundwater Management Act (SGMA), sustainable yield means "the maximum quantity of water, calculated over a base period representative of long-term conditions in a basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing undesirable results."[11] The assessment of a basin's sustainable yield necessarily considers both normal and dry year conditions, as well as climate change, and is therefore a sound basis to consider the reliability of the available groundwater supply.

To assess the sufficiency of the District's groundwater supply to meet projected demands, an analysis of the sustainable yield of the groundwater supply source, and the fraction of that

[6] Marina Coast Water District Groundwater Sustainability Agency, 2021. Monterey Subbasin Groundwater Sustainability Plan Draft Chapters 1 through 4, dated January 2021.
[7] Ibid.
[8] Pajaro Valley Water Management Agency, 2020. Pajaro Valley Subbasin Water Year 2019 Annual Report, dated March 2020.
[9] Attachment G-1 includes hydrographs and contours excerpted from the 180/400-Foot Aquifer Subbasin GSP, Eastside Aquifer Subbasin GSP, Langley Area Subbasin GSP, Monterey Subbasin GSP, and Pajaro Valley Basin Management Plan.
[10] Net recharge is the difference between groundwater recharge and groundwater extraction rates.
[11] California Water Code (CWC) §10721(w)

sustainable yield that is estimated to be available to the District under an assumed area-based apportionment, is presented below. As summarized below, the 180/400-Foot Aquifer Subbasin and the Pajaro Valley Subbasin have adopted a GSP and an Alternative Plan, respectively, under SGMA. However, the GSP development process in the Eastside Aquifer, Monterey, and Langley Area Subbasins is ongoing and not expected to be complete until January 2022. Therefore, there is no GSP-related sustainable yield information for these three subbasins. For these three subbasins, groundwater sustainable yield information is therefore estimated from the available pre-SGMA documents.

- For the 180/400-Foot Aquifer Subbasin, three sustainable yield values are provided in the 180/400-Foot Aquifer Subbasin GSP – one associated with the historical water budget and one each for the projected water budgets under 2030 and 2070 climate change conditions. The historical sustainable yield is estimated as the difference between historical groundwater pumping and total groundwater overdraft provided in the 180/400-Foot Aquifer Subbasin GSP. The projected sustainable yield value under 2030 climate change conditions is the value used for this subbasin in this supply sufficiency analysis.
- For the Pajaro Valley Subbasin, the Alternative GSP relied on the Integrated Hydrologic Model of Pajaro Valley developed by the United States Geological Survey (USGS)[12] ("Model") to estimate the sustainable yield. The Model domain extends beyond the subbasin boundary to the west (i.e., into the Pacific Ocean), but pumping and sustainable yield are applicable to the entire subbasin. The sustainable yield for the Pajaro Valley Subbasin is estimated as the difference between groundwater pumping and total groundwater overdraft provided in the Model, which used data from 1970 to 2000.
- For the Langley Area Subbasin and the Eastside Aquifer Subbasin, sustainable yield is estimated based on the State of the Salinas River Groundwater Basin Report[13] ("Basin Report"). The total area of the Langley Area Subbasin and the Eastside Aquifer Subbasin is generally coincident with the Eastside Subarea in the Basin Report. The average annual groundwater extraction in the Eastside Subarea from 1959 to 2013 and the average annual change in storage are provided in the Basin Report. The sustainable yield for these two subbasins is therefore estimated as the difference between average groundwater extraction and average change in storage.
- For the Monterey Subbasin, no sustainable yield estimates are currently available. Therefore, sustainable yield estimated for the Monterey Subbasin is assumed to be the same as that of the 180/400-Foot Aquifer Subbasin due to proximity of the District's Monterey Subbasin service area to the 180/400-Foot Aquifer Subbasin.

[12] USGS, 2014. Integrated Hydrologic Model of Pajaro Valley, dated September 2014.
[13] Brown and Caldwell, 2015. State of the Salinas River Groundwater Basin Report, dated January 2015.

As applicable, Table G-3 summarizes the sustainable yield (in AFY) for each subbasin underlying the District, as well as the normalized sustainable yield per unit area (AFY/acre) for the subbasin area or the plan area. In Table G-4, the sustainable yield is then assumed to be apportioned to the PWSs within the Salinas District according to their respective area(s) in each subbasin, resulting in an estimated sustainable yield for that PWS and for the District as a whole. Country Meadows Mutual PWS is grouped with the Salinas PWS in the demand model discussed in Chapter 4 of the Plan, which combines projections for both PWSs. Therefore, these two PWSs are also grouped for the purposes of this supply sufficiency analysis.

In the following paragraphs, several additional considerations specific to the 180/400-Foot Aquifer Subbasin are discussed. While there is generally less available information to support this analysis for the other subbasins underlying the District, the estimated area-proportionate sustainable yield available to each PWS overlying those subbasins (see Table G-4) is generally much larger than the projected demands of those PWSs, creating an additional margin of error that counters the uncertainty stemming from having incomplete GSPs.

For the 180/400-Foot Aquifer Subbasin, Table G-3 provides a comparison of the estimated sustainable yield under historical, projected 2030 climate change, and projected 2070 climate change conditions. Even though the GSP for this subbasin estimates that groundwater pumping will continue to increase in the future, the projected future water budgets showed <u>smaller</u> overdraft and seawater intrusion rates when compared to the historical and current water budgets. This result indicates that the SVBGSA estimates that, under the 2030 and 2070 climate change scenarios, groundwater inflow increases are anticipated to exceed groundwater demand increases and that the sustainable yield of the 180/400-Subbasin will <u>increase</u> in the future. However, SVBGSA has noted that “there is inherent uncertainty associated with using climate scenarios.”[14] In consideration of potential changes in supply due to climate change, this analysis uses the sustainable yield value under projected 2030 climate change conditions to estimate the Salinas District’s groundwater supply for PWSs overlying this subbasin. Given the uncertainty in projected water budget, the more conservative sustainable yield estimated under 2030 climate change condition is used rather than the sustainable yield estimated under 2070 climate change condition. The sustainable yield will be refined in the future GSP development and it is not meant to be viewed as a determination of water rights. In reality, the sustainable yield could be higher than the value estimated here.

It should also be noted that the projected water budget analyses in the 180/400-Foot Aquifer Subbasin GSP assumes no urban growth and that land use is static over the projected period (i.e., no changes in land use except for semi-annual change to represent crop seasonality). As stated in the GSP Section 6.10.1.2. “[n]o urban growth is included in this simulation to remain consistent

[14] SVBGSA, 2020. Salinas Valley Groundwater Basin 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan, dated January 2020.

with the [United States Geologic Survey] USGS assumption.[15] If urban growth is infill, this assumption may result in an underestimate of net pumping increase and an underestimate of the subbasin's future overdraft. If urban growth replaces agricultural irrigation, the impact may be minimal." However, projected future use by the District is less than historical use (Table G-2); therefore, the projected growth within the Salinas District is understood to be captured within the GSP water budget analysis.

Additionally, in order to address the significant seawater intrusion occurring within the 180/400-Foot Aquifer Subbasin due to persistent inland groundwater gradients, the 180/400-Foot Aquifer Subbasin GSP stated that there may need to be temporary pumping reductions to achieve necessary rises in groundwater elevation. However, detailed plans for and the timing of such reductions are unknown. As discussed in Section 6.10.5 of the 180/400-Foot Aquifer Subbasin GSP: "It is important to recall that simply reducing pumping to within the sustainable yield is not proof of sustainability, which must be demonstrated by achieving the [sustainable management criteria] SMC…. While the sustainable yield estimates in Table 6-31 assume zero seawater intrusion, they do not account for temporary pumping reductions that may be necessary to achieve the higher groundwater levels that help stop seawater intrusion. The [Salinas Valley Basin Groundwater Sustainability Agency] SVBGSA recognizes that, dependent on the success of various proposed projects and management actions, there may be a number of years when pumping must be held below the sustainable yield to achieve necessary rises in groundwater elevation. The actual amount of allowable pumping from the Subbasin will be adjusted in the future based on the success of projects designed to halt seawater intrusion." This uncertainty regarding potential temporary pumping reductions that may be necessary to achieve the groundwater elevation increases needed to halt seawater intrusion is further justification for using the conservative sustainable yield for the subbasin based on 2030 climate change condition rather than 2070 climate change condition, as mentioned above.

One of the management actions proposed in the 180/400-Foot Aquifer Subbasin GSP is a pumping allowance program / water charges framework to be implemented across the Salinas Valley Basin. The proposed program would assign pumping allowances to groundwater users and collect fees based on their use relative to the assigned allowances. Currently, groundwater use in the subbasin is dominated by agricultural uses (i.e., 82 percent of total pumping). The exact terms and implementation mechanism of the planned pumping allowance program, and how the allowances may handle urban versus agricultural uses, is currently uncertain and may have significant impacts to Salinas District's water supply. Development of the pumping allowance program is planned for the first three years of the GSP implementation phase (i.e., 2021 through 2024). Again, use of the more conservative projected sustainable yield for the subbasin based on

[15] The reference to the "USGS assumption" refers to the draft Salinas Valley Integrated Hydrologic Model which is the numerical model utilized for the GSP's projected water budget analysis.

2030 climate change condition is justified, given the above uncertainty in future subbasin management actions under SGMA.

The above notwithstanding, Cal Water holds certain water rights to groundwater it has pumped and used as an overlying owner and appropriator. Cal Water's water rights have been dedicated to a public use, and Cal Water is required by the California Public Utilities Commission to provide water to all customers within its designated service area under reasonable rules and regulations. Further, under California law municipal water rights and uses have a higher priority and are entitled to more protection than other uses of water, including in connection with the Sustainable Groundwater Management Act (SGMA). Use of water for domestic purposes is recognized as the "highest use" of water in the State of California pursuant to Water Code Section 106, and the rights of urban water purveyors should be protected to the fullest extent necessary for existing and future uses, pursuant to Water Code Section 106.5.

SGMA was intended to preserve the security of water rights in the state to the greatest extent possible, and was not intended to determine, modify or alter any surface water or groundwater rights or priorities. (Water Code §§ 10720.1(b), 10720.5(a) and (b).) SGMA should therefore not reduce, adversely impact or limit Cal Water's present or future exercise of its domestic water rights or its obligation to serve its municipal customers, and Cal Water's rights should be subject to less restrictions and limitations than any other types of water rights or uses.

Normal Year Groundwater Supply

Groundwater pumping demand projections through 2045 for the PWSs within the Salinas District in normal years are provided in Table 7-2A through Table 7-2D of the Plan. For purposes of this analysis of supply sufficiency, the sum of the area-proportioned sustainable yield to the PWS within the underlying groundwater subbasin(s) is compared to the projected demand for each PWS under normal conditions. It should be noted that the estimated proportioned sustainable yields do not represent the total supply available to the District in a given year. The District only pumps the amount of groundwater necessary to meet demands in a given year. It should also be noted that none of the subbasins that underlie the Salinas District are adjudicated, and that the proportioned sustainable yields are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes. Any determination of Cal Water's water rights, as an overlying owner, appropriator, municipal water purveyor or otherwise, is beyond the scope of this report and the UWMP statutes and regulations.

As discussed above, the current estimate of proportioned sustainable yield to each PWS within the District is based on the best information currently available; ongoing groundwater planning within these subbasins may have significant impacts to Salinas District's water supply. As shown in Table G-5, in all five-year increments through 2040, water demand of each PWS within the District under normal year conditions is anticipated to be met by the assumed available groundwater supply. A small (2.5 percent) shortfall is identified in 2045 under normal year conditions. However, Cal Water is actively working to evaluate and develop new supplies to fill this gap, as discussed in Section 6.8 of the Plan. Therefore, sufficient groundwater supply is anticipated to meet the future demands of the Salinas District (and each PWS) under normal year conditions during the planning horizon.

Dry Year and Multiple Dry Year Groundwater Supply

Groundwater pumping demand projections through 2045 for the PWSs within the Salinas District in single dry years and multiple dry years are provided in Tables 7-3A through 7-3D and 7-4A through 7-4D of the Plan, respectively. Given that the estimates of a basin's sustainable yield take into consideration dry year conditions, the projected demands for each PWS within the District under single dry years and multiple dry years condition are compared with the sum of sustainable yield proportionate to the PWS within the underlying groundwater subbasins. It should be noted that the estimated proportioned sustainable yields do not represent the total supply available to the District in a given year. The District only pumps the amount of groundwater necessary to meet demands in a given year. It should also be noted that none of the subbasins that underlie the Salinas District are adjudicated, and that the projected supply volumes are not intended to and do not determine, limit or represent Cal Water's water rights or maximum pumping volumes. Any determination of Cal Water's water rights, as an overlying owner, appropriator, municipal water purveyor or otherwise, is beyond the scope of this report and the UWMP statutes and regulations.

As shown in Table G-6 and Table G-7, in all five-year increments through 2045 the water demand of the Salinas Hill PWS, Oak Hills PWS, and Las Lomas PWS within the District under single dry year and multiple dry years is anticipated to be met by the assumed available groundwater supply. For the Salinas PWS and the County Meadows Mutual PWS, water demand is anticipated to be met by the assumed available groundwater supply through 2035 under both single dry year and multiple dry years. A small (2 percent) shortfall for these PWSs is anticipated under the single dry year condition in 2040, increasing to 6 percent in 2045. Shortfalls of 3 percent in 2040 and 7 percent in 2045 for these two PWSs are identified under the multiple dry year hydrologic condition.

While it is noted that in 2040 and 2045 the combined water demand of the Salinas PWS and Country Meadows Mutual PWS is estimated to be slightly greater than the assumed available groundwater supply, groundwater supply is still expected to be able to meet demands in those years for the following reasons:

- The projected supply shortfall in the combined Salinas PWS and Country Meadows Mutual PWS is a very small portion of the overall subbasin demand (i.e., 1,360 AFY out of

108,100 AFY, or 1 percent)[16] suggesting that potential impacts to the subbasin of this groundwater demand in excess of the apportioned sustainable yield would be negligible.

- The current demand estimates conservatively assume that demand by customers in the Salinas PWS would increase in a dry year due to the drier climatic conditions. However, what has been observed in past droughts is that customers have actually reduced their water use through voluntary actions and/or implementation of the Salinas District's Water Shortage Contingency Plan (WSCP). Therefore, it is actually anticipated that under a future multiple dry year condition, demand would be reduced through similar mechanisms. The District's WSCP is included in Chapter 8 of the Plan, and incorporates lessons learned through implementation of the WSCP during the historic five-year 2013-2017 drought, through which the Salinas District achieved a demand reduction of 23 percent.[17]
- In addition, as described in Section 6.8 of the Plan, Cal Water is proactively evaluating new water supply options within the Salinas District. The many supply options analyzed included promoting conservation, using desalinated water, and diverting surface water. If any of these supply options are deemed feasible, they could be completed before the potential shortfall year and therefore alleviate the potential shortfall.
- Cal Water holds certain water rights to groundwater it has pumped and used as an overlying owner and appropriator. Cal Water's water rights have been dedicated to a public use, and Cal Water is required by the California Public Utilities Commission to provide water to all customers within its designated service area under reasonable rules and regulations. Further, under California law municipal water rights and uses have a higher priority and are entitled to more protection than other uses of water, including in connection with SGMA. Use of water for domestic purposes is recognized as the "highest use" of water in the State of California pursuant to Water Code Section 106, and the rights of urban water purveyors should be protected to the fullest extent necessary for existing and future uses, pursuant to Water Code Section 106.5.

Given the above, sufficient water supply is estimated to be available to Cal Water to meet future demands within the Salinas District service area through 2035 under all hydrologic conditions (i.e., current and projected, and for normal, single dry, and multiple dry years including a five-year drought period) and minor shortfalls may occur in 2040 and 2045 under single dry or multiple dry year conditions in the Salinas PWS and the Country Meadows Mutual PWS areas. However, the identified potential dry year shortfalls in the Salinas PWS and the Country Meadows

[16] The overall subbasin pumping of 108,000 AFY is based on the average annual groundwater pumping for 180/400-Foot Aquifer Subbasin.

[17] Information provided by Cal Water via email on May 7, 2020. Comparing the 2015 water demand to the 2013 water demand, the Salinas District achieved a demand reduction of 23 percent.

Mutual PWS service areas are expected to be alleviated given the above proactive actions conducted by Cal Water.

Consideration of Climate Change

As discussed above, the analysis of groundwater supply sufficiency considers the potential impacts of climate change by evaluating the sustainable yield of the 180/400-Foot Aquifer Subbasin under historical, projected 2030 climate change, and projected 2070 climate change conditions. For the other PWSs within the District, the assumed proportionate allocation of sustainable yields calculated from underlying subbasins are much larger than the projected demands, creating an additional margin of error that counters the uncertainty stemming from lack of detailed climate change information. The GSP development process in the Eastside Aquifer, Monterey, and Langley Area Subbasins is ongoing and the water budget modeling efforts for these GSPs are expected to incorporate climate change factors for hydrology and surface water supplies in the subbasins based on DWR's 2070 Central Tendency climate change scenario. Section 4.3 of the Plan presents information on how the impacts of climate change are factored into projected demands in the District. Section 6.10.1 of the Plan documents additional efforts by Cal Water to address and incorporate climate change into its supply and operations planning.

2. Drought Risk Assessment

☑ ***CWC § 10635(b)***

…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.

…

(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.

2.1 Analysis of Supply Sufficiency for Drought Risk Assessment

The drought risk assessment considers the effects on available water supply sources of a five-year drought commencing the year after the assessment is completed, i.e., from 2021 through 2025. In the Salinas District, the sole supply source is groundwater. As such, the same data, methodology, and basis for the conclusions of the above water supply sufficiency analysis for multiple dry year periods through 2045 holds true for purposes of this drought risk assessment (i.e., supply availability through 2025). Accordingly, as shown in Table 7-5 of the Plan, the groundwater supply available to the District is expected to be able to meet the projected demands through 2025, even if there is a five-year drought.

2.2 Considerations of Climate Change, Anticipated Regulatory Changes and Other Locally Applicable Criteria

As described above and in Sections 4.3 and 6.10.1 of the Plan, the impacts on climate change have already been factored into the District's demand projections and the analysis of the near- and longer-term reliability of the groundwater supply source available to the District.

Regulatory conditions that could affect future water supply availability and project development) are discussed in Section 6.10.2 of the Plan. The District is currently exploring new supply options, as discussed in Section 6.8 of the Plan, and these regulatory conditions will be assessed in future UWMP updates if or when the District moves forward with any plans to develop supply projects.

Implementation of SGMA in underlying subbasins is a locally applicable consideration for the Salinas District. It is anticipated that under SGMA, more robust groundwater monitoring and management will result in a more balanced water budget in the subbasins. As discussed in Section 6.10.3 of the Plan, under SGMA, GSAs have the authority to implement projects and management actions that help basins reach their sustainability goal, including such actions as setting allocations for groundwater pumping, prohibiting development of new groundwater wells, or implementing fees for pumping volumes. If implemented, such policies would have the effect of reducing or eliminating declining water level trends in those areas which would in turn reduce downwards pressure on groundwater levels in the vicinity of the Salinas District. Cal Water is an active participant in the underlying subbasins' GSPs development and implementation process and will be able to support appropriate management actions to address any Undesirable Results should they arise in the future. Furthermore, Cal Water will consider these actions as a part of its future supply planning efforts.

3. Summary of Supply and Demand Comparison

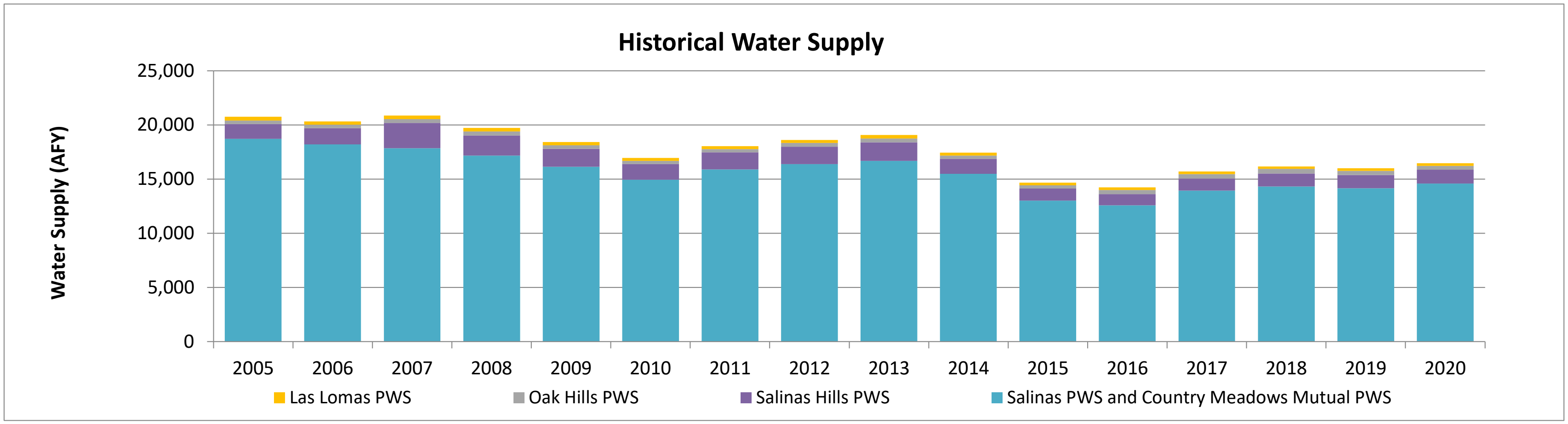
This analysis indicates that sufficient water supply is estimated to be available to Cal Water to meet future demands within the Salinas District service area through 2035 under all hydrologic conditions (i.e., current and projected, and for normal, single dry, and multiple dry years including a five-year drought period). Potential shortfalls are identified in 2040 and 2045 for the Salinas PWS and the Country Meadows Mutual PWS under single dry year and multiple dry years and can be effectively addressed by the Salinas District's WSCP and other proactive measures taken by the District.

TABLES

ATTACHMENT

Table G-2
Historical Water Supply
Salinas District

Salinas District Service Area	Historical Water Supply (a) (AFY)															
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Salinas PWS and Country Meadows Mutual PWS	18,703	18,199	17,836	17,160	16,133	14,941	15,893	16,377	16,673	15,484	13,014	12,578	13,938	14,305	14,151	14,585
Salinas Hills PWS	1,369	1,492	2,329	1,842	1,649	1,432	1,568	1,613	1,707	1,369	1,093	1,039	1,097	1,209	1,208	1,270
Oak Hills PWS	331	316	360	379	334	289	309	339	364	306	305	375	404	417	386	370
Las Lomas PWS	350	303	324	338	301	279	273	286	317	262	246	236	270	232	245	242
Total Water Supply	**20,752**	**20,310**	**20,848**	**19,719**	**18,417**	**16,941**	**18,043**	**18,615**	**19,060**	**17,422**	**14,659**	**14,228**	**15,709**	**16,162**	**15,989**	**16,467**



Abbreviations:
"AFY" = acre feet per year
"PWS" = Public Water System
"Cal Water" = California Water Service, Willows District

Notes:
(a) Historical water supply values are per Reference 1

References:
1 Historical water supply values for the Salinas District are provided by Cal Water on 21 January 2021.

Table G-3

Estimated Sustainable Yield Per Unit Area in Groundwater Basins Underlying the Salinas District

Salinas District

Groundwater Basins (a)	Basin Area (acre)	Approximate Plan Area (Acre) (b) [A]	Estimated Sustainable Yield (AFY) (c) [B] = [C] - [D]	Historical Groundwater Pumping (AFY) [C]	Groundwater Overdraft (AFY) [D]	Sustainable Yield per Unit Area (AFY/acre) [E] = [B] / [A]	Notes / Source(s)	
Pajaro Valley	75,100	75,100	39,790 (d)	52,740	12,950	0.53	* Data are from 1970 to 2000	(1)
180/400-Foot Aquifer	84,400	84,400	96,950	108,300	11,350	1.15	* Historical water budget (1995-2014).	(2)
			107,200	--	--	1.27	* Projected water budget under 2030 climate change conditions. * Scenario selected for analysis	(2)
			112,000	--	--	1.33	* Projected water budget under 2070 climate change conditions.	(2)
Monterey	30,900	(e)	(e)	(e)	(e)	(e)	--	
Langley Area	17,600	75,000 (f)	88,000 (f)	90,000	2,000	1.17	* Data are from 1959 to 2013.	(3)
Eastside Aquifer	57,600							

Abbreviations

"AFY" = acre-feet per year

"GIS" = geographical information system

"DWR" = Department of Water Resources

Notes

(a) Basin area acreages were extracted from Bulletin 118 for each basin, as available, or calculated from basin boundary GIS data obtained from DWR.

(b) Approximate plan area is the area to which the estimated sustainable yield estimate applies.

(c) Estimated sustainable yield was calculated as the difference between total groundwater pumping and total groundwater overdraft.

(d) Pajaro Valley model domain extends beyond basin boundary to the west (i.e. into the Pacific Ocean), but pumping, sustainable yield are applicable to the entire basin.

(e) No sustainable yield estimates are currently available for the Monterey Subbasin. Sustainable yield per unit area for Monterey Subbasin is assumed to be the same as that of the 180/400-Foot Aquifer Subbasin, due to the proximity of the District's Monterey Subbasin service area to the 180/400-Foot Aquifer Subbasin.

(f) The total area of Langley Area and Eastside Aquifer Subbasins is generally coincident with the Eastside Subarea in Reference 2.

References:

1. Integrated Hydrologic Model of Pajaro Valley, U.S. Department of the Interior USGS, 2014.
2. Salinas Valley Basin Groundwater Sustainability Agency, 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan - Final, January 2020.
3. State of the Salinas River Groundwater Basin Report, Brown and Caldwell, January 2015.

Table G-4

Estimated Sustainable Yield Per Unit Area in Groundwater Basins Underlying the Salinas District

Salinas District

Salinas District Service Area	Groundwater Basin	Service Area within the Groundwater Basin (Acre)	Sustainable Yield per Unit Area (AFY/acre)	Apportioned Sustainable Yield by Subbasin (AFY)	Apportioned Sustainable Yield by Service Area (AFY)
Salinas PWS and County Meadows Mutual PWS (a)	Langley Area	397	1.17	465	17,147
	180/400 Foot Aquifer	5,285	1.27	6,712	
	East Side Aquifer	8,522	1.17	9,971	
Salinas Hills PWS	Monterey	2,121	1.27	2,694	4,016 (b)
	180/400 Foot Aquifer	1,041	1.27	1,322	
	N/A (b)	202	N/A	N/A	
Oak Hills PWS	Langley Area	1	1.17	1	1,738
	180/400 Foot Aquifer	1,368	1.27	1,737	
Las Lomas PWS	Pajaro Valley	1,262	0.53	669	669
District Total	**N/A**	**20,198**	**N/A**	**23,569**	**23,569**

Abbreviations:

"AFY" = acre feet per year

"PWS" = Public Water System

"Cal Water" = California Water Service, Willows District

"N/A" = Not Applicable

Notes:

(a) Country Meadows Mutual PWS is grouped with the Salinas PWS in the demand model, which combines projections for both systems.

(b) A small portion of the Salinas Hills PWS does not overly any DWR- defined groundwater subbasin. The apportioned sustainable yield for the Salinas Hills PWS is estimated for areas that have underlying groundwater basins.

References:

1 Service area boundary is from GIS data obtained from Cal Water on 16 October 2020.

Table G-5
Projected Normal Year Water Supply and Demand for the Salinas District
Salinas District

Salinas District Service Area	Water Demand and Supply Comparison	Projected Normal Year Supply and Demand (AFY)				
		2025	**2030**	**2035**	**2040**	**2045**
Salinas PWS and Country Meadows Mutual PWS (a)	Normal Year Demand	15,226	15,655	16,267	16,891	17,583
	Proportionate Sustainable Yield	17,147	17,147	17,147	17,147	17,147
	Supply Shortfall (% demand)	0%	0%	0%	0%	2.5%
Salinas Hills PWS	Normal Year Demand	773	742	728	714	705
	Proportionate Sustainable Yield	4,016	4,016	4,016	4,016	4,016
	Supply Shortfall (% demand)	0%	0%	0%	0%	0%
Oak Hills PWS	Normal Year Demand	388	376	371	365	362
	Proportionate Sustainable Yield	1,738	1,738	1,738	1,738	1,738
	Supply Shortfall (% demand)	0%	0%	0%	0%	0%
Las Lomas PWS	Normal Year Demand	221	214	209	205	203
	Proportionate Sustainable Yield	669	669	669	669	669
	Supply Shortfall (% demand)	0%	0%	0%	0%	0%
Total Normal Year Demand		**16,609**	**16,988**	**17,575**	**18,175**	**18,853**
Total Proportionate Sustainable Yield		**23,569**	**23,569**	**23,569**	**23,569**	**23,569**
Total Supply Shortfall (% demand)		**0%**	**0%**	**0%**	**0%**	**0%**

Abbreviations:
"AFY" = acre feet per year
"PWS" = Public Water System

Notes:
(a) Country Meadows Mutual PWS is grouped with the Salinas PWS in the demand model, which combines projections for both systems.

References:
1. Projected normal year water demands for the PWSs within the Salinas District are from Table 7-2A through 7-2D of the

Table G-6

Projected Single Dry Year Water Supply and Demand for the Salinas District

Salinas District

Salinas District Service Area	Water Demand and Supply Comparison	Projected Single Dry Year Supply and Demand (AFY)				
		2025	**2030**	**2035**	**2040**	**2045**
Salinas PWS and Country Meadows Mutual PWS (a)	Single Dry Year Demand	15,718	16,160	16,790	17,433	18,147
	Proportionate Sustainable Yield	17,147	17,147	17,147	17,147	17,147
	Supply Shortfall (% demand)	0%	0%	0%	2%	6%
Salinas Hills PWS	Single Dry Year Demand	804	772	757	742	733
	Proportionate Sustainable Yield	4,016	4,016	4,016	4,016	4,016
	Supply Shortfall (% demand)	0%	0%	0%	0%	0%
Oak Hills PWS	Single Dry Year Demand	400	388	382	377	373
	Proportionate Sustainable Yield	1,738	1,738	1,738	1,738	1,738
	Supply Shortfall (% demand)	0%	0%	0%	0%	0%
Las Lomas PWS	Single Dry Year Demand	230	223	218	214	211
	Proportionate Sustainable Yield	669	669	669	669	669
	Supply Shortfall (% demand)	0%	0%	0%	0%	0%
Total Normal Year Demand		**17,152**	**17,542**	**18,147**	**18,765**	**19,464**
Total Proportionate Sustainable Yield		**23,569**	**23,569**	**23,569**	**23,569**	**23,569**
Total Supply Shortfall (% demand)		**0%**	**0%**	**0%**	**0%**	**0%**

Abbreviations:
"AFY" = acre feet per year
"PWS" = Public Water System

Notes:
(a) Country Meadows Mutual PWS is grouped with the Salinas PWS in the demand model, which combines projections for both systems.

References:
1. Projected single dry year water demands for the PWSs within the Salinas District are from Table 7-3A through 7-3D of t

Table G-7
Projected Multiple Dry Year Water Supply and Demand for the Salinas District
Salinas District

Salinas District Service Area	Water Demand and Supply Comparison	Projected Multiple Dry Year Supply and Demand (AFY)																								
		2025					2030					2035					2040					2045				
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
Salinas PWS and Country Meadows Mutual PWS (a)	Multiple Dry Year Demand	16,022	16,022	16,022	16,022	16,022	16,472	16,472	16,472	16,472	16,472	17,114	17,114	17,114	17,114	17,114	17,768	17,768	17,768	17,768	17,768	18,495	18,495	18,495	18,495	18,495
	Proportionate Sustainable Yield	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147	17,147
	Supply Shortfall (% demand)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%	3%	3%	3%	7%	7%	7%	7%	7%
Salinas Hills PWS	Multiple Dry Year Demand	823	823	823	823	823	790	790	790	790	790	775	775	775	775	775	759	759	759	759	759	750	750	750	750	750
	Proportionate Sustainable Yield	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016	4,016
	Supply Shortfall (% demand)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Oak Hills PWS	Multiple Dry Year Demand	408	408	408	408	408	395	395	395	395	395	389	389	389	389	389	384	384	384	384	384	380	380	380	380	380
	Proportionate Sustainable Yield	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738	1,738
	Supply Shortfall (% demand)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Las Lomas PWS	Multiple Dry Year Demand	236	236	236	236	236	228	228	228	228	228	223	223	223	223	223	219	219	219	219	219	216	216	216	216	216
	Proportionate Sustainable Yield	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669	669
	Supply Shortfall (% demand)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total Normal Year Demand		**17,489**	**17,489**	**17,489**	**17,489**	**17,489**	**17,886**	**17,886**	**17,886**	**17,886**	**17,886**	**18,501**	**18,501**	**18,501**	**18,501**	**18,501**	**19,130**	**19,130**	**19,130**	**19,130**	**19,130**	**19,842**	**19,842**	**19,842**	**19,842**	**19,842**
Total Proportionate Sustainable Yield		**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**	**23,569**
Total Supply Shortfall (% demand)		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

Abbreviations:
"AFY" = acre feet per year
"PWS" = Public Water System

Notes:
(a) Country Meadows Mutual PWS is grouped with the Salinas PWS in the demand model, which combines projections for both systems.

References:
1. Projected multiple dry year water demands for the PWSs within the Salinas District are from Table 7-4A through 7-4D of the Plan.

Attachment G-1 Representative Hydrographs Exhibit

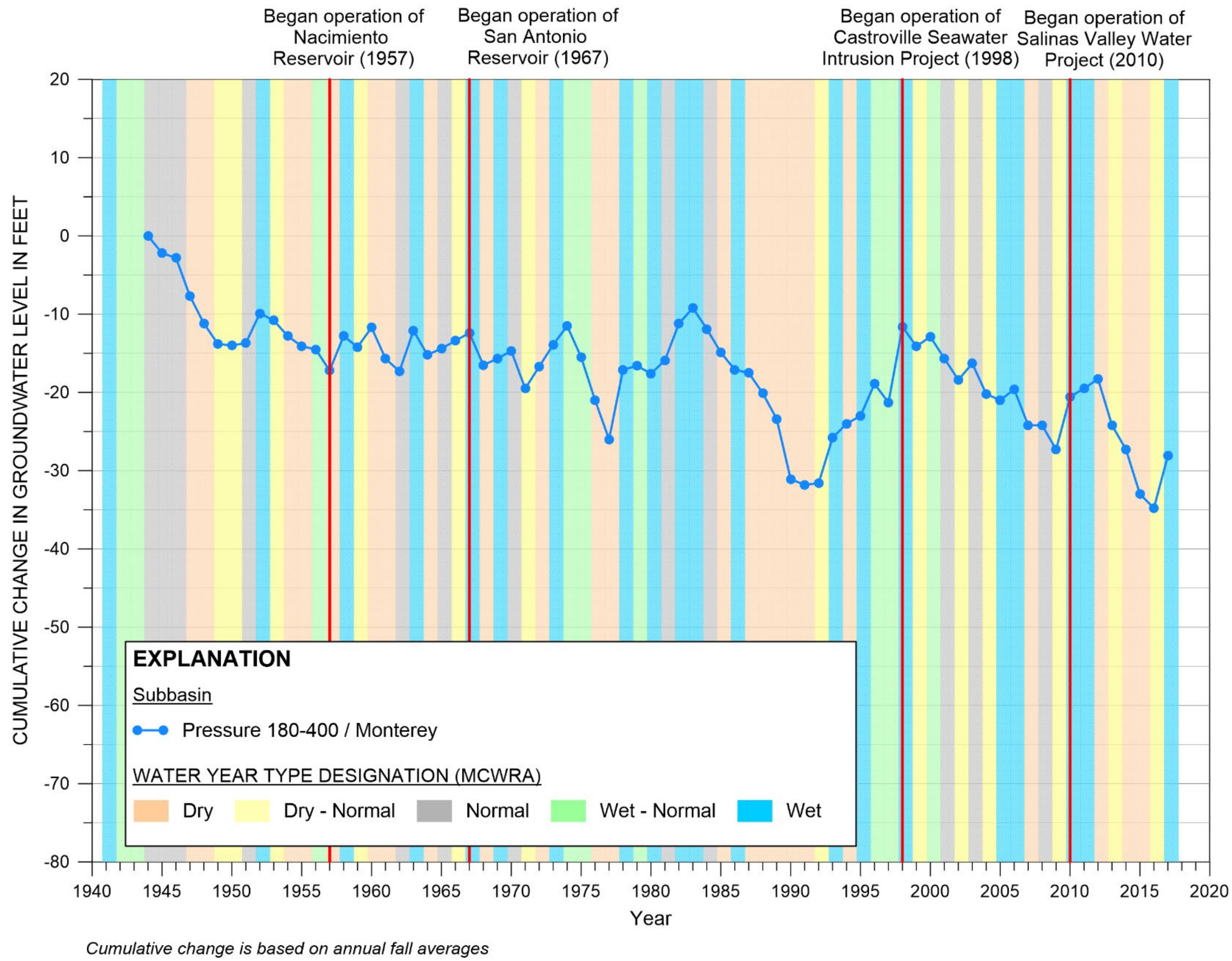


Figure 5-22. Cumulative Groundwater Elevation Change Graph for the MCWRA Pressure Subarea (from MCWRA, 2018, personal communication)

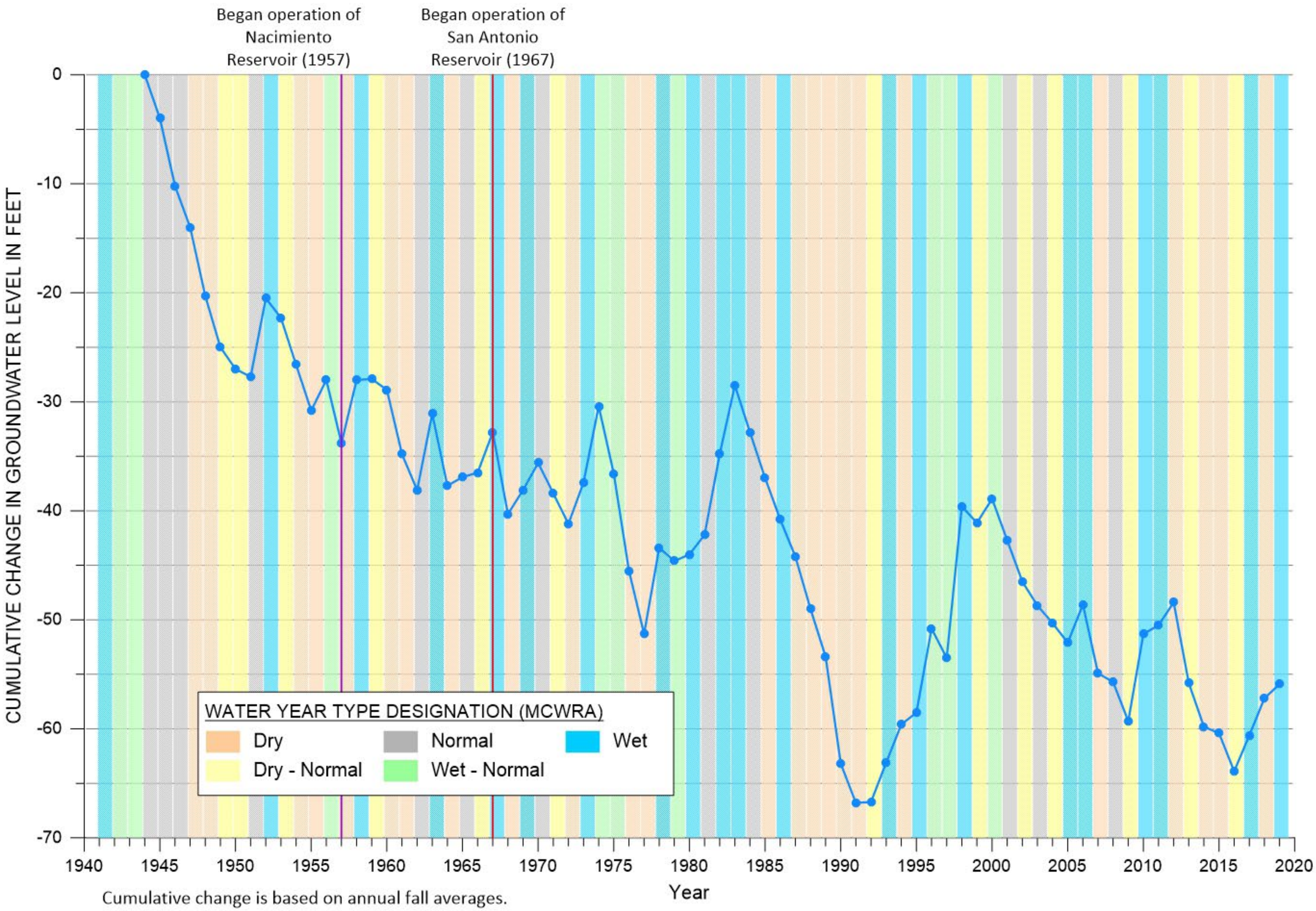


Figure 5-11. Cumulative Groundwater Elevation Change Graph for the MCWRA Eastside Subarea
(from MCWRA, 2018, personal communication)

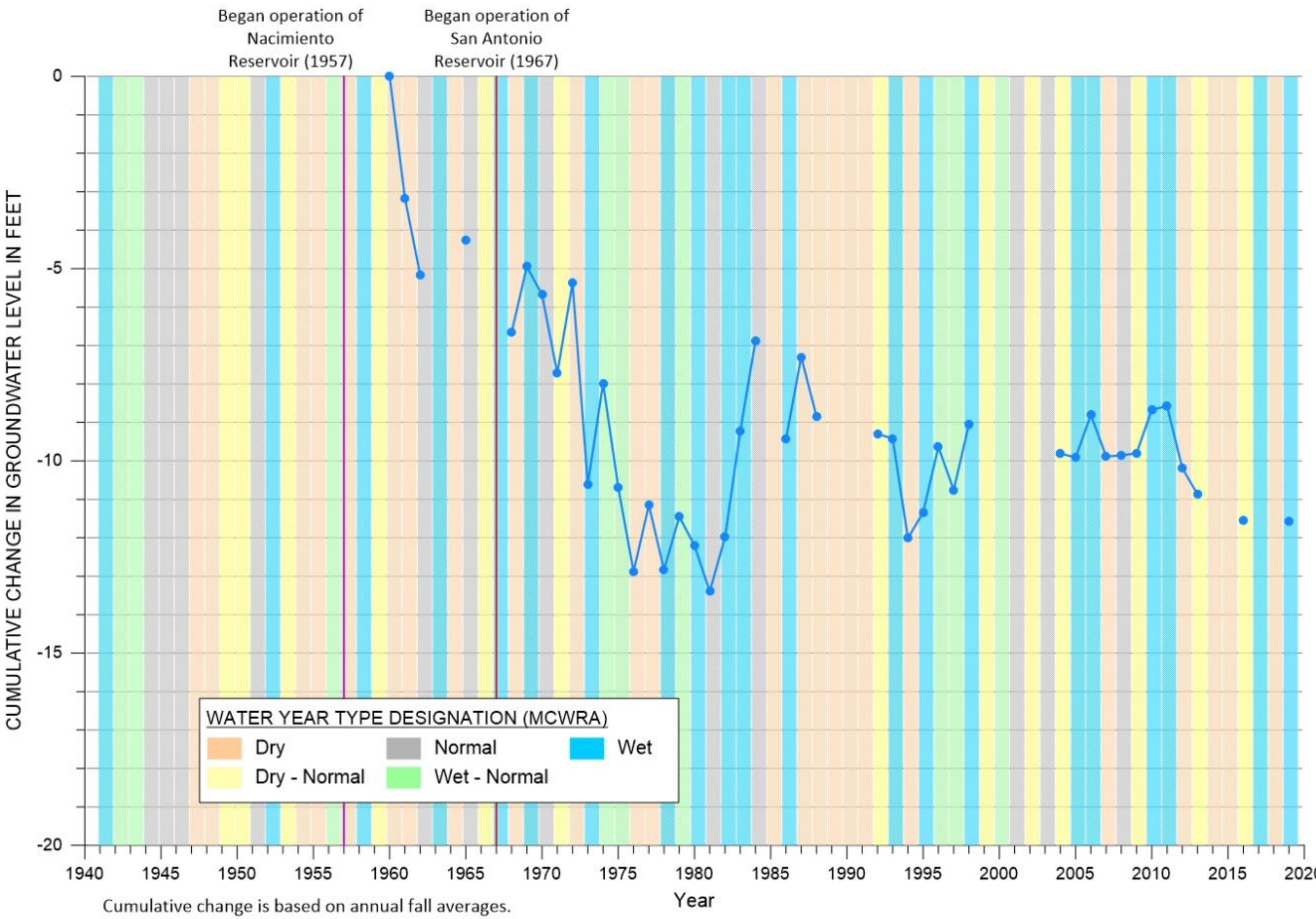
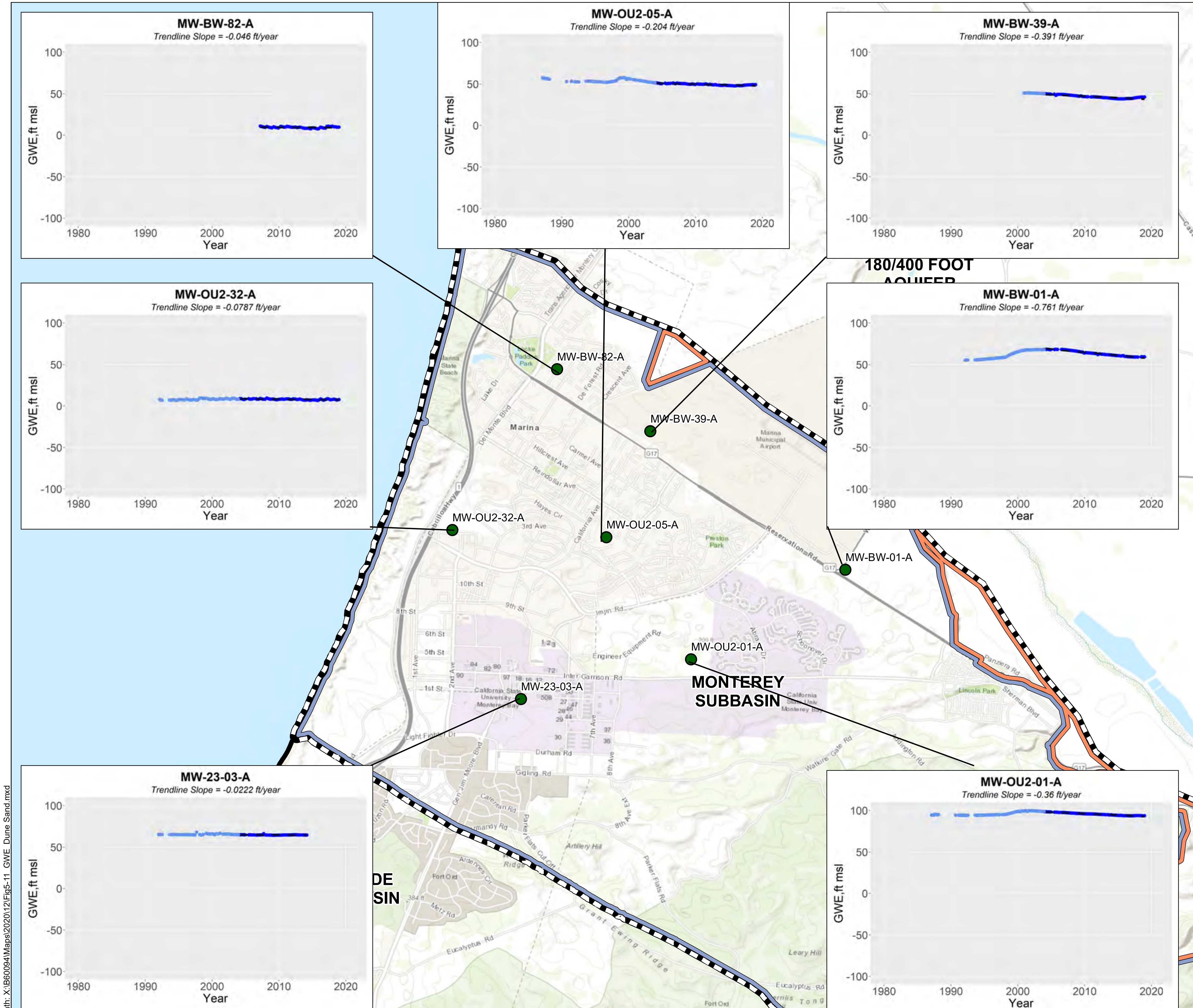


Figure 5-6. Cumulative Groundwater Elevation Change Graph for the Langley Area Subbasin



Legend

- Monterey Subbasin
- Other Groundwater Subbasins within Salinas Valley Basin
- Dune Sand Aquifer Wells

Management Areas

- Marina-Ord Area
- Corral de Tierra Area

Single Completion Wells

- GWE Measurements Between 2004 and 2018 (15 Years)
- GWE Measurements Before 2004
- Trendline (Note 1)

Abbreviations

DWR	= California Department of Water Resources
ft	= foot
ft/year	= foot per year
GWE	= groundwater elevation
NAVD 88	= North American Vertical Datum of 1988

Notes

1. Trendline analysis was performed for the period from 1 January 2004 to 31 December 2018 for single completion wells that have three or more GWE measurements during that period.
2. Groundwater elevations are in ft NAVD 88.

Sources

1. Basemap is ESRI's ArcGIS Online world topographic map, obtained 22 December 2020.
2. DWR groundwater basins are based on the boundaries defined in California's Groundwater, Bulletin 118 - 2018 Update.

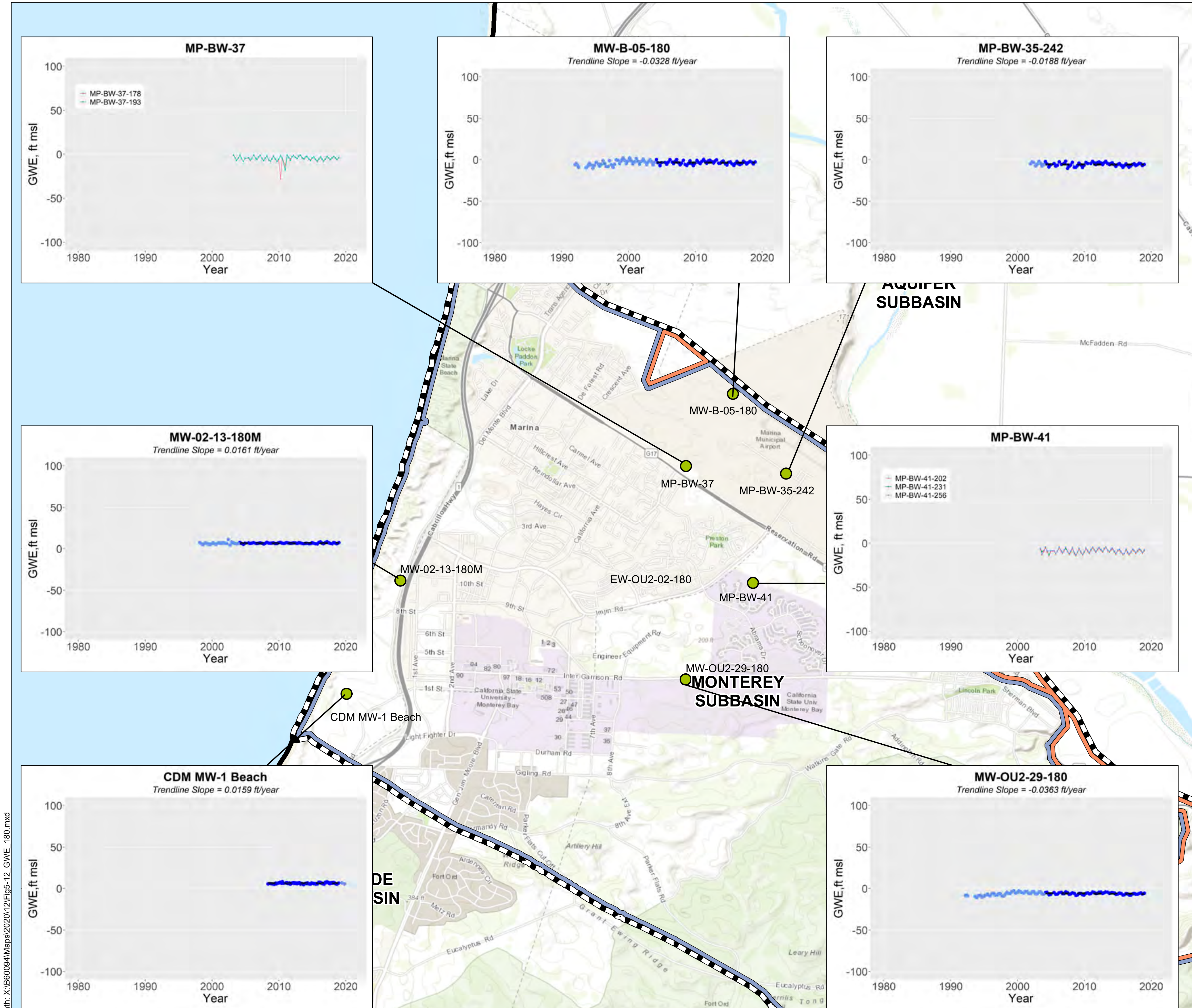
N 0 0.75 1.5 (Scale in Miles)

Representative Groundwater Elevation Hydrographs in the Dune Sand Aquifer

Monterey Subbasin
Groundwater Sustainability Plan
December 2020

Figure 5-11

Path: X:\B60094\Maps\2020\12\Fig5-11_GWE_Dune Sand.mxd



Legend

- Monterey Subbasin
- Other Groundwater Subbasins within Salinas Valley Basin
- Upper 180-Foot Aquifer Wells

Management Areas

- Marina-Ord Area
- Corral de Tierra Area

Single Completion Wells

- GWE Measurements Between 2004 and 2018 (15 Years)
- GWE Measurements Before 2004
- Trendline (Note 1)

Multi-Completion Monitoring Wells

- GWE Measurements (Note 2)

Abbreviations

DWR	= California Department of Water Resources
ft	= foot
ft/year	= foot per year
GWE	= groundwater elevation
NAVD 88	= North American Vertical Datum of 1988

Notes

1. Trendline analysis was performed for the period from 1 January 2004 to 31 December 2018 for single completion wells that have three or more GWE measurements during that period.
2. GWE measurements are shown in different colors for multi-completion wells, and no trendline analysis was performed for these wells.
3. Groundwater elevations are in ft NAVD 88.
4. Hydrographs herein present conditions in the upper 180-Foot Aquifer.

Sources

1. Basemap is ESRI's ArcGIS Online world topographic map, obtained 22 December 2020.
2. DWR groundwater basins are based on the boundaries defined in California's Groundwater, Bulletin 118 - 2018 Update.

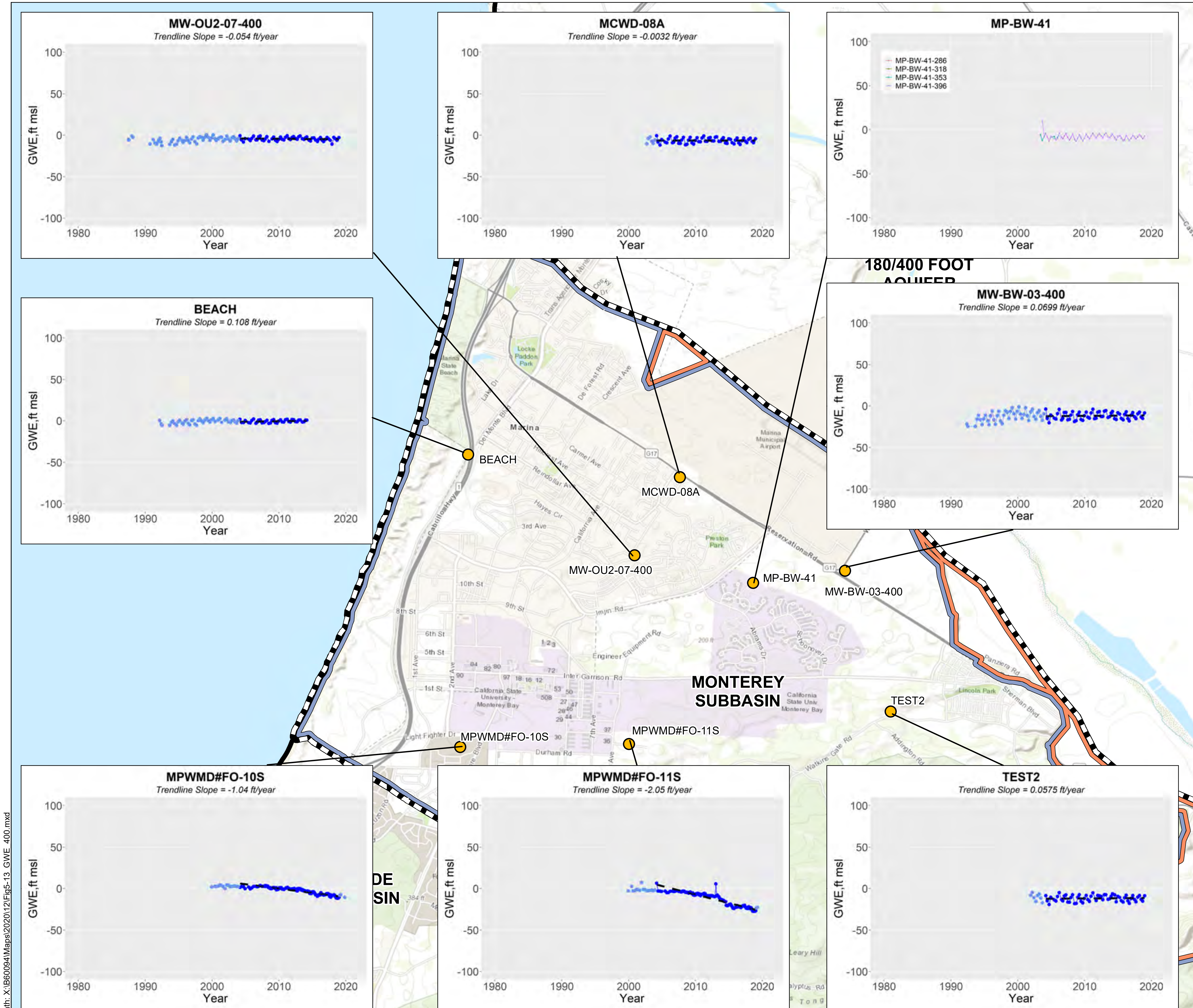
N 0 0.75 1.5 (Scale in Miles)

Representative Groundwater Elevation Hydrographs in the 180-Foot Aquifer

Monterey Subbasin
Groundwater Sustainability Plan
December 2020

Figure 5-12

Path: X:\B60094\Maps\202012\Fig5-12_GWE_180.mxd



Legend

Monterey Subbasin

Other Groundwater Subbasins within Salinas Valley Basin

Lower 180-Foot, 400-Foot Aquifer Wells

Management Areas

Marina-Ord Area

Corral de Tierra Area

Single Completion Wells

GWE Measurements Between 2004 and 2018 (15 Years)

GWE Measurements Before 2004

Trendline (Note 1)

Multi-Completion Monitoring Wells

GWE Measurements (Note 2)

Abbreviations

DWR	= California Department of Water Resources
ft	= foot
ft/year	= foot per year
GWE	= groundwater elevation
NAVD 88	= North American Vertical Datum of 1988

Notes

1. Trendline analysis was performed for the period from 1 January 2004 to 31 December 2018 for single completion wells that have three or more GWE measurements during that period.
2. GWE measurements are shown in different colors for multi-completion wells, and no trendline analysis was performed for these wells.
3. Groundwater elevations are in ft NAVD 88.
4. Conditions in the lower 180-Foot Aquifer are consistent with those observed in the 400-Foot Aquifer.

Sources

1. Basemap is ESRI's ArcGIS Online world topographic map, obtained 22 December 2020.
2. DWR groundwater basins are based on the boundaries defined in California's Groundwater, Bulletin 118 - 2018 Update.

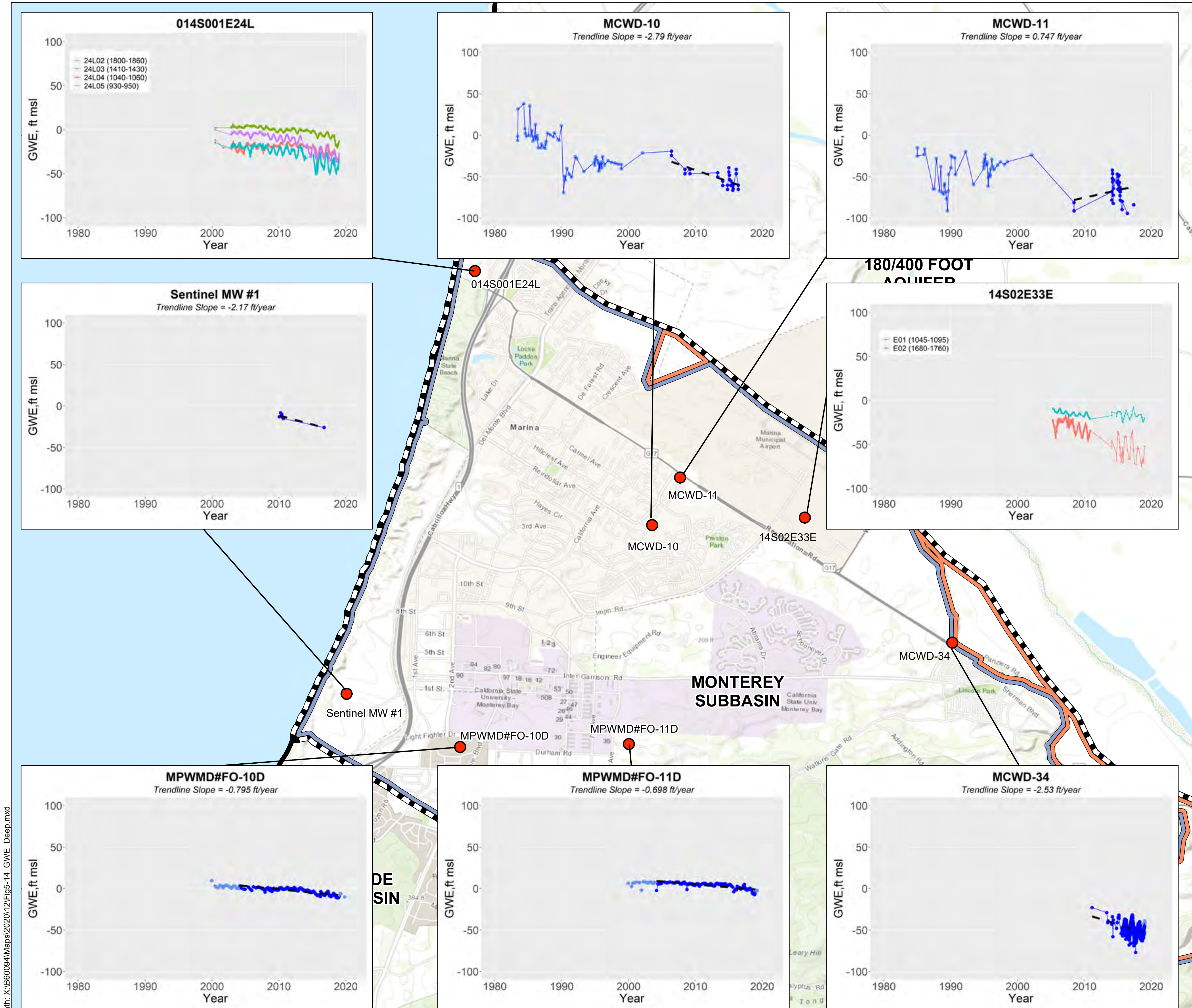
N 0 0.75 1.5
(Scale in Miles)

Representative Groundwater Elevation Hydrographs in the 400-Foot Aquifer

Monterey Subbasin
Groundwater Sustainability Plan
December 2020

Figure 5-13

Path: X:\B60094\Maps\202012\Fig5-13_GWE_400.mxd



Legend

- Monterey Subbasin
- Other Groundwater Subbasins within Salinas Valley Basin
- Deep Aquifer Wells

Management Areas

- Marina-Ord Area
- Corral de Tierra Area

Single Completion Wells

- GWE Measurements Between 2004 and 2018 (15 Years)
- GWE Measurements Before 2004
- Trendline (Note 1)

Multi-Completion Monitoring Wells

- GWE Measurements (Note 2)

Abbreviations

DWR	= California Department of Water Resources
ft	= foot
ft/year	= foot per year
GWE	= groundwater elevation
NAVD 88	= North American Vertical Datum of 1988

Notes

1. Trendline analysis was performed for the period from 1 January 2004 to 31 December 2018 for single completion wells that have three or more GWE measurements during that period.
2. GWE measurements are shown in different colors for multi-completion wells, and no trendline analysis was performed for these wells.
3. Groundwater elevations are in ft NAVD 88.

Sources

1. Basemap is ESRI's ArcGIS Online world topographic map, obtained 22 December 2020.
2. DWR groundwater basins are based on the boundaries defined in California's Groundwater, Bulletin 118 - 2018 Update.

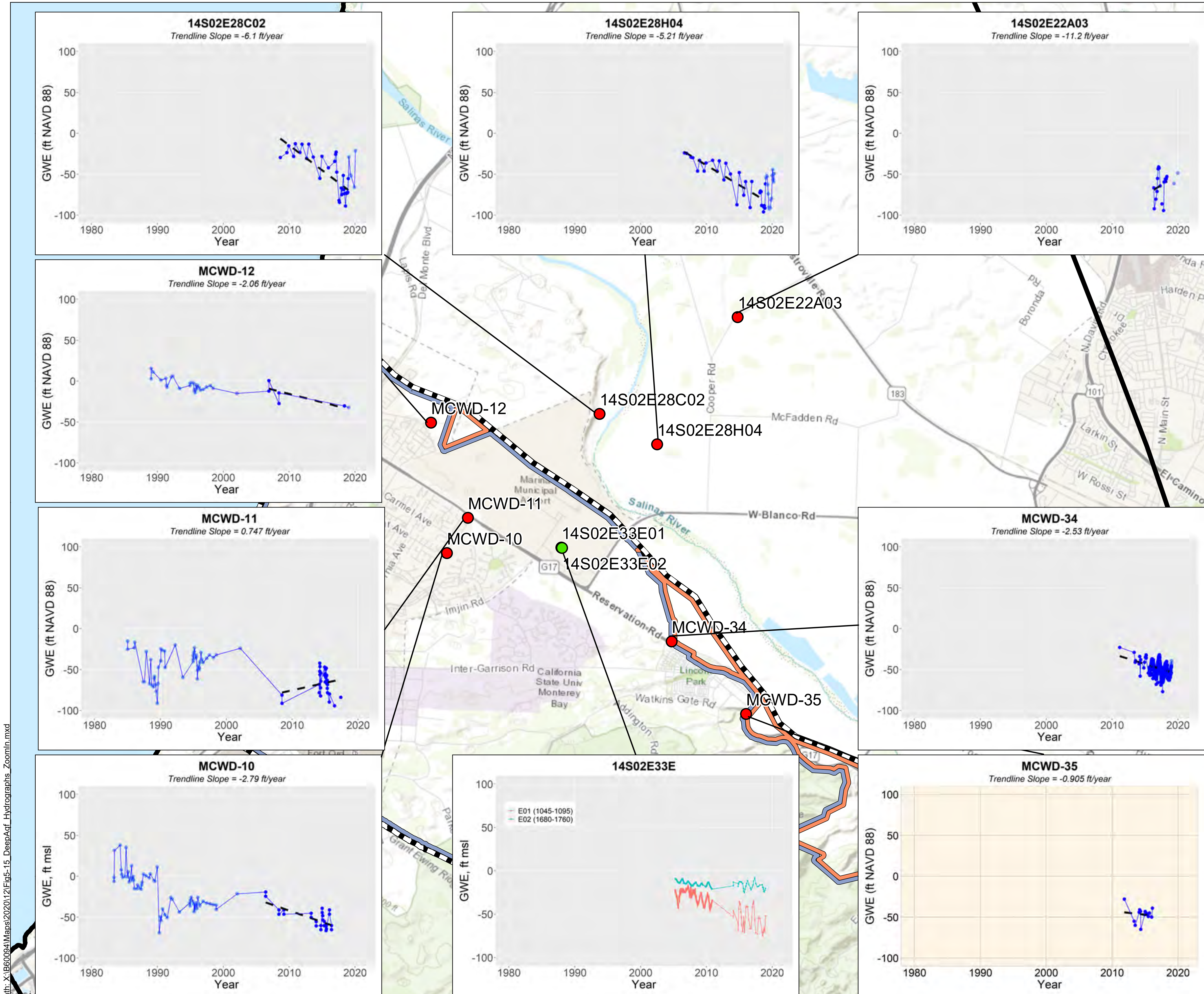
N 0 0.75 1.5 (Scale in Miles)

Representative Groundwater Elevation Hydrographs in the Deep Aquifers

Monterey Subbasin
Groundwater Sustainability Plan
December 2020

Figure 5-14

Path: X:\B60094\Maps\202012\Fig5-14_GWE_Deep.mxd



Legend

- Monterey Subbasin
- Other Groundwater Subbasins within Salinas Valley Basin

Management Areas

- Marina-Ord Area
- Corral de Tierra Area

Deep Aquifer Wells with Hydrographs

- Production / Public Supply Well
- Monitoring Well

Single Completion Wells

- GWE Measurements Between 2004 and 2018 (15 Years)
- GWE Measurements Before 2004 or after 2018
- Trendline (Note 1)

Multi-Completion Monitoring Wells

- GWE Measurements (Note 2)

Abbreviations

DWR = California Department of Water Resources
ft = foot
ft/year = foot per year
GWE = groundwater elevation
NAVD 88 = North American Vertical Datum of 1988

Notes

1. Trendline analysis was performed for the period from 1 January 2004 to 31 December 2018 for single completion wells that have three or more GWE measurements during that period.
2. GWE measurements are shown in different colors for multi-completion wells, and no trendline analysis was performed for these wells.
3. Groundwater elevations are in ft NAVD 88.

Sources

1. Basemap is ESRI's ArcGIS Online world topographic map, obtained 22 December 2020.
2. DWR groundwater basins are based on the boundaries defined in California's Groundwater, Bulletin 118 - 2018 Update.

N 0 1 2 (Scale in Miles)

Representative Groundwater Elevation Hydrographs in the Deep Aquifers near Subbasin Boundary

Monterey Subbasin
Groundwater Sustainability Plan
December 2020

Figure 5-15

Path: X:\B60094\Maps\2020\12\Fig5-15_DeepAqf_Hydrographs_ZoomIn.mxd

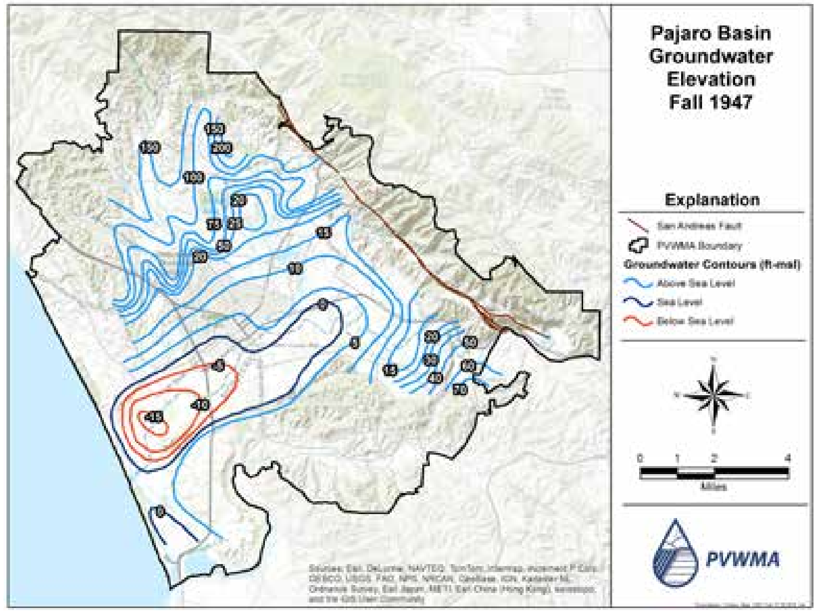


Figure 2-8. 1947 Pajaro Basin Composite Groundwater Contour Map

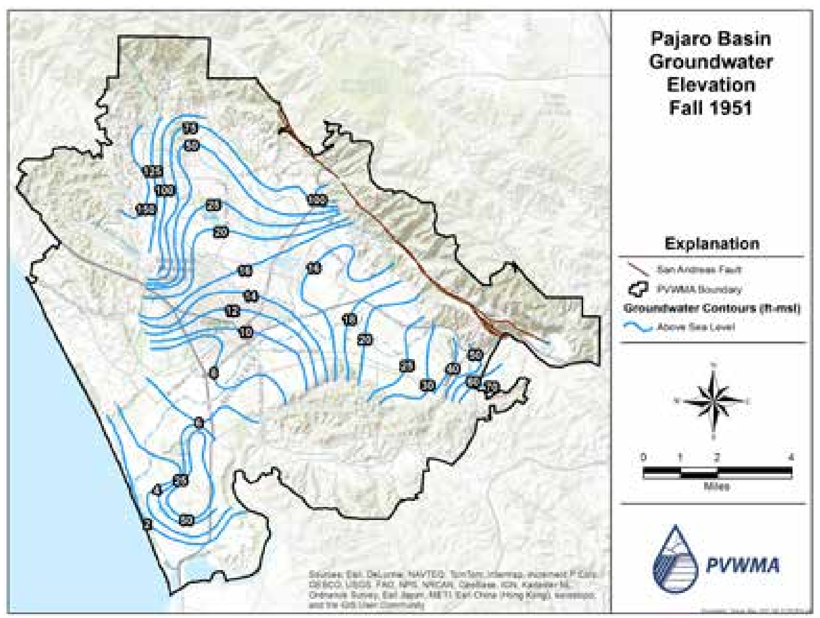


Figure 2-9. 1951 Pajaro Basin Composite Groundwater Contour Map

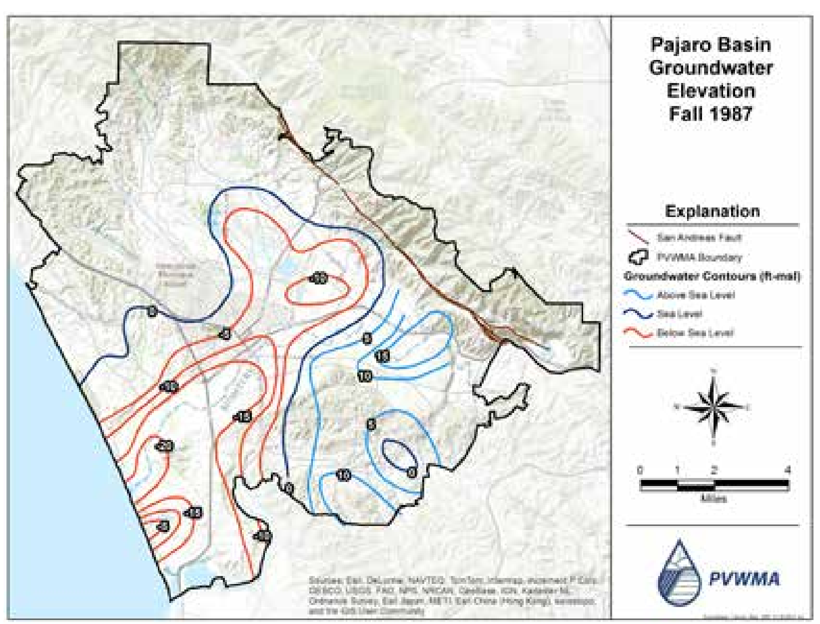


Figure 2-10. 1987 Pajaro Basin Composite Groundwater Contour Map

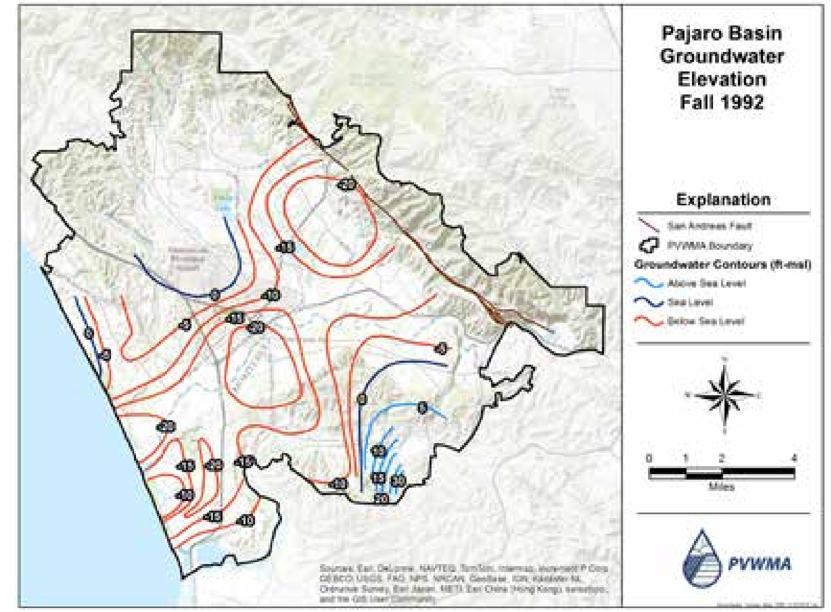


Figure 2-11. 1992 Pajaro Basin Composite Groundwater Contour Map

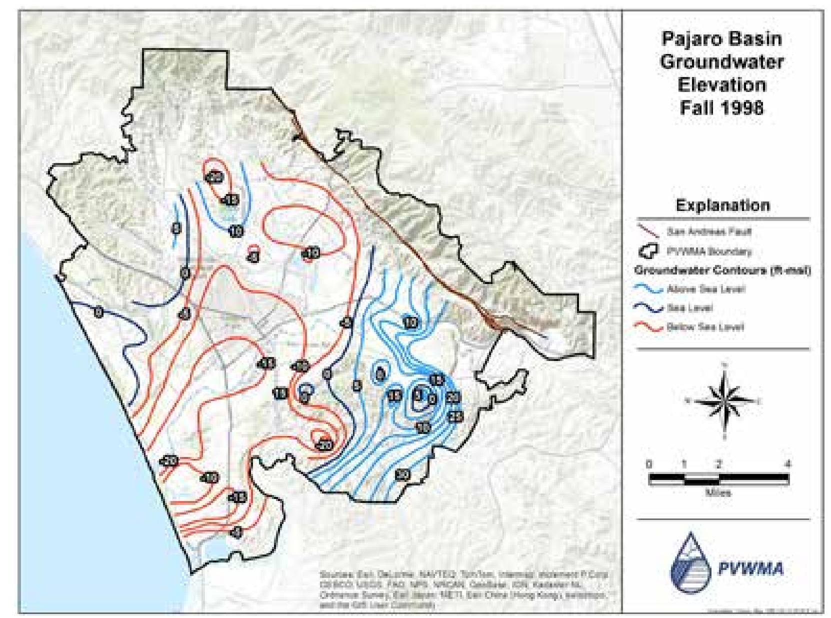


Figure 2-12. 1998 Pajaro Basin Composite Groundwater Contour Map

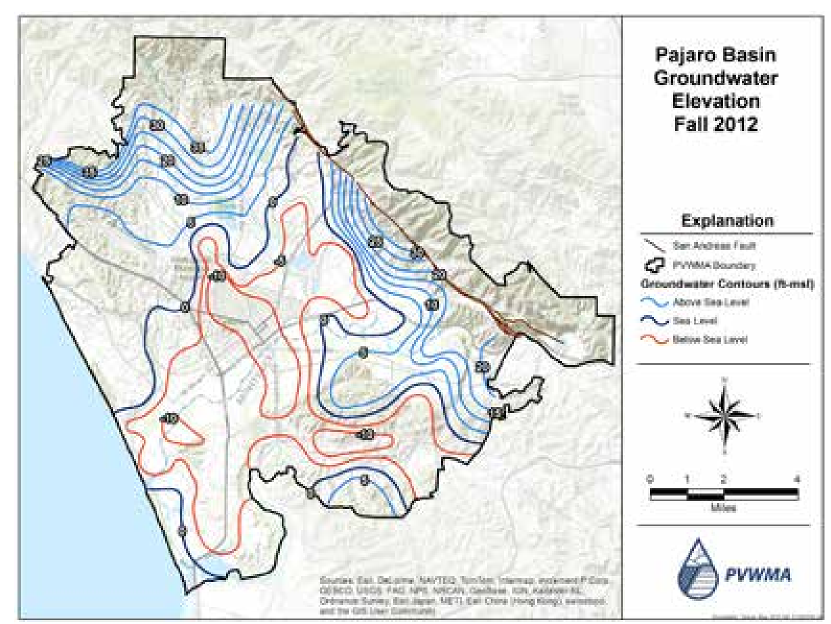


Figure 2-13. 2012 Pajaro Basin Composite Groundwater Contour Map

Appendix H: Climate Change Studies – Executive Summaries

- Climate Change – Water Resource Monitoring and Adaptation Plan – Phase 1
- Potential Climate Change Impacts on the Water Supplies of California Water Service

Climate Change-Water Resource Monitoring and Adaptation Plan – Phase 1

December 17, 2020

California Water Service
1720 North First Street
San Jose, CA 95112

Submitted by:
ICF
555 W 5th St
Suite 3100
Los Angeles, CA 90013

Executive Summary

Shifts in the frequency and severity of natural hazards resulting from climate change, often referred to as climate hazards, increasingly threaten water resources in California. These relevant climate hazards include reductions to snowpack, greater concentrations of precipitation in both a shorter rain season and isolated atmospheric river events, and more volatility between wet and dry water years.

To identify and prepare for impacts from these hazards, California Water Service (Cal Water) is seeking to identify climate change vulnerabilities to water supplies, operations and facilities, and to develop adaptation strategies to address those vulnerabilities through a Climate Change Water Resources Monitoring and Adaptation Plan. This body of work is intended to provide Cal Water with information to inform decisions on water system/asset management and resource planning to better prepare for and respond to current and projected changes to climate. This work represents a forward-looking approach in addressing climate risks for California utilities, as the large majority of water wholesaler and utilities have not completed climate vulnerability and adaptation plans.

In the first phase of this effort, the ICF team collaborated with Cal Water to conduct a literature and tools review as the foundation for subsequent phases of work. In Phase 2 of this project, the ICF team and Cal Water will undertake a vulnerability assessment of Cal Water's facilities and operations by developing an assessment approach that evaluates climate impacts to Cal Water, identifies asset vulnerabilities, and prioritizes climate risks. Phase 3 will focus on an assessment of climate-driven impacts to water supply resources and demand. This first phase of research and assessment will provide Cal Water with a clear "lay of the land" in understanding available methodologies and lessons learned in conducting vulnerability assessments and developing adaptation plans in the water sector. This work can provide key insights for Cal Water, industry practitioners, and Cal Water customers on best practices and needs in climate vulnerability and adaptation efforts.

This first phase will also act as a foundation for Cal Water to build on in subsequent phases of work. ICF and Cal Water will build on research and findings developed in Phase 1 to define the scope of Phases 2 and 3.

In Phase 1, the ICF team undertook three areas of review:

1) Literature and tools related to adaptation planning by water suppliers and other relevant organizations
2) Methods and data in Cal Water's 2016 Vulnerability Study "Potential Climate Change Impacts on the Water Supplies of California Water Service"
3) Climate change impact assessments and adaptation plans beyond Cal Water (wholesalers, state agencies) that could affect Cal Water's vulnerability or adaptive capacity

In the first part of our assessment, the studies we reviewed conclude that there is high certainty of climate-driven reductions to snowpack, wetter winter months, and more volatility between wet and dry water years. While California water systems are designed to operate under a wide range of hydrologic conditions, they are not designed to absorb and adapt to the projected levels of change, which could have impacts on historical supplies from reservoir systems and groundwater systems. These studies also revealed a suite of potential approaches to vulnerability assessment and risk assessment that are applicable to Phases 2 and 3.

Key studies that the ICF team referenced include Brown and Caldwell's "Impacts of Climate Change on Honolulu Water Supplies and Planning Strategies for Mitigation", the Water Research Foundation's (WRF)'s "Mapping Climate Exposure and Climate Information Needs to Water Utility Business Functions", the Metropolitan Water District's (MWD)'s "2015 Integrated Water Resources Plan" and "2015 Urban Water Management Plan", and the U.S. Environmental Protection Agency's (EPA's) Climate Resilience Evaluation and Awareness Toolkit (CREAT).

In the second part of our review, we found that Cal Water's 2016 Climate Change Vulnerability Study undertook a high-level investigation of impacts of climate change on water supply, including surface water, groundwater, and imported water throughout Cal Water service areas. However, the study did not use uniform metrics across water suppliers, was unable to apply the currently available downscaled climate projections, and did not consider the full suite of potential climate impacts to Cal Water's systems, including impacts of compounding climate hazards and impacts on Cal Water facilities and operations.

In the third part of this work, the ICF team researched and assessed existing climate vulnerability assessments and adaptation efforts that have an impact on Cal Water's ability to mitigate impacts from climate change. This included efforts by water supply wholesalers connected to Cal Water's system, and state agencies that regulate Cal Water's supplies, operations, and planning efforts. This will allow Cal Water to build on existing actions and avoid recreating adaptation efforts that are planned or have been implemented.

Cal Water has undertaken key steps toward adaptation planning since the 2016 Vulnerability Study, such as this work to provide additional vulnerability analysis, working locally to identify and prepare to meet Sustainable Groundwater Management Act (SGMA) requirements, and coordinating with wholesalers on their identified climate-driven vulnerabilities. Phases 2 and 3 of this work will further frame system vulnerabilities within an adaptation planning context for a flexible and anticipatory response.

The ICF team's literature review focused on identifying approaches for assessing water utility vulnerabilities of assets and water resources, and adaptation planning needs (summarized in Table 1). To identify these priority approaches, the team reviewed a list of publications with input from Cal Water on key sources. We reviewed and analyzed the relevant literature for applicability to Cal Water, the advantages and fit within a robust plan for assessment, and the potential disadvantages. We highlighted those approaches in the sections on key takeaways and the applicability of approaches to Cal Water. Table 1 provides important considerations raised by the ICF team during this process.

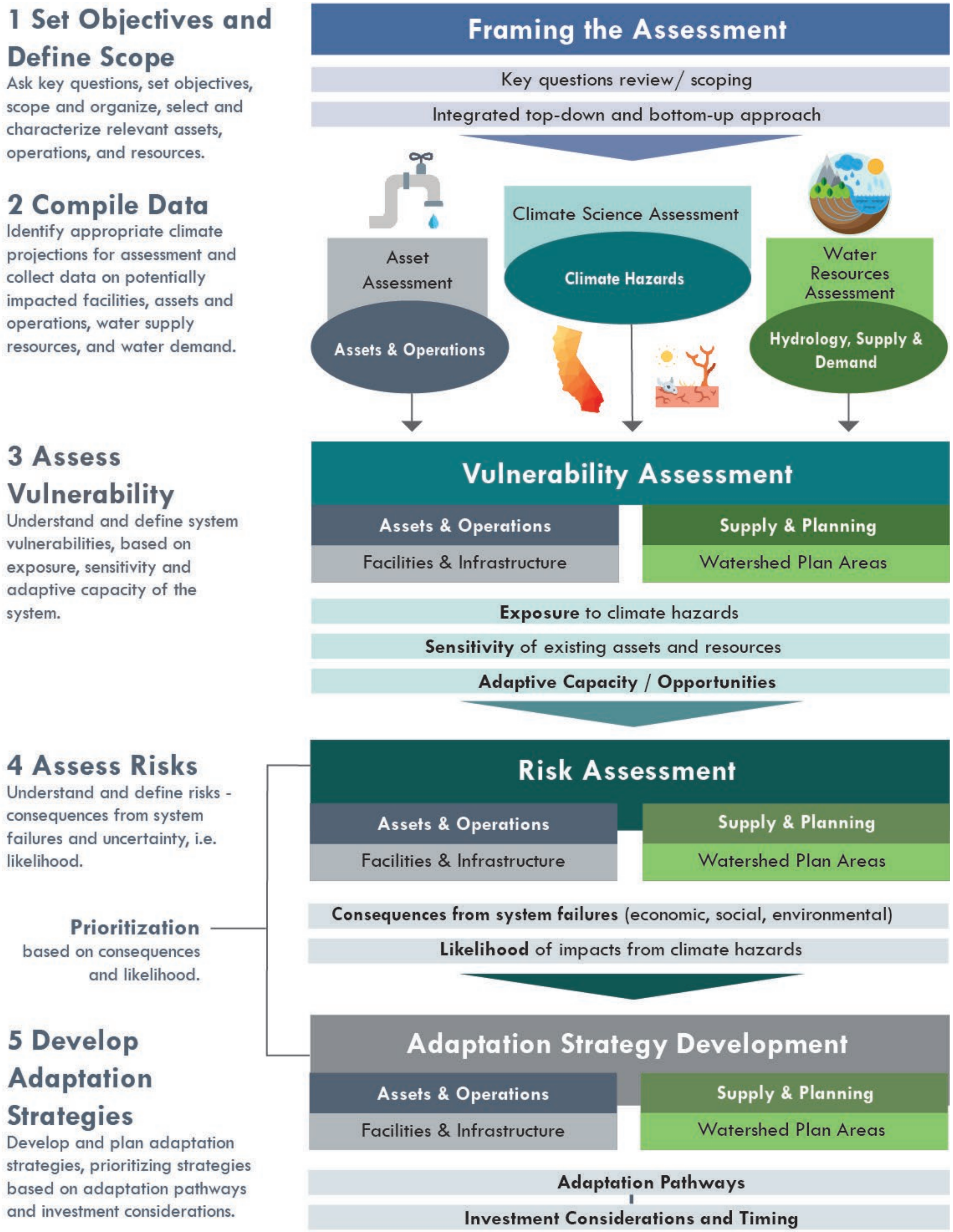
Table 1: Advantages and disadvantages of identified approaches

Identified Approach	Advantages	Disadvantages
Integrated resource-level (i.e., top-down) and asset-level (i.e., bottom-up) approaches to vulnerability assessment	• Allows for matching available information with appropriate methodologies • Supports evaluation of vulnerabilities in both water supply resources and physical systems: an integrated approach can help to address gaps in either area	• Bottom-up approaches can require extensive historical data and asset-level data • Integration of climate projections into hydrological models can be challenging. For example, data inputs for hydrological models and the outputs from climate projections may be incompatible or require additional data processing
Robust Decision-Making	• Supports identification of decisions for response under a range of potential climate futures • Supports alignment between climate impacts and operating units/business functions • Ensures the scope focuses on critical services, assets, and resources • Supports the development of adaptation pathways and measures • Provides a framework for information that can signal the need for critical decisions on adaptation	• Involves significant investment of time to identify performance metrics, business functions, and key variables • Even with significant time invested on the front end, scope can change and require rescoping later in the effort • Requires a strong understanding of utility decision-making
Applying climate projections to hydrologic modeling, future demand and planning scenarios	• Generates better understanding of impacts of extreme scenarios, snowpack loss, drought, increased temperatures, precipitation whiplash, and other hydrologic changes in water supply resources and downstream demands • Allows for modeling of a range of climate scenarios to better account for uncertainties in resource management and climate outcomes • Integrates climate projections with scaled historical time series data	• Can require substantial data, and may introduce bias (due to selected climate scenarios) • It is necessary to identify performance metrics and thresholds related to available climate variables; these can be difficult to identify and thresholds may not exist • Relies on necessary simplifying assumptions to model complex hydrologic systems
Stress testing and scenarios	• Supports management of uncertainty, especially in the absence of data • Allows for understanding of climate impacts on system performance within a risk framework	• Can require refined climate information (e.g. hydrological variables) and detailed asset information • Can require the integration of climate information into hydrological models, which may require

Identified Approach	Advantages	Disadvantages
	• Supports identification of major performance metrics and their potential for failure • Helps in understanding how the severity of impacts varies for facilities, operations, and water supplies under different climate change conditions.	significant data processing to be compatible with one another • Can result in qualitative or directional findings that don't provide straightforward adaptation responses
Engaging staff in climate change vulnerability assessments and adaptation plans	• Provides perspective for setting study parameters • Provides targeted input and data into assessment • Identifies existing data gaps and actions to address gaps • Supports development of institutional capacity for monitoring impacts, adaptation planning, and implementation	• Can be time-consuming for team members attending workshops and interviews; requires a targeted approach to ensure efficiency and that the right data is captured • Requires cross-team coordination that may be outside of "normal" communication pathways, e.g. between engineers and policy specialists
Evaluating costs of inaction	• Helps to prioritize adaptation planning needs • Creates a better understanding of the risks to Cal Water	• Requires scaling information on past costs without clear data on future impacts, creating uncertainties in estimates
Use of Flexible Adaptation Pathways	• Helps to select appropriate timing (including lead time from planning to implementation) and application of adaptation measures • Considers and compares multiple strategies in adaptation planning • Includes triggers that signal when decision-makers should decide on switching to another pathway • Allows for adaptive decisions under uncertainty by integrating points for re-assessing pathway and actions • Considers alternative external developments over time	• Does not provide a fixed timeline for actions • This approach is relatively new and may require coordination with budget cycles and external policy updates, since actions evolve over time • May push decision burden onto future decision-makers who did not develop original pathway

Our team synthesized these identified methodologies, findings, and insights into an overarching approach for characterizing climate vulnerabilities and planning for adaptation at both an asset level and water supply planning level to suit Cal Water's needs in addressing climate change impacts, shown in Figure 1.

Figure 1: Climate Assessment Framework



Source: Silvestrum Climate Associates, October 2020

Based on this review, the ICF team is making the following key recommendations for guiding Cal Water's efforts in identifying climate vulnerabilities and planning for adaptation:

- **Apply a standard conceptual framework to vulnerability assessment which integrates both top-down analysis and bottom-up analysis (see Figure 1).** The standard conceptual framework for assessing climate vulnerabilities and risks includes understanding exposure, sensitivity, and adaptive capacity, and potential impacts as components of vulnerability, and consequence and likelihood as components of risk. Top-down analysis would begin by applying downscaled Global Climate Model (GCM) projections to assess impacts on water supply resources and the bottom-up analysis would begin by identifying system sensitivities to climate hazards. These analyses are complementary.
- **Use a robust decision making (RDM) framework for vulnerability assessment and adaptation planning** by seeking to identify decisions for response under a range of potential climate futures, mapping impacts on operating units/business functions, and ensuring that the scope focuses on critical services, assets, and resources. A robust decision-making framing will support the development of adaptation pathways and measures by monitoring information that signals the need for critical decisions on adaptation.
- **Engage staff and key stakeholders in the planning process** to gain a holistic planning perspective for setting study parameters, providing targeted input into assessment and plan development, and supporting institutional capacity for adaptation.
- **Build off of the 2016 Cal Water Climate Change Impact study by applying updated climate models and projections for additional hydrologic variables** to hydrologic modeling, future demand and planning scenarios, and scaled historical time series data to better understand impacts of extremes, precipitation whiplash, and other hydrologic changes in water supply resources. We recommend presentation of this with uniform metrics for more actionable findings.
- **Assess climate impact consequence by stress-testing key water system performance metrics.** This includes developing a range of impact scenarios to understand how the severity of impacts varies for facilities, operations, and water supplies under different climate change conditions.
- **Evaluating the order of magnitude cost of inaction.** We recommend communicating consequences in terms of direct costs to Cal Water and customers without adaptation actions to prioritize adaptation response.
- **Follow a step-by-step, iterative process to adaptive management which fully aligns with potential exposure to climate hazards and vulnerabilities**, including:
    - Utilizing Flexible Adaptation Pathways in planning for selecting appropriate timing and application of adaptation measures
    - Planning for monitoring and evaluation
    - Evaluating adaptation investment decisions

During Phases 2 and 3 in which Cal Water and the ICF team will further assess vulnerability, we will frame the study outputs within a decision-making context for compatibility with adaptation planning concepts and eventual investment in adaptation measures.

Potential Climate Change Impacts on the Water Supplies of California Water Service

Prepared by

Gary Fiske and Associates, Inc.
Balance Hydrologics, Inc.

January 2016

Executive Summary

Introduction

California Water Service Company (Cal Water) provides water service to roughly 478,000 customers – about 1.7 million people – located in 83 state-wide communities in 24 service districts. Cal Water's districts rely on a variety of supply sources, including local groundwater, local surface water, and imported supplies. It is critical for Cal Water to gain a better understanding of the potential impacts of climate change on the availability of those supplies. Impacts are inherently uncertain, but Cal Water believes that the only responsible course is to carefully incorporate climate change into its ongoing water supply planning.

The present project and report represent a first step in that path. In order for Cal Water to determine how its long-term water supply planning should reflect climate change impacts, it must first have an understanding of what the impacts of climate change on its supply sources might be. That is the purpose of this study.

The work reported on here focuses on the sample of Cal Water districts highlighted in Figure ES-1. These districts account for 85% of Cal Water's total 2014 production and reflect the diversity of all Cal Water districts, including geographic, hydrologic, and climatic conditions and primary and secondary supply sources.

Changes in climate can affect the availability of local groundwater and surface water supplies, as well as purchased imported supplies. This study separately addresses the impacts on each of these for each sample district. It relies on the best available projections of changes in climate (temperature and precipitation) through the end of the century. It then uses the climate projections to examine how surface water flows and groundwater recharge rates may change.

For imported supplies, this study relies on studies already completed by wholesale providers where possible. Where no such studies have been done or where the data from such studies was unavailable, other approaches were developed to estimate climate change impacts on these supplies.

The results reported here provide an integrated view of how projected climate changes may affect water supply availability for Cal Water's service districts. The results also represent a first step in integrating potential future climate change impacts into Cal Water's ongoing supply planning. Because of the inherent uncertainties, a nuanced risk assessment may be needed to guide the incorporation of these results into long-range planning. Beyond the Company's supply/infrastructure planning, the results also can affect the Company's triennial General Rate Cases; they may also have potential operational implications.

Figure ES- 1. Cal Water Service Districts with Sample Districts Highlighted

Estimating Changes in Climate

Climate change is primarily driven by increased concentrations of greenhouse gases (GHGs) in the atmosphere. The trajectory of future climate change is a function of the rate at which those concentrations are projected to increase and the manner in which the atmosphere and oceans respond to increased concentrations. Both are difficult to model. Thus, while the scientific community overwhelmingly agrees that climate change will occur (and indeed may already have begun), the trajectory of those changes is very uncertain.

The projections of temperature and precipitation that underlie this study are based on 40 of the latest Global Circulation Models (GCMs) run as part of the Coupled Model Intercomparison Project Phase 5 (CMIP5). Generally speaking, this type of approach is termed an ensemble analysis, for which the downscaled climate projections for any particular Cal Water Service District were based on the median of the 40 downscaled GCM datasets. The GCMs used by the analysis are driven by two GHG emission pathways that bound the possible trajectories of GHG concentrations.

Impacts of Climate Change on Water Supplies

The supplies for each district consist of a mix of local surface water, local groundwater, and/or purchased imports. Climate change impacts were estimated for each of these components. The approaches used for each are described below. Based on the breakdown of district production among the supply sources, Table ES-1 shows the ranges of projected overall climate change impacts on available supply, relative to the historic average.[1] Table ES-2 groups this vulnerability into 4 categories of expected change, and Figure ES-2 maps the end-of-century vulnerability.

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[1] The historical averages used here, and elsewhere in this report, are based on the entire range of historical data available for the district-specific analyses. These ranges vary across districts, and are specified within the district-specific technical memoranda.

Table ES- 1. Projected Changes in Available Supply due to Climate Change

District		Percentage Change in Supply		
		2020	2050	2100
BK	Minimum	-10%	-10%	-12%
	Maximum	-12%	-16%	-20%
VIS	Minimum	-7%	-8%	-8%
	Maximum	-9%	-10%	-14%
KRV	Minimum	-13%	-16%	-19%
	Maximum	-16%	-21%	-31%
MPS/SSF/BG	Minimum	0%	-2%	-6%
	Maximum	0%	-7%	-15%
LAS	Minimum	-3%	-3%	-10%
	Maximum	-4%	-18%	-28%
CH	Minimum	2%	2%	0%
	Maximum	3%	1%	-3%
ORO	Minimum	0%	8%	5%
	Maximum	0%	-8%	-7%
DOM/HR/PV	Minimum	0%	0%	-1%
	Maximum	0%	-2%	-3%
STK	Minimum	0%	0%	-8%
	Maximum	0%	-14%	-17%
SLN	Minimum	-6%	-6%	-6%
	Maximum	-7%	-7%	-7%

Table ES- 2. Categories of Projected Supply Vulnerability

District	Supply Vulnerability		
	2020	2050	2100
KRV	3	4	4
BK	3	3	4
LAS	1	3	4
VIS	2	2	3
STK	1	2	3
SLN	2	2	2
MPS/SSF/BG	1	1	3
DOM/HR/PV	1	1	1
ORO	1	1	1
CH	1	1	1

Districts in Category 1 expect <5% reduction in supply. Category 2 indicates a reduction of 5-10%. Category 3 indicates an expected reduction of 10-15%. Category 4 reductions exceed 15%.

Figure ES- 2. Cal Water 2100 Vulnerability to Climate Change

Vulnerability levels:
Green = Low
Yellow = Moderate
Light Red = High
Dark Red = Very High

Estimating Climate Change Impacts on Local Surface Supplies

For those Cal Water districts that obtain a portion of their water supplies from local surface water, projected average annual precipitation in each of three forecast years (2020, 2050, 2100) were compared to historical precipitation to estimate the projected average annual discharge for that forecast year. Table ES-3 shows the estimated percent changes in surface water availability compared to historical averages.

Table ES- 3. Estimated Impacts on Local Surface Supply Availability

District		Percent Change in Runoff		
		2020	2050	2100
BK	Minimum Impact	-17%	-18%	-19%
	Maximum Impact	-18%	-19%	-23%
KRV	Minimum Impact	-17%	-18%	-19%
	Maximum Impact	-18%	-19%	-23%
MPS/SSF/BG	Minimum Impact	+3%	+6%	+12%
	Maximum Impact	+3%	+5%	+6%

Of the three districts, the two in the southern San Joaquin Valley are projected to experience significant reductions in their local surface supplies. In contrast, the Bear Gulch district surface supply is forecast to increase.

Estimating Climate Change Impacts on Local Groundwater Supplies

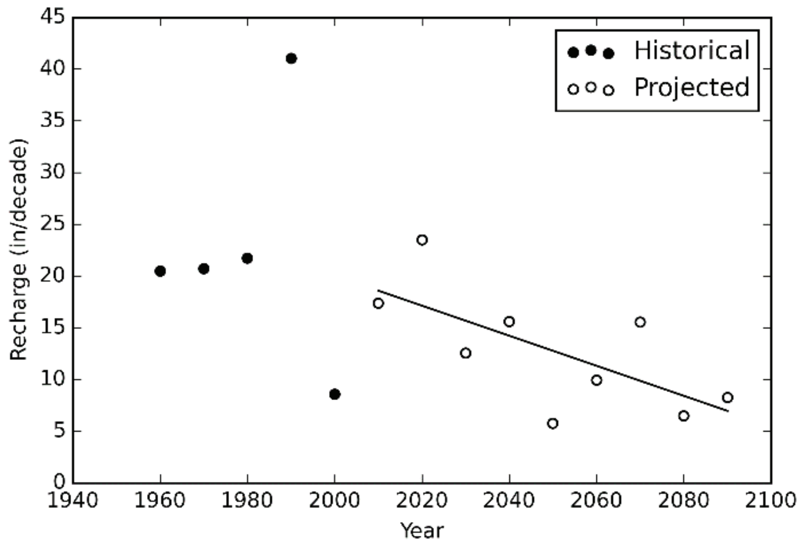
Climate change impacts on Cal Water's local groundwater supplies result from changes in projected groundwater recharge. The three groundwater recharge components include:

- Local river sources;
- Direct recharge from precipitation on the groundwater basin; and
- Recharge from agricultural and urban deep percolation.

The analysis first estimated the split of local recharge among these three components using geographic and geologic data, geochemical markers, and previously published reports and other supporting information. The climate change impacts on each component were then estimated, consolidated into overall projections of recharge impacts, and compared to estimated historical recharge rates.

Estimates of impacts on river recharge used the methodology for local surface supply described above. For the purposes of this phase of work, it was assumed that the change in recharge from the river is proportional to the change in total annual discharge. The estimated amount of water that will recharge directly into a groundwater basin from rain (or snow) is based on a balance of evapotranspiration (ET), precipitation rates, and soil water capacity. Recharge is estimated using both historical and projected precipitation and temperature data. Decadal averages in projected recharge are then used to calculate long-term trends. This is illustrated in Figure ES-3 for Kern River Valley.

Figure ES- 3. Historic and Projected Decadal Direct-Precipitation Recharge for Kern River Valley



A quantitative projection of recharge from deep percolation beneath irrigated fields and urban areas is beyond the scope of this phase. Instead, districts for which a significant proportion of recharge is from agricultural and urban water are identified and expected trends under climate change of this water source for those districts are estimated. At-risk service areas with decreasing agricultural and urban water sources can be explored further in future work.

The estimated percentage impacts on each of the recharge components are multiplied by the expected fractions that each component is of total recharge to calculate the range of expected recharge reductions. Table ES-4 shows those results for each district, excluding the impacts of urban/agricultural applied water percolation.

Actual impacts on Cal Water's ability to pump groundwater may be less than these recharge reductions because the storage volumes in different basins have differing degrees of responsiveness to changes in recharge. The degree to which changes in recharge volumes translate into available groundwater supply is a function of the hydrogeologic attributes of the basin. A detailed understanding of those characteristics would require a level of modeling that is well beyond the scope of this phase of work. Instead, the estimates of basin responsiveness were based on the historical record of how the basin's water level has varied with recent climate variability. For some districts, the basin appears to be highly responsive, while for others changes in climate do not have much impact.

Table ES- 4. Projected Changes in Average Annual Groundwater Recharge

District		Percentage Change in Recharge		
		2020	2050	2100
BK	Minimum	-14%	-15%	-15%
	Maximum	-14%	-15%	-18%
VIS	Minimum	-9%	-10%	-11%
	Maximum	-9%	-10%	-14%
KRV	Minimum	-13.4%	-19%	-23%
	Maximum	-15%	-22%	-35%
MPS/SSF/BG	Minimum	-2%	-4%	-6%
	Maximum	-2%	-6%	-12%
LAS	Minimum	-7%	-8%	-13%
	Maximum	-8%	-18%	-25%
CH	Minimum	6%	4%	1%
	Maximum	6%	2%	-4%
ORO	Minimum	0%	0%	0%
	Maximum	0%	0%	0%
DOM/HR/PV	Minimum	0%	0%	0%
	Maximum	0%	0%	0%
STK	Minimum	-2%	-3%	-6%
	Maximum	-2%	-4%	-7%
SLN	Minimum	-7%	-7%	-7%
	Maximum	-7%	-7%	-7%

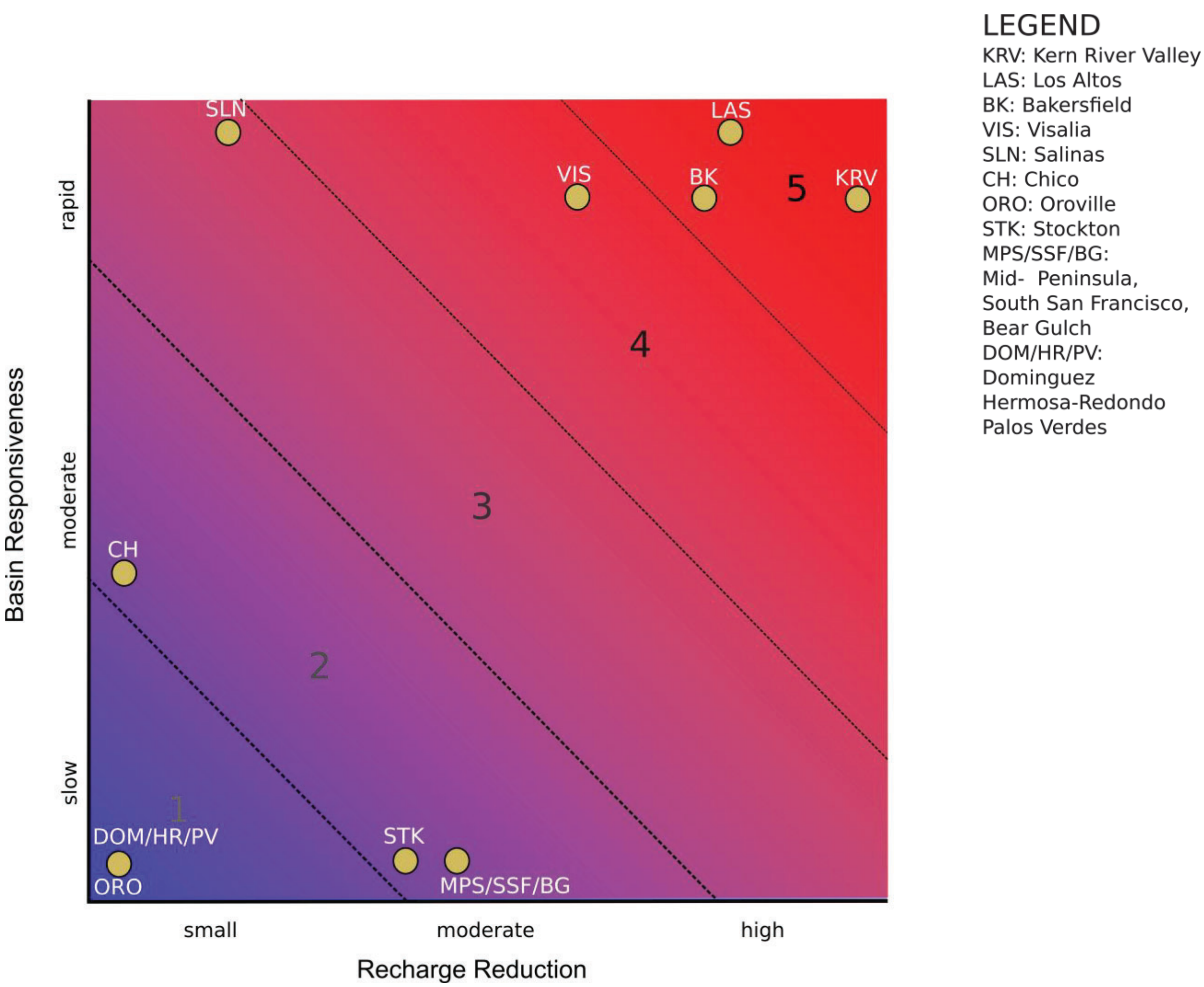
The overall risk to Cal Water's groundwater supplies for each district is based on the expected recharge reductions and the expected responsiveness of basin water level to those reductions. Table ES-5 rates each district's groundwater supply risk on a 1-5 scale, with 1 indicating little or no risk and 5 indicating high risk. Figure ES-4 is a visual depiction of these ratings.

Generally speaking, the groundwater supply impacts are large for the districts in the southern San Joaquin Valley. The Los Altos District also shows a high impact, largely because a significant portion of its recharge is from imported supplies, which are forecast to decrease significantly. Further north in the Central Valley, groundwater supplies are less affected. The Bay Area and Los Angeles Basin districts also show relatively smaller impacts.

Table ES- 5. District Groundwater Risk Ratings

District	Rating
BK	5
KRV	5
LAS	5
VIS	4
SLN	3
CH	2
MPS/SSF/BG	2
STK	2
ORO	1
DOM/HR/PV	1

Figure ES- 4. Groundwater Risk Ratings



Impacts of Climate Change on Imported Water Supplies

About half of Cal Water's supply is imported water that is purchased from wholesale suppliers. The supply and delivery systems of these suppliers are generally very complex and it is impossible within the confines of this project to independently model the impacts of climate change on those systems. The analysis therefore relied on available data, including the results of any climate change modeling that these suppliers themselves have done and other indicators of climate change impacts.

As a result, the climate change scenarios on which the estimates of impacts on different wholesale supplies are based will differ from one another and from the approach described above for the analysis of local supply impacts. The time frames of the results also differ. However, despite those limitations, important information about potential future climate change impacts on wholesale water supply availability was developed. Table ES-6 compares summary measures of central tendency for the potential district-specific climate change impacts on the availability of imported supplies.

Table ES- 6. Projected Climate Change Impacts on Imported Supplies

District	Source	Mid-Century	Late-Century
BK	SWP	-7%	-17%
LAS	SWP, CVP	-9%	-21%
ORO	SWP	-1%	-3%
MPS/SSF/BG	SFPUC	-10%	-20%
DOM/HR/PV	MWD	-1% to -2%	-2% to -5%
STK	USBR	-5%	-10%

Conclusions and Next Steps

The study results indicate significant risks for some districts. This points to the need for Cal Water to account for these risks in its future water supply planning if it is to minimize the adverse effects on its customers. The sole focus of this effort was to assess the potential climate change impacts on Cal Water's supplies. That is an important first step in integrating climate change into supply planning, but this study was not designed to:

- Analyze the impacts of these future supply limitations on Cal Water's ability to serve future customer demands. This is a function of such factors as water rights and contractual arrangements, how future demands are forecast to grow, how water conservation programming will affect those demands, and how Cal Water might modify the manner in which it operates its system.

- Develop mitigation plan to evaluate how potential supply and infrastructure investments and/or acquisition of new supplies might address any adverse impacts on water supply reliability.

- Formally assess alternative approaches to incorporating climate change in Cal Water's supply planning.

Possible next steps for Cal Water include:

- Methodological enhancements to reduce some of the uncertainties in the results reported herein;

- Development and acquisition of better and more complete data;

- Extending this study to other Cal Water districts;

- Developing a plan to mitigate anticipated climate change impacts on supply; and

- Integrating climate change into the Company's ongoing water supply planning.

Despite the study's limitations and uncertainties, three critical messages emerge:

- Cal Water supplies in the 21st century are likely to be adversely affected by climate change.

- These impacts will vary considerably across districts, depending on geography and source mix. For some districts, the impacts can be significant; for others, little or no impacts are projected.

- The impacts will generally increase over time. Anticipated late-century impacts are forecast to be significantly higher in some districts than impacts at mid-century. Moreover, during the period that climate change is forecast to increasingly constrain supplies, demands are also generally forecast to increase, further exacerbating the adverse impacts on water supply reliability.

Appendix I: Water Shortage Contingency Plan

Water Shortage Contingency Plan 2020 Update

Salinas District

June 2021

Chapter 1
Introduction

☑ ***CWC § 10640***

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

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

☑ ***CWC § 10632.3***

It is the intent of the Legislature that, upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the board defer to implementation of locally adopted water shortage contingency plans to the extent practicable.

This document describes the water shortage contingency plan (WSCP) for the Salinas District (also referred to herein as the "District"). The WSCP includes the stages of response to a water shortage caused by drought or by supply interruptions caused by infrastructure failure, regulatory mandate, or catastrophic human-caused or natural events. The primary objective of the WSCP is to ensure that the District has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions.

Specifically, this Plan includes the following chapters:

Chapter 1 - Introduction

Chapter 2 - Water Supply Reliability Analysis

Chapter 3 - Annual Water Supply and Demand Assessment Procedures

Chapter 4 - Water Shortage Levels

Chapter 5 - Shortage Response Actions

Chapter 6 - Communication Protocols

Chapter 7 - Compliance and Enforcement

Chapter 8 - Legal Authorities

Chapter 9 - Financial Consequences of WSCP

Chapter 10 - Monitoring and Reporting

Chapter 11 - WSCP Refinement Procedures

Chapter 12 - Plan Adoption, Submittal, and Availability

Chapter 2
Water Supply Reliability Analysis

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

As described in Chapter 6 of the District Urban Water Management Plan (UWMP), the sole water supply for the District is groundwater pumped from five underlying groundwater basins: 180/400-Foot Aquifer Subbasin [DWR No. 3-004.01], Eastside Aquifer Subbasin [DWR No. 3-004.02], Langley Area Subbasin [DWR No. 3-004.09], Monterey Subbasin [DWR No. 3-004.10], and Pajaro Valley Subbasin [DWR No. 3-002.01]. None of the subbasins underlying the Salinas District are adjudicated. In its recent evaluation of California groundwater basins, DWR determined that the 180/400-Foot Aquifer Subbasin and the Pajaro Valley Subbasin are both in a condition of critical overdraft.[1] Pursuant to the Sustainable Groundwater Management Act (SGMA) all of the subbasins underlying the District, except for the Monterey Subbasin, are designated as high priority basins under DWR's 2019 Phase 2 Basin Prioritization.[2] The Monterey Subbasin is designated as a medium priority basin.

Chapter 7 of the District UWMP, supported by Appendix G, demonstrates that the groundwater supplies available to the District are considered highly reliable in extended drought conditions, and are expected to continue to be sufficient to meet projected District demands in all hydrologic conditions evaluated, including an extended five-year drought period, for all PWSs through 2035. Beginning in 2040, small potential shortages are possible for the combined Salinas PWS and Country Meadows Mutual PWS. Although drought-related water shortage conditions are expected to be minimal, this WSCP addresses potential water shortage conditions resulting from any cause (e.g., droughts, impacted distribution system infrastructure, regulatory-imposed shortage restrictions, catastrophic events, etc.).

Under SGMA, Groundwater Sustainability Agencies (GSAs) have the authority to implement projects and management actions that help the basins reach their sustainability goals, including setting allocations for groundwater pumping, prohibiting development of new groundwater wells, or implementing fees for pumping volumes. Groundwater Sustainability Plans (GSPs) have been completed for two of the basins underlying the District, and the GSP development processes for the remaining three underlying basins are still underway. Cal Water is an active participant in the underlying subbasins' GSP development and implementation processes and will be able to support appropriate management actions to address any Undesirable Results

[1] DWR, 2019. Sustainable Groundwater Management Act 2018 Basin Prioritization, State of California, dated January 2019.
[2] Ibid.

should they arise in the future. Furthermore, Cal Water will consider these actions as a part of its future supply planning efforts, and if necessary, implement its WSCP in the short-term (Appendix G).

Chapter 3
Annual Water Supply and Demand Assessment Procedures

☑ ***CWC § 10632 (a) (2)***

The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

☑ ***CWC § 10632.1***

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

☑ ***CWC § 10632.2***

An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision (a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.

On an annual basis, the District will conduct a Supply-Demand Assessment (SDA) to identify whether there is likely to be a water shortage condition in the coming year. This assessment will assume that the following year will experience a shortfall of 20%, corresponding to Water Shortage Level 3. Each element of the annual SDA is described below.

1. Evaluation Criteria

   The evaluation criteria that will be used to identify whether the District is likely to experience a water shortage in the coming year include:

   a. **Supply Well Operational Constraints -** A comparison of groundwater level elevations to well operational depths to identify the need to (1) lower pump depths, (2) deepen existing wells, or (3) site and drill additional supply wells.

   b. **Treatment and Distribution System Constraints -** An assessment of the probabilities of facility and infrastructure outages and the degree to which they could limit Cal Water's ability to access, convey, or treat adequate supplies, including any planned maintenance or capital improvements over the next year that could affect its ability to provide sufficient supply to meet demands.

   c. **Local Regulatory Conditions -** Evaluation of (1) any new GSA policies (e.g., pumping allocations) or sustainability criteria that could trigger a change in groundwater volume available for pumping, and (2) any new limitations on well permitting that could limit the ability to deepen existing supply wells or drill new supply wells.

   d. **State Regulatory Conditions -** Evaluation of any state-mandated drought or water use restrictions.

   These criteria will be assessed by Cal Water staff, including District staff with detailed knowledge of District operations, well conditions, and local GSA activities. The data used to support these assessments may include, but is not limited to, supply capacity, supply and pump capacity, firm capacities, tank storage capacity, groundwater level measurements, system demand, and zone demand.

2. Water Supply

   The District obtains its supplies from five subbasins, as described in Chapter 6 of the District UWMP. The groundwater basins are not adjudicated and there are currently no GSA-mandated pumping limitations. As described above, the groundwater supply for the Salinas District is expected to be able to serve demands in all year types through 2040, with the exception of small shortfalls in certain District PWSs. The other identified potential constraints on water supply are the operational limitations and potential local regulatory conditions identified as evaluation criteria above.

3. Unconstrained Customer Demand

   The demand forecast described in Chapter 4 of the District UWMP yields the anticipated unconstrained water demand, i.e. the expected water use in the absence of shortage-caused reductions in water use. During a drought cycle, unconstrained demand typically increases due to higher than normal air temperatures and lower than normal precipitation. The supply reliability analysis and Drought Risk Assessment presented in Chapter 7 of the District UWMP accounts for this anticipated shift in unconstrained water demand, and as discussed above, even with these increases in demand the available groundwater supply is expected to be sufficient to meet these demands through 2035, but may experience shortage conditions in a portion of the District in dry years beginning in 2040.

   The model underlying the demand forecast described in Chapter 4 of the District UWMP has an annual time step. Cal Water has begun developing a short-term demand model with a monthly time step that will be more appropriate for the annual supply-demand assessments.

4. Planned Water Use for Current Year Considering Dry Subsequent Year

   Cal Water will evaluate the anticipated supplies for the current year, assuming that the following year will be dry, as defined above, using the Evaluation Criteria identified above. Barring changes in supply availability per the Evaluation Criteria, the assumed dry subsequent year is not expected to affect the manner in which Cal Water will draw water from the basin in the current year, and the planned water use for the current year will equal the unconstrained demand.

5. Infrastructure Considerations

   As part of its triennial General Rate Case applications to the California Public Utilities Commission (CPUC), Cal Water prepares a Supply-Demand Analysis (CPUC SD Analysis) for each of its Districts. The CPUC SD Analysis is an inventory of water production and pump assets that provide direct and indirect sources of supply to meet customer demands in accordance with CPUC General Order 103-A and California Code of Regulations (CCR) Title 22 Waterworks Standards. This CPUC SD Analysis is based on a combination of regulatory requirements, professional consultant recommendations, and industry standard practices, including those from the American Water Works Association (AWWA) and American Society of Civil Engineers (ASCE). It identifies specific vulnerabilities in different pressure zones within the system and evaluates the system against performance criteria that meet regulatory requirements and ensure operationally adequate levels of service.

Cal Water plans to extend the District CPUC SD Analysis to perform this analysis on an annual basis. This analysis will guide Cal Water's annual evaluation of operational treatment/distribution constraints that could potentially limit the availability of supplies. This evaluation of supply well operational constraints and treatment and distribution constraints will be completed by March 31 of each year and will assess potential impacts on supply availability. If such constraints are identified, Cal Water will develop a plan to address these constraints, mitigate potential effects, and implement the appropriate water shortage stage of action per Chapter 5, below.

6. Other Factors

As identified under the Evaluation Criteria above, local regulatory conditions could potentially limit the availability of supplies. Therefore, Cal Water will evaluate the development of new regulatory constraints by March 31 of each year and assess their potential impacts on supply availability. If such constraints are identified, Cal Water will develop a plan to address these constraints and mitigate potential effects and implement the appropriate water shortage stage of action per Chapter 5 below.

Consistent with California Water Code (CWC) § 10632.1, Cal Water will perform and submit an SDA to DWR by July 1st of each year beginning in 2022.

Chapter 4
Water Shortage Levels

☑ ***CWC § 10632 (a) (3)***

(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

Consistent with the requirements of CWC § 10632(a)(3), this WSCP is based on the six water shortage levels (also referred to as "stages") shown in Table 4-1. These shortage stages are intended to address shortage caused by any condition, including the catastrophic interruption of water supplies.

Table 4-1. Water Shortage Contingency Plan Levels (DWR Table 8-1)

Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	Demand reduction (See Table 5-1)
2	Up to 20%	Demand reduction (See Table 5-1)
3	Up to 30%	Demand reduction (See Table 5-1)
4	Up to 40%	Demand reduction (See Table 5-1)
5	Up to 50%	Demand reduction (See Table 5-1)
6	>50%	Demand reduction (See Table 5-1)
NOTES:		

Shortage response actions for each of these stages are identified and discussed in Chapter 5.

Chapter 5
Shortage Response Actions

☑ ***CWC § 10632 (a) (4)***

Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

☑ ***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 chapter describes the response actions Cal Water will take to deal with the shortages associated with each of the six stages enumerated in Chapter 4. As discussed above, the existing groundwater supply of the District is expected to be able to serve 100% of future demands under all conditions of precipitation and hydrology. However, inasmuch as Cal Water may have to implement shortage response actions to comply with state mandates, local regulatory changes, or respond to catastrophic events, it is important to carefully identify and describe the anticipated necessary actions.

5.1 Demand Reduction

The combinations of demand-reduction actions required to resolve the shortages associated with each of the six drought stages are based on Cal Water's experiences in dealing with past drought-related shortages and also include other actions deemed appropriate to achieve the required demand reductions. In order to evaluate and ensure that the right actions would be implemented with the proper level of intensity, Cal Water employed the Drought Response Tool (DRT), an Excel spreadsheet model developed by EKI Environment and Water, Inc.

The DRT provides a quantitative framework that allows Cal Water to systematically estimate the monthly and cumulative annual demand reductions expected to result from particular combinations of drought response actions and associated implementation rates. Data inputs to the DRT include total production, 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 those end use(s) for each account that implements the action. These are based on evaluations reported in the literature, or where such studies are not available, on best estimates based on Cal Water experience; and
- The percentage of accounts assumed to implement the action, which is presumed to be the result of the intensity level of Cal Water program implementation, including but not limited to marketing and enforcement activities.

Based on the foregoing inputs, the DRT model calculates the resulting monthly savings. Cal Water adjusted the combination of actions and implementation levels to achieve the targeted savings levels at each of the six shortage stages.

In order to evaluate the robustness of the DRT model, Cal Water modeled the actions implemented during the height of the last drought for a subset of its Districts, and found that the modeled water shortage reductions were generally consistent with the responses observed in its Districts. In short, the DRT is a robust, transparent tool to tie a particular set of shortage-response actions to an expected reduction in demand.

For each of the six water shortage stages, the modeling targeted the mid-range of the required demand reduction range, ergo:

- 5% for Stage 1,
- 15% for Stage 2,
- 25% for Stage 3,
- 35% for Stage 4,
- 45% for Stage 5, and
- 55% for Stage 6.

The key DRT inputs and outputs for each of the six water shortage stages are reproduced in Attachment A.

Table 5-1 shows the water shortage reduction actions, savings assumptions, and implementation rates that are required for the District to achieve the targeted annual demand reductions for each of the six shortage stages. At each stage, there are two types of demand-reduction actions identified:

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

The total demand reductions are governed by is a set of user-specified constraints to ensure that usage levels do not endanger health and safety or result in unacceptable economic impacts. The DRT will not permit estimated usage reductions to violate these constraints, regardless of the demand reduction actions selected. For most Cal Water districts, including Salinas, the following default constraints are used:

- A minimum residential indoor per capita daily usage of 25 gallons,
- A maximum residential outdoor usage reduction of 100%,
- A maximum Commercial, industrial, and institutional (CII) indoor usage reduction of 30%, and
- A maximum CII outdoor usage reduction of 100%.

Many actions are implemented across a number of 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 shown under each stage column heading at the right. The unit savings represent a percentage savings of the end uses indicated in the table.

Because of the DRT logic described above, the format of Table 5-1 differs from that of the default DWR table.

Table 5-1. Demand Reduction Actions to Achieve Required Savings (DWR Table 8-2)

Water Shortage Response Action	End Use(s)	End Use Savings	IMPLEMENTATION RATES BY STAGE						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Stage 1: Minimal Shortage									
Restrictions									
Landscape - Limit landscape irrigation to specific times	Irrigation	**10%**	75%	N/A	N/A	N/A	N/A	N/A	Yes
Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Leaks	**100%**	15%	30%	35%	50%	50%	50%	Yes
Landscape - Restrict or prohibit runoff from landscape irrigation	Irrigation	**3%**	15%	40%	50%	75%	75%	75%	Yes
Landscape - Prohibit application of potable water to outdoor landscapes within 48 hours of measurable rainfall	Irrigation	**20%**	15%	40%	50%	50%	100%	N/A	Yes
Other - Prohibit use of potable water for washing hard surfaces	Misc. Outdoor	**17%**	15%	40%	50%	75%	75%	75%	Yes
Other - Require shut-off nozzles on hoses for vehicle washing with potable water	Misc. Outdoor	**17%**	50%	50%	50%	75%	75%	75%	
CII - Lodging establishments must offer opt out of linen service	Fixtures & Appliances	**1%**	50%	75%	75%	75%	75%	75%	Yes
CII - Restaurants may only serve water upon request	Fixtures & Appliances	**1%**	75%	75%	75%	75%	75%	75%	Yes

Water Shortage Response Action	End Use(s)	End Use Savings	IMPLEMENTATION RATES BY STAGE						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
No watering of landscape of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission, the Department of Housing and Community Development, or other state agency	Irrigation	**50%**	0.90%	0.90%	0.90%	0.90%	0.90%	N/A	Yes
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	**50%**	50%	50%	50%	50%	75%	75%	Yes
Consumption Reduction									
Expand Public Information/Media Campaign	All	**0.5%**	50%	50%	50%	50%	75%	75%	No
Water Bill Inserts	All	**1%**	100%	100%	100%	100%	100%	100%	No
Promote online water waste reporting	All	**10%**	0.1%	0.2%	0.2%	0.3%	0.5%	0.5%	No
Expand Rebates or Giveaways of Plumbing Fixtures and Devices	All	**10%**	1%	1%	2%	3%	5%	5%	No
Expand Rebates for Landscape Irrigation Efficiency	All	**10%**	1%	1%	2%	3%	5%	5%	No
Expand CII Water Use Surveys	All CII uses	**5%**	1%	1%	1%	2%	2%	4%	No
Expand Res Water Use Surveys	All Residential Uses	**5%**	1%	1%	1%	2%	2%	4%	No
Stage 2: Moderate Shortage									
Restrictions									

Water Shortage Response Action	End Use(s)	End Use Savings	IMPLEMENTATION RATES BY STAGE						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Landscape - Limit landscape irrigation to 1-3 days/week	Irrigation	**15%-79%** [1]		25%	25%	25%	75%	N/A	Yes
Prohibit the use of non-recirculating systems in all new conveyer car wash and commercial laundry systems	Fixtures & Appliances	**50%**		0%	0%	0%	0%	0%	Yes
Prohibit the use of single pass cooling systems in new connections	Cooling	**50%**		0%	0%	0%	20%	20%	Yes
Consumption Reduction									
Water Efficiency Workshops, Public Events	All Residential Uses	**5%**		25%	25%	50%	50%	75%	No
Offer Water Use Surveys	All	**1%**		1%	1%	2%	2%	4%	No
Provide Rebates or Giveaways of Plumbing Fixtures and Devices	All	**10%**		1%	2%	3%	5%	5%	No
Provide Rebates for Landscape Irrigation Efficiency	All	**10%**		1%	2%	3%	5%	5%	No
Stage 3: Severe Shortage									
Restrictions									
Other - Prohibit use of potable water for construction and dust control	Misc. Outdoor	**100%**			1%	1%	1%	1%	Yes
Prohibit use of potable water for street washing	Misc. Outdoor	**100%**			1%	1%	1%	1%	Yes

Water Shortage Response Action	End Use(s)	End Use Savings	IMPLEMENTATION RATES BY STAGE						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Landscape - Prohibit irrigation of ornamental turf on public street medians with potable water	Irrigation	**100%**			20%	20%	25%	N/A	Yes
Prohibit Filling Ornamental Lakes or Ponds	Misc. Outdoor	**100%**			1%	1%	1%	1%	Yes
Consumption Reduction									
Home or Mobile Water Use Reports	All	**5%**			15%	50%	50%	50%	No
Decrease Frequency and Length of Line Flushing	Non Revenue Water	**25%**			50%	50%	50%	50%	No
Reduce System Water Loss	Non Revenue Water	**100%**			10%	10%	10%	20%	No
Increase Water Waste Patrols/Enforcement	All	**10%**			1%	2%	4%	5%	No
Implement Drought Rate Structure and Customer Water Budgets (Res)	All Residential Uses	**30%-60%** [2]			40%	25%	30%	50%	Yes
Implement Drought Rate Structure and Customer Water Budgets (CII)	All CII uses	**10%-30%** [3]			40%	25%	30%	50%	Yes
Stage 4: Critical Shortage									
Water Use Restrictions									
Prohibit vehicle washing except with recirculated water or low-volume systems	Misc. Outdoor	**10%**				50%	50%	50%	Yes
Prohibit use of water for recreational purposes such as water parks and the filling of pools	Misc. Outdoor	**100%**				1%	1%	1%	Yes
Consumption Reduction Actions									
Promote / Expand Use of Recycled Water	Irrigation	**100%**				0%	0%	0%	No

Water Shortage Response Action	End Use(s)	End Use Savings	IMPLEMENTATION RATES BY STAGE						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Stage 5: Emergency Shortage									
Water Use Restrictions									
Require net zero demand Increase on new water service connections	All	**100%**					0.49%	0.49%	Yes
Prohibit single-pass cooling systems	Cooling	**50%**					20%	20%	Yes
Consumption Reduction Actions									
Require Pool Covers	Misc. Outdoor	**28%**					10%	10%	Yes
Stage 6: Extreme Shortage									
Water Use Restrictions									
Moratorium on new water service connections	All	**100%**						0.49%	Yes
Landscape - Prohibit all landscape irrigation	Irrigation	**100%**						75%	Yes
		Cumulative Annual Savings	**8%**	**13%**	**23%**	**32%**	**47%**	**55%**	

NOTES:
1. Watering restricted to no more than 3 days/wk in Stage 2 and Stage 3; no more than 2 days/wk in Stage 4; no more than 1 day/wk in Stage 5.
2. Residential water budgets of up to 30% for Stage 3, up to 40% for Stage 4; 50% for Stage 5, up to 60% for Stage 6.
3. CII water budgets of up to 10% for Stage 3, up to 20% for Stage 4, up to 30% for Stages 5 and 6.

5.2 Supply Augmentation

As indicated in Table 5-2, Cal Water has not identified any supply augmentation actions to assist in resolving future District water shortages. As identified above in Chapter 3, Cal Water may consider deepening or drilling new wells if necessary due to declining groundwater levels. However, Cal Water considers these actions to be operational changes (described in Section 5.3), rather than accessing a new supply source.

Table 5-2. Supply Augmentation and Other Actions (DWR Table 8-3)

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)*
NOTES:			

5.3 Operational Changes

As discussed above in Chapter 3, the primary operational change that Cal Water will consider in the District is extracting groundwater from a lower elevation, utilizing the deeper wells that are drilled following identification of this need as part of the annual SDA. As identified in Table 5-1, the District will also decrease the frequency and length of line flushing under Stage 3 and beyond. The District will also evaluate the potential benefits of altering other maintenance cycles and expediting infrastructure repairs to improve system efficiency, to the extent feasible.

In addition, Cal Water is actively participating in the GSP development process, and will make whatever operational changes are necessary to conform to the results of that process.

5.4 Mandatory Restrictions

The water shortage response actions included in Table 5-1 include a variety of mandatory customer water use restrictions that will be necessary to achieve the targeted demand reductions for the different shortage stages. The types of restrictions and the manner and degree of enforcement for these restrictions vary by stage, and are discussed in Chapter 7.

5.5 Emergency Response Plan

Cal Water has an Emergency Response Plan (ERP) in place that coordinates the overall response to a disaster.

The ERP addresses the Company's responsibilities in emergencies associated with natural disaster, human-caused emergencies, and technological incidents. It provides a framework for coordination of response and recovery efforts within the Company in cooperation with local, State, and Federal agencies, as well as other public and private organizations. The ERP establishes an emergency organization to direct and control operations during a period of emergency by assigning responsibilities to specific personnel.

The ERP does the following:

- It conforms to the State mandated Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS), and it effectively structures emergency response at all levels in compliance with the Incident Command System (ICS).
- It establishes response policies and procedures, while providing the Company clear guidance related to emergency planning.
- It describes and details procedural steps necessary to protect lives and property.
- It outlines coordination requirements.
- It provides a basis for unified training and response exercises to ensure compliance.

The Salinas District has installed backup power generators at some of its well sites, booster sites, and pump storage sites that can be operated in the event of a system wide power outage. A complete loss of power has never been experienced, but the generators have been used in the past to overcome localized outages.

The Salinas PWS has an intertie with Alco Water. The other PWSs within the Salinas District do not have any emergency interties.

5.6 Seismic Risk Assessment and Mitigation Plan

☑ ***CWC § 10632.5***

(a) In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

Cal Water's ERP includes information on various hazards and a related fault map overlying the District. The Monterey County Multi-Jurisdictional Local Hazard Mitigation Plan, which includes additional discussion of area earthquake risk and mitigation, can be found at: https://www.co.monterey.ca.us/government/departments-a-h/administrative-office/office-of-emergency-services/hazard-mitigation.

5.7 Shortage Response Action Effectiveness

Table 5-1 above shows the effectiveness of the specific demand-reduction actions and implementation levels necessary for the District to achieve the targeted savings for each water shortage stage. The bottom row indicates the total annual cumulative savings expected to be reached at each water shortage stage level. Additional details, including anticipated savings on a month-by-month basis are provided in the DRT model inputs and outputs included in Attachment A.

Chapter 6
Communication Protocols

☑ ***CWC § 10632 (a) (5)***

Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

(C) Any other relevant communications.

Cal Water intends to escalate communication to customers and stakeholders, as needed, throughout any water shortage situation to help ensure they are aware of current conditions, any water use restrictions that are in effect, and the many ways Cal Water can help them reduce their water use. Cal Water's outreach efforts include multiple channels, including bill messages, bill inserts, direct mail, email, letters, social media, print, radio, music streaming services, TV, over-the-top media, movie theatre advertising, and group presentations.

These efforts will expand on current Cal Water outreach efforts and will be customized to the needs at the time of the shortage to ensure a proper channel mix so that the maximum audience is reached as efficiently as possible.

Chapter 7
Compliance and Enforcement

☑ ***CWC § 10632 (a) (6)*** *For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.*

7.1 Water Use Restrictions

In accordance with Rule 14.1, Cal Water is currently authorized to take the following actions to enforce the water use restrictions:

First Violation: Cal Water shall provide the customer with a written notice of violation.

Second Violation: If Cal Water verifies that the customer has used potable water for non- essential, wasteful uses after having been notified of the first violation, Cal Water shall provide the customer with a second written notice of violation and is authorized to install a flow-restricting device on the customer's service line.

Cal Water has submitted to the California Public Utilities Commission (CPUC) an update to Rule 14.1 and Schedule 14.1, for approval, to align with the restrictions identified in this WSCP. Rule14.1 and Schedule 14.1 are discussed in more detail in Chapter 8. The current versions of Rule 14.1 and Schedule 14.1 can be found on the Cal Water website.

7.2 Non-Essential, Wasteful Uses

In the event that more stringent measures are needed, implementation of Schedule 14.1 would be requested from the CPUC. If implemented, Cal Water is currently authorized to take the following actions when its personnel verify a customer is using potable water for non-essential, wasteful uses.

First Violation: Cal Water shall provide the customer with a written notice of violation. In addition, Cal Water is authorized to take the following actions:

A. If the customer currently receives service through a metered connection, install a real- time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and ongoing operating costs, may be billed to the customer, and nonpayment may result in discontinuance of service.

B. If the customer does not currently receive service through a metered connection, install a water meter on the customer's service line, charge the customer for water use pursuant to Cal Water's metered service tariffs and rules, and install a real-time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and ongoing operating costs, may be billed to the customer, and nonpayment may result in discontinuance of service.

Second Violation: If Cal Water verifies that the customer has used potable water for non- essential, wasteful uses after having been notified of the first violation, Cal Water shall provide the customer with a second written notice of violation. In addition to the actions prescribed under the first violation above, Cal Water is authorized to take the following actions:

A. Apply the following waste of water penalties, which are in addition to any other charges authorized by this Schedule or other Cal Water tariffs.
   i. If Stage 1 is in effect, $25
   ii. If Stage 2 is in effect, $50
   iii. If Stage 3 is in effect, $100
   iv. If Stage 4 is in effect, $200
B. At its sole discretion, waive the waste of water penalty if the customer participates in a water use evaluation provided by Cal Water and/or provides documentation to Cal Water proving that a drip irrigation system, micro spray irrigation system, high-efficiency sprinkler system, or properly programmed smart irrigation controller has been installed, after a notice of violation was delivered, and is in use at the customer's service address.

Third Violation: If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the second violation, Cal Water shall provide the first and second violations above, Cal Water is authorized to take the following actions:

A. Apply the following waste of water penalties, which are in addition to any other charges authorized by this Schedule or other Cal Water tariffs.
   i. If Stage 1 is in effect, $50
   ii. If Stage 2 is in effect, $100
   iii. If Stage 3 is in effect, $200
   iv. If Stage 4 is in effect, $400

B. At its sole discretion, waive the waste of water surcharge if the customer participates in a water use evaluation provided by Cal Water and/or provides documentation to Cal Water proving that a drip irrigation system, micro spray irrigation system, high- efficiency sprinkler system, or properly programmed smart irrigation controller has been installed, after notice of violations have been delivered, and is in use at the customer's service address.

Fourth Violation: If Cal Water verifies that the customer has used potable water for non- essential, wasteful uses after having been notified of the third violation, Cal Water shall provide the customer with a fourth written notice of violation. In addition to actions set forth in previous violations prescribed above, Cal Water is authorized to install a flow- restricting device on the customer's service line.

Egregious Violations: Notwithstanding the foregoing framework for penalties, customers who Cal Water has verified are egregiously using potable water for non-essential, wasteful uses are subject to having a flow- restricting device installed on their service line. After providing the customer with one notice of egregious violation, either by direct mail or door hanger, which documents the egregious use of potable water for non-essential, wasteful uses and explains that failure to correct the violation may result in the installation of a flow-restricting device on the customer's service line, Cal Water is authorized to install a flow-restricting device on the customer's service line.

Cal Water plans to submit to the CPUC an update to Schedule 14.1 to align with this WSCP including, but not limited to, consistency with the new six stage shortage level structure.

7.3 Drought Surcharges

Water budgets and associated drought surcharges are included as actions in Table 5-1. Cal Water will implement such actions through the implementation of Schedule 14.1.

Chapter 8
Legal Authorities

☑ ***CWC § 10632 (a) (7)***

(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

Cal Water is an investor-owned water utility that is regulated by the CPUC. As such, it does not have the authority to adopt resolutions or ordinances. Rule 14.1, as filed with the CPUC, serves as Cal Water's restrictions on non-essential, wasteful uses of potable water. In the event that more stringent measures are required, Cal Water may request the addition of Schedule 14.1 which serves as Cal Water's WSCP and includes staged mandatory reductions and drought surcharges. Cal Water shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency as defined in Section 8558 of the Government Code and to ensure consistency with local resolutions and ordinances.

On April 1, 2016, Cal Water filed its current Schedule 14.1 with the CPUC.[3] The Schedule lays out the staged mandatory reductions and drought surcharges associated with Cal Water's WSCP. This filing is consistent with Resolution W-5034, adopted by the Commission on April 9, 2015, ordering compliance with requirements of the State Water Resources Control Board (SWRCB).

Schedule 14.1 is an extension of Rule 14.1. The compliance and enforcement information presented in Chapter 7 is based on the current versions of both Rule 14.1 and Schedule 14.1, which are based, in part, on the specific SWRCB requirements associated with the Governor's Executive Order B-29-15, which required statewide cutbacks to address the unprecedented 2011-2017 drought, as well as the additional information required pursuant to the CWC.

Cal Water has submitted an update to Rule 14.1 and Schedule 14.1 to the CPUC, for approval, to align with this WSCP.

[3] For reference, the current versions of Rule 14.1 and Schedule 14.1 are included as Attachment B.

In the event of a determination of a water shortage Cal Water shall declare a water shortage emergency in accordance with the Water Code Chapter 3 (commencing with Section 350) of Division 1 and implement the Water Shortage Contingency Plan at the appropriate Stage.

Chapter 9
Financial Consequences of WSCP

☑ ***CWC § 10632 (a) (8)***

A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

In 2008, the CPUC approved the creation of a Water Revenue Adjustment Mechanism (WRAM) and Modified Cost Balancing Accounts (MCBA). The goals of the WRAM and MCBA are to sever the relationship between sales and revenue to remove the disincentive to reduce water use. The WRAM and MCBA are designed to be revenue neutral in order to ensure that both the utility and ratepayers are neither harmed nor benefitted.

In 2020, the CPUC ordered that regulated water utilities may not include the continuation of the WRAM and MCBA in their next general rate case filing but may propose the use of a Monterey-Style Revenue Adjustment Mechanism and Incremental Cost Balancing Account. As such, the WRAM and MCBA will no longer be in place for Cal Water beginning in 2023.

During a water shortage, Cal Water will file for a Drought Memorandum Account, or similar, to track incremental shortage-related expenses to be reviewed by the CPUC for future recovery in rates. Cal Water will also file for a Drought Lost Revenue Memorandum Account, or similar, to track reduced sales to be reviewed by the CPUC for future recovery in rates.

Both the Drought Memorandum Account and Drought Lost Revenue Memorandum Account are mechanisms that have been approved by the CPUC in previous droughts.

Chapter 10
Monitoring and Reporting

☑ ***CWC § 10632 (a) (9)*** *For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.*

During the period 2014-16, in order to effectively respond to the drought, Cal Water realigned its organizational structure to ensure sufficient resources were available to implement its WSCP. The day-to-day implementation was overseen by the Director of Drought Management & Conservation, with the assistance of the Drought Response Project Manager. The Director of Drought Management & Conservation reported to a team of Cal Water's Officers (Steering Committee), including the President & CEO, the Vice President of Corporate Communications & Community Affairs, the Vice President of Customer Service & Information Technology, the Vice President of Operations, and the Vice President of Continuous Improvement.

Reporting to the Director of Drought Management & Conservation was a team of functional leads, each responsible for managing individual portions of Cal Water's Plan. This team included the Director of Customer Service, the Water Conservation Manager, the Manager of Corporate Communications, the Water Supply Manager, and the Government & Community Relations Manager.

Cal Water would implement a similar structure to effectively manage future water shortages.

This structure includes regular meetings with reporting on items such as:

- Aggregate customer demands,
- Customer compliance with water use restrictions,
- Current and projected water supply conditions,
- Customer outreach activities,
- Customer service inquiries, and

Operations activities (e.g., water flushing activities, leak repairs, etc.).

Chapter 11
WSCP Refinement Procedures

☑ ***CWC § 10632 (a) (10)*** *Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.*

Cal Water's Drought Steering Committee utilizes an adaptive management process to regularly assess and determine adjustments and changes to the implementation of the WSCP. These refinements are implemented by the Director of Drought Management & Conservation (or equivalent) through the team of functional leads.

Chapter 12
Plan Adoption, Submittal, and Availability

☑ ***CWC § 10632 (c)*** *The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.*

The deadline for public comments on the WSCP was May 20, 2021, one week after the public hearing. The final WSCP was formally adopted by Cal Water's Vice President of Customer Service & Chief Citizenship Officer on June 20, 2021. The District UWMP includes a copy of the signed Resolution of Plan Adoption and contains the following:

- Letters sent to and received from various agencies regarding the UWMP and WSCP, and
- Correspondence between Cal Water and participating agencies.

This UWMP and WSCP were submitted to DWR within 30 days of adoption and by the July 1, 2021 deadline. The submittal was done electronically through Water Use Efficiency Data Portal, an online submittal tool. The adopted Plan was also sent to the California State Library and to the cities and counties listed in Table 10-1 of the District UWMP.

On or about April 28, 2021, an electronic version of the draft 2020 UWMP and WSCP was made available for review on Cal Water's website:

https://www.calwater.com/conservation/uwmp.[4]

[4] Restrictions related to the COVID-19 pandemic prevented the District from making a printed hard-copy available for public review.

Attachment A
Key Drought Response Tool Tables and Charts

1 - Home

Salinas

Enter Agency Information	
Agency Name	Salinas
Total Population Served	123,308
Conservation Goal (%)	5%
Drought Stage	Stage 1
Number of Residential Accounts	25,033
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,936
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	90%
Comments	SLN

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

Salinas

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 PROFILE	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

Salinas

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

Anona Dutton, P.G., C.Hg.
adutton@ekiconsult.com
(650) 292-9100

eki environment & water

2 - Input Baseline Year (2020) Water Use

Salinas

Input Baseline Year (2020) 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)	COM-GOV Water Use (mg)	Industrial Water Use (mg)	Non-Revenue Water Use (mg)	Total R-GPCD	Comments
October	526	279	216	48	-17	73	
November	393	268	204	25	-104	73	
December	345	250	203	68	-175	65	
January	318	229	176	35	-122	60	
February	322	211	151	33	-72	61	
March	366	177	102	68	19	46	
April	365	172	94	39	60	47	
May	500	181	104	38	176	47	
June	532	200	99	41	192	54	
July	568	211	112	42	203	55	
August	563	279	166	48	69	73	
September	520	300	188	51	-19	81	

3 - Baseline Year (2020) Water Use Profile

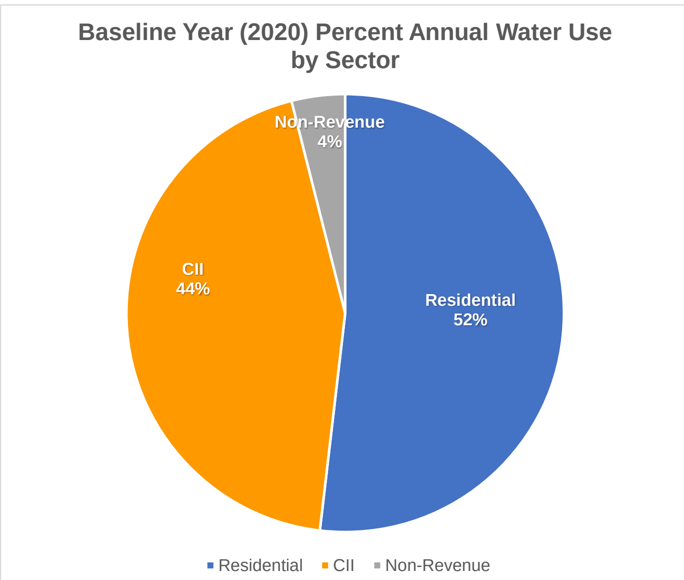
Salinas

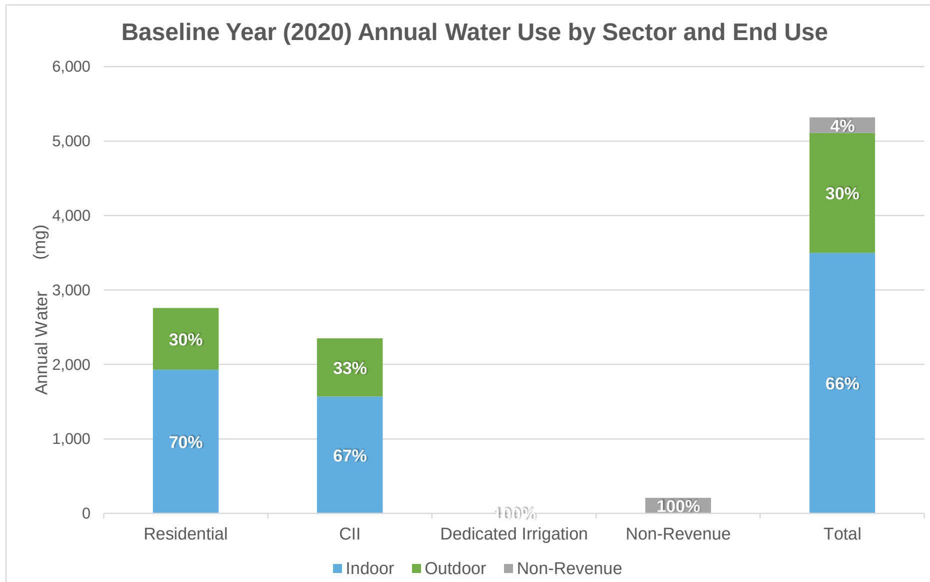
Baseline Year (2020) Annual Water Use Summary

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.

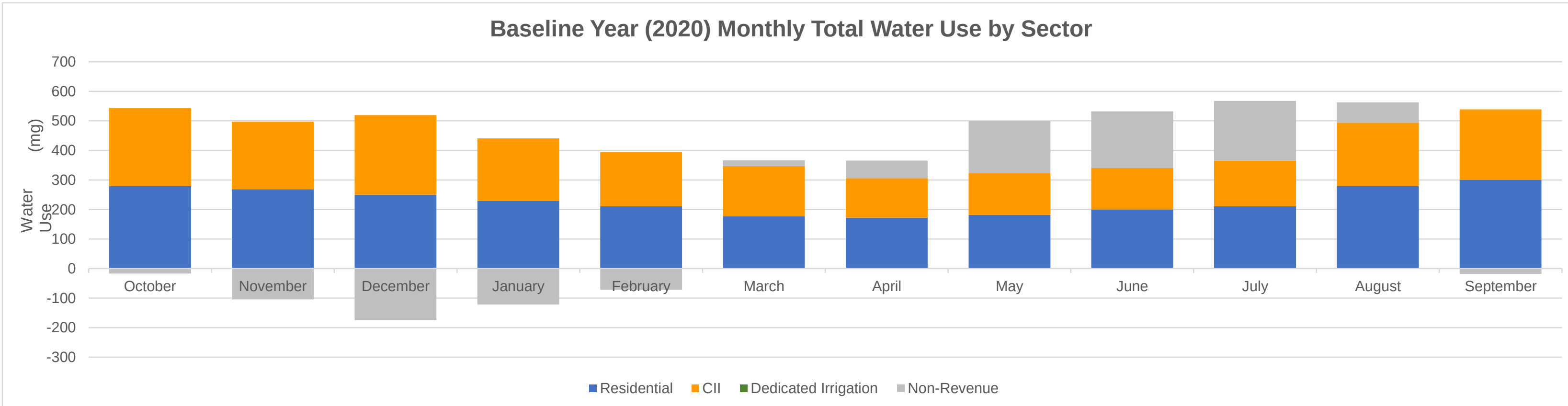
Water Use	Total Production (mg)	Water Use (mg)				Comments
		Residential	CII	Dedicated Irrigation	Non-Revenue	
Total	5,319	2,758	2,351	0	210	
Total Indoor	3,500	1,930	1,569	--	--	
Total Outdoor	1,609	827	781	0	--	
Total Non-Revenue	210	--	--	--	210	
Total Indoor %	66%	70%	67%	0%	--	
Total Outdoor %	30%	30%	33%	100%	--	
Total Non-Revenue %	4%	--	--	--	100%	

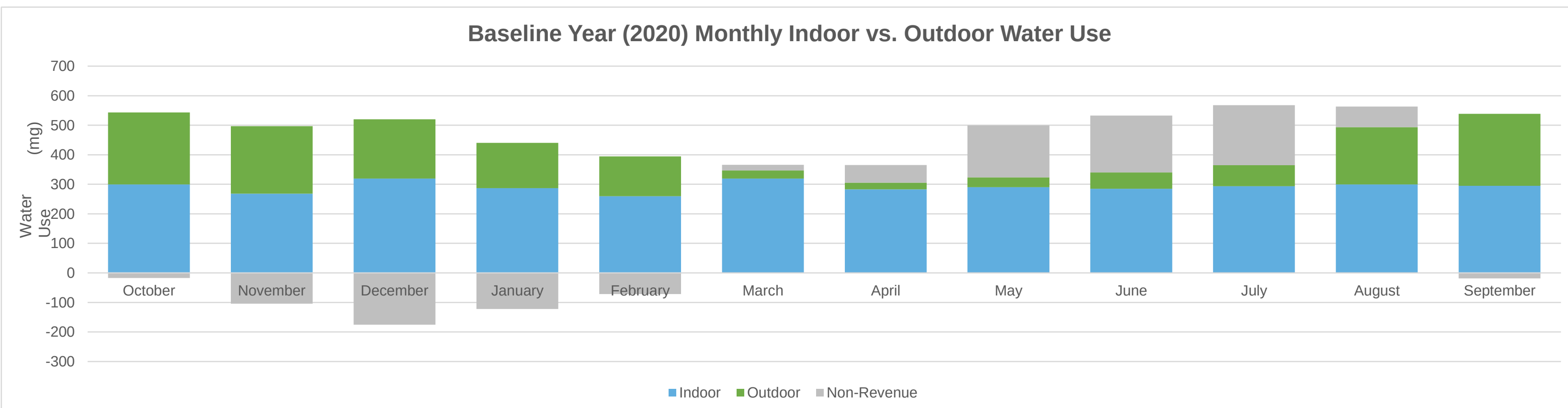




3 - Baseline Year (2020) Water Use Profile

Salinas





5 - Estimated Water Savings - Stage 1

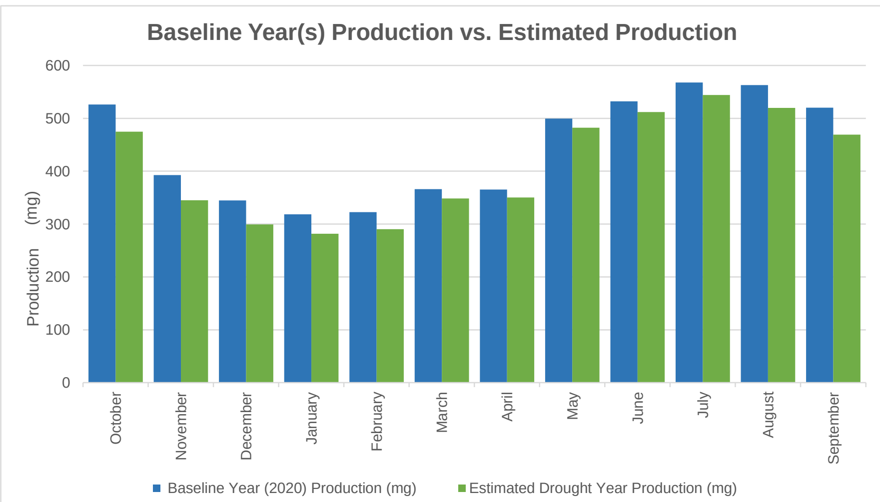
Salinas

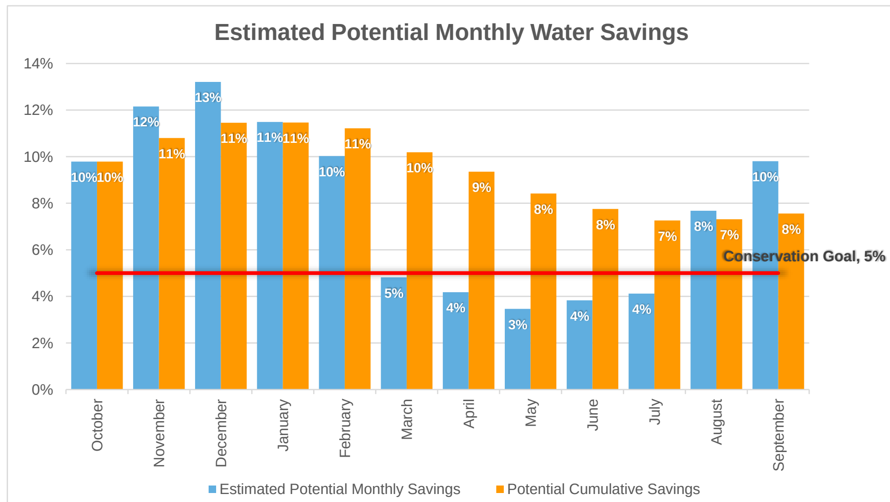
Estimated Monthly Water Use and Savings Summary

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 (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	526	475	10%	10%	5%	
November	393	345	12%	11%	5%	
December	345	299	13%	11%	5%	
January	318	282	11%	11%	5%	
February	322	290	10%	11%	5%	
March	366	348	5%	10%	5%	
April	365	350	4%	9%	5%	
May	500	482	3%	8%	5%	
June	532	512	4%	8%	5%	
July	568	544	4%	7%	5%	
August	563	520	8%	7%	5%	
September	520	469	10%	8%	5%	





1 - Home
Salinas

Enter Agency Information	
Agency Name	Salinas
Total Population Served	123,308
Conservation Goal (%)	15%
Drought Stage	Stage 2
Number of Residential Accounts	25,033
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,936
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	90%
Comments	SLN

5 - Estimated Water Savings - Stage 2

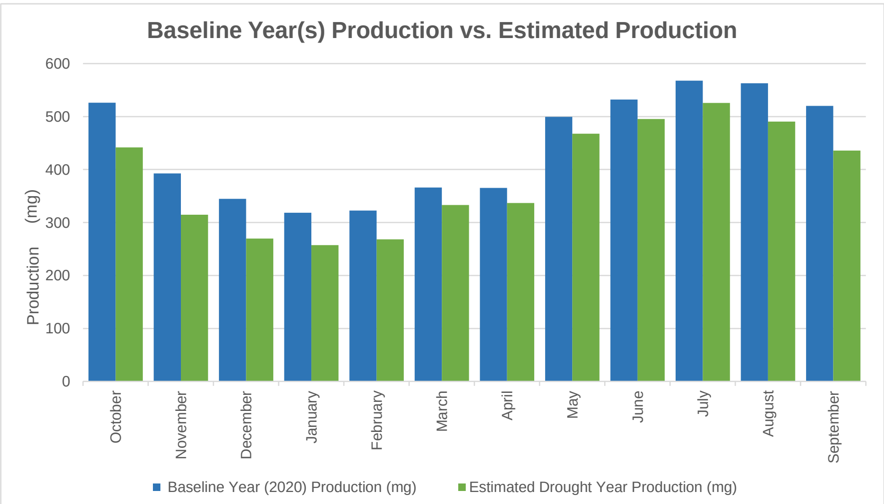
Salinas

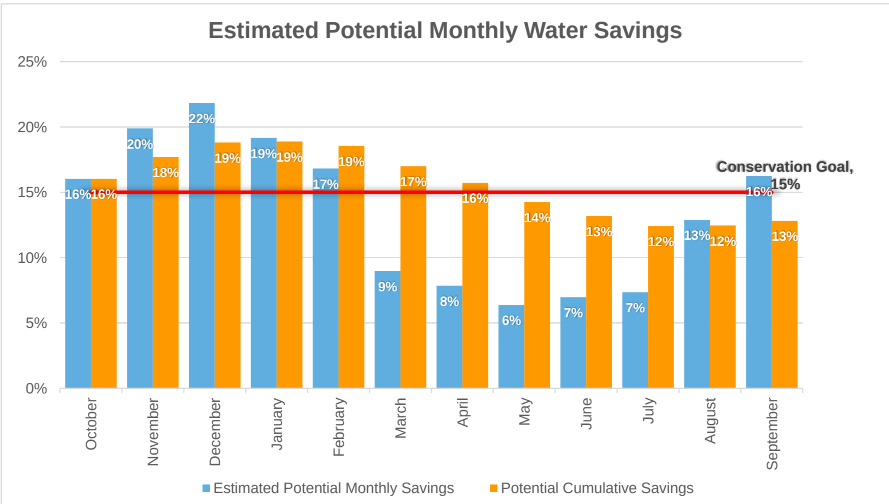
Estimated Monthly Water Use and Savings Summary

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 (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	526	442	16%	16%	15%	
November	393	315	20%	18%	15%	
December	345	270	22%	19%	15%	
January	318	257	19%	19%	15%	
February	322	268	17%	19%	15%	
March	366	333	9%	17%	15%	
April	365	337	8%	16%	15%	
May	500	468	6%	14%	15%	
June	532	495	7%	13%	15%	
July	568	526	7%	12%	15%	
August	563	490	13%	12%	15%	
September	520	436	16%	13%	15%	





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

Salinas

Enter Agency Information	
Agency Name	Salinas
Total Population Served	123,308
Conservation Goal (%)	25%
Drought Stage	Stage 3
Number of Residential Accounts	25,033
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,936
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	90%
Comments	SLN

Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

5 - Estimated Water Savings - Stage 3

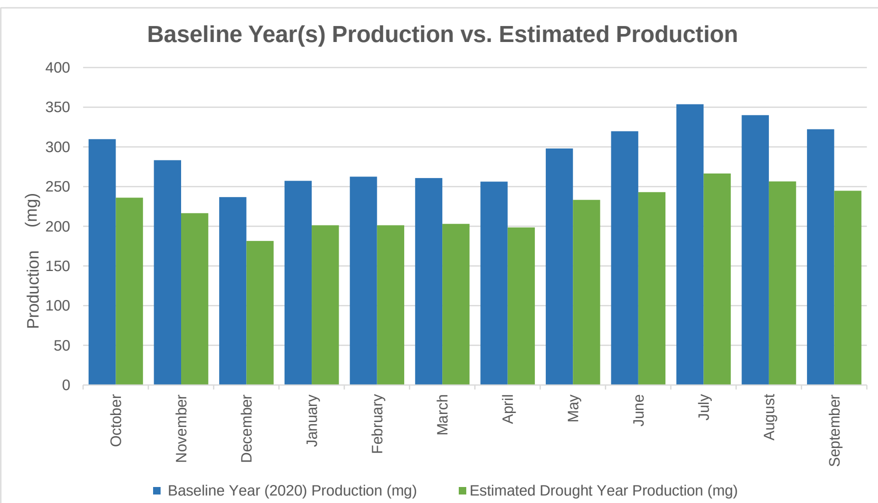
Salinas

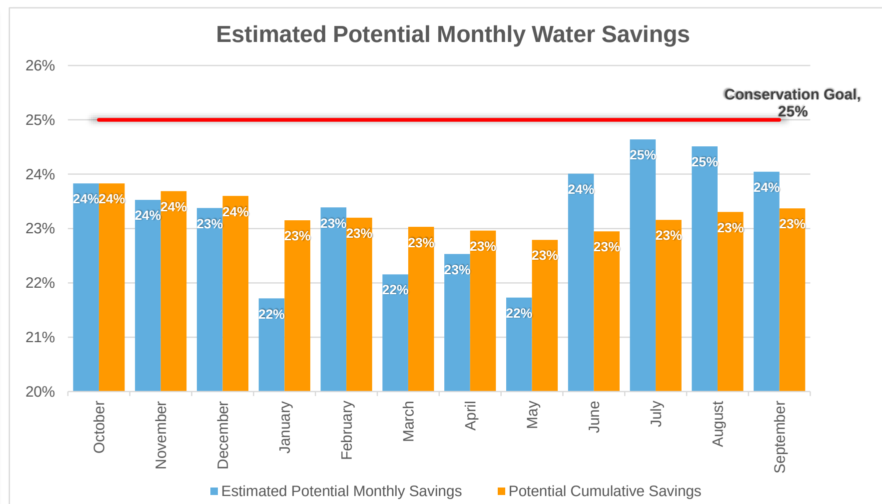
Estimated Monthly Water Use and Savings Summary

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 (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	310	236	24%	24%	25%	
November	283	217	24%	24%	25%	
December	237	181	23%	24%	25%	
January	257	201	22%	23%	25%	
February	263	201	23%	23%	25%	
March	261	203	22%	23%	25%	
April	256	198	23%	23%	25%	
May	298	233	22%	23%	25%	
June	320	243	24%	23%	25%	
July	354	267	25%	23%	25%	
August	340	257	25%	23%	25%	
September	322	245	24%	23%	25%	





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

Salinas

Enter Agency Information	
Agency Name	Salinas
Total Population Served	123,308
Conservation Goal (%)	35%
Drought Stage	Stage 4
Number of Residential Accounts	25,033
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,936
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	90%
Comments	SLN

5 - Estimated Water Savings - Stage 4

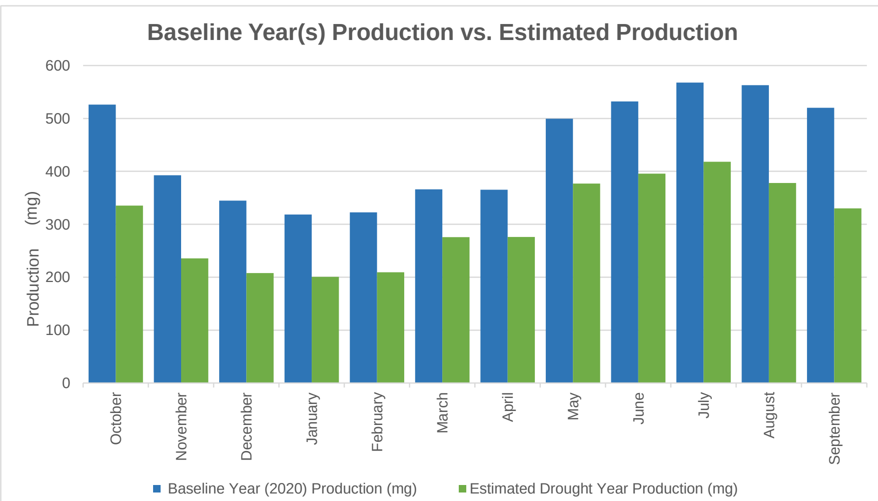
Salinas

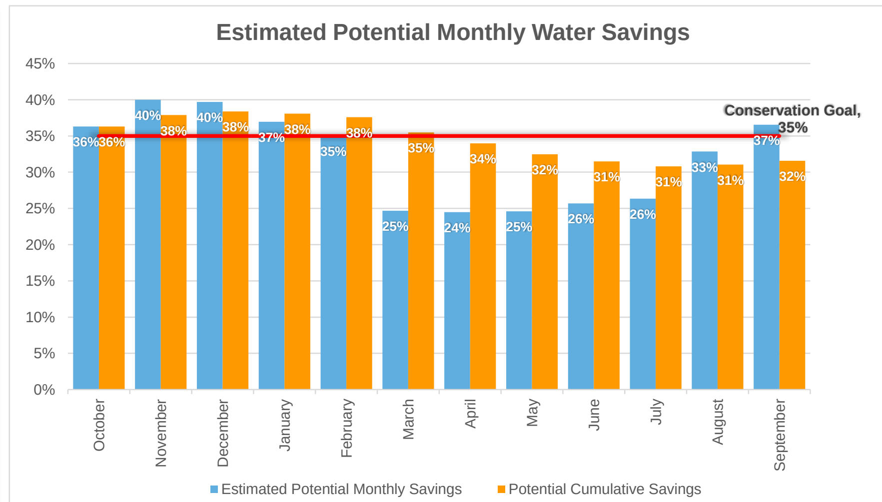
Estimated Monthly Water Use and Savings Summary

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 (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	526	335	36%	36%	35%	
November	393	236	40%	38%	35%	
December	345	208	40%	38%	35%	
January	318	201	37%	38%	35%	
February	322	209	35%	38%	35%	
March	366	276	25%	35%	35%	
April	365	276	24%	34%	35%	
May	500	377	25%	32%	35%	
June	532	396	26%	31%	35%	
July	568	418	26%	31%	35%	
August	563	378	33%	31%	35%	
September	520	330	37%	32%	35%	





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

Salinas

Enter Agency Information	
Agency Name	Salinas
Total Population Served	123,308
Conservation Goal (%)	45%
Drought Stage	Stage 5
Number of Residential Accounts	25,033
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,936
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	90%
Comments	SLN

Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

5 - Estimated Water Savings - Stage 5

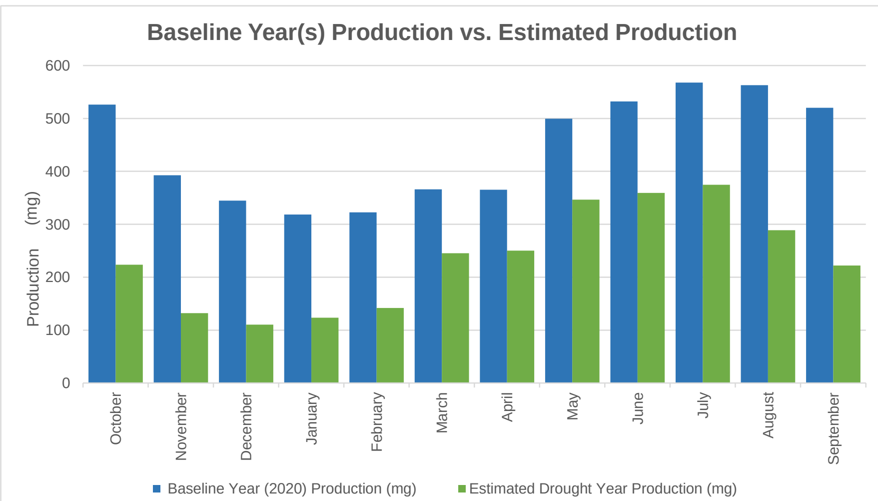
Salinas

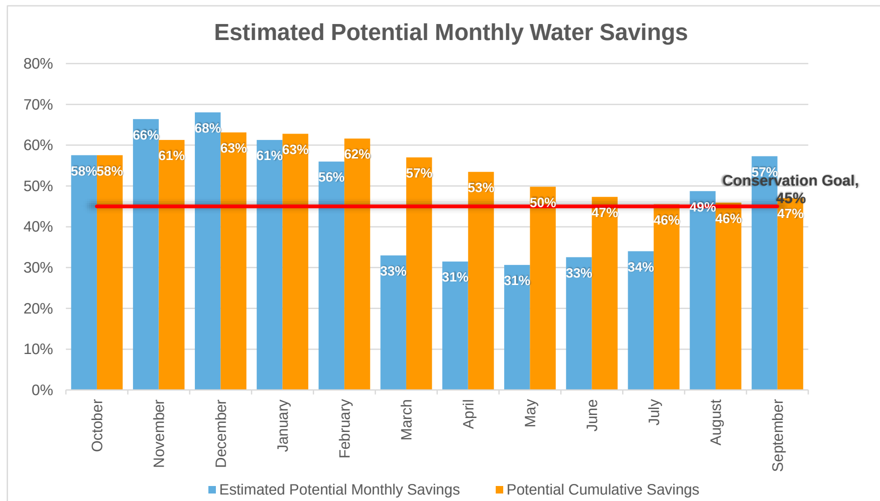
Estimated Monthly Water Use and Savings Summary

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 (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	526	224	58%	58%	45%	
November	393	132	66%	61%	45%	
December	345	110	68%	63%	45%	
January	318	123	61%	63%	45%	
February	322	142	56%	62%	45%	
March	366	245	33%	57%	45%	
April	365	250	31%	53%	45%	
May	500	346	31%	50%	45%	
June	532	359	33%	47%	45%	
July	568	375	34%	46%	45%	
August	563	289	49%	46%	45%	
September	520	222	57%	47%	45%	





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

Salinas

Enter Agency Information	
Agency Name	Salinas
Total Population Served	123,308
Conservation Goal (%)	55%
Drought Stage	Stage 6
Number of Residential Accounts	25,033
Number of Commercial, Industrial, and Institutional (CII) Accounts	2,936
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	93%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	90%
Comments	SLN

5 - Estimated Water Savings - Stage 6

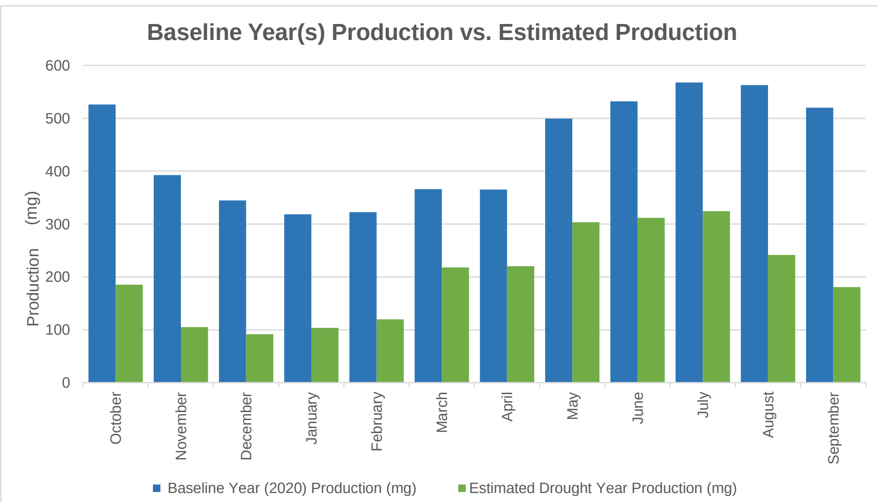
Salinas

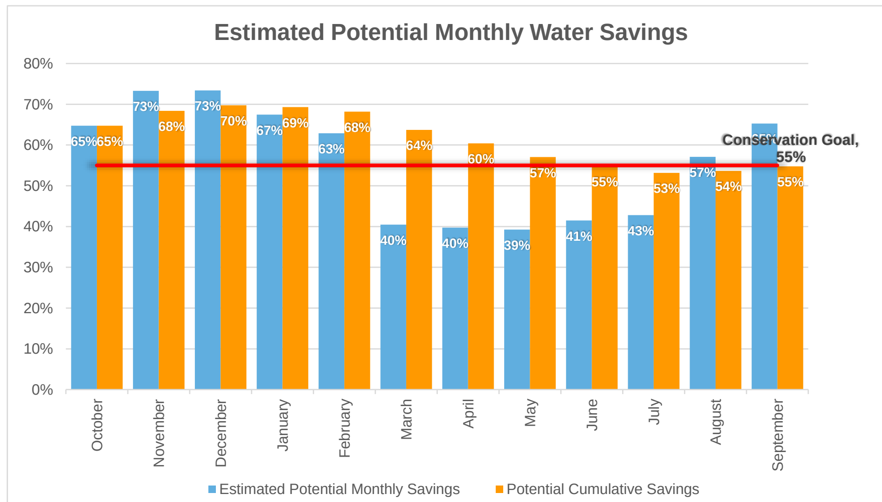
Estimated Monthly Water Use and Savings Summary

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 (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	526	185	65%	65%	55%	
November	393	105	73%	68%	55%	
December	345	92	73%	70%	55%	
January	318	104	67%	69%	55%	
February	322	120	63%	68%	55%	
March	366	218	40%	64%	55%	
April	365	220	40%	60%	55%	
May	500	304	39%	57%	55%	
June	532	311	41%	55%	55%	
July	568	325	43%	53%	55%	
August	563	242	57%	54%	55%	
September	520	181	65%	55%	55%	





Attachment B

CPUC Rule and Schedule 14.1

Rule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 1) (T)

A. APPLICABILITY (N)

1. This schedule applies to all of California Water Service's regulated ratemaking areas in California, as well as Grand Oaks Water.

B. GENERAL INFORMATION

1. All expenses incurred by utility to implement Rule 14.1, and Schedule 14.1, and requirements of the California State Water Resources Control Board ("Water Board") that have not been considered in a General Rate Case or other proceeding shall be accumulated by Cal Water in a separate memorandum account, authorized in Resolution W-4976, for disposition as directed or authorized from time to time by the Commission.
2. To the extent that a Stage of Mandatory Water Use Restrictions in Schedule 14.1 has been activated, and a provision in this Rule is inconsistent with the activated Stage in Schedule 14.1, the provisions of Schedule 14.1 apply.

C. DEFINITIONS

For the purposes of this Rule, the following terms have the meanings set forth in this section.

1. "Commercial nursery" means the use of land, buildings or structures for the growing and/or storing of flowers, fruit trees, ornamental trees, vegetable plants, shrubs, trees and similar vegetation for the purpose of transplanting, for use as stock or grafting, and includes the retail sale or wholesale distribution of such items directly from the premises/lot.
2. "Drip irrigation system" means a non-spray, low-pressure, and low volume irrigation system utilizing emission devices with a precipitation or flow rate measured in gallons per hour (GPH), designed to slowly apply small volumes of water at or near the root zone of plants or other landscaping.
3. "Flow rate" means the rate at which water flows through pipes, valves, and emission devices, measured in gallons per minute (GPM), gallons per hour (GPH), inches per hour (IPH), hundred cubic feet (Ccf), or cubic feet per second (CFS).
4. "Flow-restricting device" means valves, orifices, or other devices that reduce the flow of potable water through a service line, which are capable of passing a minimum of 3 Ccf per person, per month, based upon the U.S. Census calculation of the average number of people in a household in the area.
5. "High-efficiency sprinkler systems" means an irrigation system with emission devices, such as sprinkler heads or nozzles, with a precipitation or flow rate no greater than one IPH.
6. "Irrigation" means the application of potable water by artificial means to landscape.
7. "Irrigation system" means the components of a system meant to apply water to an area for the purpose of irrigation, including, but not limited to, piping, fittings, sprinkler heads or nozzles, drip tubing, valves, and control wiring.
8. "Landscape" means all of the outdoor planting areas, turf areas, and water features at a particular location.
9. "Measureable rainfall" means any amount of precipitation of more than one-tenth of an inch (0.1").
10. "Micro spray irrigation system" means a low-pressure, low-volume irrigation system utilizing emission devices that spray, mist, sprinkle, or drip with a precipitation or flow rate measured in GPH, designed to slowly apply small volumes of water to a specific area. (N)

(continued)

Rule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 2) (T)

C. DEFINITIONS (Continued) (N)

11. "Ornamental landscape" means shrubs, bushes, flowers, ground cover, turf, lawns, and grass planted for the purpose of improving the aesthetic appearance of property, but does not include crops or other agricultural products or special landscape areas.

12. "Ornamental turf" means a ground cover surface of grass that can be mowed and is planted for the purpose of improving the aesthetic appearance of the property, but does not include crops or other agricultural products or special landscape areas.

13. "Plumbing fixture" means a receptacle or device that is connected to a water supply system, including, but not limited to, pipes, toilets, urinals, showerheads, faucets, washing machines, water heaters, tubs, and dishwashers.

14. "Potable water" means water supplied by Cal Water which conforms to the federal and state standards for human consumption.

15. "Properly programmed" means a smart irrigation controller that has been programmed according to the manufacturer's instructions and site-specific conditions.

16. "Real-time water measurement device" means a device or system that provides regularly updated electronic information regarding the customer's water use.

17. "Runoff" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape onto other areas.

18. "Smart irrigation controller" means an automatic device used to remotely control valves that operate an irrigation system that has been tested by an American National Standards Institute accredited third-party certifying body or laboratory in accordance with the Environmental Protection Agency's WaterSense program (or an analogous successor program), and certified by such body or laboratory as meeting the performance and efficiency requirements of such program, or the more stringent performance and efficiency requirements of another similar program.

19. "Special landscape area" means an area of the landscape dedicated solely to edible plants and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

20. "Turf" means a ground cover surface of grass that can be mowed.

21. "Water feature" means a design element where open, artificially supplied water performs an aesthetic or recreation feature, including, but not limited to, ponds, lakes, waterfalls, fountains, and streams.

22. "Water use evaluation" means an evaluation of the efficiency of indoor water-using devices, including, but not limited to, measurement of flow rates for all existing showerheads, faucets, and toilets, inspection for leaks, and providing written recommendations to improve the efficiency of the indoor water-using fixtures and devices and/or an evaluation of the performance of an irrigation system, including, but not limited to, inspection for leaks, reporting of overspray or runoff, and providing written recommendations to improve the performance of the irrigation system. (N)

(continued)

Rule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 3) (T)

D. ENFORCEMENT (N)

Each Stage of this Rule establishes certain restrictions on the use of potable water. Violating the restrictions set forth in a particular Stage while it is in effect is declared a non-essential, wasteful use of potable water. Subject to the schedule and conditions outlined below, Cal Water is authorized to install a flow-restricting device on the service line of any customer when its personnel verify a customer is using potable water for non-essential, wasteful uses. No person shall have any right or claim in law or in equity, against Cal Water because of, or as a result of, any matter or thing done or threatened to be done pursuant to the restrictions on using potable water for non-essential, wasteful uses.

1. FIRST VIOLATION: Cal Water shall provide the customer with a written notice of violation.
2. SECOND VIOLATION: If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the first violation, Cal Water shall provide the customer with a second written notice of violation and is authorized to install a flow-restricting device on the customer's service line. Cal Water shall not be held liable for any injuries, damages, and/or consequences arising from the installation of a flow restricting device.
3. NOTICES OF VIOLATION:
   A. Written notices of violation provided to customers pursuant to this Rule shall document the verified violation and alert the customer to the fact that future violations of the restricted uses of potable water may result in the installation of a flow-restricting device on the customer's service line or the discontinuation of the customer's service.
   B. If Cal Water elects to install a flow-restricting device on a customer's service line, the written notice of violation shall explain that a flow-restricting device has or will be installed on the customer's service line, document the steps the customer must take in order for the flow-restricting device to be removed, and explain that after the flow-restricting device is removed, it may be reinstalled, without further notice, if the customer is again verified by Cal Water's personnel to be using potable water for non-essential, wasteful uses.
4. FLOW RESTRICTING DEVICE CONDITIONS: The installation of a flow-restricting devide on a customer's service line is subject to the following conditions:
   a. The device shall be capable of providing the premise with a minimum of 3 Ccf per person, per month, based upon the U.S. Census calculation of the average number of people in a household in the area.
   b. The device may only be removed by Cal Water, and only after a minimum three-day period has elapsed.
   c. Any tampering with the device may result in the discontinuation of the customer's water service and the customer being charged for any damage to Cal Water's equipment or facilities and any required service visits. (N)

(continued)

Rule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 4) (T)

D. ENFORCEMENT (Continued) (N)

d. After the removal of the device, if Cal Water verifies that the customer is using potable water for non-essential, wasteful uses, Cal Water may install another flow-restricting device without prior notice. This device may remain in place until water supply conditions warrant its removal. If, despite the installation of the device, Cal Water verifies that the customer is using potable water for non-essential and, unauthorized wasteful uses, then Cal Water may discontinue the customer's water service, as provided in its Rule No. 11.

5. FLOW-RESTRICTING DEVICE REMOVAL CHARGES: The charge to customers for removal of a flow-restricting device installed pursuant to this Rule is $100 during normal business hours, and $150 for the device to be removed outside of normal business hours.

E. WASTEFUL USES OF WATER

Except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency, customers are prohibited, at all times, from using potable water for the following actions, as each is declared a non-essential, wasteful use of water:

1. Use of potable water through a broken or defective plumbing fixture or irrigation system when Cal Water has notified the customer in writing to repair the broken or defective plumbing fixture or irrigation system, and the customer has failed to effect such repairs within seven (7) business days of receipt of such notice;
2. The application of potable water to landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;
3. The use of a hose that dispenses potable water to wash vehicles, including cars, trucks, buses, boats, aircraft, and trailers, whether motorized or not, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.

F. MANDATORY STAGED RESTRICTIONS OF WATER USE

1. ADOPTION OF STAGED MANDATORY RESTRICTIONS: Cal Water may implement the following staged mandatory restrictions of water use, after notifying the Director of the Commission's Division of Water and Audits (DWA), by a Tier 1 advice letter in both hard-copy and emailed formats, of Cal Water's intent to implement a particular stage, if:
   a. Water supplies are projected to be insufficient to meet normal customer demand by Cal Water; or
   b. A water supply shortage or threatened shortage exists; or
   c. Water supplies are curtailed by a wholesale water supplier; or
   d. Directed to do so under a duly adopted emergency regulation by the Commission or other authorized government agencies. (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 5)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

2. PUBLIC NOTICE: Thirty (30) days prior to implementing a mandatory staged reduction in water use in this Rule, Cal Water shall notify its customer of the requirements of the particular stage implemented by Cal Water by bill insert, direct mailing, email, or bill message directing the customer to additional information on Cal Water's website.

3. STAGE 1 WATER SHORTAGE: A Stage 1 Water Shortage occurs when Cal Water, the Commission, a wholesale water supplier, or other authorized government agency determines that measures are needed to reduce water consumption by customers served by public water suppliers. In addition to the prohibitions outlined in **Section E**, the following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency:

   a. Outdoor Irrigation Restrictions (Stage 1)

      i. Irrigating ornamental landscapes with potable water is limited to no more than **three (3) days** per week, on a schedule established and posted by Cal Water on its website or otherwise provided to customers by bill message, bill insert, direct mail, or email, or as follows:

         1. Customers with even-numbered addresses may irrigate on Saturdays, Tuesdays, and Thursdays.
         2. Customers with odd-numbered addresses may irrigate on Sundays, Wednesdays, and Fridays.
         3. Customers without a street address may irrigate on Saturdays, Tuesdays, and Thursdays.
         4. Notwithstanding the foregoing restrictions, irrigation of special landscape areas or commercial nurseries may occur as needed, provided that the customer who wishes to irrigate a special landscape area or commercial nursery presents Cal Water with a plan to achieve water use reductions commensurate with those that would be achieved by complying with foregoing restrictions.
         5. Notwithstanding the foregoing restrictions, when a city, county, or other local public agency in one of Cal Water's service areas duly adopts restrictions on the number of days or hours of the day that customers may irrigate which are different than those adopted by Cal Water, Cal Water may enforce the city, county, or other local public agency's restrictions.

      ii. Irrigating ornamental landscape with potable water is prohibited during the hours between **8:00 a.m. and 6:00 p.m**.

      iii. The foregoing restrictions do **not** apply to:

         1. Landscape irrigation zones that exclusively use drip irrigation systems and/or micro spray irrigation system; (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 6)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 1 (cont.)]

2. Irrigating ornamental landscapes with the use of a hand-held bucket or similar container, with a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored, or for the express purpose of adjusting or repairing an irrigation system.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixture(s) or irrigation system(s) must be repaired within **five (5) business days** of written notification by Cal Water, unless other arrangements are made with Cal Water.

c. **Prohibited** Uses of Water: Customers are prohibited from using potable water for the following actions:

i. The application of potable water to driveways and sidewalks;

ii. The use of potable water in a water feature, except where the water is part of a recirculating system;

iii. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall.

d. Other duly adopted restrictions on the use potable water as prescribed from time to time by the Commission or other authorized government agencies are incorporated herein by reference.

4. STAGE 2 WATER SHORTAGE: A Stage 2 Water Shortage occurs when the Stage 1 Water Shortage restrictions are deemed insufficient to achieve identified water use goals established by Cal Water, the Commission, a wholesale water supplier, or other authorized government agency. In addition to the prohibited wasteful water use practices listed in Section D, the following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency. Differences from or additions to the previous Stage are underlined.

a. Outdoor Irrigation Restrictions (Stage 2)

i. Irrigating ornamental landscapes with potable water is limited to no more than **three (3) days** per week, on a schedule established and posted by Cal Water on its website or otherwise provided to customers by bill message, bill insert, direct mail, or email, or as follows:

1. Customers with even-numbered addresses may irrigate on Saturdays, Tuesdays, and Thursdays.

2. Customers with odd-numbered addresses may irrigate on Sundays, Wednesdays, and Fridays. (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 7)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 2 (cont.)]

3. Customers without a street address may irrigate on Saturdays, Tuesdays, and Thursdays.
4. Notwithstanding the foregoing restrictions, irrigation of special landscape areas or commercial nurseries may occur as needed, provided that the customer who wishes to irrigate a special landscape area or commercial nursery presents Cal Water with a plan to achieve water use reductions commensurate with those that would be achieved by complying with foregoing restrictions.
5. Notwithstanding the foregoing restrictions, when a city, county, or other public agency in one of Cal Water's service areas duly adopts restrictions on the number of days or hours of the day that customers may irrigate which are different than those adopted by Cal Water, Cal Water may enforce the city, county, or other local public agency's restrictions.

ii. Irrigating ornamental landscape with potable water is prohibited during the hours between **8:00 a.m. and 6:00 p.m**.

iii. The foregoing restrictions do **not** apply to:

1. Landscape irrigation zones that exclusively use drip irrigation systems and/or micro spray irrigation system;
2. Irrigating ornamental landscapes with the use of a hand-held bucket or similar container, a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored, or for the express purpose of adjusting or repairing an irrigation system.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixture(s) or irrigation system(s) must be repaired within **three (3) business days** of written notification by Cal Water, unless other arrangements are made with Cal Water.

c. **Prohibited** Uses of Water: Customers are prohibited from using potable water for the following actions:

i. The application of potable water to driveways and sidewalks;

ii. The use of potable water in a water feature, except where the water is part of a recirculating system;

iii. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall;

iv. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased; (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 8)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 2 (cont.)]

v. Irrigation of ornamental landscape on public street medians;

vi. Irrigation outside of newly constructed homes and buildings with potable water in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.

d. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language.

e. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to the implementation of any staged mandatory restrictions of water use as described in this Rule.

f. Other duly adopted restrictions on the use of potable water as prescribed from time to time by the Commission or other authorized government agencies are incorporated herein by reference.

5. STAGE 3 WATER SHORTAGE: A Stage 3 Water Shortage occurs when the Stage 2 Water Shortage restrictions are deemed insufficient to achieve identified water use goals established by Cal Water, the Commission, a wholesale water supplier, or other authorized government agency. In addition to the prohibited wasteful water use practices listed in Section D, the following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency. Differences from or additions to the previous Stages are underlined.

a. Outdoor Irrigation Restrictions

i. Irrigating ornamental landscapes with potable water is limited to no more than **two (2) days** per week, on a schedule established and posted by Cal Water on its website or otherwise provided to customers by bill message, bill insert, direct mail, or email, or as follows:

1. Customers with even-numbered addresses may irrigate on Saturdays and Tuesdays (previous Stages allowed Thursdays as well).

2. Customers with odd-numbered addresses may irrigate on Sundays and Wednesdays (previous Stages allowed Fridays as well).

3. Customers without a street address may irrigate on Saturdays and Tuesdays (previous Stages allowed Thursdays as well). (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 9)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 3 (cont.)]

4. Notwithstanding the foregoing restrictions, irrigation of special landscape areas or commercial nurseries may occur as needed, provided that the customer who wishes to irrigate a special landscape area or commercial nursery presents Cal Water with a plan to achieve water use reductions commensurate with those that would be achieved by complying with foregoing restrictions.
5. Notwithstanding the foregoing restrictions, when a city, county, or other local public agency in one of Cal Water's service areas duly adopts restrictions on the number of days or hours of the day that customers may irrigate which are different than those adopted by Cal Water, Cal Water may enforce the city, county, or other local public agency's restrictions.

ii. Irrigating ornamental landscape with potable water is prohibited during the hours between **8:00 a.m. and 6:00 p.m.**

iii. The foregoing restrictions do **not** apply to:

1. Landscape irrigation zones that exclusively use drip irrigation systems and/or micro spray irrigation system;
2. Irrigating ornamental landscapes with the use of a hand-held bucket or similar container, a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored, or for the express purpose of adjusting or repairing an irrigation system.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixtures and/or irrigation system must be repaired within **two (2) business days** of written notification by Cal Water, unless other arrangements are made with Cal Water.

c. **Prohibited** Uses of Water: Customers are prohibited from using potable water for the following actions:

i. The application of potable water to driveways and sidewalks;

ii. The use of potable water in a water feature, except where the water is part of a recirculating system;

iii. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall;

iv. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased;

v. Irrigation of ornamental turf on public street medians;

vi. Irrigation outside of newly constructed homes and buildings with potable water in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.

vii. Use of potable water for street cleaning with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible); (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 10)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 3 (cont.)]

viii. Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.

d. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language.

e. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to the implementation of any staged mandatory restrictions of water use as described in this Rule.

f. Other duly adopted restrictions on the use of potable water as prescribed from time to time by the Commission or other authorized government agencies are incorporated herein by reference.

6. STAGE 4 WATER SHORTAGE: A Stage 4 Water Shortage occurs when the Stage 3 Water Shortage restrictions are deemed insufficient to achieve identified water use goals established by Cal Water, the Commission, a wholesale water supplier, or other authorized government agency. In addition to the prohibited wasteful water use practices listed in Section D, the following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency. Differences from or additions to the previous Stage are underlined.

a. Irrigating ornamental landscape with potable water is prohibited, except when a hand-held bucket or a similar container, or a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored is used to maintain vegetation, including trees and shrubs.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixtures or irrigation system must be repaired within **one (1) business day** of written notification by Cal Water, unless other arrangements are made with Cal Water.

Prohibited Uses of Water: Customers are prohibited from using potable water for the following actions:

i. The application of potable water to driveways and sidewalks;

ii. The use of potable water in a water feature, except where the water is part of a recirculating system;

iii. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall; (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 11)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 4 (cont.)]

iv. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased;

[Note that items previously identified as (v) and (vi) in Stage 3 have been eliminated.]

v. Use of potable water for street cleaning with trucks (the previous Stage allowed certain exceptions);

vi. Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses (the previous Stage allowed certain exceptions).

c. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language.

d. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to the implementation of any staged mandatory restrictions of water use as described in this Rule.

f. Other duly adopted restrictions on the use of utility-supplied potable water as prescribed from time to time by the Commission or other authorized government agencies, commissions, or officials are incorporated herein by reference.

G. ADOPTION OF STAGED MANDATORY WATER USE REDUCTIONS (for Schedule 14.1)

1. ADDITION OF SCHEDULE 14.1: If, in the opinion of Cal Water, more stringent water conservation measures are required due to supply conditions or government directive, Cal Water may request the addition of a Schedule No. 14.1 – Staged Mandatory Water Use Reductions, via a Tier 2 advice letter.

   A. Cal Water may not activate Schedule No. 14.1 until it has been authorized to do so by the California Public Utilities Commission, as delegated to its Division of Water and Audits.

   B. A Schedule No. 14.1 that has been authorized by the California Public Utilities Commission shall remain dormant until triggered by specific conditions detailed in the Schedule 14.1 tariff and Cal Water has requested and received authorization for activating a stage by the California Public Utilities Commission. (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 12)

G. ADOPTION OF STAGED MANDATORY WATER USE REDUCTIONS (for Schedule 14.1) (continued)

c. Notice of the Tier 2 advice letter and associated public participation hearing, if required, shall be provided to customers through a bill insert or a direct mailing, as set forth in Subsection 5 (Public Notice) below.

d. Cal Water shall comply with all requirements of Sections 350-358 of the California Water Code.

e. The Tier 2 advice letter requesting the addition of a Schedule No. 14.1 shall include, but not be limited to:

i. A proposed Schedule No. 14.1 tariff, which shall include but not be limited to:

1. Applicability,
2. Territory applicable to,
3. A detailed description of each stage of water budgets (the number of stages requested for a ratemaking area may vary depending on the specifics of the water shortage event),
4. A detailed description of the trigger(s) that activates each stage of water budgets,
5. A detailed description of each water use restriction for each stage of water budgets,
6. Water use violation levels, written warning levels, associated fines, if applicable, and exception procedures,
7. Conditions for installation of a flow restrictor,
8. Charges for removal of flow restrictors, and
9. Special conditions

ii. Justification for, and documentation and calculations in support of the water budgets.

2. Conditions for Activating Schedule No. 14.1: Cal Water may file a Tier 1 advice letter to request activation of a particular stage of its Schedule No. 14.1 tariff if:

a. Cal Water, the California Public Utilities Commission, wholesale water supplier, or other government agency declares an emergency requiring mandatory water budgets, mandatory water rationing, or mandatory water allocations; or

b. A government agency declares a state of emergency in response to severe drought conditions, earthquake or other catastrophic event that severely reduces Cal Water's water supply; or

c. Cal Water is unable to achieve water conservation targets set by itself; or

d. Water conservation targets set by itself or a governing agency are insufficient; or

e. Cal Water chooses to subsequently activate a different stage of its Schedule No. 14.1 tariff.

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 13)

G. ADOPTION OF STAGED MANDATORY WATER USE REDUCTIONS (for Schedule 14.1) (continued)

a. Include, but not be limited to, a justification for activating the particular stage of mandatory water use reductions, as well as the period during which the particular stage will be in effect.

b. Be accompanied by the customer notification measures detailed in sub-section 5 (Public Notice) below.

4. De-Activating Schedule No. 14.1: When Schedule No. 14.1 is activated and Cal Water determines that water supplies are again sufficient to meet normal demands, and mandatory water use reductions are no longer necessary, Cal Water shall seek the approval of the California Public Utilities Commission, via a Tier 1 advice letter, to de-activate the particular stage of mandatory water use reductions that had been authorized.

5. Public Notice

a. When Cal Water requests the addition of a Schedule 14.1 – Staged Mandatory Water Use Reductions Tariff, via a Tier 2 advice letter, it shall provide notice of the Tier 2 advice letter and associated public hearing provided to customers through bill inserts or direct mailing, and it shall comply with all requirements of Sections 350-358 of the California Water Code (CWC), including but not limited to the following:

i. In order to be in compliance with both the General Order 96-B and CWC, notice shall be provided via both newspaper and bill insert/direct mailing.

ii. One notice shall be provided for each advice letter filed, that includes both notice of the filing of the Tier 2 advice letter as well as the details of the public hearing (date, time, place, etc.).

iii. The public meeting shall be held after the Tier 2 advice letter is filed, and before the Commission authorizes the addition of Schedule 14.1 to the tariff except in cases of emergency water shortages approved by DWA.

iv. Cal Water shall consult with Division of Water and Audits staff prior to filing advice letter, in order to determine details of public meeting.

b. In the event that Schedule No. 14.1- Staged Mandatory Water Use Reductions Tariff is triggered, and Cal Water requests activation through the filing of a Tier 1 advice letter, Cal Water shall notify its customers and provide each customer with a summary of Schedule No. 14.1 by means of bill insert or direct mailing. Notification shall take place prior to imposing any penalties associated with this plan. If activation of Schedule No. 14.1 occurs one year or more since the public hearing associated with adding Schedule 14.1 to its tariffs, then Cal Water shall conduct a public hearing pursuant to California Water Code Section 351 prior to activating a stage of its Mandatory Water Use Reduction Tariff.

c. During the period that a stage of Schedule No. 14.1 is activated, Cal Water shall provide customers with updates in at least every other bill, regarding its water supply status and the results of customers' conservation efforts. (N)

[end]

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES

Page 1

A. APPLICABILITY

1. This schedule applies to all of California Water Service's regulated ratemaking areas in California, as well as Grand Oaks Water.

B. GENERAL INFORMATION

1. All expenses incurred by California Water Service to implement Rule 14.1, and Schedule 14.1, and requirements of the California State Water Resources Control Board ("Water Board") that have not been considered in a General Rate Case or other proceeding shall be accumulated by Cal Water in a separate memorandum account, authorized in Resolution W-4976, for disposition as directed or authorized from time to time by the Commission.
2. All monies collected by Cal Water through waste of water penalties established in this schedule shall be recorded in the appropriate memorandum account and used to offset the expenses described in Section 1 above.
3. Except in the case of Grand Oaks, all monies collected by Cal Water through drought surcharges, as established by the Mandatory Water Budgets found in Schedule 14.1, shall be recorded in the appropriate Water Revenue Adjustment Mechanism ("WRAM") account and used to offset under-collected revenues.
4. To the extent that any provision in this Schedule is inconsistent with Rule 14.1, the provisions of this Schedule apply. (D)
5. On April 1, 2015, the Governor of the State of California issued Executive Order B-29-15 due to severe drought conditions. The Executive Order, among other requirements, directs the State Water Resources Control Board ("Water Board") to impose restrictions on urban water suppliers like Cal Water to achieve a statewide 25% reduction in potable urban usage, as compared with the amount used in 2013, through February 2016. (L) (D)

   Urban water suppliers must develop rate structures and other pricing mechanisms, such as surcharges and penalties, to achieve 25% water conservation. (L)
6. On May 5, 2015, the Water Board issued an Emergency Regulation by Resolution No. 2015-0032 due to continuing drought conditions with specific water use reductions, by service area, and prohibitions on how end-use customers can use potable water. On May 7, 2015, the California Public Utilities Commission ("Commission") issued Resolution W-5041 ordering compliance with the mandates of the Governor and the Water Board. (L)
7. On November 13, 2015, the Governor of the State of California issued Executive Order B-36-15 that directed the Water Board to, if drought conditions persist through January 2016, extend until October 31, 2016 restrictions to achieve a statewide reduction in potable usage. (N)
8. On February 2, 2016, the Water Board adopted an extended and revised Emergency Regulation due to continuing drought conditions. On February 11, 2016, the Commission issued Resolution W-5082 ordering compliance with the mandates of the Governor and the Water Board. (N)

C. DEFINITIONS

For the purposes of this Schedule, the following terms have the meanings set forth in this section. (These are the same as in Rule 14.1, unless otherwise specified.)

1. "Commercial nursery" means the use of land, buildings or structures for the growing and/or storing of flowers, fruit trees, ornamental trees, vegetable plants, shrubs, trees and similar vegetation for the purpose of transplanting, for use as stock or grafting, and includes the retail sale or wholesale distribution of such items directly from the premises/lot.

(continued)

Schedule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES

C. DEFINITIONS (Continued)

2. "Drip irrigation system" means a non-spray, low-pressure, and low volume irrigation system utilizing emission devices with a precipitation or flow rate measured in gallons per hour (GPH), designed to slowly apply small volumes of water at or near the root zone of plants or other landscaping.
3. "Flow rate" means the rate at which water flows through pipes, valves, and emission devices, measured in gallons per minute (GPM), gallons per hour (GPH), inches per hour (IPH), hundred cubic feet (Ccf), or cubic feet per second (CFS).
4. "Flow-restricting device" means valves, orifices, or other devices that reduce the flow of potable water through a service line, which are capable of passing a minimum of 3 Ccf per person, per month, based upon the U.S. Census calculation of the average number of people in a household in the area.
5. "High-efficiency sprinkler systems" means an irrigation system with emission devices, such as sprinkler heads or nozzles, with a precipitation or flow rate no greater than one IPH.
6. "Irrigation" means the application of potable water by artificial means to landscape.
7. "Irrigation system" means the components of a system meant to apply water to an area for the purpose of irrigation, including, but not limited to, piping, fittings, sprinkler heads or nozzles, drip tubing, valves, and control wiring.
8. "Landscape" means all of the outdoor planting areas, turf areas, and water features at a particular location.
9. "Measureable rainfall" means any amount of precipitation of more than one-tenth of an inch (0.1").
10. "Micro spray irrigation system" means a low-pressure, low-volume irrigation system utilizing emission devices that spray, mist, sprinkle, or drip with a precipitation or flow rate measured in GPH, designed to slowly apply small volumes of water to a specific area.
11. "Ornamental landscape" means shrubs, bushes, flowers, ground cover, turf, lawns, and grass planted for the purpose of improving the aesthetic appearance of property, but does not include crops or other agricultural products or special landscape areas.
12. "Ornamental turf" means a ground cover surface of grass that can be mowed and is planted for the purpose of improving the aesthetic appearance of the property, but does not include crops or other agricultural products or special landscape areas.
13. "Plumbing fixture" means a receptacle or device that is connected to a water supply system, including, but not limited to, pipes, toilets, urinals, showerheads, faucets, washing machines, water heaters, tubs, and dishwashers.
14. "Potable water" means water supplied by Cal Water which conforms to the federal and state standards for human consumption.
15. "Properly programmed" means a smart irrigation controller that has been programmed according to the manufacturer's instructions and site-specific conditions.
16. "Real-time water measurement device" means a device or system that provides regularly updated electronic information regarding the customer's water use.
17. "Runoff" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape onto other areas.
18. "Smart irrigation controller" means an automatic device used to remotely control valves that operate an irrigation system that has been tested by an American National Standards Institute accredited third-party certifying body or (N)

(continued)

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

Page 3

C. DEFINITIONS (Continued)

laboratory in accordance with the Environmental Protection Agency's WaterSense program (or an analogous successor program), and certified by such body or laboratory as meeting the performance and efficiency requirements of such program, or the more stringent performance and efficiency requirements of another similar program.

19. "Special landscape area" means an area of the landscape dedicated solely to edible plants and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.
20. "Turf" means a ground cover surface of grass that can be mowed.
21. "Water feature" means a design element where open, artificially supplied water performs an aesthetic or recreation feature, including, but not limited to, ponds, lakes, waterfalls, fountains, and streams.
22. "Water use evaluation" means an evaluation of the efficiency of indoor water-using devices, including, but not limited to, measurement of flow rates for all existing showerheads, faucets, and toilets, inspection for leaks, and providing written recommendations to improve the efficiency of the indoor water-using fixtures and devices and/or an evaluation of the performance of an irrigation system, including, but not limited to, inspection for leaks, reporting of overspray or runoff, and providing written recommendations to improve the performance of the irrigation system.

D. WASTE OF WATER PENALTIES

Each Stage of this Schedule establishes certain restrictions on the use of potable water. Violating the restrictions set forth in a particular Stage while it is in effect is declared a non-essential, wasteful use of potable water. Cal Water is authorized to take the following actions when its personnel verify a customer is using potable water for non-essential, wasteful uses. No person shall have any right or claim in law or in equity, against Cal Water because of, or as a result of, any matter or thing done or threatened to be done pursuant to the restrictions on using potable water for non-essential, wasteful uses.

Note: When a Stage in this Schedule has been activated, Section D in this Schedule supersedes Section D (Enforcement) in Rule 14.1.

1. **FIRST VIOLATION:** Cal Water shall provide the customer with a written notice of violation. In addition, Cal Water is authorized to take the following actions:
   a. If the customer currently receives service through a metered connection, install a real-time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and ongoing operating costs, may be billed to the customer, and nonpayment may result in discontinuance of service. (C)
   b. If the customer does not currently receive service through a metered connection, install a water meter on the customer's service line, charge the customer for water use pursuant to Cal Water's metered service tariffs and rules, and install a real-time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and ongoing operating costs, may be billed to the customer, and nonpayment may result in discontinuance of service. (C)
2. **SECOND VIOLATION:** If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the first violation, Cal Water shall provide the customer with a second written notice of violation. In addition to the actions prescribed under the first violation above, Cal Water is authorized to take the following actions:
   a. Apply the following waste of water penalties, which are in addition to any other charges authorized by this Schedule or other Cal Water tariffs.
      i. If Stage 1 is in effect, $25 (Stage 1 is detailed below in Section E).
      ii. If Stage 2 is in effect, $50 (Stage 2 is detailed below in Section F).

(continued)

Schedule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

D. WASTE OF WATER PENALTIES (Continued)

iii. If Stage 3 is in effect, $100 (Stage 3 is detailed below in Section G).
iv. If Stage 4 is in effect, $200 (Stage 4 is detailed below in Section H).

b. At its sole discretion, waive the waste of water penalty if the customer participates in a water use evaluation provided by Cal Water and/or provides documentation to Cal Water proving that a drip irrigation system, micro spray irrigation system, high-efficiency sprinkler system, or properly programmed smart irrigation controller has been installed, after a notice of violation was delivered, and is in use at the customer's service address.

3. **THIRD VIOLATION:** If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the second violation, Cal Water shall provide the customer with a third written notice of violation. In addition to the actions prescribed under the first and second violation above, Cal Water is authorized to take the following actions:

   a. Apply the following waste of water penalties, which are in addition to any other charges authorized by this Schedule or other Cal Water tariffs.
      i. If Stage 1 is in effect, $50 (Stage 1 is detailed below in Section E).
      ii. If Stage 2 is in effect, $100 (Stage 2 is detailed below in Section F).
      iii. If Stage 3 is in effect, $200 (Stage 3 is detailed below in Section G).
      iv. If Stage 4 is in effect, $400 (Stage 4 is detailed below in Section H).

   b. At its sole discretion, waive the waste of water surcharge if the customer participates in a water use evaluation provided by Cal Water and/or provides documentation to Cal Water proving that a drip irrigation system, micro spray irrigation system, high-efficiency sprinkler system, or properly programmed smart irrigation controller has been installed, after notice of violations have been delivered, and is in use at the customer's service address.

4. **FOURTH VIOLATION:** If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the third violation, Cal Water shall provide the customer with a fourth written notice of violation. In addition to actions set forth in previous violations prescribed above, Cal Water is authorized to install a flow-restricting device on the customer's service line. Cal Water shall not be held liable for any injuries, damages, and/or consequences arising from the installation of a flow restricting device.

5. **EGREGIOUS VIOLATIONS:** Notwithstanding the foregoing framework for penalties, customers who Cal Water has verified are egregiously using potable water for non-essential, wasteful uses are subject to having a flow-restricting device installed on their service line. After providing the customer with one notice of egregious violation, either by direct mail or door hanger, which documents the egregious use of potable water for non-essential, wasteful uses and explains that failure to correct the violation may result in the installation of a flow-restricting device on the customer's service line, Cal Water is authorized to install a flow-restricting device on the customer's service line. Cal Water shall not be held liable for any injuries, damages, and/or consequences arising from the installation of a flow restricting device.

6. **NOTICES OF VIOLATION:**

   a. Unless otherwise specified, written notices of violation provided to customers pursuant to this Schedule shall document the verified violation and alert the customer to the fact that future violations of the restricted uses of potable water may result in a real-time water measurement device being installed on the customer's service line at the customers expense, waste of water surcharges being applied to the customer's bill, the installation of a flow-restricting device on the customer's service line, or the discontinuation of the customer's service. (N)

(continued)

Schedule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

D. WASTE OF WATER PENALTIES (Continued)

b. If Cal Water elects to install a flow-restricting device on a customer's service line, the written notice shall document the steps the customer must take in order for the flow-restricting device to be removed, and shall explain that after the flow-restricting device is removed, it may be reinstalled, without further notice, if the customer is again verified by Cal Water to be using potable water for non-essential, wasteful uses.

7. FLOW RESTRICTING DEVICE CONDITIONS: The installation of a flow-restricting device on a customer's service line is subject to the following conditions:

a. The device shall be capable of providing the premise with a minimum of 3 Ccf per person, per month, based upon the U.S. Census calculation of the average number of people in a household in the area.

b. The device may only be removed by Cal Water, and only after a minimum three-day period has elapsed.

c. Any tampering with the device may result in the discontinuation of the customer's water service and the customer being charged for any damage to Cal Water's equipment or facilities and any required service visits.

d. After the removal of the device, if Cal Water's personnel verify that the customer is using potable water for non-essential, wasteful uses, Cal Water may install another flow-restricting device without prior notice. This device shall remain in place until water supply conditions warrant its removal. If, despite the installation of the device, Cal Water's personnel verifies that the customer is using potable water for non-essential, wasteful uses, then Cal Water may discontinue the customer's water service, as provided in its Rule No. 11.

8. FLOW-RESTRICTING DEVICE REMOVAL CHARGES: The charge to customers for removal of a flow-restricting device installed pursuant to this Schedule is $100 during normal business hours, and $150 for the device to be removed outside of normal business hours.

E. STAGE ONE WATER USE RESTRICTIONS

1. WASTEFUL USES OF WATER (STAGE 1)

The following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need, or to comply with a term or condition in a permit issued by a state or federal agency:

a. Outdoor Irrigation Restrictions (Stage 1)

i. Irrigating ornamental landscapes with potable water is limited to no more than **three (3) days per week,** on a schedule established and posted by Cal Water on its website or otherwise provided to customers by bill message, bill insert, direct mail, or email, or as follows:

1. Customers with even-numbered addresses may irrigate on Saturdays, Tuesdays, and Thursdays.
2. Customers with odd-numbered addresses may irrigate on Sundays, Wednesdays, and Fridays.
3. Customers without a street address may irrigate on Saturdays, Tuesdays, and Thursdays. (N)

(continued)

Schedule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

E. STAGE ONE WATER USE RESTRICTIONS (Continued)

4. Notwithstanding the foregoing restrictions, irrigation of special landscape areas or commercial nurseries may occur as needed, provided that the customer who wishes to irrigate a special landscape area or commercial nursery presents Cal Water with a plan to achieve water use reductions commensurate with those that would be achieved by complying with foregoing restrictions.
5. Notwithstanding the foregoing restrictions, when a city, county, or other local public agency in one of Cal Water's service areas duly adopts restrictions on the number of days or hours of the day that customers may irrigate that are different than those adopted by Cal Water, Cal Water may enforce the city, county, or other local public agency's restrictions.

ii. Irrigating ornamental landscape with potable water is prohibited during the hours between **8:00 a.m. and 6:00 p.m.**

iii. The foregoing restrictions do **not** apply to:
1. Landscape irrigation zones that exclusively use drip irrigation systems and/or micro spray irrigation system;
2. Irrigating ornamental landscapes with the use of a hand-held bucket or similar container, with a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored, or for the express purpose of adjusting or repairing an irrigation system.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixtures and/or irrigation system must be repaired within **five (5) business days** of written notification by Cal Water, unless other arrangements are made with Cal Water.

c. Prohibited Uses of Water: Customers are prohibited from using potable water for the following actions:
i. The application of potable water to landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;
ii. The use of a hose that dispenses potable water to wash vehicles, including cars, trucks, buses, boats, aircraft, and trailers, whether motorized or not, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.
iii. The application of potable water to driveways and sidewalks;
iv. The use of potable water in a water feature, except where the water is part of a recirculating system;
v. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall (see Definitions);
vi. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased;
vii. Irrigation of ornamental turf on public street medians with potable water;
viii. Irrigation outside of newly constructed homes and buildings with potable water in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.

d. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language. (N)

(continued)

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

E. STAGE ONE WATER USE RESTRICTIONS (Continued)

[Stage 1 (cont.)]

e. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to the implementation of any staged mandatory restrictions of water use as described in this Schedule.

f. Other duly adopted restrictions on the use of potable water as prescribed from time to time by the Commission or other authorized government agencies are incorporated herein by reference.

F. STAGE TWO WATER USE RESTRICTIONS

1. MANDATORY WATER BUDGETS AND BANKING (STAGE 2)

As described in greater detail below, the Water Board has mandated reductions in potable urban usage, as compared with the amount used in 2013, in each of Cal Water's service areas. Water suppliers must develop rate structures and other pricing mechanisms, such as surcharges and penalties, to achieve these mandated reductions (T)

a. **Mandatory Reduction Percentages**: The Water Board has established increasing levels of required water reduction for each service areas based upon the residential per capita per day use (R-GPCD) in that service area for the three summer months of July through September 2014. The Water Board's approach considers the relative per capita water usage in each service area and requires that those areas with high per-capita use achieve proportionally greater reductions than those with low use. The Water Board has also allowed for adjustments to these required water reductions based on specific criteria.

Each month, the Water Board determines whether a service area has met its mandatory reduction percentage by calculating cumulative savings in the service area since June 2015, and comparing those with the amount of water used during the same months in 2013. (T)

b. **Customer Water Budgets:** Each customer with metered potable water service (residential and non-residential customers) will receive an individualized "Water Budget" for each billing period. (T)

i. The Water Budget will be based on the units of water (CCF) that customer used in the same billing period in 2013, minus the Mandatory Reduction Percentage established by the Water Board for that customer's service area. (T) A customer's Water Budget will vary according to their monthly water usage in 2013. Cal Water shall notify its customers of any changes to the Mandatory Reduction Percentage by the Water Board through bill inserts or direct mailings prior to applying the changed percentage in the requirements in this Schedule, consistent with the "Update" process described in Section F.1.d.(iv) of this Schedule. Cal Water shall also include the current Mandatory Reduction Percentage in effect for each service area on its website. (C)

ii. If a customer was not in his or her current location in 2013, the average monthly consumption will be used as a starting budget. If customers have a unique situation and the average budget is not appropriate, they can file an appeal to have their Water Budget increased. Cal Water may also modify the starting budget to reflect suitable use. (T)

iii. The Water Budget for the following billing period will appear on each customer's water bill. Customers will also be able to find their Water Budgets, and their individual water use history dating back to 2013, by going to usage.calwater.com (do not include "www"), and entering their account number, street (or house) number, and ZIP code. (T)

(D)

(continued)

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

F. STAGE TWO WATER USE RESTRICTIONS (continued) (T)

1. MANDATORY WATER BUDGETS AND BANKING (STAGE 2) (continued) (T)

c. **Minimum Water Budgets**: A minimum monthly amount of water that protects the health and safety of customers will be established for each service area as a Minimum Water Budget for single-family residential customers.

i. No single-family residential customer will have a water budget that is below the threshold of the monthly Minimum Water Budget, even if applying the Mandatory Reduction Percentage to that customer's 2013 usage would result in a lower amount.

ii. The Minimum Water Budget for each service area is identified in **Appendix A**. (For areas with bi-monthly billing and bi-monthly water budgets, the Minimum Water Budget in Appendix A should be doubled for the billing period.)

d. **Drought Surcharges**: If a customer uses more units of potable water (CCF) than their Water Budget in a billing period, that customer's water bill may reflect an additional "Drought Surcharge" for each unit of water over the Water Budget, depending on the amount of excess usage (according to usage tiers described below). (T) (C) |

i. **Tier A and Tier B Excess Water Usage:** Excess water usage above a customer's Water Budget may fall into one or both of two tiers – Tier A and Tier B. The amount of usage in Tiers A and B varies by service area, and depends upon whether an area has met its Mandatory Reduction Percentage on a cumulative basis. |

For the purposes of Drought Surcharges, each service area will fall into one of two categories – those in compliance with the Mandatory Reduction Percentage, and those not in compliance. There are two sample tables in the last section of this Schedule (**Section I**). The first sample table identifies the Tier A and B usage amounts for those service areas that are in compliance with their Mandatory Reduction Percentage, as of the date specified in **Appendix A**. The second sample table identifies the Tier A and B usage amounts for those service areas that are not in compliance with their Mandatory Reduction Percentage, as of the date specified in **Appendix A**. | (C)

ii. **Current Surcharges and Tiers: Appendix A** to this schedule provides the Drought Surcharge rate per unit of water and the excess water usage in Tiers A and B that are currently in effect for each service area. (T) (C)

At this time, Drought Surcharges only apply to excess water usage that falls within "Tier B." Excess water usage in Tier A constitutes a "courtesy" tier to which Drought Surcharges are not applied. As stated below under Water Banking, however, all excess water usage will be applied against a customer's "banked" water amounts, regardless of whether the usage falls within Tier A or Tier B. | (C)

Customers will continue to pay the normal tariffed rates for potable water, in addition to any applicable Drought Surcharges. Cal Water retains the right to increase the surcharges if there are changes to the rates in the future. (T) (T)

iii. **Current Compliance Status of Service Area**: **Appendix B** to this schedule provides the Mandatory Reduction Percentage adopted by the Water Board for each area, and the actual cumulative savings for each area, **as of the date specified in Appendix A.** ***Drought Surcharges will be applied based on Tier A and B excess water usage beginning with the first day of each billing period that starts on or after March 31, 2016.*** (C) |

iv. **Updates**: An increase in the excess usage designated in Tier A, an increase in Customer Water Budgets, or a decrease in Drought Surcharge rates, are "less restrictive" tariff changes that may be implemented via a Tier 1 advice letter. |

A decrease in the excess usage designated in Tier A, a decrease in Customer Water Budgets, or an increase in Drought Surcharge rates are "more restrictive" tariff changes that shall be implemented by filing a Tier 2 advice letter. Cal Water shall notify its customers, and provide each customer with a summary of the changes by means of a bill insert or direct mailing, prior to the effective date of a more restrictive tariff change. |

A service area's compliance status, which determines the amount of excess usage designated for Tiers A and B, shall be updated no more than once every 90 days, or to implement different requirements of the Water Board as needed. | (C)

(continued)

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

 (T)

F. STAGE TWO WATER USE RESTRICTIONS (continued)

1. MANDATORY WATER BUDGETS AND BANKING (STAGE 2) (continued) (T)

e. **Water Banking**: Customers will be able to "bank" unused units of water from their water budget for use in future billing periods. (L)

i. Should a customer exceed his or her monthly budget, any banked units of water will be applied to the overage before drought surcharges are imposed.

ii. Banked water units can only offset future usage that exceeds a water budget.

f. **Water Budget Appeals:** If specified criteria are met, a customer can file an appeal to have his or her water budget increased.

i. The reasons appeals may be considered include: water use necessary for health and safety; business or economic needs, including process-water requirements; significant long-term savings achieved since 2011; average monthly water use in 2014 that is at least 50% lower than district average; and large animal care (e.g. horse).

ii. All appeals must be submitted online at **www.calwater.com/appeal** or via a written application form (available at **www.calwater.com/appeal** or from our local Customer Center).

iii. Surcharges incurred during the appeal review period may be waived if the review takes an extended period of time.

2. WASTEFUL USES OF WATER (STAGE 2)

Cal Water may continue to impose the restrictions on the wasteful use of water as outlined in Stage One, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency.

G. STAGE THREE WATER USE RESTRICTIONS

1. MANDATORY WATER BUDGETS AND BANKING (STAGE 3)

Water budgets will be based on a customer's consumption during a historical base period and will include a percentage reduction designed to meet necessary water-use reductions. Cal Water may include provisions such as minimum water budgets to protect the health and safety of customers, and water banking allowing customers additional flexibility with regard to their required reductions.

In addition to the normal rate paid for the unit of water, a drought surcharge will be charged to a customer for each unit of water used over the established water budget for the billing period. Cal Water may implement surcharges up to three (3) times those charged in Stage 2. Cal Water will establish an appeals process for customers that will allow for requests for increased water budgets. (L)

(continued)

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

 (T)

G. STAGE THREE WATER USE RESTRICTIONS (Continued)

[Stage 3 (cont.)]

2. WASTEFUL USES OF WATER (STAGE 3)

The following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency. Differences from or additions to previous Stages are underlined. (The following restrictions are the same as those provided in Stage 3 of Rule 14.1.)

a. Outdoor Irrigation Restrictions (Stage 3)

i. Irrigating ornamental landscapes with potable water is limited to no more than **two (2) days per week,** on a schedule established and posted by Cal Water on its website or otherwise provided to customers by bill message, bill insert, direct mail, or email, or as follows:

1. Customers with even-numbered addresses may irrigate on Saturdays and Tuesdays (previous Stages allowed Thursdays as well).
2. Customers with odd-numbered addresses may irrigate on Sundays and Wednesdays (previous Stages allowed Fridays as well).
3. Customers without a street address may irrigate on Saturdays and Tuesdays (previous Stages allowed Thursdays as well).
4. Notwithstanding the foregoing restrictions, irrigation of special landscape areas or commercial nurseries may occur as needed, provided that the customer who wishes to irrigate a special landscape area or commercial nursery presents Cal Water with a plan to achieve water use reductions commensurate with those that would be achieved by complying with foregoing restrictions.
5. Notwithstanding the foregoing restrictions, when a city, county, or other local public agency in one of Cal Water's service areas duly adopts restrictions on the number of days or hours of the day that customers may irrigate which are different than those adopted by Cal Water, Cal Water may enforce the city, county, or other local public agency's restrictions.

ii. Irrigating ornamental landscape with potable water is prohibited during the hours between **8:00 a.m. and 6:00 p.m.**

iii. The foregoing restrictions do **not** apply to:

1. Landscape irrigation zones that exclusively use drip irrigation systems and/or micro spray irrigation system;
2. Irrigating ornamental landscapes with the use of a hand-held bucket or similar container, a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored, or for the express purpose of adjusting or repairing an irrigation system.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixtures and/or irrigation system must be repaired within **two (2) business days** of written notification by Cal Water, unless other arrangements are made with Cal Water.

c. **Prohibited** Uses of Water: Customers are prohibited from using potable water for the following actions:

i. The application of potable water to landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures (note: this provision appears under Section E in Rule 14.1);

(continued)

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

 (T)

G. STAGE THREE WATER USE RESTRICTIONS (Continued)

[Stage 3 (cont.)]

ii. The use of a hose that dispenses potable water to wash vehicles, including cars, trucks, buses, boats, aircraft, and trailers, whether motorized or not, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use (note: this provision appears under Section E in Rule 14.1).

iii. The application of potable water to driveways and sidewalks;

iv. The use of potable water in a water feature, except where the water is part of a recirculating system;

v. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall;

vi. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased;

vii. Irrigation of ornamental turf on public street medians with potable water;

viii. Irrigation outside of newly constructed homes and buildings with potable water in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.

ix. <u>Use of potable water for street cleaning with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible);</u>

x. <u>Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.</u>

d. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language.

e. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to the implementation of any staged mandatory restrictions of water use as described in this Schedule.

f. Other duly adopted restrictions on the use of potable water as prescribed from time to time by the Commission or other authorized government agencies are incorporated herein by reference.

H. STAGE FOUR WATER USE RESTRICTIONS

1. MANDATORY WATER BUDGETS AND BANKING (STAGE 4)

Water budgets will be based on a customer's consumption during a historical base period and will include a percentage reduction designed to meet necessary water-use reductions. Cal Water may include provisions such as minimum water budgets to protect the health and safety of customers, and water banking allowing customers additional flexibility with regard to their required reductions.

In addition to the normal rate paid for the unit of water, a drought surcharge will be charged to a customer for each unit of water used over the established water budget for the billing period. For Stage 4, Cal Water may implement surcharges up to three (3) times those charged in Stage 2. Cal Water may require customer consumption reductions of up to 50%.

Cal Water will establish an appeals process for customers that will allow for requests for increased water budgets.

(continued)

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

 (T)

H. STAGE FOUR WATER USE RESTRICTIONS (Continued)

[Stage 4 (cont.)]

2. WASTEFUL USES OF WATER (STAGE 4)

The following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency. Differences from or additions to previous Stages are underlined. (The following restrictions are the same as those provided in Stage 4 of Rule 14.1.)

a. Irrigating ornamental landscape with potable water is prohibited, except when a hand-held bucket or a similar container, or a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored is used to maintain vegetation, including trees and shrubs.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixtures or irrigation system must be repaired within **one (1) business day** of written notification by Cal Water, unless other arrangements are made with Cal Water.

c. Prohibited Uses of Water: Customers are prohibited from using potable water for the following actions:

i. The application of potable water to landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;

ii. The use of a hose that dispenses potable water to wash vehicles, including cars, trucks, buses, boats, aircraft, and trailers, whether motorized or not, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.

iii. The application of potable water to driveways and sidewalks;

iv. The use of potable water in a water feature, except where the water is part of a recirculating system;

v. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall;

vi. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased;

[Note that items previously identified as (ix) and (x) in Stage 3 have been eliminated.]

vii. Use of potable water for street cleaning with trucks (previous Stage allowed certain exceptions);

viii. Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses (previous Stages allowed certain exceptions).

d. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language.

e. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to the implementation of any staged mandatory restrictions of water use as described in this Schedule.

f. Other duly adopted restrictions on the use of potable water as prescribed from time to time by the Commission or other authorized government agencies are incorporated herein by reference.

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Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

 (T)

I. SAMPLE TABLES WITH TIER A AND TIER B EXCESS USAGE AMOUNTS (N)

1. FOR DISTRICTS IN COMPLIANCE WITH MANDATORY REDUCTIONS

For the purposes of applying Drought Surcharges, the sample table below identifies the number of units over a customer's Water Budget (the excess usage) that falls within Tiers A and B in a district whose cumulative savings meet the Water Board's Mandatory Reduction Percentage as of the date identified in **Appendix A**.

For Districts in Compliance with Mandatory Water Reduction Targets

District	Service Area	Tier A - No Surcharges	Tier B - Drought Surcharges Applied			Minimum Water Budget	Rate Support Fund Area
		Units Over Water Budget	Units Over Water Budget	Surcharge per unit (Non-LIRA Customers)	Surcharge per unit (LIRA Customers)	(Ccf per month)	(RSF)
Antelope Valley	Fremont Valley & Lake Hughes	1-6	7+	$4.5200	$2.2600	5	RSF Area
	Lancaster	1-5	6+	$7.1180	$3.5590	5	
	Leona Valley	1-4	5+	$4.5200	$2.2600	5	RSF Area
Bakersfield		1-6	7+	$4.1868	$2.0934	7	
Bayshore	Mid-Peninsula	1-3	4+	$10.0000	$5.0000	6	
	South San Francisco	1-3	4+	$5.6492	$2.8246	6	
Bear Gulch		1-5	6+	$10.0000	$5.0000	6	
Chico		1-6	7+	$3.1314	$1.5657	6	
Dixon		1-3	4+	$7.9402	$3.9701	7	
Dominguez		1-3	4+	$6.9934	$3.4967	7	
East Los Angeles		1-4	5+	$3.7605	$1.8803	9	
Grand Oaks		1-6	7+	$2.1236	$1.0618	5	
Hermosa Redondo		1-3	4+	$9.1586	$4.5793	5	
Kern River Valley		1-3	4+	$4.5200	$2.2600	4	RSF Area
King City		1-4	5+	$6.7536	$3.3768	9	
Livermore		1-4	5+	$7.6194	$3.8097	6	
Los Altos		1-5	6+	$8.1608	$4.0804	6	
Marysville		1-4	5+	$5.1470	$2.5735	6	
Oroville		1-5	6+	$6.1840	$3.0920	6	
Palos Verdes		1-6	7+	$9.5358	$4.7679	6	
Redwood Valley		1-4	5+	$4.5200	$2.2600	4	RSF Area
Salinas		1-3	4+	$5.7776	$2.8888	7	
Selma		1-5	6+	$3.0122	$1.5061	8	
Stockton		1-4	5+	$5.5506	$2.7753	7	
Visalia		1-5	6+	$2.9796	$1.4898	7	
Westlake		1-6	7+	$9.2378	$4.6189	6	
Willows		1-5	6+	$4.1356	$2.0678	6	

(N)

(continued)

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

 (T)

I. SAMPLE TABLES WITH TIER A AND TIER B EXCESS USAGE AMOUNTS (N)

2. FOR DISTRICTS NOT IN COMPLIANCE WITH MANDATORY REDUCTIONS

For the purposes of applying Drought Surcharges, the sample table below identifies the number of units over a customer's Water Budget (the excess usage) that falls within Tiers A and B in a district whose cumulative savings do NOT meet the Water Board's Mandatory Reduction Percentage as of the date identified in **Appendix A**.

For Districts not in Compliance with Mandatory Water Reduction Targets

District	Service Area	Tier A - No Surcharges	Tier B - Drought Surcharges Applied			Minimum Water Budget	Rate Support Fund Area
		Units Over Water Budget	Units Over Water Budget	Surcharge per unit (Non-LIRA Customers)	Surcharge per unit (LIRA Customers)	(CCF per month)	(RSF)
Antelope Valley	Fremont Valley & Lake Hughes	1	2+	$4.5200	$2.2600	5	RSF Area
	Lancaster	1	2+	$7.1180	$3.5590	5	
	Leona Valley	1	2+	$4.5200	$2.2600	5	RSF Area
Bakersfield		1	2+	$4.1868	$2.0934	7	
Bayshore	Mid-Peninsula	1	2+	$10.0000	$5.0000	6	
	South San Francisco	1	2+	$5.6492	$2.8246	6	
Bear Gulch		1	2+	$10.0000	$5.0000	6	
Chico		1	2+	$3.1314	$1.5657	6	
Dixon		1	2+	$7.9402	$3.9701	7	
Dominguez		1	2+	$6.9934	$3.4967	7	
East Los Angeles		1	2+	$3.7605	$1.8803	9	
Grand Oaks		1	2+	$2.1236	$1.0618	5	
Hermosa Redondo		1	2+	$9.1586	$4.5793	5	
Kern River Valley		1	2+	$4.5200	$2.2600	4	RSF Area
King City		1	2+	$6.7536	$3.3768	9	
Livermore		1	2+	$7.6194	$3.8097	6	
Los Altos		1	2+	$8.1608	$4.0804	6	
Marysville		1	2+	$5.1470	$2.5735	6	
Oroville		1	2+	$6.1840	$3.0920	6	
Palos Verdes		1	2+	$9.5358	$4.7679	6	
Redwood Valley		1	2+	$4.5200	$2.2600	4	RSF Area
Salinas		1	2+	$5.7776	$2.8888	7	
Selma		1	2+	$3.0122	$1.5061	8	
Stockton		1	2+	$5.5506	$2.7753	7	
Visalia		1	2+	$2.9796	$1.4898	7	
Westlake		1	2+	$9.2378	$4.6189	6	
Willows		1	2+	$4.1356	$2.0678	6	

(N)

(continued)

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

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APPENDIX A to Schedule 14.1 - *NOT IN EFFECT* (C)

Drought Surcharge Tiers (applies to all metered customers of potable water) (C)

District	Service Area	In Compliance with Mandatory Reduction? As of 2/1/16	Tier A - No Surcharges: Units Over Water Budget	Tier B - Drought Surcharges Applied: Units Over Water Budget	Tier B: Surcharge per unit (Non-LIRA Customers)	Tier B: Surcharge per unit (LIRA Customers)	Minimum Water Budget (CCF per month)	Rate Support Fund Area (RSF)
Antelope Valley	Fremont Val. /Lake Hughes		1-6	7+	$4.5200	$2.2600	5	RSF Area
	Lancaster		1-5	6+	$7.1180	$3.5590	5	
	Leona Valley		1-4	5+	$4.5200	$2.2600	5	RSF Area
Bakersfield			1-6	7+	$4.1868	$2.0934	7	
Bayshore	Mid-Peninsula		1-3	4+	$10.0000	$5.0000	6	
	South San Francisco		1-3	4+	$5.6492	$2.8246	6	
Bear Gulch			1-5	6+	$10.0000	$5.0000	6	
Chico			1-6	7+	$3.1314	$1.5657	6	
Dixon			1-3	4+	$7.9402	$3.9701	7	
Dominguez			1-3	4+	$6.9934	$3.4967	7	
East Los Angeles			1-4	5+	$3.7605	$1.8803	9	
Grand Oaks			1-6	7+	$2.1236	$1.0618	5	
Hermosa Redondo		No	1	2+	$9.1586	$4.5793	5	
Kern River Valley		No	1	2+	$4.5200	$2.2600	4	RSF Area
King City			1-4	5+	$6.7536	$3.3768	9	
Livermore			1-4	5+	$7.6194	$3.8097	6	
Los Altos			1-5	6+	$8.1608	$4.0804	6	
Marysville			1-4	5+	$5.1470	$2.5735	6	
Oroville			1-5	6+	$6.1840	$3.0920	6	
Palos Verdes		No	1	2+	$9.5358	$4.7679	6	
Redwood Valley (all)			1-4	5+	$4.5200	$2.2600	4	RSF Area
Salinas			1-3	4+	$5.7776	$2.8888	7	
Selma			1-5	6+	$3.0122	$1.5061	8	
Stockton			1-4	5+	$5.5506	$2.7753	7	
Visalia		No	1	2+	$2.9796	$1.4898	7	
Westlake		No	1	2+	$9.2378	$4.6189	6	
Willows			1-5	6+	$4.1356	$2.0678	6	

(a) The Drought Surcharge is equal to two (2) times the highest residential tier rate with a $10.00 maximum EXCEPT:
The Drought Surcharge in Rate Support Fund (RSF) areas is equal to $4.52.
The Drought Surcharge for districts with a 10% or less water reduction requirement is equal to the highest residential tier rate.

(b) The Drought Surcharge for LIRA customers is 50% of the Drought Surcharge for Non-LIRA customers.

(c) The Minimum Water Budget is set at 55 gpcd (gallons per capita per day) multiplied by the number of people per household for the area according to the U.S. Census.

(d) A district is determined to be in compliance if it has met or is within one percent of its Mandatory Reduction requirement.

(continued)

Schedule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES (continued)

Page 16 (T)

APPENDIX B to Schedule 14.1 (T)

CUMULATIVE WATER SAVED COMPARED TO MANDATORY REDUCTIONS (C)

Urban Water Supplier	Cumulative Percentage Saved	Water Board's Target Percentage	In Compliance?
	Jun. 2015 to Jan. 2016 (as compared to 2013) *	Mandatory Reduction *	As of Feb. 1, 2016 **
California Water Service Company Antelope Valley	47.8%	36%	
California Water Service Company Bakersfield	31.1%	32%	
California Water Service Company Bear Gulch	35.0%	36%	
California Water Service Company Chico District	38.3%	32%	
California Water Service Company Dixon, City of	30.2%	28%	
California Water Service Company Dominguez	16.8%	16%	
California Water Service Company East Los Angeles	15.5%	8%	
California Water Service Company Hermosa Redondo	18.3%	20%	No
California Water Service Company Kern River Valley	20.1%	28%	No
California Water Service Company King City	21.8%	12%	
California Water Service Company Livermore	39.9%	24%	
California Water Service Company Los Altos/Suburban	38.1%	32%	
California Water Service Company Marysville	26.2%	24%	
California Water Service Company Mid Penninsula	26.6%	16%	
California Water Service Company Oroville	28.5%	28%	
California Water Service Company Palos Verdes	28.9%	36%	No
California Water Service Company Redwood Valley	31.7%	16%	
California Water Service Company Salinas District	24.9%	16%	
California Water Service Company Selma	39.0%	32%	
California Water Service Company South San Francisco	20.8%	8%	
California Water Service Company Stockton	22.6%	20%	
California Water Service Company Visalia	25.6%	32%	No
California Water Service Company Westlake	33.5%	36%	No
California Water Service Company Willows	30.1%	28%	

(C)

* The figures in Appendix B are from the State Water Resources Control Board's website at:
http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/2016feb/suppliercompliance_022516.pdf (C)

(D)
** A district is determined to be in compliance if it has met or is within one percent of its Mandatory Reduction requirement. (N)

[end]

Appendix J: Conservation Master Plan

CONSERVATION MASTER PLAN 2021 – 2025

April 2021

Salinas District

California Water Service

Prepared by M.Cubed

Table of Contents

List of Acronyms

AB	Assembly Bill
AF	Acre-feet (one AF equals 325,851 gallons)
AMI	Advanced metering infrastructure
AMR	Automatic meter reading
AWE	Alliance for Water Efficiency
BCR	Benefit Cost Ratio
BMP	Best Management Practice
CalWEP	California Water Efficiency Partnership
CII	Commercial, industrial, and institutional
CPUC	California Public Utilities Commission
CUWCC	California Urban Water Conservation Council
EO	Executive Order
GPCD	Gallons per capita per day
GPF	Gallons per flush
GPM	Gallons per minute
GRC	General Rate Case
HET	High efficiency toilet
HEU	High efficiency urinal
HEW	High efficiency clothes washer
IOU	Investor-owned utility
MaP	Maximum performance toilet testing program
MGD	Million gallons per day
MOU	Memorandum of Understanding Regarding Urban Water Conservation in California
SB	Senate Bill
SB X7-7	Senate Bill X7-7 Water Conservation Act of 2009
ULFT	Ultra low flow toilet
UWMP	Urban Water Management Plan
WF	Water Factor
WSCP	Water Shortage Contingency Plan

1 Introduction

1.1 Master Plan Scope and Objectives

Cal Water is committed to helping its customers use water efficiently and has developed a range of water conservation programs to support this goal. To ensure that it is providing the right mix of programs in a cost-effective manner, Cal Water routinely conducts comprehensive conservation program analysis and planning. This is done on a five-year cycle in tandem with the Urban Water Management Plan (UWMP). The results of this planning for the Salinas District are summarized in this report, which covers the period 2021 to 2025.

The main purposes of this Conservation Master Plan are to:

- Serve as a broad guidance document that helps inform annual conservation activities, such as program levels, staffing, and budget needs both internally and for stakeholders.

- Summarize the mix of conservation measures that Cal Water plans to implement going forward, including the estimated water savings, costs, and effects on water demand.

- Explain the evaluation process and factors considered in selecting conservation measures.

- Provide an update to the 2016-20 Conservation Master Plan as part of a five-year review cycle to assess program performance and identify the need for any adjustments; and

- Ensure Cal Water districts are positioned to comply with the state's Making Water Conservation a California Way of Life regulations.

1.2 Relationship to GRC and UWMP

Cal Water's operations are regulated by the California Public Utilities Commission (CPUC), which approves the budgets and rates for each Cal Water district every three years in a General Rate Case (GRC) proceeding. The district's conservation programs and expenditures are part of the GRC proceeding. The last GRC covered the three-year period 2020-22 and a new GRC covering the period 2023-25 is presently underway. The conservation programs and budgets for 2021 in this plan reflect those authorized in the last GRC while those recommended for 2023-25 reflect programs and budgets being proposed by Cal Water in the current GRC.

This plan is an update to the Conservation Master Plan Cal Water completed in 2016 covering the period 2016-20. It constitutes the primary source of information on historical and proposed implementation of conservation programs reported in the Salinas District's 2020 UWMP. A copy of this plan is provided as an appendix to the UWMP.

1.3 Relationship to Water Shortage Contingency Plan

The Water Conservation Master Plan is distinct from Cal Water's Water Shortage Contingency Plan (WSCP), which is also part of each district's UWMP. While the main purpose of the WSCP is to provide a blue-print for responding to water shortage emergencies caused by drought or other events resulting in temporary disruption to water supplies, the goal of the Water Conservation Master Plan is to provide a blue-print for providing education, assistance, and incentives to help customers use water efficiently all the time. Regardless of drought, water in California is an increasingly scarce resource. Investing in water use efficiency has repeatedly been shown to be a cost-effective way to ensure adequate supply of water for the future. While the conservation programs Cal Water implements are critically important during periods of water shortage, their primary purpose is to help make sure Cal Water can reliably serve customer water needs far into the future.

1.4 Report Organization

The remainder of this report is organized as follows:

- Section 2 provides a brief overview of the District, including the communities it serves, its sources of water supply, and its customer water demands.
- Section 3 discusses Cal Water's conservation goals and accomplishments, in particular with respect to the Water Conservation Act of 2009, CPUC conservation requirements, and the state's pending Making Water Conservation a California Way of Life regulations.
- Section 4 describes the conservation programs Cal Water currently offers to its customers and discusses new programs Cal Water intends to offer.
- Section 5 presents the water savings, costs, and benefits expected from the recommended conservation programs.
- Section 6 discusses metrics used to assess program performance.
- Section 7 addresses program monitoring and future updates to the Conservation Master Plan.

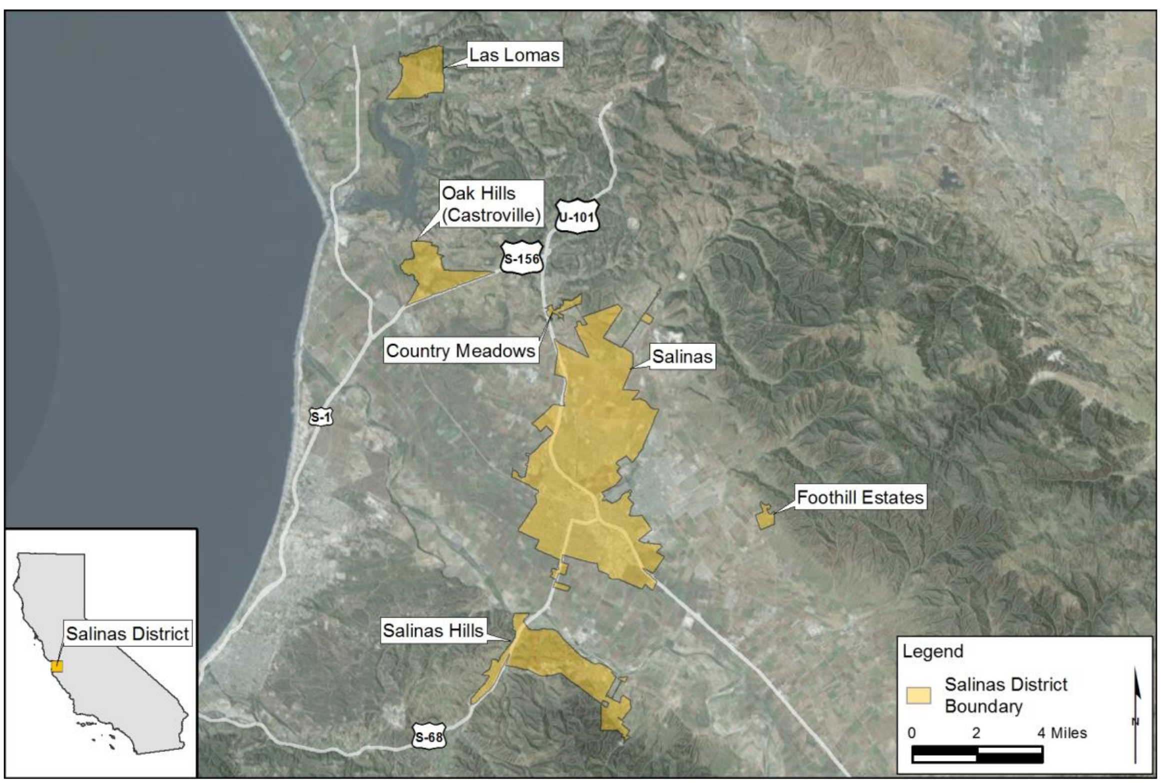
2 District Overview

District Quick Facts:

- Communities Served: Buena Vista, Country Meadows, Salinas, Salinas Hills, Indian Springs, Las Lomas, Oak Hills, and Foothill Estates
- Population served in 2020: 123,317
- Residential Customers: 89% of total services and 42% of total use
- Sources of Supply: 100% local groundwater
- Average Annual Water Deliveries Last Five Years: 15,700 AF
- Average Per Capita Water Use Last Five Years: 114 GPCD

The Salinas District is approximately 15 miles northeast of the City of Monterey. The District serves 70 percent of the residents of the City of Salinas and the residents of the unincorporated communities of Country Meadows, Bolsa Knolls, Las Lomas, Oak Hills, and Salinas Hills. Cal Water has provided water service to the Salinas area since 1962. Water served by the District comes from local groundwater. Across the six service areas that comprise the District, Cal Water operates 46 wells, 22 booster pumps, 30 storage tanks, and more than 300 miles of pipeline. The District delivers up to 32 million gallons of water per day to more than 27,000 service connections. A map of the service area is shown in Figure 1.

Figure 1. Salinas District Service Area Boundaries

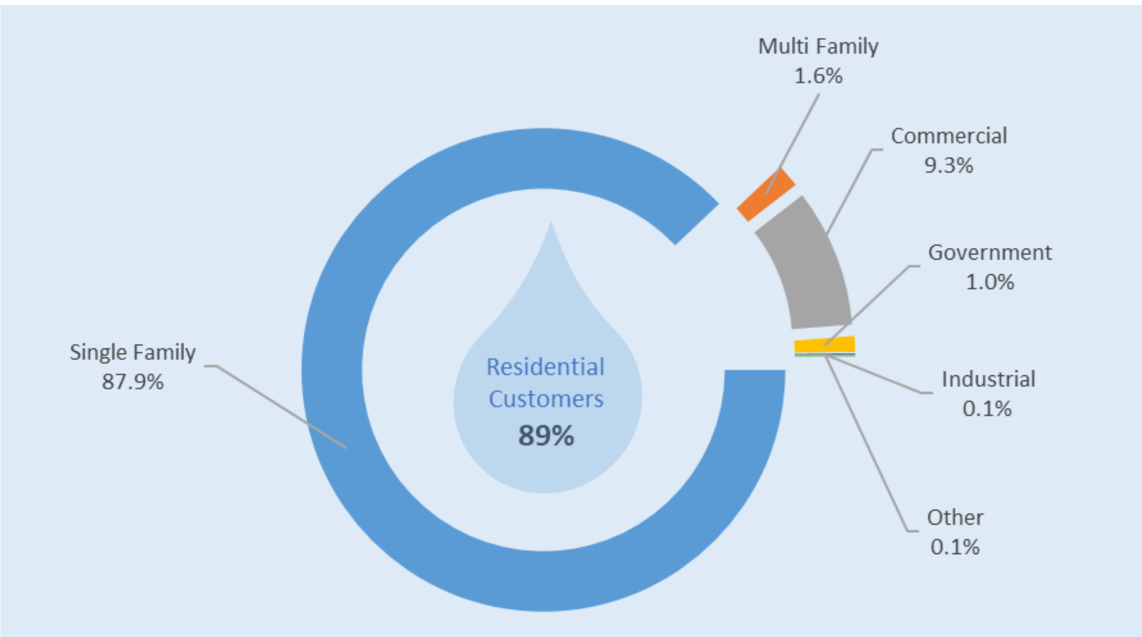


Cal Water estimates the service area population was 123,317 in 2020. Service area population has been growing at an annual rate of less than one percent for the past 15 years. Between 2016 and 2020, however, the District's population growth slowed to an average rate of 0.3 percent per year.

Groundwater is the District's sole source of water supply. The District delivers water to residential, commercial, industrial, and governmental customers. Residential customers account for 89 percent of water services in the District. The share of services in 2020 by customer category is shown in Figure 2. The share of total water sales by customer category over the period 2016-2020 is shown in Figure 3. Residential customers accounted for 42 percent of water use over this period.

Annual demand has averaged 15,700 acre-feet (AF) over the five-year period 2016-2020. Total annual demands since 1980 are shown in Figure 4.

Figure 2. Share of Services in 2020 by Customer Category



Note: values may not sum to 100% due to independent rounding.

Figure 3. Share of Water Sales by Customer Category: 2016-2020

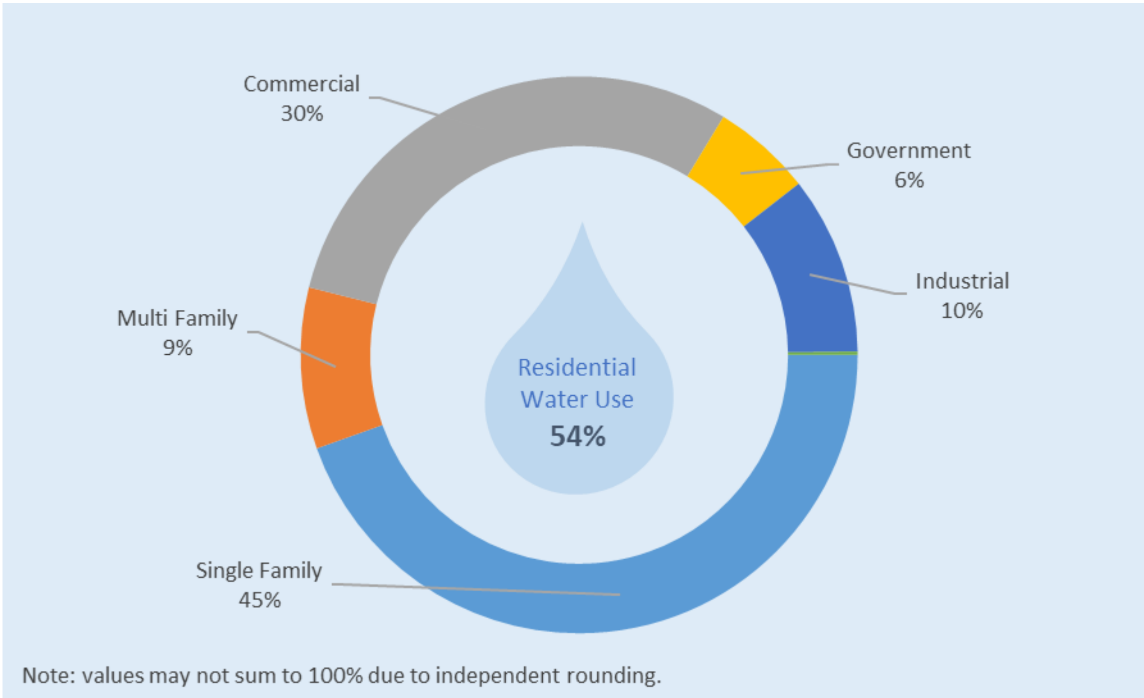
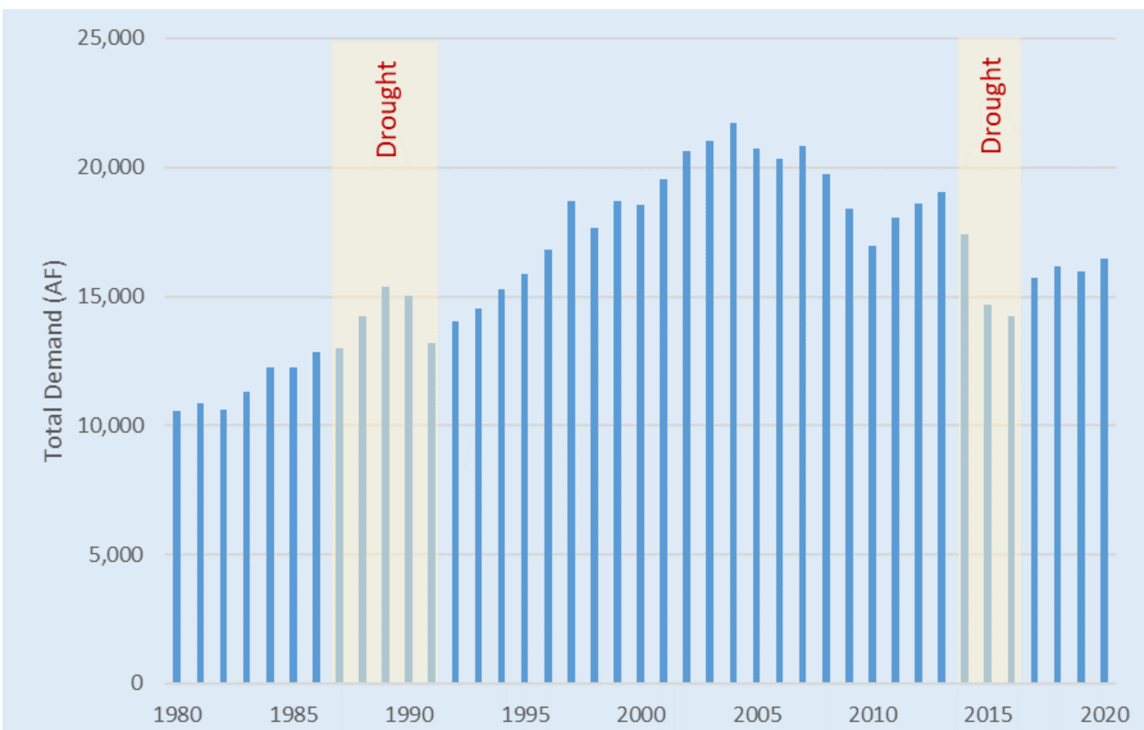


Figure 4. Total Demand and Sources of Supply: 1980 - 2020



3 Conservation Goals and Progress

In this section, conservation goals and progress for the Salinas District are presented.

3.1 Conservation Program Activity and Water Savings

Cal Water uses the Alliance for Water Efficiency's Water Conservation Tracking Tool to track program activity and estimate water savings. Conservation program activity for 2016-20 is shown in Table 1. This activity is expected to generate water savings of 130 AF/year and cumulative lifetime savings of 1,950 AF.

Table 1. Conservation Program Activity and Water Savings: 2016-20

1. Plumbing Fixture Replacement	2016 – 2020 Total Activity
Toilets & Urinals (number distributed)	3,735
Clothes Washers (number distributed)	453
Consv. Kits (number distributed)	373
2. Irrigation Equip./Landscape Upgrades	
Smart Controllers (number distributed)	81
Nozzles & Spray Bodies (number distributed)	623
Turf Replacement (sq ft removed)	31,125
3. Residential Customer Assistance	
Surveys/Audits (homes receiving)	10
4. Non-Residential Customer Assistance	
Surveys/Audits (sites receiving)	2
Large Landscape Reports (sites receiving)	102
Average Annual Water Savings (AF)	**130**
Cumulative Lifetime Water Savings (AF)	**1,950**

3.2 Plumbing Codes and Water Use Efficiency Standards

Cal Water's conservation programs are operated within the context of existing plumbing codes and water use efficiency standards that are designed to improve the future water use efficiency of major water using appliances and fixtures, such as toilets and clothes washers, as well as water used outdoor for landscaping. Cal Water estimates that plumbing codes and water use efficiency standards will cumulatively save more than 14,000 AF in the District over the next 25 years. The primary drivers for the expected water savings are as follows:

- AB 715, enacted in 2007, requires that any toilet or urinal sold or installed in California on or after January 1, 2014 cannot have a flush rating exceeding 1.28 and 0.5 gallons per flush, respectively. AB 715 superseded the state's previous standards for toilet and urinal water use set in 1991 of 1.6 and 1.0 gallons per flush, respectively. On April 8, 2015, in response to the Governor's Emergency Drought Response Executive Order (EO B-29-15), the California Energy Commission approved new standards for urinals requiring that they not use more than 0.125 gallons per flush, 75% less than the standard set by AB 715.

- Water use standards for residential and commercial clothes washers and dishwashers are established by the U.S. Department of Energy through its authority under the federal Energy Policy and Conservation Act. Water use efficiency is summarized by the water factor for the appliance which measures the gallons of water used per cycle per cubic foot of capacity. A typical top-loading residential clothes washer manufactured in the 1990s had a water factor of around 12. In 2015, the allowable water factor for top- and front-loading residential clothes was reduced to 8.4 and 4.7, respectively. In 2018, the water factor standard for top-loading residential clothes washers was reduced to 6.5. In 2010 the allowable water factor for top- and front-loading commercial clothes washers was reduced to 8.5 and 5.5, respectively. The maximum water factor for Energy Star compliant top- and front-loading washers is 3.7 and 4.3, respectively. An Energy Star compliant washer uses about two-thirds less water per cycle than washers manufactured in the 1990s. There also are federal dishwasher efficiency standards. The maximum water use for standard and compact sized dishwashers is 5.0 and 3.5 gallons per cycle, respectively.

- New construction and renovations in California are subject to CalGreen Code requirements. CalGreen includes prescriptive indoor provisions for maximum water consumption of plumbing fixtures and fittings in new and renovated properties. CalGreen also allows for an optional performance path to compliance, which requires an overall aggregate 20% reduction in indoor water use from a calculated baseline using a set of worksheets provided with the CalGreen guidelines.

- SB 407, enacted in 2009, mandates that existing buildings in California come up to current state plumbing fixture standards. This law establishes requirements that residential and commercial property built and available for use on or before January 1, 1994 replace plumbing fixtures that are not water conserving, defined as "noncompliant plumbing fixtures" as follows:

    - any toilet manufactured to use more than 1.6 gallons of water per flush;

    - any urinal manufactured to use more than one gallon of water per flush;

    - any showerhead manufactured to have a flow capacity of more than 2.5 gallons of water per minute; and
    - any interior faucet that emits more than 2.2 gallons of water per minute.

- For single-family residential property, the SB 407 compliance date was January 1, 2017. For multi-family and commercial property, it was January 1, 2019.
- The law does not include enforcement mechanisms ensuring conversion by these dates. However, it does require retrofit upon resale of property. SB 837, passed in 2011, reinforced this requirement by requiring the transfer disclosure statement include disclosure of compliance with SB 407.

California also has adopted regulations governing future use of water for landscape.

- The California Water Commission approved the State's updated Model Water Efficient Landscape Ordinance (MWELO) in 2015. MWELO or a locally adopted equivalent ordinance limits how much water new and rehabilitated residential and commercial landscapes can use. For residential landscapes, the maximum allowed water allowance (MAWA) is 55% of the amount of water that healthy cool season turf grass would require given the local climate. For commercial landscapes, it is 45%. Variances are allowed for special landscaping, such as play fields and parks, or landscaping irrigated with recycled water.
- CalGreen requires that automatic irrigation controllers for new landscaping installed by a builder be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plant water needs as weather or soil conditions change.
- Starting October 1, 2020, spray sprinkler bodies sold or offered for sale in California are required to use the WaterSense test procedure (Version 1.0, September 21, 2017) and must meet state standards (California Code of Regulations, Title 20, section 1605.3(x)(1)(A)). The new standards establish limits on maximum and average flow rate and minimum outlet pressure. Statewide, the new standards are estimated to save 15 billion gallons of water in the first year the standard is in effect and 152 billion gallons per year at full stock turnover. Consumers are expected to save about $22 per spray sprinkler body over the life of the device through reduced water use.

3.3 Compliance with State Urban Water Use Target

The Water Conservation Act of 2009, also known as SB X7-7, mandated a 20% reduction in per capita water use by 2020. Every urban retail water supplier was required to establish a 2020 per capita water use target based on their historical water use. Water suppliers could also form a Regional Alliance with other retail water suppliers and meet the requirement jointly. The District formed a Regional Alliance with other Cal Water districts in the Sacramento River Hydrologic Region. As long as either the District's or the Regional Alliance's 2020 per capita water use is below target, the District will have met the act's requirements.

Figure 5 demonstrates the District's compliance with the Water Conservation Act of 2009. Both the District's and the Regional Alliance's 2020 water use were below their respective targets. Through the concerted efforts of Cal Water and its customers, District per capita water use is now 26% below its peak reached in the mid-2000s (see Figure 6).

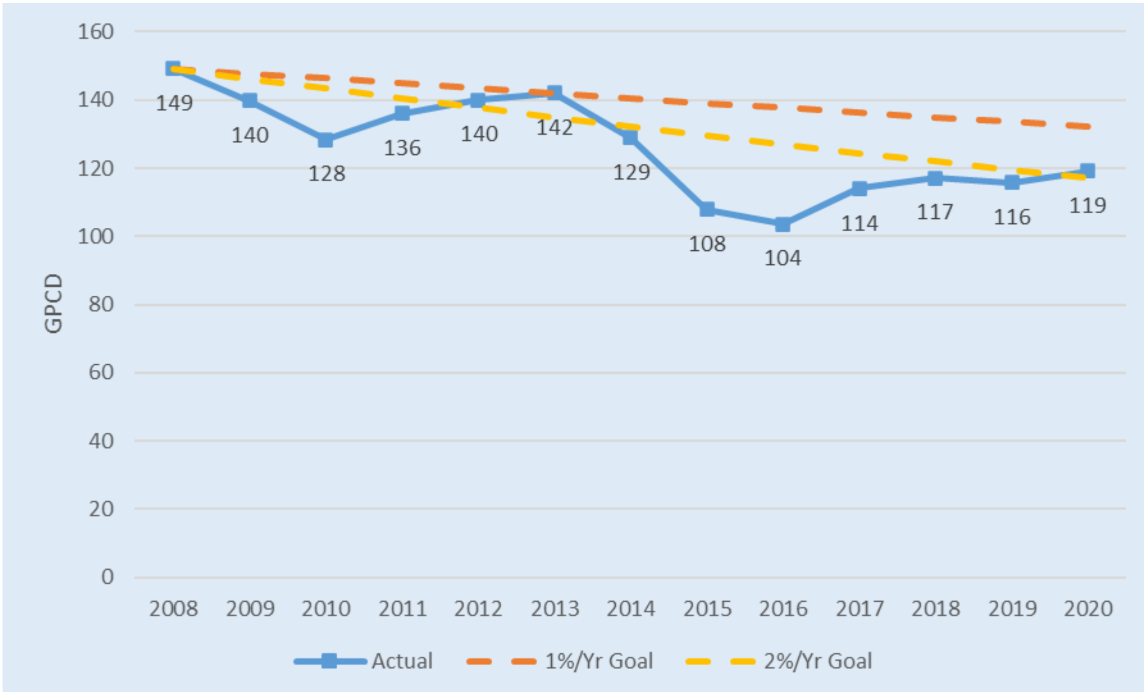
Figure 5. 2020 Target and Actual Per Capita Water Use

3.4 Compliance with CPUC Conservation Goals

In 2008, the California Public Utilities Commission (CPUC) established water conservation goals of 1-2% per year for Class A utilities, which includes California Water Service Company.[1] As shown in Figure 6, the District has consistently met or exceeded these goals since their adoption.

[1] CPUC Decision 08-02-036, dated February 29, 2008.

Figure 6. District Per Capita Water Use Relative to CPUC Conservation Goals



3.5 Making Water Conservation a California Way of Life

The state adopted legislation in 2018 establishing a new framework for setting urban water conservation standards and objectives.[2] This legislation built upon the April 2017 report entitled *Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16*, prepared by state agencies, including the CPUC. The legislation directs the state to establish water use efficiency standards for:

- Residential Indoor Water Use
- Residential Outdoor Water Use
- Dedicated Landscape Meter Water Use
- Utility Distribution System Water Losses

Once adopted, these standards will provide the basis for a new urban water use target, or in the vernacular of the legislation, an aggregate urban water use objective. In one way, the Making Water Conservation a California Way of Life legislation carries on where the Water Conservation Act of 2009 left off – it will establish a new set of water use objectives for retail urban water suppliers. However, there are important

[2] Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman).

differences. First, whereas the 2009 legislation established a long-term reduction target, under the new regulations, urban water suppliers will report water use relative to the new target annually starting in 2023 and will need to achieve the new target by January 1, 2027. Second, while the 2009 legislation applied to all urban water uses, the new legislation excludes non-residential uses other than water served by dedicated landscape meters from the target setting process. Instead, it requires DWR and the State Water Board to propose best management practices, including water audits and water management plans for non-residential customers above a certain size or volume of use, by October 1, 2021. Third, whereas the 2009 legislation set the same objective for all urban water suppliers (reduce water use by 20%), the new legislation varies the objective based on local conditions and existing levels of water use.[3]

Figure 7 shows the components of an urban water supplier's water use objective. The first four components will be based on the efficiency standards the state sets for indoor and outdoor residential water use, dedicated landscape meter water use, and utility distribution system losses. The fifth component allows for special circumstances, such as a large seasonal population or significant water use for fire protection, while the sixth component provides credit for water recycling. Added together, the six components establish the water suppliers water use objective.

For water suppliers failing to meet their water use objective, the legislation specifies progressive enforcement, as follows:

- Starting November 1, 2023, the State Water Board may issue information orders to obtain information to determine technical assistance needs for compliance (CWC 10609.26(a))

- Starting November 1, 2024, the State Water Board may issue written notices to warn suppliers of violation and request corrective actions by the next annual reporting (CWC 10609.26(b))

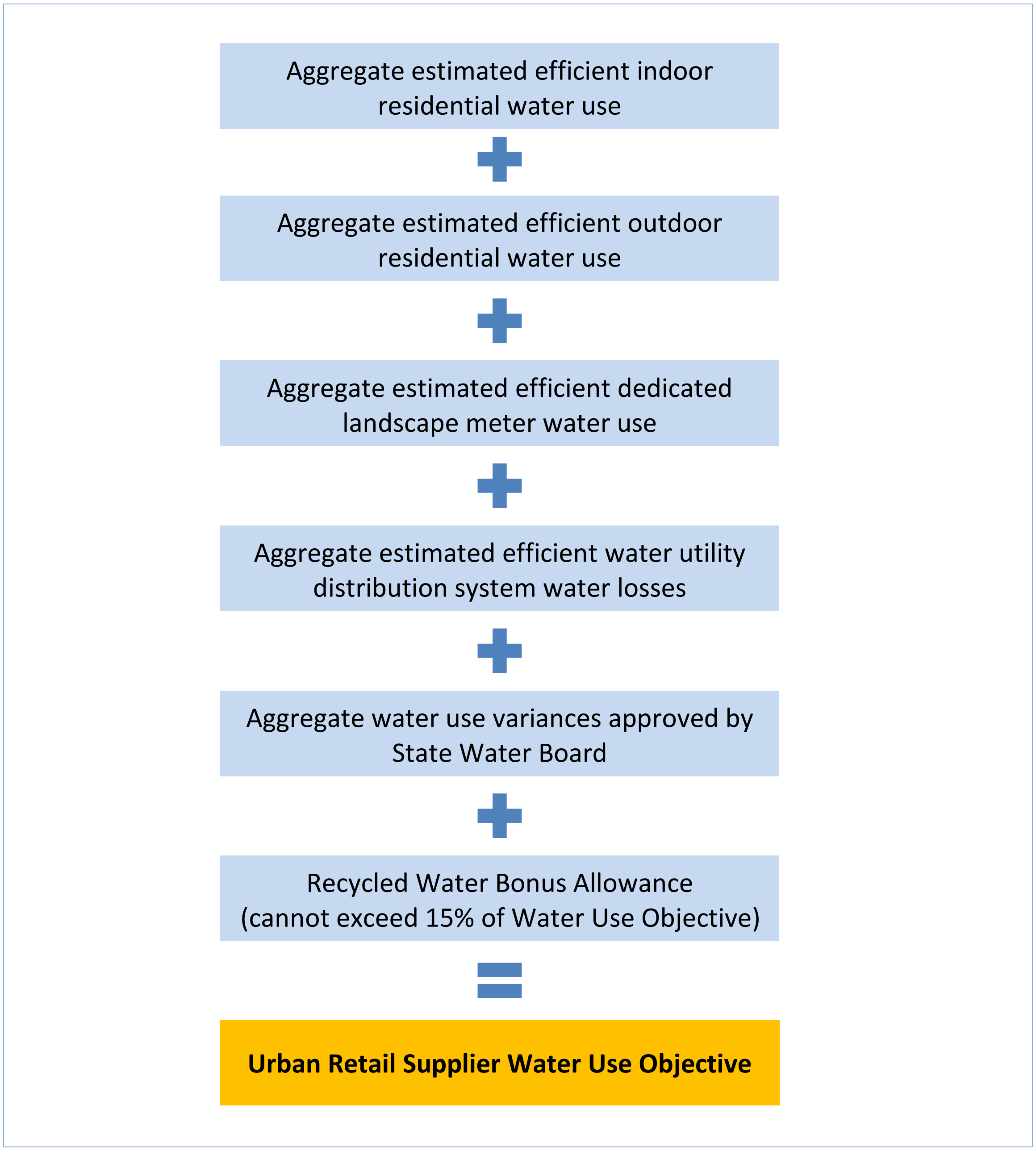
- Starting November 1, 2025, the State Water Board may issue conservation orders that may include referral to DWR for technical assistance and other local enforcement actions, including imposition of civil liability (CWC 10609.26(c)

Cal Water conducted a risk assessment to determine which of its districts may require additional resources to meet the new conservation regulations. The risk assessment considered current and projected level of overall water use, level of indoor residential water use, extent of residential and non-residential landscape area and water use, and

[3] For additional information, see Making Water Conservation a California Way of Life: Primer of 2018 Legislation on Water Conservation and Drought Planning Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman).

condition of distribution system and level of water loss. Using a scoring system, the assessment ranked each district in terms of its risk of non-compliance with the individual components of the water use objective as well as the aggregate objective. The results of this assessment provided the basis for the conservation program budgets put forward in Cal Water's 2018 and 2021 general rate cases.

Figure 7. Making Water Conservation a California Way of Life Water Use Objective



4 Water Conservation Program

Cal Water centrally administers the conservation programs for its service districts. This creates both constraints and opportunities in terms of program design and implementation. The key constraint is the need to have consistent program offerings across districts. Except under unique circumstances, it is generally not logistically feasible or cost-effective to customize programs for individual districts. Also, if Cal Water offers a program in one district, customers in other districts generally expect it to also be available in their district. This puts a premium on offering a relatively small set of programs that can benefit all Cal Water customers. The advantage of central administration, however, is that it gives Cal Water scale economies and purchasing power that helps it keep program costs down, thereby improving cost-effectiveness.

4.1 Conservation Program Drivers

While Cal Water strives to develop programs that can be deployed in any of its districts, it tailors marketing, customer targeting, and implementation focus based on the needs of each district. In the Salinas District, the main drivers shaping the conservation program are summarized in Table 2.

Table 2. Main Conservation Program Drivers in Salinas District

Driver	Explanation
Groundwater Management	Groundwater is the sole source of water supply for the District. Two of the groundwater basins from which the District pumps are designated as critically overdrafted by the state. All the basins the District relies on are subject to the requirements of the Ground Water Sustainability Act of 2014.
Residential Water Use	The state's Making Conservation a California Way of Life water use regulations are focused on reducing indoor and outdoor residential water use.
Landscape Water Use	The state's Making Conservation a California Way of Life water use efficiency regulations may require the District to start serving some non-residential landscapes through dedicated landscape meters and annually report water use relative to new landscape water use efficiency standards.

4.2 Customer Conservation Programs

Cal Water's conservation programs are grouped into four categories:

- Plumbing Fixture Replacement
- Irrigation Equipment/Landscape Upgrades
- Residential Customer Assistance
- Non-Residential Customer Assistance

A description of current programs in each of these categories follows. Where rebate amounts are listed, these are current rebate levels. Readers should note that rebate amounts may be adjusted in the future in response to CPUC requirements or changes to program design.

4.2.1 Plumbing Fixture Replacement

High-Efficiency Toilet Replacement – This program replaces old toilets with MaP certified high-efficiency toilets via financial rebates, direct installation, or direct distribution.[4] Current rebate amounts are up to $50/toilet for residential toilet replacement and up to $100/toilet for commercial toilet replacement.

High-Efficiency Urinal Replacement – This program replaces old urinals with high-efficiency urinals meeting the state's 0.125 gallon per flush water use standard via financial rebates and direct installation. While available to all non-residential customers, the program targets sites with higher-than-average bathroom utilization, such as restaurants and office buildings. The current rebate amount is up to $150/urinal.

Clothes Washer Replacement – This program provides a financial rebate to replace an old inefficient clothes washer with a new high-efficiency washer. The program is available to all residential and multi-family customers. The current rebate amount is up to $150/washer.

Residential Conservation Kit Distribution – This program offers residential customers conservation kits featuring a range of water-saving plumbing retrofit devices. The kits are available at no charge and include two high-efficiency showerheads (1.5 gpm), two bathroom faucet aerators (1.0 gpm), one kitchen faucet aerator (1.5 gpd), toilet leak tablets, and an outside multi-function, full-stop hose nozzle.

4.2.2 Irrigation Equipment/Landscape Upgrades

Smart Irrigation Controller Installation – This program provides a financial rebate for the installation of a smart irrigation controller that automatically adjusts watering

[4] For information on MaP certified toilets, see: https://www.map-testing.com/

schedule in response to changing weather conditions. The current rebate amount is $125/controller for residential customers and $25/station for commercial customers.

High-Efficiency Sprinkler Nozzle Rebate – This program provides a financial rebate for the installation of high-efficiency sprinkler nozzles. This program is available to all Cal Water customers. The current rebate amount is $5/nozzle.

Large Rotary Nozzle Rebate – This program provides a financial rebate for the installation of high-efficiency large rotary nozzles. This program is available to all Cal Water customers. The current rebate amount is up to $30/nozzle toward the nozzle purchase cost and up to $8/spray body toward installation cost, if installed by a C-27 licensed landscape contractor.

Spray Body with Integrated Pressure Regulation and Check Valve Rebate – This program provides a financial rebate for the installation of high-efficiency spray bodies with integrated pressure regulation. This program is available to all Cal Water customers. The current rebate amount is up to $10/body toward the spray body purchase cost and up to $8/spray body toward installation cost, if installed by a C-27 licensed landscape contractor.

Turf Replacement Rebate – This program provides a financial rebate for replacement of turf with approved drought-tolerant landscaping. Cal Water operated this program in 2015/16 as a drought response measure. The program will be re-started as part of Cal Water's irrigation equipment/landscape upgrade program offerings.

4.2.3 Customer Assistance

Smart Landscape Tune-Up Program – This program provides customers with an irrigation system evaluation and installation of approved efficient irrigation system equipment, such as a smart irrigation controller and high-efficiency sprinkler nozzles. The program also includes irrigation system adjustments and detection and repair of irrigation system leaks. This program is available to all Cal Water customers at no charge.

Residential Customer Portal – Through its residential customer portal, Cal Water provides tailored assistance to each residential customer via customized water-efficiency targets, water savings calculators, and customer-specific recommendations for programs and water-saving tips.

Non-Residential Customer Assistance – Cal Water provides tailored assistance to commercial customers through customized incentives, commercial water surveys, and large landscape water use surveys. The non-residential assistance program helps commercial customers efficiently use water for sanitation/cleaning, heating/cooling, process, and landscape purposes.

4.2.4 Summary of Customer Programs

The customer conservation programs offered to customers in Salinas District are summarized in Table 3 by customer class.

Table 3. Cal Water Conservation Programs Available to Salinas District Customers

Programs (Rebate, Direct Install, and Free Distribution Programs)	Customer Eligibility		
	Single-Family	Multi-Family	Commercial
Plumbing Fixture Replacement			
High-Efficiency Toilet Replacement	✓	✓	✓
High-Efficiency Urinal Replacement			✓
High-Efficiency Clothes Washer Rebate	✓	✓	
Conservation Kits	✓	✓	
Irrigation Equipment/Landscape Upgrades			
Smart Irrigation Controller Rebate	✓	✓	✓
High-Efficiency Sprinkler Nozzle Rebate	✓	✓	✓
Large Rotary Nozzle Rebate		✓	✓
Spray Body Rebate		✓	✓
Turf Replacement Rebate	✓	✓	✓
Customer Assistance			
Smart Landscape Tune-Up Program	✓	✓	✓
Residential Customer Portal	✓		
Non-Residential Customer Assistance		✓	✓

4.3 School Education and Public Information Programs

Public Information Program – Cal Water operates an extensive public information program to provide information to customers on ways to use water efficiently and to market its conservation programs through multiple media outlets, including the Cal Water website, direct mail and bills, digital media, social media, and email.

School Education Program - Cal Water's school education program includes the Cal Water H2O Challenge, a project-based learning competition for grades 4-6, individual student competitions for grades K-12 and general information and learning materials for students and teachers. Cal Water deploys its school education program in all its districts. Cal Water H2O Challenge is a project-based competition for classrooms, grades 4-6. The program is offered in partnership with DoGoodery, the California Association of Science Educators (CASE), and the WestEd K-12 Alliance. The program aligns with the Common Core State Standards and the Next Generation Science

Standards. The Cal Water H2O Challenge offers a unique opportunity for upper elementary teachers to facilitate their students' learning of standards-based content, while developing the core understanding of environmental principles necessary to becoming science-literate citizens.

4.4 Water System Efficiency

4.4.1 System Water Loss Management

As discussed above, reducing distribution system losses is one of the main focuses of the new Making Water Conservation a California Way of Life regulations. In preparation for these new requirements, Cal Water took part in the California Water Loss Technical Assistance Program (TAP) in both 2016 and 2017. Cal Water annually conducts distribution system audits using the American Water Works Association (AWWA) Free Water Audit Software. It has also developed a Water Loss Control Plan and Water Loss Control Policy to guide future water loss management with respect to:

- Meeting CPUC and state water loss standards and regulations
- Improving audit data and validity scores
- Implementing cost-effective water loss control actions

To coordinate and oversee water loss management actions across its multiple districts, Cal Water has added a Water Loss Program Analyst position to its conservation staff.

4.4.2 Metering and Pricing

Cal Water has deployed conservation-oriented rate designs in all its districts since 2008. The CPUC reviews these rate designs every three years as part of a general rate case. Cal Water is continuously seeking ways to improve the efficiency and equity of the rates and charges paid by customers. One example is Cal Water's Customer Assistance Program (CAP), which provides bill discounts to qualifying lower income households.

All service connections in the District are metered. In addition to its use for billing, Cal Water uses meter data in the management of its conservation programs, including using it to analyze water use trends and identify customers that may benefit from Cal Water conservation programs. Cal Water is also piloting automatic meter reading (AMR) and advanced metering infrastructure (AMI) in several of its districts. Broad adoption of AMI would allow Cal Water in the future to detect and alert households of leaks and other possible problems as well as provide customers with tailored water use information to help them use water more efficiently.

4.5 Conservation Partnerships

Cal Water collaborates with organizations at the local, state, and national level to promote and advance water use efficiency, including as a member of the following organizations and initiatives.

California Water Efficiency Partnership (CalWEP) – CalWEP's mission is to maximize urban water efficiency and conservation throughout California by supporting and integrating innovative technologies and practices; encouraging effective public policies; advancing research, training, and public education; and building collaborative approaches and partnerships. In addition to being a CalWEP member, Cal Water serves on the organization's board of directors.

Alliance for Water Efficiency - The Alliance for Water Efficiency (AWE) is a national non-profit organization dedicated to efficient and sustainable use of water. In addition to being an AWE member, Cal Water uses the AWE Water Conservation Tracking Tool to evaluate conservation programs and track water savings.

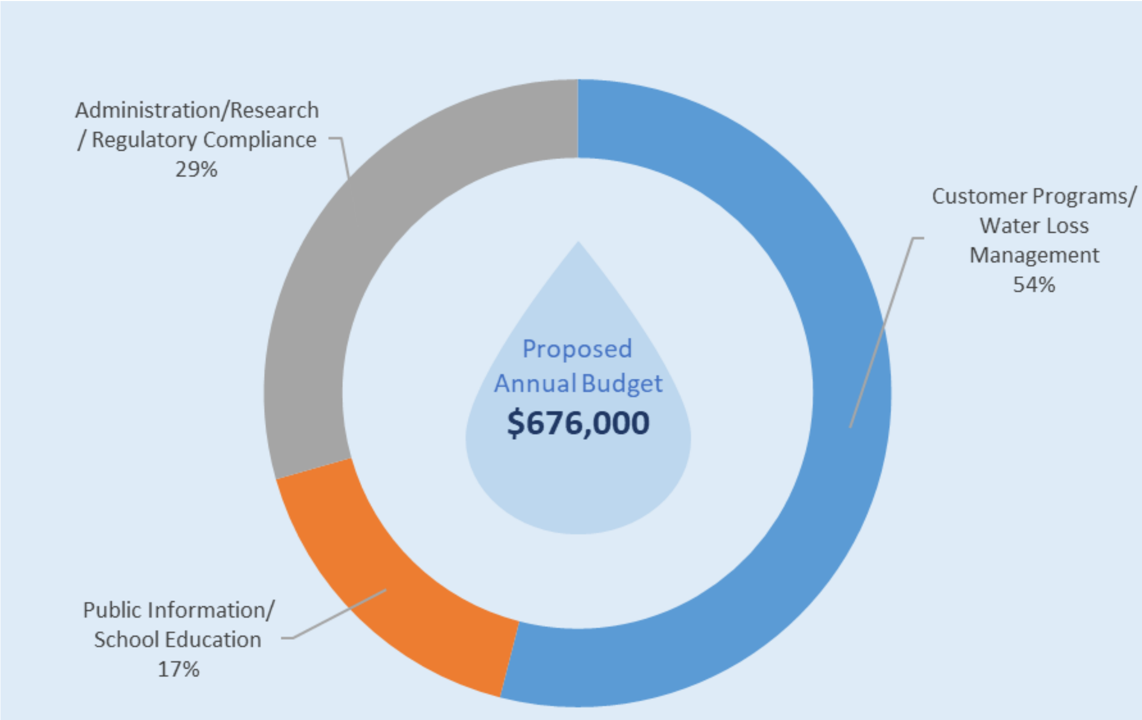
EPA WaterSense - As an EPA WaterSense partner, Cal Water has committed to educating its customers about the value of water, water efficiency, and the WaterSense brand. Products and services earning the WaterSense label have been certified to be at least 20 percent more efficient without sacrificing performance.

5 Conservation Budget

The District's recommended conservation budget for the period 2021-2025 is presented in Figure 8.[5] Cal Water used the three-step process shown in Figure 9 to develop the conservation budget. In the first step, a wide range of possible conservation programs are qualitatively screened in terms of their potential savings, implementation feasibility, customer receptivity, and cost. The program screening filters used in this step are listed in Table 4. In the second step, the programs passing through the screen are quantitatively analyzed using the AWE's Water Conservation Tracking Tool. In the third step, a portfolio of programs is developed based on the results of the second step. As discussed earlier, in its two most recent general rate cases Cal Water has further refined the conservation budget based on the results of a risk assessment used to determine which districts may require additional resources to meet the state's new conservation regulations.

[5] This is a composite of the conservation budget the CPUC approved in Cal Water's 2018 general rate case, which covers the period 2020-2022, and the budget Cal Water is proposing in its 2021 general rate case, which covers the period 2023-2025. Depending on the outcome of the general rate case, the adopted 2023-2025 budget may differ from Cal Water's recommended budget.

Figure 8. Recommend Conservation Budget and Allocation: 2021-2025



Note: values may not sum to 100% due to independent rounding.

Figure 9. Conservation Program Assessment Method

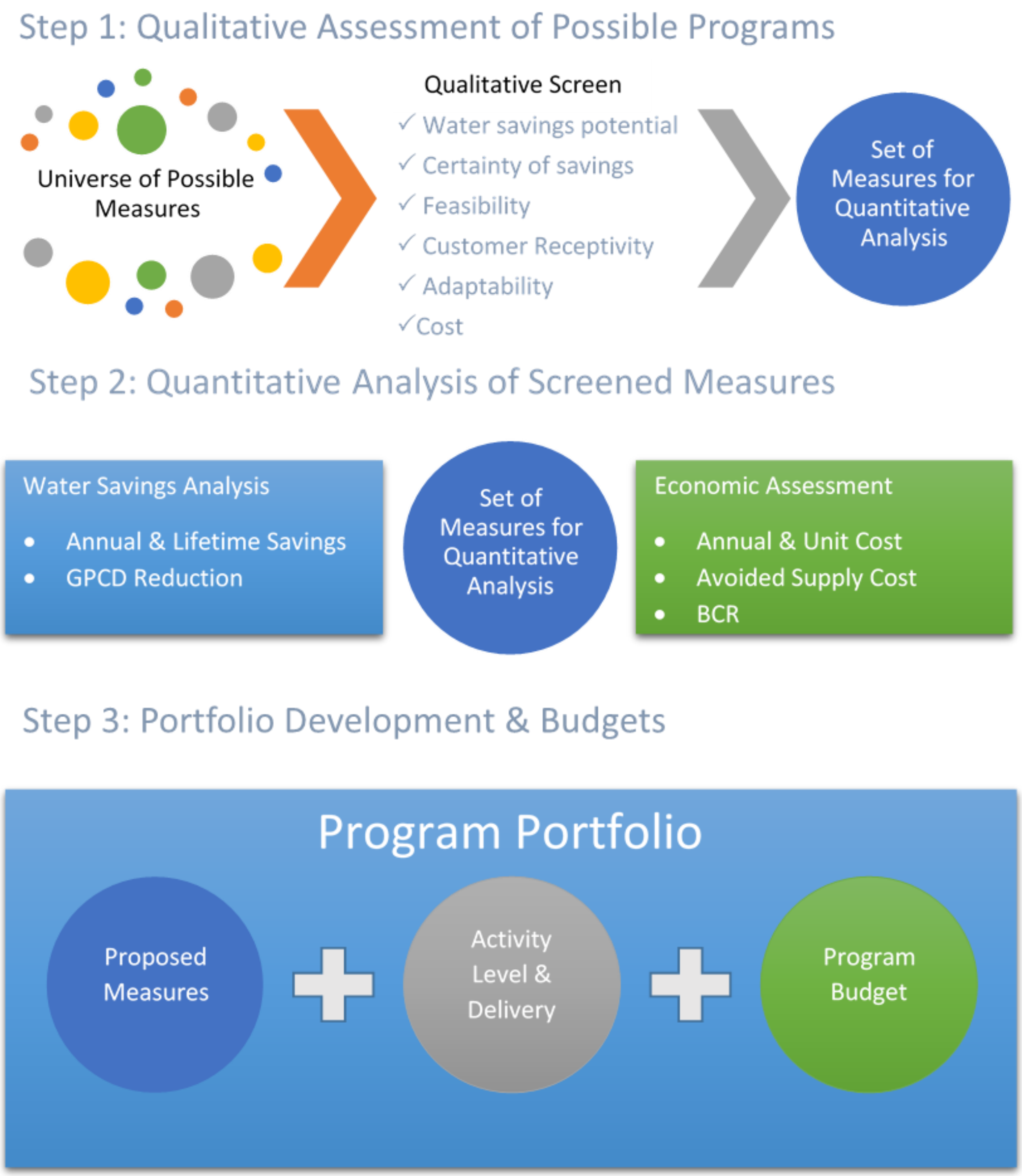


Table 4. Conservation Measure Qualitative Screening Filters

Filter	Description
Water Savings Potential	The amount of water a measure can potentially save over its lifespan or over a certain period after an action that encourages behavioral change (such as receipt of a home water survey). This filter screens out measures where potential savings are too low to make it worthwhile.
Certainty of Water Savings	The certainty of the water savings estimated in Water Savings Potential. Some measures have high potential but low certainty because they are new and untested or because they rely on uncertain behavioral actions of participants. Other measures have low potential but high certainty. This filter screens out measures that have low expected savings (i.e., measures with high certainty but low potential or measures with high potential but low certainty) or flags these measures as candidates for pilot programs.
Implementation Feasibility	The ease with which a measure can be implemented, such as adequate budget and staff resources to handle outreach and ongoing administrative needs. This filter screens out measures than are considered infeasible to implement.
Customer Receptivity	The degree to which customers are receptive to a measure, such as how easy or difficult it is for a customer to apply for a certain rebate or arrange for a water survey. This filter screens out measures that are unlikely to be favored by customers.
Adaptability	The ease with which a measure can be scaled to react to a changing market (e.g., increasing or decreasing a toilet rebate to ramp up/down the participation rate), or adjusted to accommodate a different market sector (e.g., redesigning the incentives or other parameters of a single-family landscape turf replacement program to target the multi-family or commercial sectors). This filter screens out measures that cannot be readily adapted to changing circumstances of the market.
Cost	The expected cost-effectiveness of the measure relative to other measures. This filter screens out measures that are unlikely to be cost-effective or would crowd out other desirable measures because of its expense.

6 Performance Metrics

Cal Water periodically evaluates program savings potential and cost-effectiveness using the AWE Water Conservation Tracking Tool. Based on the most recent evaluation, the expected water savings and cost-effectiveness of Salinas's conservation program are as follows:

- **Water Savings** – Up to 440 AF/year and cumulatively up to 6,700 AF over the useful life of the measures. Program water savings will help the District comply with new state water conservation and groundwater management regulations.

- **Unit Cost** – $600/AF (rounded to nearest $100), which is cost competitive with alternative sources of water supply.

7 Program Monitoring and Reporting

Cal Water regularly reviews its conservation programs to ensure they are performing as expected. This includes the following:

Program Tracking - Cal Water uses the AWE Water Conservation Tracking tool to track program participation, cost, and water savings. This data helps Cal Water monitor program performance, analyze water use trends, and forecast future water demand.

Research and Evaluation – Cal Water regularly evaluates program performance and undertakes pilot projects to assess the effectiveness of its programs. Examples include:

- Comprehensive statistical evaluations of bathroom retrofit programs operated between 2013 and 2018

- Statistical evaluations of water savings associated with high-efficiency irrigation nozzle replacement, smart irrigation controller installation, and turf replacement programs.

- Development of statistical models of customer program participation that help Cal Water target programs based on household and neighborhood attributes.

- AMR and AMI pilot projects.

Annual Conservation Report – Cal Water annually reports on the conservation program's progress and accomplishments, and posts public reports for each of its districts on its public website (https://www.calwater.com/conservation/water-conservation-reports/).

CPUC Reporting – Cal Water reports to the CPUC annually on the implementation, cost, and performance of its conservation programs.

State Reporting – Starting in 2023, Cal Water will annually report District water use relative to its water use objective as part of the new Making Water Conservation a California Way of Life regulations.

Appendix K: Resolution to Adopt UWMP

CALIFORNIA WATER SERVICE
1720 North First Street
San Jose, CA 95112-4598 *Tel:* (408) 367-8200

June 20, 2021

Julia Ekstrom, PhD
Supervisor, Urban Unit
California Department of Water Resources
Water Use Efficiency Section
P.O. Box 942836
Sacramento, CA 94236-0001

Re: Adoption of the 2020 Urban Water Management Plan and Water Shortage Contingency Plan California Water Service – Salinas District

Ms. Ekstrom:

This letter serves as notice that California Water Service Company (Cal Water) has formally adopted this 2020 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) for our Salinas District.

The attached resolution from Cal Water's Board of Directors on September 28, 2005 delegated authority for this approval to, among others, any Vice President. I have approved the attached UWMP and WSCP, which was developed by staff under my supervision in accordance with the Urban Water Management Planning Act contained in the California Water Code, Division 6, Part 2.6.

If you have any questions regarding this UWMP or WSCP, please contact Michael Bolzowski at the above mailing address, by telephone at (408) 367-8338, or by email at mbolzowski@calwater.com.

Sincerely,

Shannon Dean
Vice President, Customer Service and Chief Citizenship Officer

Attachments

cc: Ken Jenkins - Director, Water Resource Sustainability
Marc Bloom – Interim District Manager, Salinas District

CALIFORNIA WATER SERVICE
1720 North First Street
San Jose, CA 95112-4598 *Tel:* (408) 367-8200

CALIFORNIA WATER SERVICE COMPANY

RESOLVED, that this Board of Directors delegates its authority to approve Urban Water Management Plans as required under the Urban Water Management Planning Act contained in California Water Code 6, Part 2.6 to the President and Chief Executive Officer, any Vice President, the Corporate Secretary and any Assistant Secretary of California Water Service Company.

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I, DAN L. STOCKTON, Corporate Secretary of California Water Service Company, a California corporation, do hereby certify that the foregoing is a full, true and correct copy of certain resolution adopted by the Board of Directors of said corporation at a regular meeting of said Board duly called and held September 28, 2005, at which a quorum was present, that all Directors present voted in favor of said resolution, and that said resolution has never been annulled or revoked but is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto signed my name this 7th day of September, 2005.

Dan L. Stockton

Dan L. Stockton
Corporate Secretary