

FINAL

2025

URBAN WATER MANAGEMENT PLAN



VALLEY OF THE MOON WATER DISTRICT
JUNE 2026



PREPARED BY:
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2025 URBAN WATER MANAGEMENT PLAN

FINAL | June 2026

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2025 URBAN WATER MANAGEMENT PLAN

Valley of the Moon Water District

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ABBREVIATIONS AND ACRONYMS

| | |
|--------|---|
| AB | Assembly Bill |
| ABAG | Association of Bay Area Governments |
| AF | acre-feet |
| AFY | acre-foot per year |
| AMI | advanced meter infrastructure |
| ASR | aquifer storage and recovery |
| AWE | Alliance for Water Efficiency |
| AWWA | American Water Works Association |
| BAP | Basin Advisory Panel |
| BU | billing unit |
| C/I | commercial and institutional |
| CA | California |
| CalWEP | California Water Efficiency Partnership |
| CCR | California Code of Regulations |
| CEQA | California Environmental Quality Act |
| cfs | cubic feet |
| CGC | California Government Code |
| CII | commercial, industrial, and institutional |
| CIMIS | California Irrigation Management Information System |
| CWC | California Water Code |
| DDW | Division of Drinking Water |
| Delta | Sacramento-San Joaquin River Delta |
| DIMs | dedicated irrigation meter(s) |
| DIY | do-it-yourself |
| DMM | demand management measure(s) |
| DRA | Drought Risk Assessment |
| DWR | California Department of Water Resources |
| eARDWP | Electronic Annual Reports to the Drinking Water Program |
| EIR | Environmental Impact Report |
| EO | Executive Order |
| ES | Executive Summary |
| ETo | reference evapotranspiration |
| ft | foot |
| FY | fiscal year |
| GMP | Groundwater Management Plan |
| GPCD | gallons per capita per day |
| GPM | gallons per minute |
| GPSCD | gallons per service connection per day |

| | |
|-----------|---|
| GSA | Groundwater Sustainability Agency(ies) |
| GSP | Groundwater Sustainability Plan(s) |
| Guidebook | Urban Water Management Plan Guidebook |
| HECW | High Efficiency Clothes Washer |
| HOA | Homeowner Association |
| kWh | kilowatt hours |
| kWh/AF | kilowatt hours per acre-foot of water |
| kWh/MG | kilowatt hours per million gallons of water |
| LAFCO | Local Agency Formation Commission |
| LEF | Landscape Efficiency Factor |
| LHMP | Local Hazard Mitigation Plan |
| LOCA | Localized Constructed Analogs) |
| MCCWL | Making Conservation a California Way of Life |
| MCLs | Maximum Contaminant Levels |
| MFR | Multi-Family Residential |
| MG | million gallon(s) |
| MJHMP | Multijurisdictional Hazard Mitigation Plan |
| MMWD | Marin Municipal Water District |
| n/a | not available |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanographic and Atmospheric Administration |
| NPDES | National Pollutant Discharge Elimination System |
| PFAS | Per- and Polyfluoroalkyl Substances |
| PFOA | Perfluorooctanoic Acid |
| PFOS | Perfluorooctane Sulfonate |
| PG&E | Pacific Gas and Electric |
| Plan | Urban Water Management Plan |
| PVID | Potter Valley Irrigation District |
| PWS | Public Water System(s) |
| PWSID | public water system identification number |
| RCP | representative concentration pathway |
| RHNA | regional housing needs allocation |
| RPM | reasonable and prudent measure |
| RUWMP | Regional Urban Water Management Plan |
| SB | Senate Bill |
| SBX7-7 | Water Conservation Act of 2009 |
| SD | sanitation district |
| SDC | Sonoma Developmental Center |
| SFR | Single Family Residential |

| | |
|--------------|---|
| SGMA | Sustainable Groundwater Management Act |
| SMSWP | Sonoma-Marin Saving Water Partnership |
| Sonoma Water | Sonoma County Water Agency |
| SVCSD | Sonoma Valley County Sanitation District |
| SVMWC | Sobre Vista Mutual Water Company |
| SWRCB | State Water Resources Control Board |
| TAC | Technical Advisory Committee |
| U.S. | United States |
| USACE | United States Army Corps of Engineers |
| USEPA | United States Environmental Protection Agency |
| UWMP | Urban Water Management Plan |
| UWUO | Urban Water Use Objective |
| VOMWD | Valley of the Moon Water District |
| WAC | Water Advisory Committee |
| WBIC | weather-based irrigation controller |
| WR P1 | Water Reliability Policy 1 |
| WSCP | Water Shortage Contingency Plan |
| WUE | water use efficiency |
| WWTP | Wastewater Treatment Plant |
| WY | water year |

EXECUTIVE SUMMARY

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 Urban Water Management Plan (UWMP or Plan) is prepared for the Valley of the Moon Water District (also referred to as the District), which serves drinking water to a population of approximately 23,697 in the unincorporated communities of Glen Ellen, Eldridge, Fetters Hot Springs-Agua Caliente, Boyes Hot Springs, and El Verano in Sonoma County, adjacent to the City of Sonoma and located approximately 50 miles north of San Francisco. This UWMP serves as a foundational planning document and includes descriptions of historical and projected water demands, and water supplies and reliability 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 11 chapters, which are summarized below.

Chapter 1 - Plan Introduction

This chapter presents the background and purpose of the UWMP, identifies the Plan organization, and provides this lay description overview of the document.

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 (i.e., City of Sonoma, Sonoma County, Sonoma Water, Sonoma Valley Groundwater Sustainability Agency [GSA], and Santa Rosa Plain GSA), and the public.

Chapter 3 - Service Area Description

This chapter provides a description of the District's water system and the service area, including information related to the climate, population, and demographics. The District has a population of 23,697 and has a moderate climate characterized by dry and warm summers and mild wet winters. The majority of precipitation falls during winter, averaging 21.8 inches of rainfall annually. Climate change is expected to increase average annual temperatures, and result in more extreme swings between wet and dry years.

Chapter 4 - Water Use Characterization

This chapter provides a description and quantifies the District's current and projected demands through the year 2050. The District provides drinking water (also referred to as “potable water”) to its customers. Water demands refer not only to the water used by customers, but also includes the water used as part of the system maintenance and operation, as well as unavoidable losses inherent in the operation of a water distribution system. Water demand within the District was 2,256 acre-feet per year (AFY) for 2025.

Taking into account historical water use, expected population increase and other growth, climatic variability, and other assumptions, water demand within the District is projected to increase to 3,054 AFY by 2050, a change of 35 percent compared to 2025.

This section also documents the District’s compliance with its Urban Water Use Objective (UWUO) as part of Making Conservation a California Way of Life (MCCWL) regulation, which is based on Senate Bill (SB) 606 and Assembly Bill (AB) 1668. SB 606/AB 1668 set new requirements for urban water agencies to continue to increase water efficiency beyond SB X7-7. Beginning in 2027, agencies are required by the State to meet their UWUO. The District is actively implementing strategies to improve water use efficiency and ensure compliance with its UWUO by 2027.

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

In this chapter, the 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 31 December 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 2025 UWMPs are required to continue reporting progress in meeting the 2020 target. The District remains in compliance with its 2020 water use target of 124 gallons per capita per day (GPCD), having reduced its water use in 2020 to 102 GPCD. The District is also a member of a “Regional Alliance” for purposes of SB X7-7 compliance. The Regional Alliance’s 2020 water use is 113 GPCD, and the Regional Alliance remains in compliance with its 2020 target of 129 GPCD.

Chapter 6 - Normal Year Water Supply Characterization

This chapter presents an analysis of the 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 majority of the water supply for the District is purchased treated water from Sonoma Water’s Russian River Project. The Russian River, Lake Mendocino, and Lake Sonoma are primary sources of water for the Russian River Project. The Sonoma Water supply also includes a relatively small amount of groundwater from groundwater supply wells located in the Santa Rosa Plain Subbasin of the Santa Rosa Valley Basin. Approximately 24 percent of the District’s 2025 water supply is local groundwater, which is pumped by District wells located in the Sonoma Valley Subbasin of the Napa-Sonoma Valley Basin.

Calculation and reporting of water system energy intensity is included. Energy intensity is defined as the net energy used for water treatment, conveyance, and distribution for all water entering the District’s distribution system and does not include the energy used to convey or treat wastewater. The energy intensity for the District is estimated to be 7 kilowatt hours per acre-foot of water (kWh/AF).

Chapter 7 - Water Supply Reliability Assessment

This chapter assesses the reliability of the District’s water supplies, with a specific focus on potential constraints such as 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 District expects the available supplies to be sufficient to meet projected

demands in normal year, single dry year, and multiple dry year scenarios, including a five-year drought period and considering the impacts of climate change.

The District proactively monitors and manages water quality in its source water supplies. Given emerging contaminants of concern (PFOA/PFOS), additional treatment may be required in the future for four of the District's seven wells that are currently offline due to high PFAS concentrations.

Chapter 8 - Water Shortage Contingency Planning

This chapter describes the Water Shortage Contingency Plan (WSCP) for the 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 Department of Water Resources (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 District implements within each demand management measure (DMM) category outlined in the UWMP Act, specifically: (1) water waste prevention ordinances, (2) metering, (3) conservation pricing, (4) public education and outreach, (5) distribution system water loss management, (6) water conservation program coordination and staffing support, and (7) "other" DMMs. The District has developed a suite of conservation programs and policies, which address each DMM category.

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. Prior to adopting the Plan, the District held a formal public hearing to present information on its UWMP and WSCP on 17 June 2026, 6:30 PM. The District adopted the UWMP and WSCP at its Board meeting held on 17 June 2026. This UWMP and WSCP were submitted to DWR within 30 days of adoption and by the 1 July 2026 deadline.

Chapter 11 - References

This chapter contains key references and sources used throughout the document.

1 PLAN INTRODUCTION

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 California Department of Water Resources' (DWR) 2025 UWMP Guidebook.

1.1 Background and Purpose

Valley of the Moon Water District (VOMWD or District) owns and operates eight groundwater wells, seven of which are currently active. The wells account for roughly 20% of the District's overall water supply, with the remaining 80% coming from the regional wholesaler, Sonoma Water. The District delivers water to residential, commercial, institutional, and landscape/irrigation customers. This UWMP is a foundational document and source of information about the District's historical and projected water demands, water supplies, supply reliability and potential vulnerabilities, water shortage contingency planning, and demand management programs. Among other things, it is used as:

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

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

1.2 Urban Water Management Planning and CWC

The UWMP Act requires urban water suppliers to prepare a 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 per year (AFY) are required to prepare a UWMP (CWC §10617).

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

In 2016, Governor Brown signed Executive Order (EO) B-37-16 Making Conservation a California Way of Life (MCCWL). Subsequently, the Legislature passed Senate Bill (SB) 606 and Assembly Bill (AB) 1668, which added new drought planning requirements, including:

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

These elements are included in **Chapter 7** and **Chapter 8** of this Plan. Additionally, SB 606/AB 1668 set new requirements for urban water suppliers to further increase water use efficiency beyond SB X7-7. Beginning in 2024, agencies were required to report an annual Urban Water Use Objective (UWUO). **Chapter 5** of this Plan documents the District's progress in meeting the UWUOs.

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

1.3 Plan Organization

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

- Chapter 1 Plan Introduction
- Chapter 2 Plan Preparation
- Chapter 3 Service Area Description
- Chapter 4 Water Use Characterization
- Chapter 5 SB X7-7 Baseline, 2020 Target, and 2025 Reporting
- Chapter 6 Normal Year Water Supply Characterization
- Chapter 7 Water Supply Reliability Assessment
- Chapter 8 Water Shortage Contingency Planning
- Chapter 9 Demand Management Measures
- Chapter 10 Plan Adoption, Submittal, and Implementation
- Chapter 11 References

In addition to these sections, this Plan includes appendices providing supporting documentation and supplemental information. Pursuant to CWC §10644(a)(2), this Plan utilizes the standardized forms, tables, and displays developed by DWR for the reporting of water use and supply information required by the UWMP Act. This Plan also includes additional tables, figures, and maps to augment the set developed by DWR, as appropriate. The table headers indicate if the table is part of DWR's standardized set of submittal tables. A lay description of the UWMP, including information related to water service reliability, potential issues, and strategies for managing reliability risks, is provided at the beginning of this UWMP.

1.4 Special Considerations

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

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

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

The District’s primary source of water supply is imported water from Sonoma Water’s Russian River Project, supplemented by local 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.

1.4.2 Permitting for Ocean Desalination Projects

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

As discussed in **Chapter 6** and **Chapter 7**, the District has sufficient water supplies available to meet projected demands through the 2050 planning horizon and does not anticipate the need for an ocean desalination project. Therefore, the District will not pursue ocean desalination to augment its supply portfolio.

1.5 UWMP Relationship to Other Efforts

This Plan provides information specific to water management and planning by the District. However, water management does not happen in isolation; there are other planning processes that integrate with the UWMP. This Plan is informed by and helps to inform these other planning efforts. In particular, this Plan utilizes information contained in the District’s Water System Master Plan Update (2024), the District’s Local Hazard Mitigation Plan (2021), the Sonoma County Water Agency Multi-Jurisdictional Hazard Mitigation Plan (2024), the Sonoma County Water Agency (Sonoma Water or Sonoma Water) Local Hazard Mitigation Plan, and Sonoma Valley Subbasin Groundwater Sustainability Plan (GSP) (2021) to the extent data from these plans are applicable and available.

2 PLAN PREPARATION

This chapter discusses the type of Urban Water Management Plan (UWMP or Plan) the Valley of the Moon Water District (District) has prepared and includes information that will apply throughout the Plan. Coordination and outreach during the development of the Plan is also discussed.

Text from the Urban Water Management Planning Act (UWMP Act) has been included in grey text boxes with italicized font at beginning of relevant sections of this UWMP. The information presented in the respective UWMP sections and the associated text, figures, and tables are collectively intended to fulfill the requirements of that sub-section of the UWMP Act. To the extent practicable, supporting documentation has also been provided in **Appendices A through G**. Other sources for the information contained herein are provided in the references section of this document.

Per CWC §10644(a)(2), selected information for the 2025 UWMP updates must be presented in standardized tables for electronic submittal to DWR. The tables presented in this UWMP have been re-numbered, but the content has been preserved, and the original DWR table numbers are included in parentheses in the table titles.

2.1 Basis for Preparing the UWMP

CWC §10617

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

CWC §10608.12

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

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

CWC §10620

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

CWC §10621

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

California Health and Safety Code §116275

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

In 1983, the California Legislature enacted the UWMP Act (CWC §10610 - §10657). The UWMP Act states that every urban water supplier that provides water to 3,000 or more connections or that provides over

3,000 acre-feet of water per year (AFY) should make every effort to ensure the appropriate level of water service reliability to meet the needs of its customers during normal, dry, and multiple dry years.

As a water system that provides drinking water for human consumption, the District is regulated as a Public Water System (PWS) by the State Water Resources Control Board (SWRCB), Division of Drinking Water. **Table 2-1** lists the District’s PWS identification number. The SWRCB requires that water agencies report water usage and other relevant PWS information via the electronic Annual Reports to the Drinking Water Program (eARDWP). These data are used by the state to determine, among other things, whether an urban retail water supplier has reached the threshold (3,000 or more connections or 3,000 acre-feet [AF] of water supplied) for submitting a UWMP.

As shown in **Table 2-1**, the District served 7,181 connections in 2025 and is therefore subject to the requirements of the UWMP Act.

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

| Has there been a change in the number of affiliated PWSs since the 2020 UWMP? | | | No |
|---|-----------------------------------|--------------------------------------|------------------------------------|
| PWS Number | PWS Name | Number of Municipal Connections 2025 | Volume of Water Supplied 2025 (AF) |
| CA4910013 | Valley of the Moon Water District | 7,181 | 2,256 |
| Total | | 7,181 | 2,256 |

2.2 Individual or Regional Plan

Urban water suppliers may elect to prepare individual or regional UWMPs. The District has elected to prepare an individual UWMP (**Table 2-2**). Urban retail water suppliers may report on the requirements of SB X7-7 individually or as a member of a “Regional Alliance.” As described in **Section 5**, the District is a member of a Regional Alliance and this UWMP provides information on the District’s compliance with SB X7-7 both as an individual urban retail water supplier and a member of a Regional Alliance.

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

| Type of Plan | | Name of Regional Alliance or RUWMP |
|-------------------------------------|--|--------------------------------------|
| <input checked="" type="checkbox"/> | Individual UWMP | |
| <input checked="" type="checkbox"/> | Water Supplier is also a member of a SB X7-7 Regional Alliance | North Marin-Sonoma Regional Alliance |
| <input type="checkbox"/> | RUWMP | |

NOTES: The District participates in a regional alliance (North Marin-Sonoma Regional Alliance) for the purposes of SB X7-7 compliance reporting. However, this UWMP has been prepared individually for the District.

2.3 Fiscal or Calendar Year and Units of Measure

CWC §10608.20

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

Per CWC §10617, the District is an urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually. It is therefore

obligated under CWC §10621(f) to develop and submit a UWMP to DWR by July 1, 2026. The District is an urban retail water supplier, as defined by CWC §10608.12(t) and §10617, and as identified in **Table 2-3**. The District is not a wholesale water supplier.

Annual volumes of water reported in this UWMP are measured in AF and are reported on a fiscal year basis (**Table 2-3**). Water use and planning data reported in this UWMP for fiscal year 2025 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 | |
|-------------------------------------|--|
| <input type="checkbox"/> | Supplier is a wholesale supplier. |
| <input checked="" type="checkbox"/> | Supplier is a retail supplier. |
| Fiscal or Calendar Year | |
| <input type="checkbox"/> | UWMP tables are in calendar years. |
| <input checked="" type="checkbox"/> | UWMP tables are in fiscal years (fiscal year begins: 07/01). |
| Units of measure used in UWMP | |
| Unit | AF |

2.4 Standard Submittal Tables and Alignment with UWMP Act Requirements

The Plan has been prepared in general accordance with the format suggested in DWR’s 2025 UWMP Guidebook. Text from the UWMP Act has been included in text boxes at the beginning of relevant sections of this UWMP. The information presented in the respective UWMP sections, and the associated text, figures, and charts are collectively intended to fulfill the requirements of that subsection of the UWMP Act. To the extent practicable, supporting documentation has also been provided in **Appendices A through G**. Other sources for the information contained herein are provided in the references section of the document.

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

2.5 Coordination and Outreach

Coordination with other water suppliers, cities, counties, and 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 the District sought to coordinate with during preparation of this Plan.

2.5.1 Wholesale and Retail Coordination

CWC §10631

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

(f) An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

Urban retail water suppliers relying on one or more wholesalers for water supply are required to provide these wholesalers with information regarding projected water supply and demand. The District meets regularly with other water purveyors to discuss water supply and demand planning. In particular, the District meets at least monthly with its water wholesaler, Sonoma Water, and with other Water Contractors who purchase water from Sonoma Water. These monthly meetings occur through the District’s participation in Sonoma Water Technical Advisory Committee (TAC). The primary mission of the TAC is to provide input and guidance to Sonoma Water regarding technical issues that may have an impact on the Water Contractors (i.e., UMWP coordination, capital projects, operational changes, etc.). Additionally, the District participates in quarterly meetings of the Water Advisory Committee (WAC). The WAC’s objectives are to advise Sonoma Water’s Board of Directors on policy and fiscal matters affecting the Water Contractors. The District’s participation in the TAC and WAC has been instrumental in coordinating water supply and demand analyses for the preparation of this Plan. As part of the development of this Plan, the District coordinated closely with the other eight Sonoma Water Contractors.

The District’s water supply primarily comes from water purchased from Sonoma Water. The District, along with eight other Water Contractors, has a water supply agreement with Sonoma Water for the purchase of Russian River water commonly referred to as the Restructured Water Supply Agreement. As indicated in **Table 2-4**, the District has provided demand projections through 2050 to Sonoma Water.

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

| Wholesale Water Supplier Name |
|-------------------------------|
| Sonoma County Water Agency |

The District’s projected water demands were developed as part of 2025 planning effort that was implemented through the Sonoma-Marín Saving Water Partnership (SMSWP) (i.e., the *2025 Urban Water Management Plan Water Demand Analysis and Water Conservation Measures Update* included as **Appendix B**). The Sonoma Water was provided with the District’s water use projections through this process. The District will continue to coordinate with Sonoma Water to determine the timing of capital improvement projects that may need to be implemented in order to meet the District’s projected future water demands.

Additionally, as described in more detail in Chapters 6 and 7, the District has relied upon the water supply reliability projections provided by Sonoma Water for the purposes of analyzing the reliability of its Russian River water supplies during normal and dry years through 2050.

2.5.2 Coordination with Other Agencies and the Community

CWC §10620

(d)(3) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

The District coordinated with other agencies during preparation of this UWMP to ensure that data and issues are presented accurately, including: the Sonoma County Sanitation District, Sonoma Valley Groundwater Sustainability Agency, and the County of Sonoma. On 23 December 2025, a letter was sent to each of these entities advising that the District was reviewing and updating the UWMP. The agencies, cities, and counties that were notified by the District during the development of this Plan are listed in **Table 2-5**. A copy of the notice is provided in **Appendix C**.

2.5.3 Notice to Cities and Counties

CWC §10621

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

The District provided a 60 Day Notice to the entities and the communities it serves more than 60 days prior to the public hearing it held on 17 June 2026, informing them that the Plan was going to be reviewed and updated. The 60 Day Notice recipients are listed in **Table 2-5**, and a copy of the notice is provided in **Appendix C**.

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

Table 2-5 Notification to Cities, Counties, and Other Agencies (DWR Table 10-1)

| City Name | 60 Day Notice | Notice of Public Hearing |
|------------------------------|---------------|--------------------------|
| City of Cotati | X | X |
| City of Petaluma | X | X |
| City of Rohnert Park | X | X |
| City of Santa Rosa | X | X |
| City of Sonoma | X | X |
| Town of Windsor | X | X |
| County Name | 60 Day Notice | Notice of Public Hearing |
| Sonoma County, Permit Sonoma | X | X |

| Other Agency Name | 60 Day Notice | Notice of Public Hearing |
|---|---------------|--------------------------|
| North Marin Water District | X | X |
| Sonoma County Water Agency | X | X |
| Sonoma County Sanitation District | X | X |
| Sonoma Valley Groundwater Sustainability Agency | X | X |

3 SERVICE AREA DESCRIPTION

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

3.1 General Description

CWC §10631

(a) Describe the service area of the supplier...

The District’s service area is located in unincorporated Sonoma County, approximately 50 miles north of San Francisco, and is adjacent to the City of Sonoma. As shown in **Figure 3-1**, the District’s water service area extends from the Trinity Oaks Subdivision in the north to the Temelec Subdivision in the south. The service area encompasses approximately 11.8 square miles and includes residential and commercial customers. Elevations in the service area range from approximately 60 feet above mean sea level to approximately 1,190 feet above mean sea level.

The District’s Sphere of Influence, a boundary determined by the Sonoma Local Agency Formation Commission (LAFCO) indicating the likely eventual limits of the District’s service area, was amended in October 2017 to include areas beyond the District’s current service area. As shown in **Figure 3-1**, the District’s Sphere of Influence now also includes the following areas outside of the water service area:

1. Territory served by the Sobre Vista Mutual Water Company (SVMWC) and
2. Territory previously occupied by the Sonoma Developmental Center (SDC), which owned and operated a municipal water supply, treatment, and distribution system on the campus.

As the process to annex these areas into the District has not yet begun, they are not included for purposes of District demand projections (Chapter 4) or Senate Bill (SB) X7-7 compliance (Chapter 5).

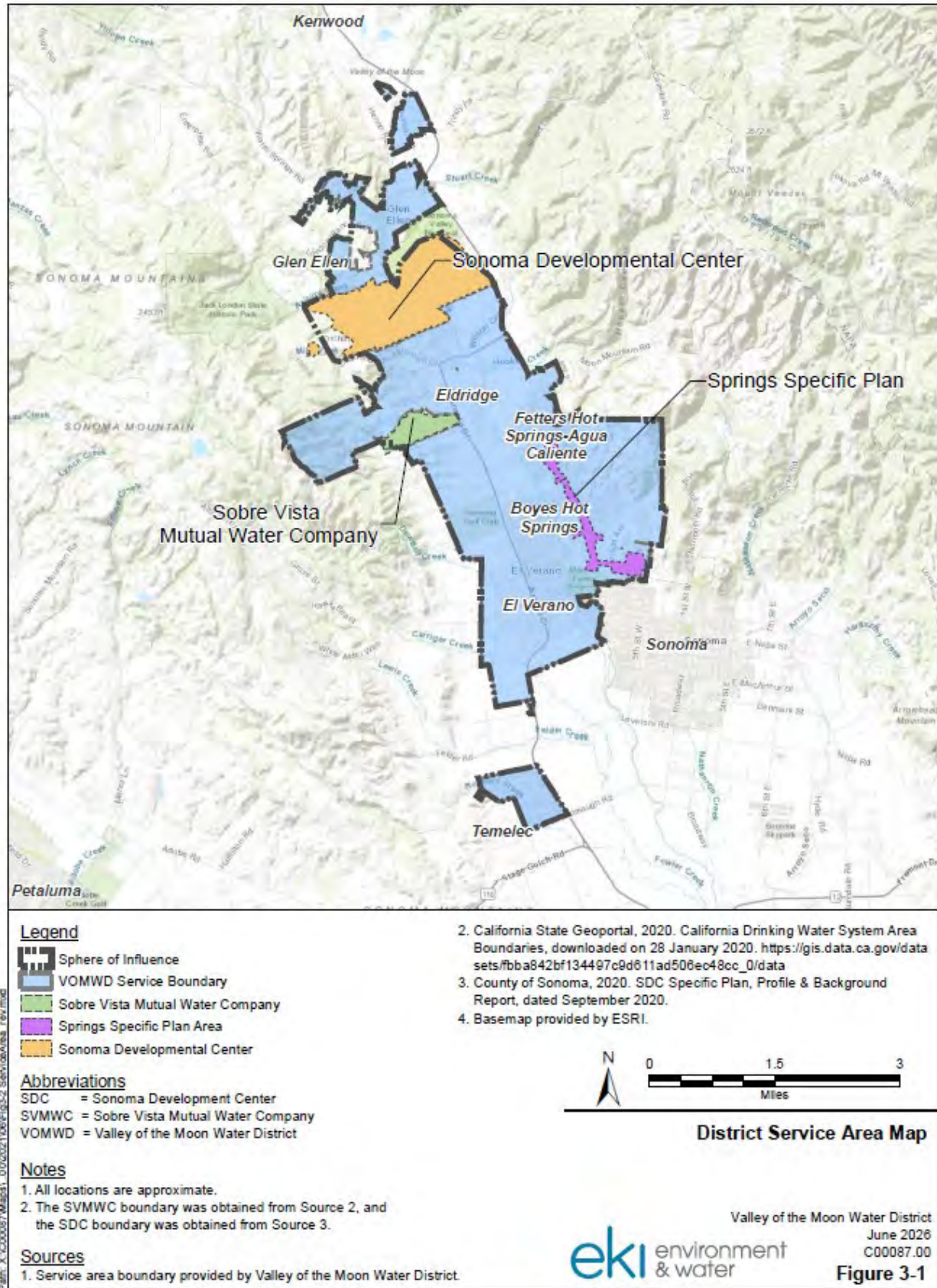


Figure 3-1 District Location and Service Boundaries

3.2 Service Area Climate

CWC §10631

(a) Describe the service area of the supplier, ... “climate...”

CWC §10635

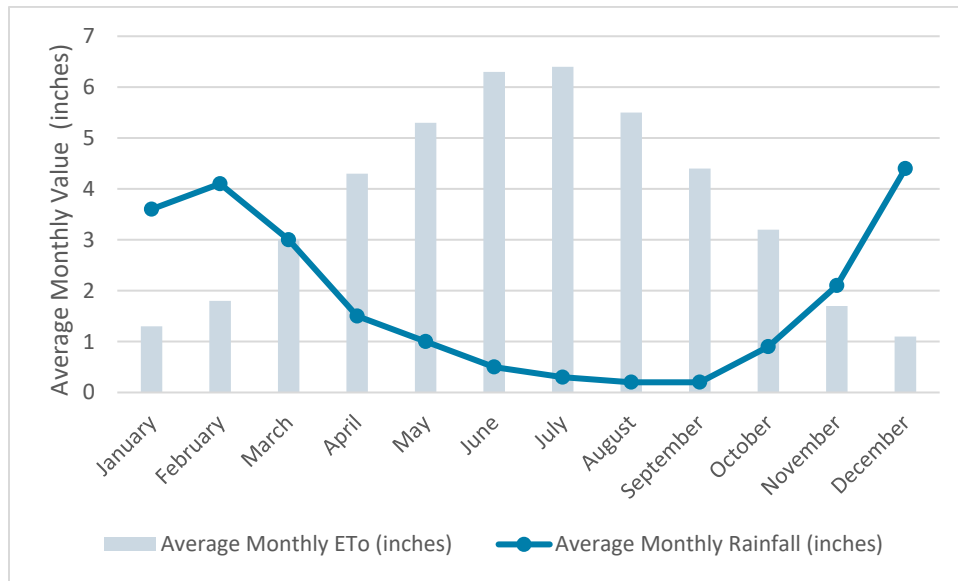
(b)(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

The District’s service area has a climate that is typical of the Napa and Sonoma County areas, characterized by summers that are dry and warm, and winters that are relatively mild with the bulk of rainfall occurring during this season. Based on data downloaded from the California Irrigation Management System (CIMIS) for 1999 through 2026, most rainfall occurs between November and May (see **Table 3-1** and **Figure 3-2**). On average, the District receives 21.8 inches of rainfall annually. Maximum daily air temperature averages 68 degrees Fahrenheit (°F) while the minimum daily air temperature averages 42°F.

Table 3-1 Climate Characteristics

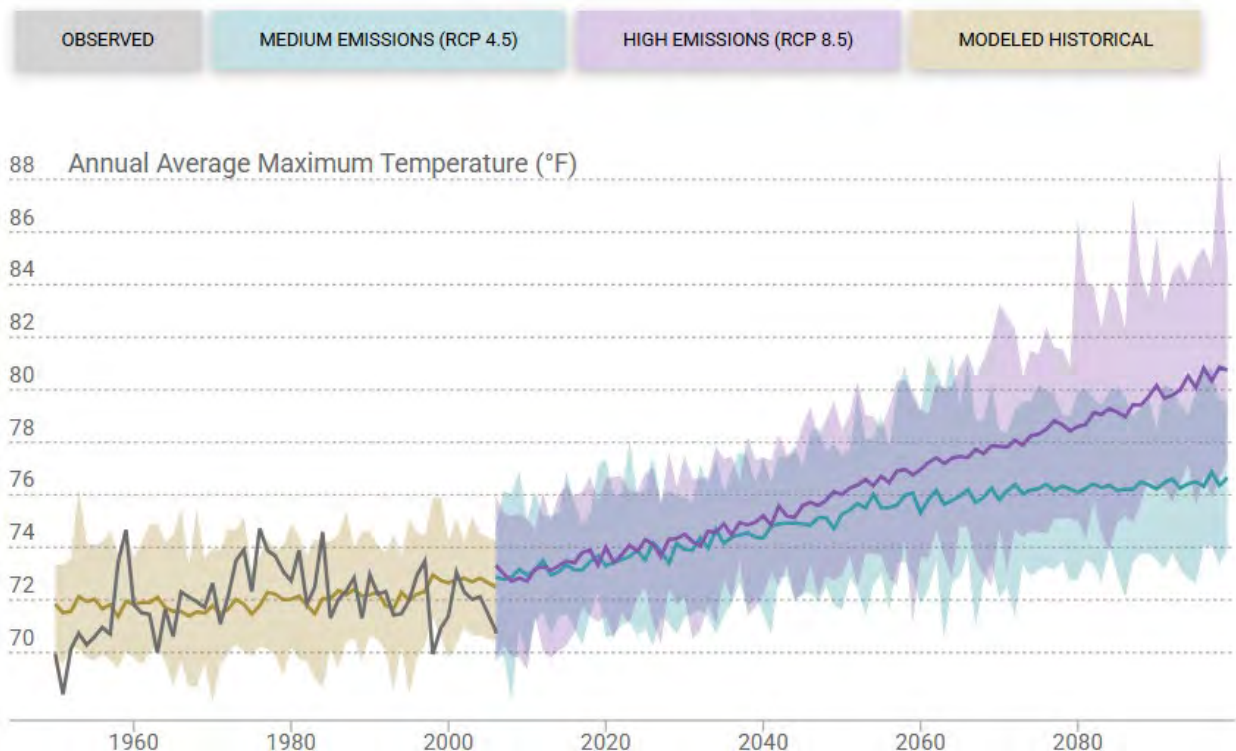
| Month | Average Temperature | | Average Rainfall (inches) | ETo (inches) |
|---|---------------------|-------------|---------------------------|--------------|
| | Min (°F) | Max (°F) | | |
| January | 34.8 | 56.1 | 3.6 | 1.3 |
| February | 36.0 | 59.1 | 4.1 | 1.8 |
| March | 37.6 | 61.5 | 3.0 | 3.0 |
| April | 40.0 | 65.1 | 1.5 | 4.3 |
| May | 43.4 | 69.6 | 1.0 | 5.3 |
| June | 46.8 | 75.3 | 0.5 | 6.3 |
| July | 49.4 | 78.2 | 0.3 | 6.4 |
| August | 49.4 | 78.8 | 0.2 | 5.5 |
| September | 48.8 | 79.1 | 0.2 | 4.4 |
| October | 44.3 | 74.3 | 0.9 | 3.2 |
| November | 38.2 | 63.5 | 2.1 | 1.7 |
| December | 35.6 | 55.9 | 4.4 | 1.1 |
| Annual | 42.0 | 68.0 | 21.8 | 44.3 |
| NOTES: (a) Climate data from CIMIS Petaluma East Station (144) for the period August 1999 through February 2026. | | | | |

Figure 3-2 Average Monthly Climatic Conditions



According to the Cal-Adapt Local Climate Change Snapshot Tool, future projections for the District’s service area (as represented by El Verano, CA) using Localized Constructed Analogs downscaled Coupled Model Intercomparison Project (CMIP5) models indicate an average increase in temperature of 3.3°F for medium emissions (RCP 4.5) models and 4.1°F for high emissions (RCP 8.5) models by mid-century (2035-2064) as shown in **Figure 3-3** (Cal-Adapt, 2018). In addition to increasing average temperatures, climate change is expected to bring more extreme swings between wet and dry years, and impact environmental conditions and fire behavior.

Figure 3-3 Observed and Forecasted Temperature for El Verano



Impacts associated with climate change are discussed in the *Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Plan* (County MJHMP), which is incorporated into this UWMP by reference (Sonoma County, 2021). The County MJHMP assesses vulnerabilities to various hazards and presents mitigation strategies that are planned over the next five years. Risks described in the County MJHMP include flooding, storms, wildfires, and coastal erosion that are anticipated to occur due to climate change.

A further discussion of climate change impacts specific to Sonoma Water’s water system is provided in the *Sonoma County Water Agency Local Hazard Mitigation Plan*, dated 19 September 2024, which is also incorporated into this UWMP by reference (Sonoma Water, 2024). The Sonoma Water LHMP specifically assesses Sonoma Water’s natural hazard risks and vulnerabilities facing Sonoma Water’s infrastructure and provides a plan of action to address these vulnerabilities. As described in the Sonoma Water LHMP, the most significant climate change-related vulnerabilities for Sonoma Water are associated with floods, wildfires, landslides, and drought.

Climate change impacts on the District’s water demands are discussed in **Chapter 4**, while climate change impacts on the District’s water supply are discussed in **Chapter 6**.

3.3 Service Area Population and Demographics

CWC §10631

(a) Describe the service area of the supplier, including current and projected population ... other social, economic and demographic factors affecting the supplier’s water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

The demographics of the District’s customers include a wide range of income, household size, and building characteristics. Typically, the more affluent households are located along the foothills and are characterized by larger lots and homes with higher water demands for irrigation, and lower income households tend to have smaller lots and lower water use.

Due to the District’s service area being located in the heart of a tourist destination, Sonoma Valley, another factor impacting water use in recent years has been the increase in the number of second homes and vacation rentals. These accounts can have higher water use on average because the sites do not have full-time owners looking for leaks and managing irrigation water use in accordance with weather patterns.

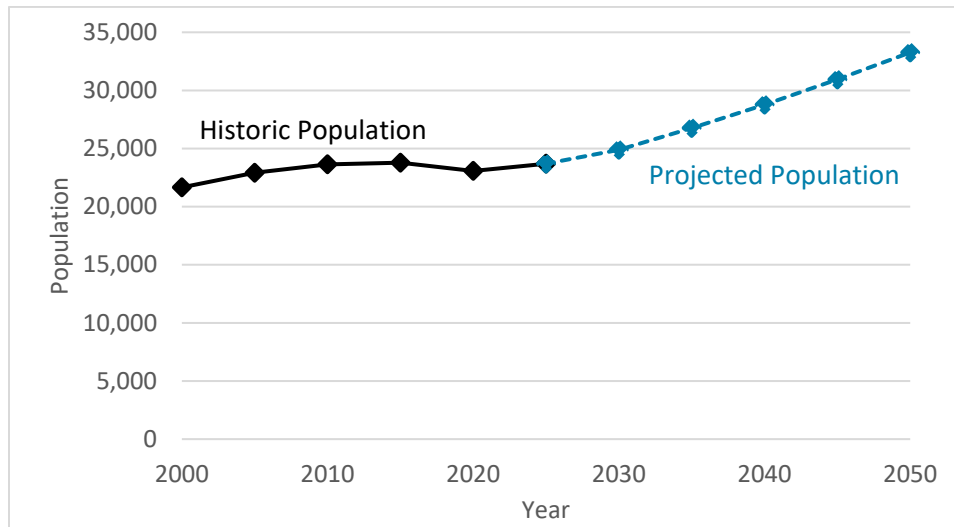
3.3.1 Future Population Growth

Table 3-2 and **Figure 3-4** show the current and projected population for the District’s service area through the year 2050. The 2025 population was calculated using a per connection multiplier method, assuming 3.3 persons per connection (EKI, 2025). Population projections were developed separately based on population projections by the Association of Bay Area Governments (ABAG) Plan Bay Area Projections 2050 (ABAG, 2021), as described further in the *2025 Water Demand Analysis and Water Conservation Measure Update* (EKI, 2025; Appendix B).

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

| Population Served | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|-------------------|--------|--------|--------|--------|--------|--------|
| | 23,697 | 24,893 | 26,764 | 28,776 | 30,939 | 33,264 |

Figure 3-4 Population – Historic and Projected



3.3.2 Other Social, Economic, and Demographic Factors

The District’s service area includes several unincorporated communities within Sonoma County. Demographics for Sonoma County, within which the District service area is located, are summarized in **Table 3-3**. The same data are also provided for the state of California as a whole and were obtained from the U.S. Census Bureau QuickFacts website (U.S. Census, 2024). Relative to the rest of California, Sonoma County’s population is slightly older and somewhat less racially diverse. Educational attainment and median household income in Sonoma County are higher than for the state as a whole, while population below the poverty level is comparatively lower.

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

| Demographics | Sonoma County | California |
|---|---------------|------------|
| Age and Sex | | |
| Persons under 5 years | 4.6% | 5.3% |
| Persons under 18 years | 18.4% | 21.3% |
| Persons 65 years and older | 22.8% | 16.5% |
| Female persons | 50.9% | 50.1% |
| Race and Hispanic Origin | | |
| White alone | 85.0% | 69.8% |
| Black or African American alone | 2.2% | 6.4% |
| American Indian and Alaska Native alone | 2.5% | 1.8% |
| Asian alone | 5.2% | 17.0% |
| Native Hawaiian and Other Pacific Islander alone | 0.5% | 0.5% |
| Two or More Races | 4.5% | 4.4% |
| Hispanic or Latino | 31.0% | 40.8% |
| White alone, not Hispanic or Latino | 58.2% | 33.6% |
| Families & Living Arrangements | | |
| Persons per household | 2.49 | 2.84 |
| Living in same house 1 year ago, percent of persons age 1 year+ | 88.7% | 89.2% |
| Language other than English spoken at home, age 5 years+ | 27.0% | 44.1% |
| Education | | |
| High school graduate or higher, persons age 25 years+ | 88.7% | 84.7% |
| Bachelor’s degree or higher, persons age 25 years+ | 38.5% | 36.5% |
| Income & Poverty | | |
| Median Household Income (2024 dollars) | \$104,674 | \$96,334 |
| Per capita income in past 12 months (2024 dollars) | \$56,640 | \$47,977 |
| Persons in poverty | 8.4% | 11.8% |
| NOTES: Downloaded from U.S. Census Bureau Quickfacts, 2026 | | |

3.4 Land Uses within Service Area

CWC §10631

(a) ...The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities...

Land uses within the District include a mix of urban and semi-rural urban uses and are primarily residential (Sonoma County, 2020). The County of Sonoma is currently working on a comprehensive update to its General Plan as well as conducting an environmental review for the Sonoma Development Center Specific Plan and the Springs Specific Plan.

As noted above, these areas have not yet been annexed into the District, and therefore are not included in the demand projections in **Chapter 4**. However, the District intends to work with the County on the development of the Specific Plans as well as the update of the General Plan and will incorporate these plans in future UWMP updates.

3.5 Water Distribution System

The majority of the District's water supply (approximately 80 percent) and shown in **Figure 3-5** is conveyed through ten turnouts from the Sonoma Aqueduct, which is owned and operated by Sonoma Water. These ten turnouts are spread along the aqueduct from just north of Trinity Road and Highway 12 south to Verano Avenue and Fifth Street West near the City of Sonoma. Two turnouts are located upstream of the Sonoma Water Eldridge Tanks (Glen Ellen and Trinity Oaks turnouts), and the remaining eight turnouts are located downstream of the Eldridge Tanks. The Sonoma Water meters water to the District at each turnout. The District's distribution system contains approximately 92 miles of water mains ranging in size from 3/4 inch to 14 inches in diameter. More than 75 percent of water mains are either 6 or 8 inches in diameter, and more than 95 percent are between 4 inches and 12 inches in diameter.

The District's water distribution system has eleven pressure zones. The majority of the District's customers that are located on the valley floor are served from the Sonoma Water aqueduct pressure zone, while customers in the higher elevations of the Sonoma Valley are served by separate pressure zones.

To help balance pressure zones and water demands, the District has the following infrastructure assets:

- 10 turnouts from the Sonoma Water aqueduct
- 7 groundwater wells
- 10 booster pump stations
- 13 storage tanks

Additional detailed information pertaining to the District's water system facilities can be found in the District's 2025 Water Master Plan and Capital Improvement Plan Update (EKI, 2025).

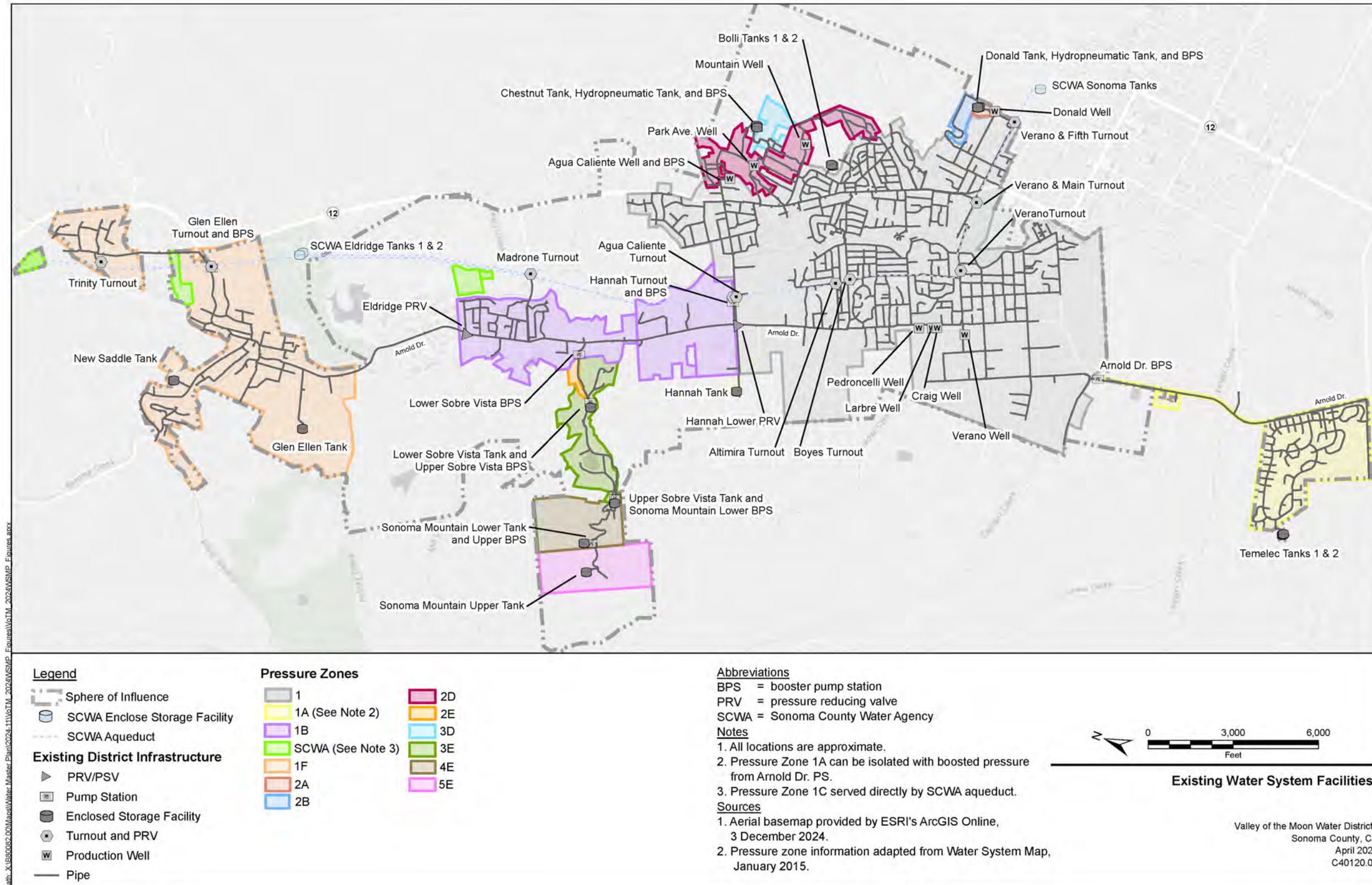


Figure 3-5 District Distribution System (from the VOMWD 2024 Master Plan Update, Figure 3-1)

4 WATER USE CHARACTERIZATION

CWC §10635

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

CWC §10631

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

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

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

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

This chapter describes and quantifies the District’s historical, current, and projected water uses through 2050. For the purposes of this UWMP, the terms “water use” and “water demand” are used interchangeably. All water served by the District is potable.

4.1 Water Use Sectors

CWC §10631

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

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

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

(I) Agricultural.

(J) Distribution system water loss.

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

- **Single Family Residential:** Attached or detached dwelling units that are individually metered.
- **Multi-Family Residential:** Two or more dwelling units served by a common water meter. Water use is predominately for indoor water use; irrigation water use for multiple family sites is usually separately metered and listed in the irrigation sector.
- **Commercial:** Includes commercial customers. Irrigation water use at these sites is usually separately metered and listed in the irrigation sector.
- **Other:** Includes temporary meters and miscellaneous customers not listed elsewhere.
- **Landscape:** Water meters used exclusively for outdoor uses associated with multiple family residential customers (i.e., homeowner associations [HOAs]) and other irrigation sites.

Saline water intrusion barriers or conjunctive use, or any combination thereof, as noted in CWC §10631(d)(1), does not apply to District.

The District's total water demand is the sum of potable water demands within its service area. The District's total water demand includes water consumed by metered accounts in the service area (metered water use), authorized but unbilled uses, and water losses within the system. The latter accounts for physical losses within the distribution system caused by seepage, leaks, and spills, while the former accounts for accounting losses due to meter inaccuracies, data handling errors, and unauthorized consumption.

4.2 Past and Current Water Demand

CWC §10631

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

Water use in the District’s service area is predominantly associated with residential use. Residential customers account for approximately 84 percent of the total water deliveries, with SFR use accounting for 64 percent and MFR accounting for 20 percent. Commercial and institutional (C/I) accounts represent 10 percent of the total water demand, while landscape accounts account for the smallest percentage of water deliveries at 2 percent of total water demand. As shown in **Table 4-1** and its associated charts, **Figure 4-1** and **Figure 4-2**, the total and per capita water use first increased from 2010 through 2013, then declined from 2014 through 2016, then followed a similar pattern with an increase from 2016 through 2020 followed by a decrease from 2020 to 2022. These trends were likely influenced by the historic drought conditions, mandatory state-wide restrictions imposed on urban water use by the SWRCB, and local drought response. In addition, the COVID-19 pandemic resulted in more customers working from home rather than commuting, resulting in higher demands in 2020 and 2021. Total and per capita water use has remained lower than pre-drought conditions, with a slight increase after 2022, indicating a degree of rebound following the drought.

The District does not currently supply non-potable water but is investigating options to provide recycled water in the future, as discussed further in **Chapter 6**.

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

| Use Type | Additional Description | 2025 Actual Water Use | |
|--|--------------------------|-----------------------------------|--------------|
| | | Level of Treatment When Delivered | Volume (AF) |
| Single Family | | Potable | 1,447 |
| Multi-Family | | Potable | 454 |
| Commercial | Commercial/Institutional | Potable | 223 |
| Landscape | Landscape/Irrigation | Potable | 42 |
| Other (optional) | Unbilled consumption(a) | Potable | 13 |
| Distribution System Water Loss | (b) | Potable | 77 |
| Subtotal Potable | | | 2,256 |
| Subtotal Non-Potable | | | 0 |
| Total | | | 2,256 |
| NOTES: (a) Other non-revenue water includes unbilled unmetered consumption such as fire flow, system flushing, etc. (b) Losses are the “water losses” value calculated as the difference between water supplied and metered water demand. (c) Volumes are in units of AF. | | | |

Figure 4-1 Total Uses for Potable and Non-Potable Water - 2021 – 2025 Actual

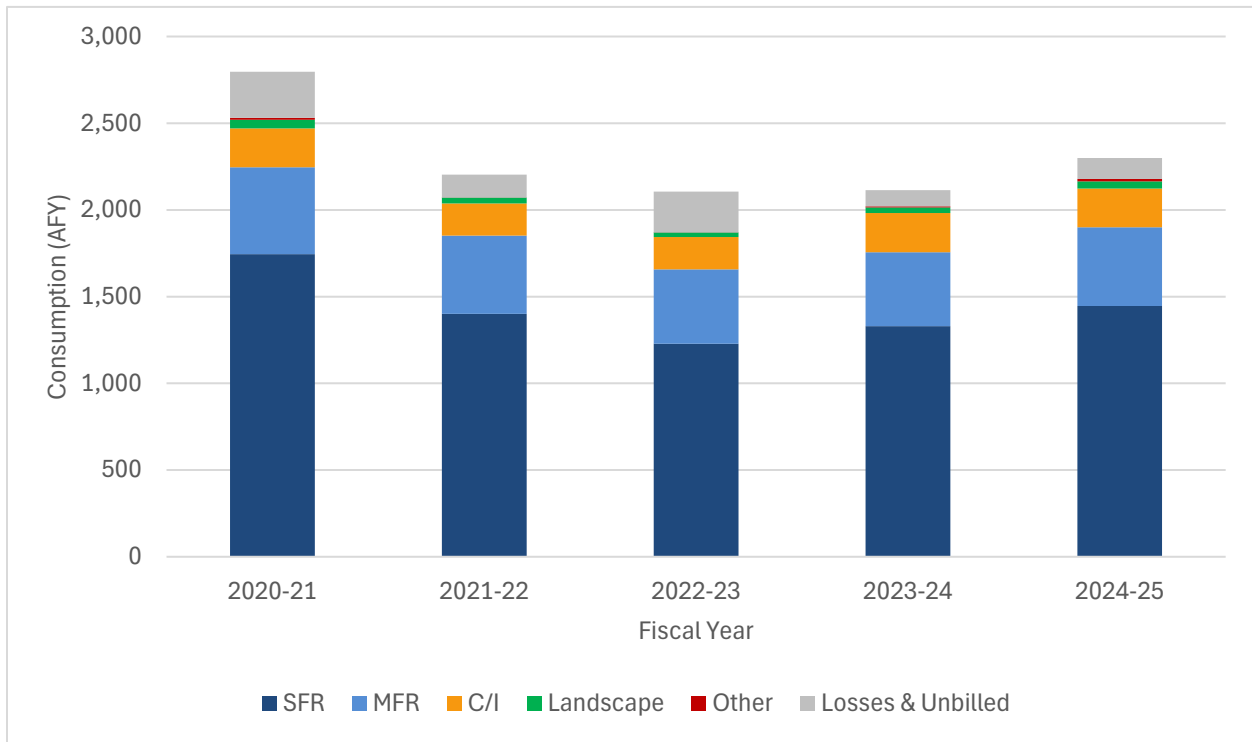
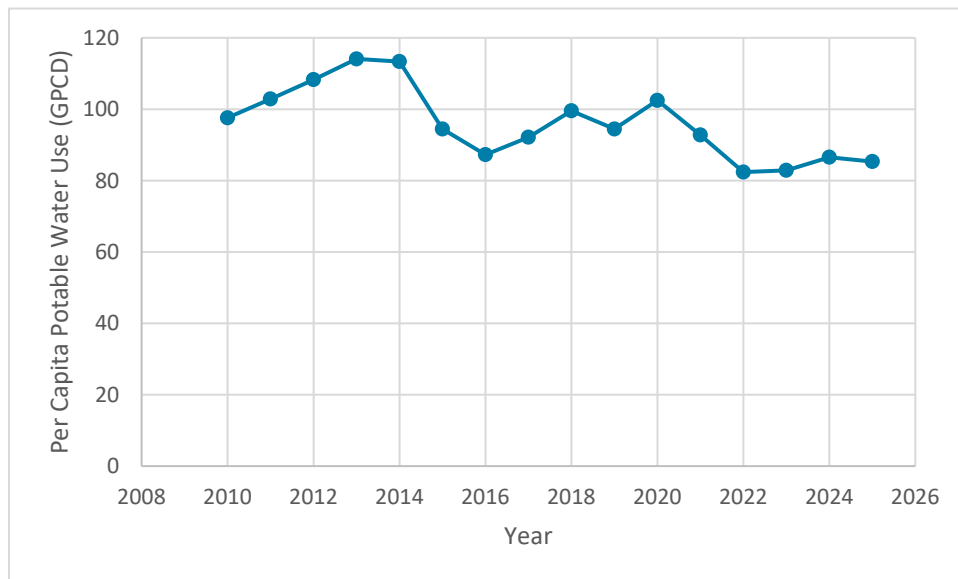


Figure 4-2 Per Capita Water Use (GPCD)



4.3 Distribution System Water Loss

CWC §10631(3)

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

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

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

Water loss is the sum of apparent and real losses. Apparent loss is associated with metering inaccuracies, billing and administrative errors, authorized unmetered uses (e.g., system flushing and firefighting), and unauthorized uses. Real loss is associated with physical loss of water through line breaks, leaks and seeps, and overflows of storage tanks. Since 2016, urban retail water suppliers have been required under CWC §10608.34 and 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”). **Table 4-2** summarizes the water loss audit reports submitted to DWR for the District’s water system since 2021. The water loss audit reports are available through DWR’s Water Use Efficiency Data.¹

Table 4-2 Water Loss Audit Reporting Water Code Section 10631(d)(3)(A) (DWR Table 4-5)

| PWS ID # (reported in DWR Table 2-1) | Reporting Period | Submitted to DWR Water Loss Audit Program (yes/no) |
|---|------------------|--|
| CA4910013 | 2020 | Yes |
| | 2021 | Yes |
| | 2022 | Yes |
| | 2023 | Yes |
| | 2024 | Yes |

NOTES:

- (a) 2020: https://wuedata.water.ca.gov/public/awwa_uploads/3349491715/VOMWD%20FY%202020%20Water%20Audit%20Validated.xlsx
- (b) 2021: https://wuedata.water.ca.gov/public/awwa_uploads/1993680655/Valley%20of%20The%20Moon%20WD%20%2D%20Validated%20Water%20Audit%20FY%202021.xlsx
- (c) 2022: https://wuedata.water.ca.gov/public/awwa_uploads/7180424332/Final%20Copy%20of%20VOMWD%20%2D%20FY%202022%20%2D%20AWWA%20Water%20Audit.xls
- (d) 2023: https://wuedata.water.ca.gov/public/awwa_uploads/6988340079/VMWD%20FY2023%20Water%20Loss%20Audit%20Validated.xlsx
- (e) 2024: https://wuedata.water.ca.gov/public/awwa_uploads/9885297477/Valley%20of%20the%20Moon%20Water%20District%20FY2024%20%2D%20Validated%20Water%20Audit.xlsx

In 2022, the SWRCB adopted water loss performance standards for urban retail water suppliers, aiming for a significant long-term reduction in real losses. Effective starting in 2023, the SWRCB established

¹ DWR’s Water Use Efficiency Data Portal: https://wuedata.water.ca.gov/awwa_plans

individual volumetric standards for each urban retail water supplier, calculated to reflect the life-cycle cost-effective level of water loss based on specific system characteristics. While annual reporting is ongoing, suppliers will be required to start meeting individual volumetric loss standards over a three-year period, with full compliance required by January 1, 2028. These standards constitute the water loss component of the Making Conservation a California Way of Life (MCCWL) regulatory framework (SWRCB, 2022).

CWC §10631 (d)(3)(c) requires that this UWMP demonstrate whether the District has met the distribution loss standards enacted by the SWRCB pursuant to CWC §10608.34. **Table 4-3** demonstrates the District's progress towards meeting the 2028 water loss standard. Based on the most recent AWWA Water Loss Audit, the District's real water loss and apparent water loss are both below the SWRCB standards. Therefore, the District currently meets the 2028 water loss standards.

Table 4-3 Progress Towards 2028 Water Loss Standard (DWR Table 4-6)

| PWS ID # (reported in DWR Table 2-1) | Did the SWRCB Calculate a Water Loss Standard for this PWS? (y/n) If no, Supplier will not complete this row. | Real Water Loss | | | | | Apparent Water Loss | | | | |
|--|--|--|--|--|--|----------------------------------|--|--|-----------------------------------|--|--------------------------------------|
| | | State Water Board Standard | | Most Recent AWWA Water Loss Audit | | | State Water Board Standard | | Most Recent AWWA Water Loss Audit | | |
| | | 2028 Real Water Loss Standard per Unit per day | Units for Real Water Loss | Number of Units (Connections or Miles corresponding with units selected) | Volume of Total Real Loss (from AWWA Water Loss Audit) | Real Water Loss Per Unit per Day | 2028 Apparent Water Loss Standard per Unit per Day | Units for Apparent Water Loss | Number of Connections | Volume of Total Apparent Loss (from AWWA Water Loss Audit) | Apparent Water Loss Per Unit per Day |
| CA4910013 | Yes | 16.4 | Gallons per Service Connection per Day (GPSCD) | 7,181 | 74.674 | 9.3 | 6.4 | Gallons per Service Connection per Day (GPSCD) | 7,181 | 10.897 | 1.4 |
| <p>NOTES: Actual loss data is from the District’s FY 2025 AWWA Water Loss Audit.</p> | | | | | | | | | | | |

4.4 Projected Water Demand

The District’s water demand projections were prepared as part of the *2025 Water Demand Analysis and Water Conservation Measures Update* (Water Demand Report; EKI, 2025), which is provided in **Appendix B** and documents in detail the methods and assumptions used to project future water demand.

Projected total water demand is summarized in the following subsections.

4.4.1 Basis of Demand Projections

As described in more detail below and in the Water Demand Report (**Appendix B**), projected potable water demands for the District were estimated by:

1. Applying an estimated growth rate to accounts within each water use sector based on projected population and employment growth rates,
2. Evaluating and selecting water demand factors for each water use sector based on a review of recent average per-account water use representing three scenarios,
3. Estimating future passive savings using the Alliance for Water Efficiency (AWE) Water Conservation Tracking Tool (AWE model), and
4. Calculating estimated future water demand that incorporates the anticipated account.

This methodology is consistent with CWC §10631(d)(4)(A), which requires that “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.” The assumptions used as the bases for demand projections were developed in close coordination with the District and reflect a land-use based approach consistent with community planning within the District.

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

CWC §10631(d)(4)

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

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

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

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

“Passive conservation” refers to water savings resulting from actions and activities that do not depend on direct financial assistance (e.g., rebate) programs from the District. These savings result primarily from (1) the natural replacement of existing plumbing fixtures with water-efficient models required under current plumbing code standards, and (2) the installation of water-efficient fixtures and equipment in new buildings and retrofits as required under California Green Building Standards Code (CALGreen) Building Code Standards. The water use projections discussed in **Section 4.4.3** include water savings associated with these codes and standards. Specifically, as shown in **Table 4-4** and its associated chart, passive water

savings for the District were calculated using the Alliance for Water Efficiency (AWE) Water Conservation Tracking Tool (referred to as the AWE model; AWE, 2021). The AWE model is an industry standard tool that incorporates historical population, residential building stock, number of accounts, and projected population and account growth to estimate future passive savings. More information regarding the passive savings estimated using the AWE model can be found in **Appendix B**.

While projections account for passive savings, the District has taken a more conservative approach to demand projections by not accounting for savings associated with future active conservation measures. However, savings associated with all past active conservation efforts are embedded into the demand projections. This approach is conservative, as it projects the highest level of probable demand. Active conservation thus increases resiliency for District customers by further increasing efficient utilization of available supplies.

Table 4-4 Projected Total Water Demand and Projected Passive and Active Water Conservation

| | Projected Total Water Demand | | | | |
|-----------------------------------|------------------------------|--------------|--------------|--------------|--------------|
| | 2030 | 2035 | 2040 | 2045 | 2050 |
| Baseline Projected Water Demand | 2,690 | 2,893 | 3,110 | 3,344 | 3,595 |
| Passive Water Conservation | 138 | 244 | 345 | 443 | 542 |
| Total Potable Water Demand | 2,553 | 2,648 | 2,765 | 2,901 | 3,054 |

4.4.3 Projected Total Water Demand

Projected customer water demands for years 2030 through 2050 are presented in **Table 4-5**. These demands are broken down by sector, including water loss. As affirmed in **Table 4-6**, both future water savings (Section 4.4.2) and lower income residential demands (Section 4.4.4) are included in the projections of future water use.

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

| Use Type | Additional Description | Projected Water Use (a) | | | | | |
|--|------------------------|-----------------------------------|-------|-------|-------|-------|------------|
| | | Level of Treatment When Delivered | 2030 | 2035 | 2040 | 2045 | 2050 (opt) |
| Single Family | | Potable | 1,621 | 1,681 | 1,755 | 1,840 | 1,937 |
| Multi-Family | | Potable | 522 | 545 | 571 | 602 | 636 |
| Commercial | | Potable | 249 | 249 | 253 | 258 | 266 |
| Landscape | Landscape/Irrigation | Potable | 48 | 52 | 55 | 60 | 64 |
| Other | (b) | Potable | 14 | 15 | 16 | 17 | 18 |
| Distribution System Water Loss | (c) | Potable | 100 | 107 | 115 | 124 | 133 |
| Subtotal Potable | | | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| Subtotal Non-Potable | | | 0 | 0 | 0 | 0 | 0 |
| Total | | | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| NOTES: | | | | | | | |
| (a) Volumes are in units of AF | | | | | | | |
| (b) Other non-revenue water includes unbilled unmetered consumption such as fire flow, system flushing, etc. | | | | | | | |
| (c) Losses are the "water losses" value calculated in the District's FY 2025 AWWA Water Loss Worksheet on a fiscal year basis, and refer to total losses, inclusive of real and apparent losses. | | | | | | | |

Table 4-6 Inclusion in Water Use Projections (DWR Table 4-3)

| Are Future Water Savings Included in Projections? | Yes |
|---|---|
| If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found. | Refer to Section 4.4.2 and Table 5-4 of Appendix B . |
| Are Lower Income Residential Demands Included In Projections? | Yes |
| OPTIONAL If the method for accounting Lower Income Residential Demands has been included, provide page number where this accounting can be found. | Refer to Section 4.4.4 |

4.4.4 Water Use by Lower Income Households

CWC §10631.1

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

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

As indicated in **Table 4-6**, water use projections presented in **Section 4.4.3** include projected water use by lower income households. A “lower income household” is defined under California Health and Safety Code § 50079.5(a) to be a household with less than 80 percent of median income, adjusted for family size. The Final Regional Housing Needs Allocation (RHNA) for the San Francisco Bay Area (ABAG, 2025) was used to estimate the proportion of lower income households anticipated within the District. Based on ABAG (2025) housing allocations for unincorporated Sonoma County, new very low- and low-income households are estimated to comprise approximately 42% of the total new households. Demand for lower income households is based on 42% of the total single-family and multi-family residential projected water uses, as shown in **Table 4-7**.

Table 4-7 Projected Water Use for Lower Income Households

| Lower-Income Water Demand Sector | Projected Water Use (AFY) | | | | |
|--|---------------------------|------------|------------|--------------|--------------|
| | 2030 | 2035 | 2040 | 2045 | 2050 |
| Single Family Residential | 681 | 706 | 737 | 773 | 814 |
| Multi-Family Residential | 219 | 229 | 240 | 253 | 267 |
| Total | 900 | 935 | 977 | 1,026 | 1,081 |
| NOTES: (a) Volumes are in units of AF | | | | | |

4.4.5 Characteristic Five-Year Water Use

CWC §10635

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

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

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

In accordance with CWC §10635(b)(3), UWMPs must provide a five-year Drought Risk Assessment (see **Section 7.5**). As a first step, DWR suggests that water suppliers estimate their unconstrained water demand for the next five years (2026-2030). Unconstrained water demand is water use in the absence of drought water use restrictions. These numbers can then be adjusted to estimate the five-years’ cumulative drought effects. The Drought Risk Assessment presented in **Section 7.5** accounts for this increase in unconstrained water demand. **Table 4-8** shows unconstrained demands for 2026-2030 for normal weather and multiple-dry-year scenarios.

The Drought Risk Assessment must include a consideration of climate change impacts on demand. Hotter and drier weather may lead to an increased demand in landscape irrigation.

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

| 2026 | 2027 | 2028 | 2029 | 2030 |
|---|-------|-------|-------|-------|
| 2,316 | 2,375 | 2,435 | 2,494 | 2,554 |
| NOTES: (a) The table shows unconstrained demand (i.e., demand in the absence of drought water use restrictions). | | | | |

4.5 Water Use Sectors Not Included in Demand Projections

Several water use sectors listed in CWC §10631(d)(1) are not included in the water demand projections described above because they are not applicable to the District. The following sectors were not included in the demand projections in this Plan:

- Industrial (CWC §10631(d)(1)(D)) – The District does not currently, nor does it plan to, provide water for industrial uses.
- Sales to Other Agencies (CWC §10631(d)(1)(G)) – The District does not currently, nor does it plan to, sell water to other agencies.
- Saline Water Intrusion Barriers, Groundwater Recharge, or Conjunctive Use (CWC §10631(d)(1)(H)) – The District does not currently use, nor does it currently plan to use, water for saline water intrusion barriers, or conjunctive use. However, the District is currently exploring the option of aquifer storage and recovery (ASR). Further information about the ASR project is discussed in Chapter 6.

- Agricultural (CWC §10631(d)(1)(I)) – The District does not currently, nor does it plan to, provide water for agricultural uses.

4.6 Coordinating Water Use Projections

CWC § 10631(h)

An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available.

The District purchases water from Sonoma Water. As part of the coordination effort for the UWMP, and in compliance with CWC §10631(h), the District supplied Sonoma Water with its water demand projections through 2050.

4.7 Urban Water Use Objective

CWC § 10609.20

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

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

CWC § 10609.22

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

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

CWC § 10609.24

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

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

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

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

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

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

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

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

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

The UWUO is a water budget-based approach to water use efficiency unique to each urban water supplier and consists of the following components: (1) residential indoor water standard, (2) residential outdoor

water budget, (3) CII landscape outdoor water use standard (for landscapes with dedicated irrigation meters, (4) water loss standard, (5) variance, and (6) bonus. Suppliers will need to assess whether they meet their UWUO collectively (i.e., they are not required to comply with the individual standards if they meet the overall UWUO). Compliance with UWUOs is required beginning January 2027. Per the MCCWL regulation, over the next 25 years, the water efficiency standards for residential indoor and outdoor water use as well as CII outdoor water use will become increasingly stringent.

The state standards underlying the residential indoor, residential outdoor, and CII outdoor components of the UWUO will become increasingly stringent over time. As a result, compliance is expected to require continued reductions in water use beyond those achieved under the SB X7-7 framework.² Urban retail water suppliers are required to report annually to the State Water Resources Control Board on water use relative to their UWUOs. The District submits UWUO compliance data through the Department of Water Resources’ Water Use Efficiency Data portal.³ As part of the 2025 Water Demand Analysis and Water Conservation Measure Update prepared for the District, the District’s UWUO compliance was forecasted using the following data sources and assumptions (EKI, 2025; Appendix B):

- Projected population, water use components subjective to the objectives (e.g., residential water use and dedicated irrigation water use), and real water loss
- Decreasing Objective water use standards through 2040
- Excluding agricultural irrigation and geothermal recycled water use from water use and Objectives calculations
- Residential landscape area based on values reported in the District’s fiscal year (FY) 2023-24 UWUO Annual Report and increasing proportional to population projections
- Existing (2025) CII landscape area on DIMs irrigated with potable water estimated from projected 2025 water use, assuming a LEF of 0.80
- Future CII landscape area on DIMs irrigated with potable water, increasing proportionally with District’s irrigation accounts

The results of the analysis, described further in Section 5.6 of **Appendix B**, indicate that the District is anticipated to comply with its UWUOs through 2040, as shown in **Table 4-9**.

Table 4-9 Current and Projected Urban Water Use Objectives Compliance

| Year | Water Demand Subject to UWUO Compliance (b) (c) | UWUO Projections (b) | Reduction Required |
|----------|---|----------------------|--------------------|
| 2025 (d) | 2,020 | 2,974 | - |
| 2030 | 2,270 | 3,196 | - |
| 2035 | 2,362 | 3,454 | - |
| 2040 | 2,473 | 3,729 | - |

NOTES:
 (a) Volumes are in units of AF.
 (b) Water demand subject to UWUO compliance includes single family, multi-family water, irrigation, and water loss sectors and is detailed in Appendix B.
 (c) 2025 uses actual data as reported on the Water Use Efficiency Data Portal.

² Under the MCCWL regulation, the SB X7-7 target serves as a backstop on the UWUO. If a supplier’s UWUO exceeds its SB X7-7 target, its UWUO becomes its SB X7-7 target.

³ DWR’s Water Use Efficiency Data Portal: https://wuedata.water.ca.gov/uwuo_plans

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

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, required that urban retail water suppliers⁴ reduce their baseline per capita water use by 20% by 2020. Instead of, or in addition to, individual water use targets, urban water retail suppliers may plan, comply, and report on SB X7-7 requirements on a regional basis as part of a “Regional Alliance.” As described in Chapter 2, the District is one of eight Water Contractors to the Sonoma County Water Agency (Sonoma Water or Sonoma Water) for purchase of Russian River water supply. As such, the Water Contractors formed a regional Alliance in 2011 under the provisions of SB X7-7 because they are recipients of water from a common wholesale water supplier.

The membership of the Alliance is consistent with that of a previously established water conservation regional partnership of eight Water Contractors, known as the Sonoma Marin Saving Water Partnership (SMSWP). This regional group, which collaborates on regional water conservation efforts, formed a Regional Alliance for the purposes of meeting regional water use targets. The members of the North-Marin Sonoma Alliance include: the District, City of Sonoma, City of Santa Rosa, Town of Windsor, City of Rohnert Park, City of Cotati, City of Petaluma, Marin Municipal Water District, and North Marin Water District⁵.

⁴ CWC §10608.12 defines an urban retail water supplier as “a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.”

⁵ The letter approving the District’s membership in the regional Alliance is available at the following link: <http://www.savingwaterpartnership.org/wp-content/uploads/20x2020-regional-alliance-agreement.doc.pdf>.

As shown in **Table 5-1**, the Alliance was in full compliance with the SB X7-7 2020 target.

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

| Was Supplier part of a merger or consolidation since 2020? | Regional Alliance Target or Individual Target? | 2020 Target | Actual 2020 GPCD | Did Supplier Achieve Targeted Reduction for 2020? |
|--|--|-------------|------------------|---|
| No | Regional Alliance Target | 129 | 113 | Yes |

6 NORMAL YEAR 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 section describes existing and future sources of water available to the District. It includes a description of each water source, source limitations, water quality, and future opportunities for additional supply development. The District’s water supplies currently come from a combination of imported water from Sonoma Water, and, to a lesser degree, local groundwater pumped by the District from the Sonoma Valley Subbasin of the Napa-Sonoma Valley Groundwater Basin. Each water supply is described further in the following sections.

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).

6.1.1 Sonoma County Water Agency Surface Water Supply

The District receives its primary water supply from Sonoma Water’s transmission system (**Figure 6-1**), which provides treated water purchased from Sonoma Water’s Russian River Project. The Russian River flows have historically been augmented by Pacific Gas and Electric’s (PG&E’s) Potter Valley Project (PVP), which diverts a portion of the Eel River flows to the East Fork of the Russian River. Water is diverted and extracted from the stretch of the Russian River located just upstream of Wohler Bridge via six radial wells known as “Raney collectors.” The diverted river water percolates through sand and gravel and only needs the addition of chlorine to meet drinking water quality standards. Although the water extracted via Raney collectors does percolate through the ground, due to the connection to the surface water source, this diversion is considered and is permitted as a surface water supply under existing surface water rights to the Russian River and Dry Creek watersheds. As discussed further under Section 6.2, the Sonoma Water supply also includes a relatively small amount of groundwater from groundwater supply wells located in the central Santa Rosa Plain Subbasin (Sonoma Water, 2016).

The District, along with other Sonoma Water contractors, signed the Restructured Agreement for Water Supply (Agreement) in 2006. The Agreement provides for the financing, construction, and operation of diversion facilities, transmission lines, storage tanks, booster pumps, conventional wells, and appurtenant facilities. As described in Section 3.1 of this Agreement, Sonoma Water:

...shall deliver to each Water Contractor [i.e., each signatory to the Agreement] at the points of delivery hereinafter set forth such quantities of water as the Water Contractor shall from time to time require at such rates of flow as are necessary to meet its peak day’s demand, subject to the following:

(a) Sonoma Water shall not be obligated to deliver water in excess of the following:

| <i>Water Contractor/ Aqueduct</i> | <i>Average Daily Rate of Flow During Any Month</i> | <i>Annual Amount During Fiscal Year (Excluding Surplus Water)</i> |
|--|--|---|
| <i>Valley of the Moon from Sonoma Aqueduct</i> | <i>8.5 million gallons per day</i> | <i>3,200 acre-feet</i> |

6.1.2 Sonoma County Water Agency Surface Water Rights

According to Sonoma Water’s 2025 UWMP, four water rights permits (Permits 12947A, 12949, 12950, and 16596) issued by the State Water Resources Control Board (SWRCB) authorize Sonoma Water to store up to 122,500 acre feet per year (AFY) of water in Lake Mendocino and up to 245,000 AFY of water in Lake Sonoma, and to divert or redivert up to 180 cubic feet per second (cfs) of water from the Russian River with a limit of 75,000 AFY.

The permits also establish minimum instream flow requirements for fish and wildlife protection and recreation. These minimum instream flow requirements vary based on the hydrologic classifications of normal, dry, and critical water supply conditions as defined by Sonoma Water’s water rights permits and SWRCB Decision 1610, adopted in 1986, and as modified by Temporary Urgency Change Petitions (TUCPs) filed by Sonoma Water. The minimum instream flow requirements over the summer period have been adjusted as needed under the TUCP process since 2010 to comply with the 2008 Russian River Biological Opinion and now its successor, the 2025 Russian River Biological Opinion (described in Chapter 7). While Sonoma Water follows the minimum instream flow schedule outlined in Decision 1610 for the remainder of the year, the hydrologic index of Decision 1610 (calculated based on cumulative flow into Lake Pillsbury in the Eel River watershed) was developed during different operations of the PVP. Therefore, Sonoma Water has been filing TUCPs biannually to request that Lake Mendocino storage thresholds—which are more representative of water supply conditions in the Russian River System— be used as the hydrologic index for determining minimum instream flow requirements. As discussed in its 2025 UWMP, Sonoma Water assumes it will continue to operate under storage thresholds at Lake Mendocino. Minimum instream flow requirements for the Russian River and Dry Creek are met by releases from Coyote Valley Dam and Warm Springs Dam (Sonoma Water, 2026).

6.1.3 Sonoma County Water Agency Groundwater Supply

Sonoma Water pumps a portion of its supply from the Santa Rosa Plain Subbasin of the Santa Rosa Valley Basin (DWR Basin # 1-55.01). Groundwater is used primarily as a drought period supply, or when Russian River supplies are otherwise constrained (Sonoma Water, 2026). In 2025, no groundwater was used to meet retail demands. In the future, groundwater is planned to continue to be used as a drought supply or when Russian River supplies are otherwise constrained (Sonoma Water, 2026). Sonoma Water’s groundwater supply is discussed further in Section 6.2.

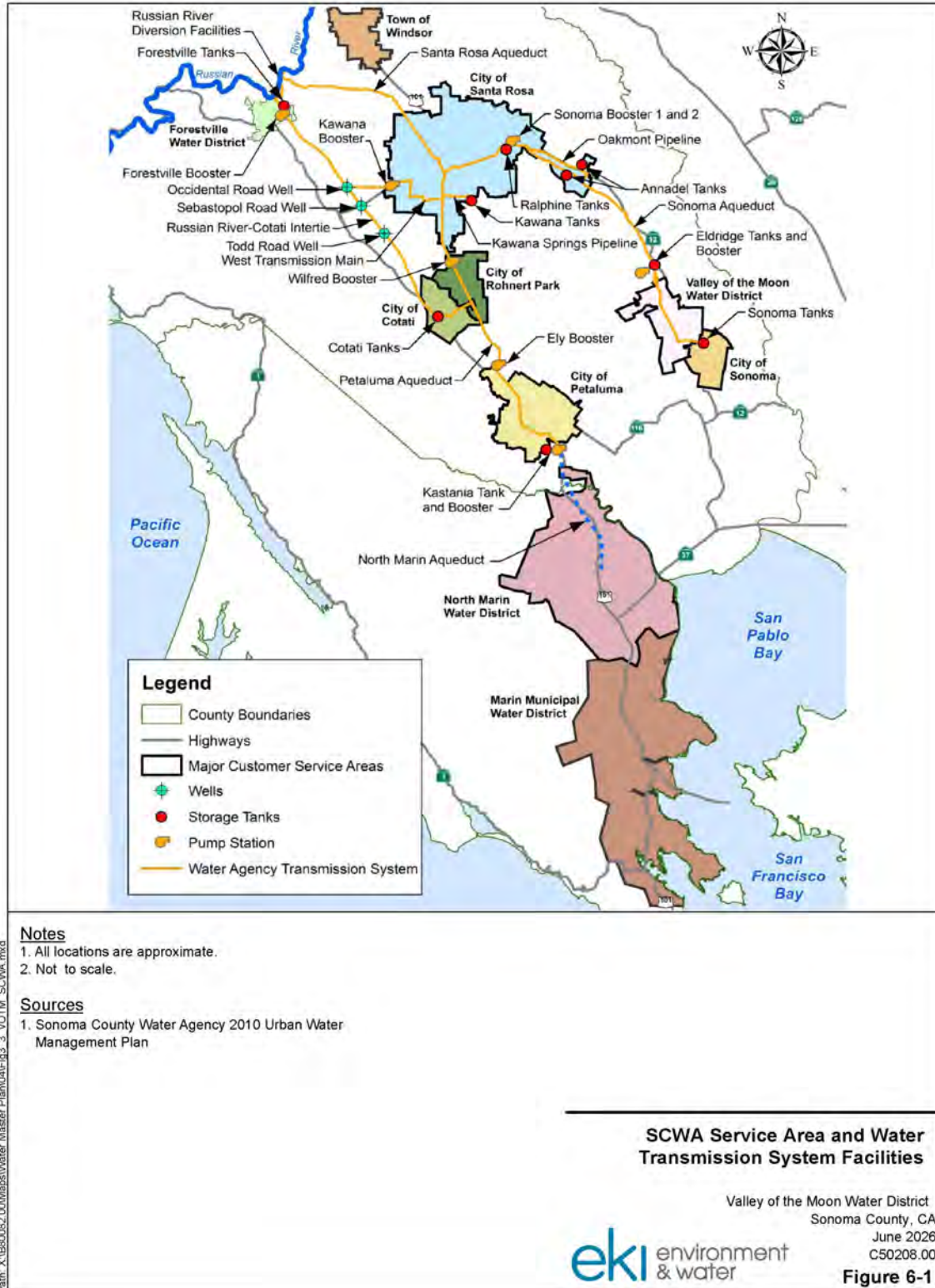


Figure 6-1 Sonoma Water Service Area and Water Transmission System Facilities

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.

The District's purchase of supply from Sonoma Water is supplemented by local groundwater supply wells. In a normal water year, approximately 20 percent of the District's water supply is from local groundwater supply wells. This section includes information regarding the basin description, groundwater management, and coordination with the two relevant Groundwater Sustainability Agencies (GSAs), followed by a discussion of historical pumping and supply sufficiency.

6.2.1 Basin Description and Status

Sonoma Valley Subbasin (Local Groundwater Supply)

The District overlies the Sonoma Valley Subbasin of the Napa-Sonoma Valley Groundwater Basin (DWR Basin No. 2-2.02). The Sonoma Valley Groundwater Basin is one of three subbasins that drain south-southeast into San Pablo Bay (DWR, 2003). The Sonoma Valley Subbasin is not adjudicated, and the Basin is not in a condition of critical overdraft. **Figure 6-2** shows the groundwater basin and subbasin areas.

The Sonoma Valley Subbasin is designated as a high priority basin under DWR's 2019 Phase 2 Basin Prioritization (DWR, 2019). Under this prioritization process, basins are ranked on eight components, and if a basin is assigned more than 21 total points, it is defined as "high priority." The main factors driving the Basin's designation include the density of public supply wells (4 out of 5 possible points), the density of total wells (4 out of 5 possible points), irrigated acreage per square mile (3 out of 5 possible points),

groundwater reliance (3 out of 5 possible points), and documented impacts including declining groundwater levels and subsidence (3 out of 5 possible points).⁶

As a DWR-designated high priority basin, the Sonoma Valley Subbasin is subject to the requirements of the Sustainable Groundwater Management Act (SGMA), including the requirement to be covered by one or more GSAs and to prepare and submit to DWR one or more GSPs by 31 January 2022. The Sonoma Valley Subbasin GSP was submitted to DWR in January 2022 and approved by DWR on January 26, 2023.

The Sonoma Valley Subbasin covers an area of approximately 44,000 acres (70 square miles) and occupies a northwest trending structural depression in the coastal mountain ranges immediately north of San Pablo Bay. The Subbasin is one of three subbasins of the Napa-Sonoma Valley Groundwater Basin and is bounded on the west by the Sonoma Mountains and on the east by the Mayacamas Mountains. The Sonoma Valley Subbasin extends from San Pablo Bay northward to about 2 miles south of the community of Kenwood where the alluvial plain terminates. The principal stream draining the Subbasin is Sonoma Creek, which is tidally influenced from Schellville downstream to its mouth at San Pablo Bay (Sonoma Valley GSA, 2021).

Further description of the Subbasin is included in the Basin Setting chapter of the GSP for the Subbasin, including the hydrogeologic conceptual model, and current and historical groundwater conditions. GSP chapters are available on the Sonoma Valley GSA website⁷.

Since the GSP was adopted, the District has completed the pilot testing of an ASR well and resulted in the recommendation to move forward with full scale ASR implementation. The District has since constructed two permanent ASR well facilities. Both wells are currently permitted to inject Sonoma Water supply and are in the process of obtaining permits to use the wells as a drinking water source. Additional information on these wells is included in Section 6.8.

⁶ 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.

⁷ Sonoma Valley GSP website: <http://sonomavalleygroundwater.org/gsp/>.

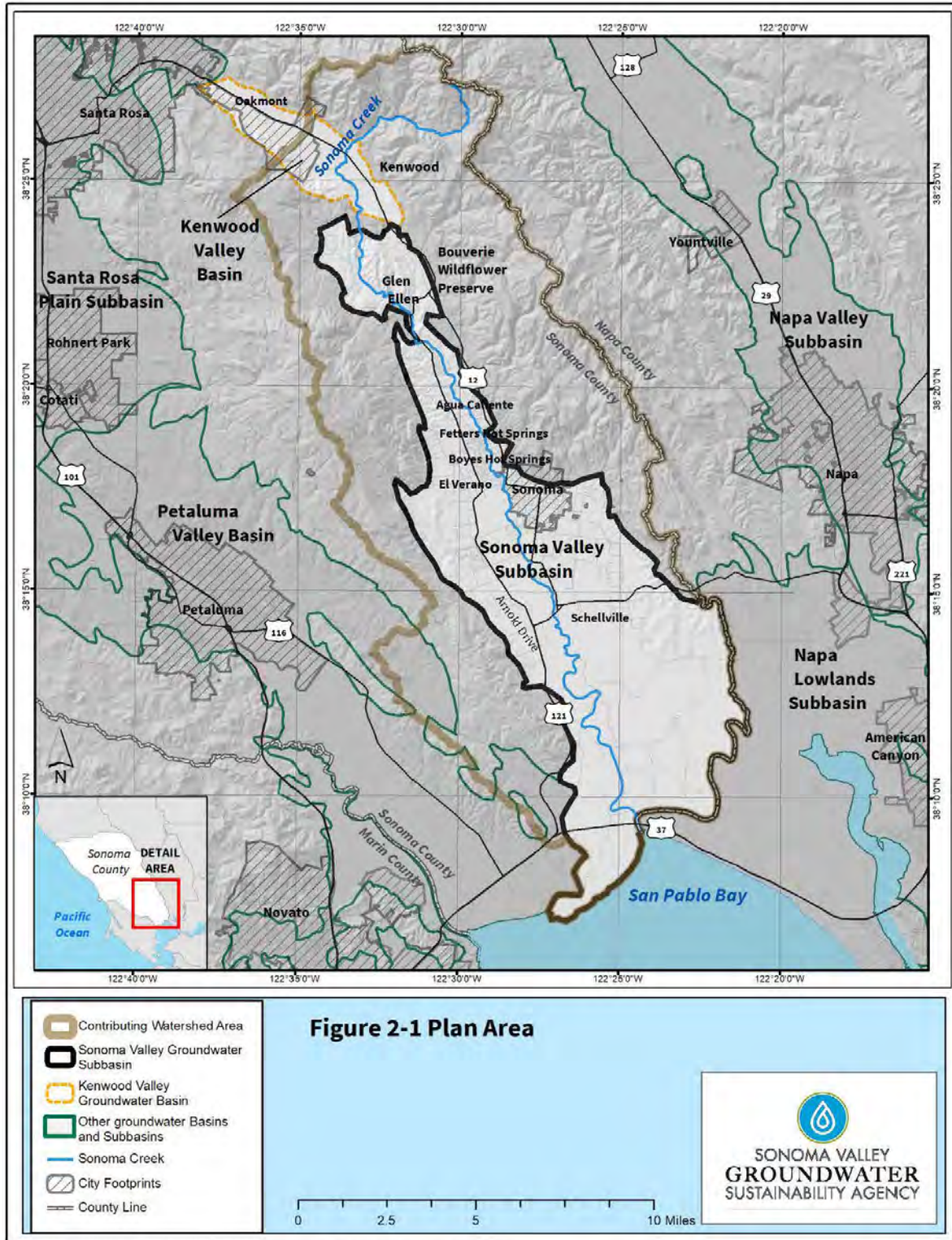


Figure 6-2 Regional Setting and Groundwater Basins

From Sonoma Valley Subbasin GSP, Figure 2-1 (Sonoma Valley Subbasin GSA, 2021)

Santa Rosa Plain Subbasin (Sonoma Water Groundwater Supply)

As noted in Section 6.1.3, Sonoma Water utilizes groundwater from the Santa Rosa Plain Subbasin of the Santa Rosa Valley Basin during drought periods or when Russian River supplies are constrained. Given this, in accordance with CWC § 106319(b), characteristics and groundwater management of the Santa Rosa Plain Subbasin are provided below.

The Santa Rosa Subbasin is not adjudicated, and in its recent evaluation of California groundwater basins, DWR determined that the Basin is not in a condition of critical overdraft (DWR, 2019). The Santa Rosa Plain Subbasin is currently categorized by the DWR program as a medium priority basin (DWR, 2019).

Under DWR's prioritization process, basins are ranked on eight components, and if a basin is assigned more than 14 total points, but less than 21 total points, it is defined as "medium priority." The main factors driving the Santa Rosa Plain Subbasin's designation include population density (3 out of 5 possible ranking points), population growth (3 out of 5 possible points), public supply well density (5 out of 5 possible points), total production well density (5 out of 5 possible points), groundwater reliance (5 out of 5 possible points), and groundwater reliance (3 out of 5 possible points) (DWR, 2019).

As a DWR-designated high priority basin, the Santa Rosa Subbasin is subject to the requirements of the SGMA, including the requirement to be covered by one or more GSAs and to prepare and submit to DWR one or more GSPs by 31 January 2022. The Santa Rosa Plain GSP was submitted to DWR in January 2022 and approved by DWR on January 26, 2023.

Geologically, the Santa Rosa Plain Subbasin has one main water-bearing unit, the Merced Formation, and several units with lower water-bearing capacities, including the Glen Ellen Formation and the Alluvium. The shallow Alluvium consists of poorly sorted coarse sand and gravel and moderately-sorted fine sand, silt, and clay. The alluvial deposits are not perennially saturated, have low permeability, and are generally unconfined or slightly confined. The Glen Ellen Formation underlies the Alluvium and consists of partially cemented beds of poorly sorted gravel, sand, and silt, and clay that vary widely in thickness and extent, with thicknesses varying from 3,000 feet to less than 1,500 feet on the west side of the valley. Underlying the Glen Ellen Formation is the Merced Formation, which is a marine deposit of fine sand and sandstone with thin interbeds of clay and silty-clay and some lenses of gravel and localized fossils. The Merced Formation is Pliocene in age, and its thickness is estimated to range from 300 feet to greater than 1,500 feet. Aquifer continuity and water quality in the Merced Formation are generally very good, with well yields from 100 to 1,500 gallons per minute (gpm) (Santa Rosa Plain GSA, 2021).

Further description of the Subbasin is included in the Basin Setting chapter of the GSP for the Subbasin, including the hydrogeologic conceptual model, and current and historical groundwater conditions. GSP chapters are available on the Santa Rosa Plain GSA website⁸:

Actions related to management of the Sonoma Valley Subbasin and Santa Rosa Plain Subbasin both currently and under SGMA are described in the next sections.

6.2.2 Pre-SGMA Groundwater Management

Sonoma Valley Subbasin (Local Groundwater Supply)

Prior to the passage of SGMA, a coalition of local stakeholders participated in the development of a Sonoma Valley Groundwater Management Plan (Sonoma Valley GMP), which was completed in 2007 (Sonoma Water, 2007). This plan was prepared to inform and guide Sonoma Water and other stakeholders in maintaining a sustainable, high-quality groundwater resource for the users of the groundwater basin

⁸ Santa Rosa Plain GSA website: <https://santarosaplaingroundwater.org/gsp/>.

underlying the Sonoma Valley. Stakeholders participating in the development of the Sonoma Valley GMP were Sonoma Water, the District, the City of Sonoma, and the Sonoma Valley County Sanitation District (SVCSD). Guidance for the Sonoma Valley GMP effort was provided by a Basin Advisory Panel (BAP), which included additional stakeholders including agricultural interests, local citizen groups, environmental groups, and business interests. Primary components of the Sonoma Valley GMP were grouped into several categories, including (1) stakeholder involvement, (2) groundwater monitoring, (3) groundwater quality protection, (4) groundwater sustainability, and (5) planning integration. The Sonoma Valley Plan identified a range of voluntary management actions, including groundwater recharge, groundwater banking, increased water use efficiency, and greater use of recycled water to reduce demand for groundwater.

The BAP held its last meeting in August 2016 and was replaced by the new Sonoma Valley Groundwater Sustainability Agency, described in Section 6.2.3.

Santa Rosa Plain Subbasin (Sonoma Water Groundwater Supply)

Prior to the passage of SGMA, the Santa Rosa Plain Subbasin was managed under the Santa Rosa Plain Watershed Groundwater Management Plan (Santa Rosa Plain GMP), developed by the Santa Rosa Plain Advisory Panel (Santa Rosa Plain Advisory Panel, 2014). The stated goal of the Santa Rosa Plain GMP was “to proactively coordinate public and private groundwater management efforts and leverage funding opportunities to maintain a sustainable, locally-managed, high-quality groundwater resource for current and future users, while sustaining natural groundwater and surface water functions.” The Santa Rosa Plain GMP outlines eighteen Basin Management Objectives and groups these into seven key management components, including: (1) stakeholder involvement and public awareness, (2) monitoring and modeling program, (3) groundwater protection, (4) increasing water conservation and efficiency, (5) increasing groundwater discharge, (6) increasing water reuse, and (7) integrated groundwater management.

The Santa Rosa Plain Subbasin is now managed under the GSP for the Santa Rosa Plain Subbasin.

6.2.3 SGMA Groundwater Management

Sonoma Valley Subbasin (Local Groundwater Supply)

As discussed in Section 6.2.1, the Sonoma Valley Subbasin is designated by DWR as a high priority basin (DWR, 2019). As such, the Sonoma Valley Subbasin is subject to the requirements of SGMA, which include the formation of one or more GSAs and the development and implementation of one or more GSPs.

The Sonoma Valley GSA was formed in June 2017 through a Joint Powers Agreement entered into by the County of Sonoma, the City of Sonoma, the District, Sonoma Resource Conservation District, Sonoma Water, and North Bay Water District. The Sonoma Valley GSA is governed by six board members and alternates from the six member organizations, which each appoint one member and one alternate member. The Board of Directors is advised by an Advisory Committee of 12 members consisting of six at-large members appointed by the six member agencies, and six interest-based members appointed by the Sonoma Valley GSA Board of Directors, representing various other stakeholders.

The GSP for the Sonoma Valley Subbasin was submitted to DWR in January of 2022 and approved by DWR in January 2023.

Santa Rosa Plain Subbasin (Sonoma Water Groundwater Supply)

As discussed in Section 6.2.1, the Santa Rosa Plain Subbasin is designated by DWR as a medium priority basin (DWR, 2019). As such, the Santa Rosa Plain Subbasin is subject to the requirements of SGMA, which include the formation of one or more GSAs and the development and implementation of one or more GSPs.

The Santa Rosa Plain GSA was formed in June 2017 through a Joint Powers Agreement entered into by Sonoma Water, City of Cotati, City of Rohnert Park, City of Santa Rosa, City of Sebastopol, Town of Windsor, County of Sonoma, Gold Ridge Resource Conservation District, Sonoma Resource Conservation District, Branger Mutual Water Company, California American Water, Willowside Mutual Water Company, and Penngrove Water Company, and covers the entire subbasin. The Santa Rosa Plain GSA is governed by a nine-member Board of Directors, which includes a position held by Sonoma Water. The Board of Directors is advised by an Advisory Committee that includes eighteen members appointed by the Board of Directors, representing various stakeholders. The GSP for the Santa Rosa Plain Subbasin was submitted to DWR in January 2022 and approved by DWR in January 2023.

Coordination with Groundwater Sustainability Agencies

As a member of the Sonoma Valley GSA, the District has been actively involved in GSP development activities and will continue to be involved throughout SGMA implementation. The District has one director and one alternate member on the Sonoma Valley GSA Board of Directors, as well as one appointee on the Advisory Committee. The Board of Directors meets every two months, while the advisory committee meets every month to provide input and recommendations to the Board of Directors on GSP development, implementation, and policies. Both the Board of Directors and the Advisory Committee receive input from a number of administrative and technical staff, as well as legal and financial consultants.

The District is not directly involved with the Santa Rosa Plain GSA. However, as noted above, Sonoma Water is a member of Santa Rosa Plain GSA, and the District has coordinated with Sonoma Water on its demand projections through 2045.

6.2.4 Historical Pumping and Supply Sufficiency

The District owns and/or operates a total of eight active municipal production wells, seven of which are active. The capacities of the District’s wells range from 90 to 300 gpm. The District cycles through its wells, and each well typically pumps for nine months and then remains offline for a three-month recovery period. The District’s existing total well design capacity is 1,115 gpm (EKI, 2025b). As mentioned above, the District has also recently constructed two ASR wells that are permitted for injection while permitting for use as drinking water wells is underway.

Table 6-1 lists the amount of groundwater pumped by the District over the past five years. The District pumped an average of 517 acre-feet (AF) per year over the 5-year period between 2021 and 2025, and a maximum of 590 AF in 2021. The available groundwater supply and the purchased water supply have been sufficient to meet the District’s demands in the past five years and all prior years.

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

| Groundwater Type | Water Type | Location or Basin Name | 2021 | 2022 | 2023 | 2024 | 2025 |
|--|------------|--|------------|------------|------------|------------|------------|
| Alluvial Basin | Potable | Sonoma Valley Subbasin of the Napa-Sonoma Valley Groundwater Basin (2-02.02) | 590 | 437 | 535 | 477 | 545 |
| Total | | | 590 | 437 | 535 | 477 | 545 |
| NOTES: (a) Volumes are in units of AF | | | | | | | |

A sustainable yield for the Sonoma Valley Subbasin was determined as part of the GSP development process. The sustainable yield provides an estimate of the quantity of groundwater that can be pumped

on a long-term average annual basis without causing undesirable results and is estimated using a groundwater model that incorporates planned future pumping, geologic conditions, hydrologic assumptions, future projects, and other inputs described in the GSP. Based on groundwater modeling results, the sustainable yield for the subbasin is estimated to be 5,400 AFY. While this sustainable yield is not allocated among pumpers, the modeling scenarios assume that historic pumping is maintained. The groundwater model assumes that the District will maintain historical pumping, which ranges from 340 AFY to 670 AFY (Sonoma Valley Subbasin GSA, 2021).

The groundwater model also assumes certain projects are implemented that support achievement of the Basin's sustainability goals under SGMA are documented in the GSP, including:

- Reduced vineyard consumptive use
- Reduced rural domestic pumping
- Recycled water expansion
- Aquifer storage and recovery (ASR)
- Stormwater capture and recharge

Section 6.9 presents an analysis of the District's available supplies based on historical purchased water and local groundwater use and review of available information regarding future supply availability to the District, accounting for the impacts of SGMA.

As noted previously, the subbasin is not adjudicated and the sustainable yield has not been formally allocated. The District's historical pumping should not be interpreted as a restriction on groundwater production as 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. (CWC §10720.1(b), 10720.5(a) and (b).) SGMA should therefore not reduce, adversely impact or limit the District's present or future exercise of its domestic water rights or its obligation to serve its municipal customers, and the District's rights should be subject to less restrictions and limitations than any other types of water rights or uses.

6.3 Surface Water

As described above in Section 6.1, the District purchases surface water from Sonoma Water as its primary water supply.

6.4 Stormwater

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

This section provides information on the amount of generated wastewater and existing disposal of wastewater to determine the potential for recycled water use by the District. Information regarding recycled water is provided.

6.5.1 Recycled Water Coordination

The District does not use recycled water and has no plans for recycled water use within the planning horizon of the UWMP. In order to further supplement and enhance the District’s water supply sources, the District has previously explored the option of acquiring recycled water from SVCS. The District recognizes the benefit of expanded recycled water use to offset agricultural groundwater pumping in the southern portion of Sonoma Valley. However, extensive pipeline construction would be required to convey recycled water from the Sonoma Valley Water Treatment Plant, owned and operated by SVCS, to the District’s service area. As a result, implementation of a recycled water program in the District’s service area is cost-prohibitive in the near-term. That being said, the District will continue to explore opportunities to utilize recycled water in the future in conjunction with others.

6.5.2 Wastewater Collection, Treatment, and Disposal

CWC §10633 (a)

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

CWC §10633 (b)

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

The SVCS provides wastewater collection, treatment, and disposal services within the District’s service area and other areas in the Sonoma Valley. The SVCS reclamation facility provides tertiary treatment for a permitted average daily dry weather flow capacity of 3 million gallons per day (mgd) and is capable of treating up to 16 mgd in wet weather.

Treated wastewater is currently used to restore the Napa Salt Marsh, is discharged to the San Pablo Bay via Schell and Hudeman Slough, or is reused in the southern part of the Sonoma Valley. Current reuse of wastewater treated by SVCS includes vineyard and pasture irrigation, water for construction, and a small amount of water used for residential landscape irrigation. In recent years, the SVCS has explored the feasibility of expanding recycled water use to offset local groundwater pumping or imported Russian River water in addition to reducing or eliminating discharges to San Pablo Bay. **Table 6-2** summarizes the volume of wastewater collected within the District’s service area in 2025. As indicated in **Table 6-3**, no wastewater is treated or disposed of in the District’s service area.

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

| Wastewater Collection | | | Recipient of Collected Wastewater | |
|---|---|--|---|-----------------------------------|
| Name of Wastewater Collection Agency | Wastewater Volume Metered or Estimated? | Volume of Wastewater Collected from UWMP Service Area 2025 | Name of WWTP and Place ID Number | Is WWTP Located Within UWMP Area? |
| Sonoma Valley County Sanitation District | Estimated | 1,269 | Sonoma Valley County SD WWTP, Place ID 257754 | No |
| Total Wastewater Received from UWMP Service Area in 2025: | | 1,269 | | |
| NOTES: (a) Volumes are in units of AF (b) Volumes are estimated based on minimum demand month of metered water consumption. | | | | |

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

| <input checked="" type="checkbox"/> | Checked box indicates no wastewater is treated or disposed of within the UWMP service area. Proceed to the next table. | | | | | | | | | | | | | |
|---|--|--|------------------------------------|---|--------|---|--------|---|--------|--------------------------------------|--------|--|--------|----------------------|
| Wastewater Treatment Plant Name and Place ID Number | Does This Plant Treat Wastewater Generated Outside the UWMP Service Area? (OPTIONAL) | 2025 Volume of Wastewater Received from UWMP Service Area (as Reported in DWR Table 6-2) | Total 2025 Volume of Water Treated | 2025 Outcomes of Treated Wastewater | | | | | | | | | | |
| | | | | Water Recycled Within UWMP Service Area | | Water Recycled Outside of UWMP Service Area | | Effluent Discharge that is not a Permitted Recycled Water Use | | Required Discharge for Instream Flow | | Delivered to Another Entity for Additional Treatment | | |
| | | | | Treatment Level | Volume | Treatment Level | Volume | Treatment Level | Volume | Treatment Level | Volume | Treatment Level | Volume | Name of other entity |
| | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | |

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.

Extensive pipeline construction would be required to convey recycled water from the Sonoma Valley Water Treatment Plant to the District's service area. As a result, implementation of a recycled water program in the District's service area is cost-prohibitive in the near-term. The District will continue to explore opportunities to utilize recycled water in the future in conjunction with others.

As indicated in **Table 6-4**, there is no current or projected recycled water use within the District's service area.

In its 2020 UWMP, the District projected no recycled water use in 2025. There is currently no recycled water use within the District's service area. Therefore, as indicated in **Table 6-5**, the District has not completed DWR Table 6-5.

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

| <input checked="" type="checkbox"/> | Checked box indicates recycled water is not used and is not planned for use within the service area of the supplier. The supplier will only complete the column on "Potential Recycled Water Use" and submit an accompanying narrative on the feasibility of that potential recycled water use. | | | | | | | | | |
|---|---|---------------------------------------|----------|----------|----------|----------|----------|---------------|------------------------------|-------------------------------------|
| Name(s) of Facility/ies Producing (Treating) the Recycled Water (OPTIONAL): | | | | | | | | | | |
| Name of Supplier Operating the Recycled Water Distribution System (OPTIONAL): | | | | | | | | | | |
| Supplemental Water Added in 2025 (volume). Include units (OPTIONAL): | | | | | | | | | | |
| Source of 2025 Supplemental Water (OPTIONAL): | | | | | | | | | | |
| Use Type | Water Type (after treatment if treated) (OPTIONAL) | Additional Information (as needed) | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 (opt) | Potential Recycled Water Use | |
| | | | | | | | | | Volume | Narrative page number (OPTIONAL) |
| | | | | | | | | | 0 | Pg. 6-15 |
| Total | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

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

| <input checked="" type="checkbox"/> | Checked box indicates recycled water was not used in 2025 nor previously projected for use in 2020. Proceed to the next table. | |
|-------------------------------------|--|---------------------|
| Use Type | 2020 Projection for 2025 (a) | 2025 Actual Use (a) |
| | | |
| Total | 0 | 0 |

6.5.4 Actions to Encourage and Optimize Future Recycled Water Use

At this time, the District does not have any plans to initiate the use of recycled water within the District, as shown in **Table 6-6**. In the future, the District may participate in studies evaluating the feasibility of adding recycled water to its water supply portfolio. However, any such project must be economically feasible. If and when recycled water becomes available within the District’s service area in the future, appropriate financial incentives would be considered to encourage recycled water use.

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

| <input checked="" type="checkbox"/> | Checked box indicates that Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation. | | |
|-------------------------------------|--|-----------------------------|---|
| Pg. 6-15 | Provide page location of narrative in UWMP | | |
| Name of Action | Description | Planned Implementation Year | Expected Increase in Recycled Water Use (a) |
| | | | |
| Total | | | 0 |

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.

The District is located within approximately 15 miles of San Pablo Bay and therefore desalination of bay water could be a possibility in the future. Marin Municipal Water District (MMWD), also located in the North Bay region of the San Francisco Bay Area, previously performed a study exploring desalination as a potential supply option, although MMWD does not currently intend to pursue desalination further. Although the opportunity exists to explore this option further in the future, it is currently not included in this Plan as a future water supply source.

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.

Although the District does not currently transfer or exchange water with other entities, water transfers between Sonoma Water’s Water Contractors are authorized under the Restructured Agreement.⁹ Such transfers and exchanges between Sonoma Water Contractors have been necessary in the past and may be necessary in the future to improve water supply reliability. The District does not include water transfers in the water supply projections presented in this Plan because they will be pursued on an as-needed basis.

6.8 Future Water Projects

- CWC §10631** A plan shall be adopted in accordance with this chapter and shall do all of the following:
- (b) (3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.*
- (f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single-dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.*

As shown in **Table 6-7**, there are two planned future water supply projects or programs that are expected to provide a quantifiable increase to District’s water supply. The two ASR wells, the Park Well and the Verano Well, have already been constructed, but have not yet begun operation. The District has acquired permits from the Regional Water Quality Control Board (RWQCB) for injection of water at both wells. Final permitting with the SWRCB Division of Drinking Water (DDW) to use the Park Well as a drinking water source is complete, while permitting has not yet started to use the Verano Well as a drinking water source. These ASR wells will inject purchased Sonoma Water supply that will be pumped at a later date, but likely within the same year. Given that ASR operations will result in continued use of Sonoma Water supply, the wells will not result in increased supply. The wells will, however, increase groundwater pumping capacity and improve supply reliability during periods of reduced Sonoma Water supply availability. The Park Well is expected to sustainably pump 125 gpm over nine months equaling 150 AFY, while the Verano Well is expected to sustainably pump 250 gpm over six months equaling 200 AFY.

The District’s future water supply projects and programs are summarized in **Table 6-7**.

⁹ The Restructured Agreement can be accessed at the following link:
<https://evogov.s3.amazonaws.com/185/media/181899.pdf>.

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

| <input type="checkbox"/> | 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. | | | | | | |
|---|---|-----------------------|------------------------------------|--|-----------------------------|------------------------------|---|
| <input type="checkbox"/> | 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. | | | | | | |
| Page 6-16 | Provide page location of narrative in the UWMP. | | | | | | |
| Name of Future Projects or Programs | Joint Project with other suppliers? | | Additional Description (as needed) | Water Type (after treatment if treated) (OPTIONAL) | Planned Implementation Year | Planned for Use in Year Type | Expected Increase in Water Supply to Supplier (a) |
| | Yes/no | If Yes, Supplier Name | | | | | |
| Park Well | No | n/a | ASR well | Potable | 2026 | Normal | 150 AFY |
| Verano Well | No | n/a | ASR well | Potable | 2027 | Normal | 200 AFY |
| NOTES: (a) Volumes are in units of AF. | | | | | | | |

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.

The District purchases potable water from Sonoma Water to meet the majority of the water demands within the District’s service area. In 2025, the District purchased approximately 1,711 AF of water from Sonoma Water. The remainder of the District’s water supply was obtained from local production of groundwater. In 2025, the District produced 545 AF of groundwater. The District’s water supplies used in 2025 are summarized in **Table 6-8**.

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

| Water Supply | Additional Description (as needed) | 2025 | | |
|---------------------------------------|---------------------------------------|---|------------------|------------------------------------|
| | | Water Type (after treatment if treated) (OPTIONAL) | Actual Volume | Total Entitlement (OPTIONAL) |
| Groundwater (not desalinated) | Sonoma Valley Subbasin | Potable | 545 | - |
| Purchased or Imported Water | Sonoma Water | Potable | 1,711 | - |
| Subtotal Potable | | | 2,257 | - |
| Subtotal non-potable | | | 0 | - |
| Total | | | 2,257 | - |
| NOTES: Volumes are in units of AF. | | | | |

The District plans to continue to purchase wholesale water from Sonoma Water, while monitoring its production of groundwater. The District does not anticipate developing additional long-term water supplies from other sources in the near future. Water supplies from Sonoma Water through 2050 are projected to be equivalent to the District’s annual entitlement of 3,200 AFY, established in the Restructured Agreement and effective through 2037. The District’s total water supply projections are shown in **Table 6-9** in five-year increments through 2050. Groundwater pumping is assumed to make up the balance between projected demands and Sonoma Water available supply during times of peak demand, equal to the historical average of approximately 500 AFY.

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

| Water Supply | Additional Detail on Water Supply | Water Type | Projected Water Supply | | | | | | | | | |
|---|-----------------------------------|------------|-----------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|
| | | | 2030 | | 2035 | | 2040 | | 2045 | | 2050 | |
| | | | Reasonably Available Volume | Total Entitlement (OPTIONAL) | Reasonably Available Volume | Total Entitlement (OPTIONAL) | Reasonably Available Volume | Total Entitlement (OPTIONAL) | Reasonably Available Volume | Total Entitlement (OPTIONAL) | Reasonably Available Volume | Total Entitlement (OPTIONAL) |
| | | | (AF) | (AF) | (AF) | (AF) | (AF) | (AF) | (AF) | (AF) | (AF) | (AF) |
| Purchased or Imported Water | Sonoma Water Purchases | Potable | 3,200 | - | 3,200 | - | 3,200 | - | 3,200 | - | 3,200 | - |
| Groundwater (not desalinated) | Sonoma Valley Subbasin | Potable | 500 | - | 500 | - | 500 | - | 500 | - | 500 | - |
| Subtotal Potable | | | 3,200 | - | 3,200 | - | 3,200 | - | 3,200 | - | 3,200 | - |
| Subtotal Non-Potable | | | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - |
| Total | | | 3,700 | - | 3,700 | - | 3,700 | - | 3,700 | - | 3,700 | - |
| NOTES: (a) Volumes are in units of AF. | | | | | | | | | | | | |

6.10 Special Conditions

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

6.10.1 Climate Change Effects

Purchased Water

Sonoma Water completed its Climate Adaptation Plan in October 2021. This Climate Adaptation Plan includes a vulnerability assessment, risk assessment, and potential adaptation concepts. The following summary of the risk assessment results for the Sonoma Water supply system is provided in the Climate Adaptation Plan's Table 15:

- *Potter Valley Project (PVP)¹⁰ and Lake Mendocino was considered moderate risk due to its sensitivity to modest changes in hydrology and importance in providing flows for the upper Russian River for instream flows, flood control, and buffering impacts to Lake Sonoma.*
- *Lake Sonoma was assessed to have moderate/high risk primarily due to the drought and wildfire risks. The importance of the facility for providing water supply, hydropower, and ecosystem benefits led to high consequences should the operation be restricted.*
- *Wohler and Mirabel diversion facilities have high risk across all categories. These facilities and operations are susceptible to flooding, and wildfire/post-fire threats. The dependence on natural watershed processes (regulated flow, natural filtration, etc.) is a strength of the water supply system, but any failure of these systems or risk to the facilities themselves pose high risks. Financial, social, and governance risks would be considered high if these facilities were to be operated at limited capacity.*
- *River Road Chlorination Facility, Wohler Chlorination and Corrosion Control Facility, and Mirabel Chlorination Facility are assessed with moderate risk. While they may suffer temporary impacts due to climate change, redundancy of operations between facilities may reduce overall risk.*
- *Ely Booster Pump Station is considered high risk with respect to system function.*

The Climate Action Plan includes a recommended water supply adaptation strategy that consists of five major actions that include specific projects to address these risks, such as development of a water diversion facilities protection program to protect Wohler and Mirabel diversion infrastructure, an expanded FIRO program to increase operational flexibility at Lake Mendocino, and development of regional water supply strategies to improve system integration and regional resilience.

Groundwater

SGMA requires that GSPs include basin-wide water budget models under various climate change scenarios, including future conditions that account for the effects of estimated climate change. The Sonoma Valley Subbasin GSP incorporates a climate change scenario that incorporates changes to precipitation, surface water flows, and sea level rise. When the climate change scenario is applied to the projected water budget, the first 30 years of the future period have a similar rate of projected groundwater storage loss as the historical period, while the period from 2050 through 2070 has accelerated groundwater storage loss due to projected below-average precipitation. The projects and management actions identified in the GSP incorporated future climate change and growth consideration. Given the planning timeframe of this UWMP (2050), groundwater supply is not expected to be impacted

¹⁰ Since the time the Climate Adaptation Plan was prepared, it was determined that the Potter Valley Project would be decommissioned. See Section 7.1.1 for more information.

by climate change assuming the projects and management actions move forward according to the implementation plan described in the GSP.

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 District does not have any current plans to develop additional supply sources other than construction of new water supply wells, and the potential future acquisition of the Sonoma Developmental Center (SDC) water system. The property of this former state health care campus, formally closed in June 2025, includes rights and access to multiple local surface water supplies and associated treatment, storage, and distribution infrastructure. The District plans to annex the SDC property into its existing network to serve a planned mixed-use redevelopment at the site, in addition to use of the system as an emergency backup supply, as it has historically been used for the nearby communities. A specific development plan has not yet been finalized and remains in the planning stages, as does the annexation.

If the District does move forward with plans to develop supply projects, emerging regulatory conditions will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

6.10.3 Other Locally Applicable Criteria

Other locally applicable criteria may affect characterization and availability of an identified water supply (e.g., changes in regional water transfer rules may alter the availability of a water supply that had historically been readily available). If the District does move forward with any plans to develop supply projects, locally applicable criteria will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

6.11 Energy Intensity

CWC §10631.2

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

Within the service area, the District uses energy to distribute water supplies through its distribution systems. The energy used by the distribution systems, which includes several pump stations, water tower, water tanks, and cathodic protection equipment and facilities, is metered and documented in monthly

Pacific Gas & Electric (PG&E) bills. As discussed earlier in Chapter 6, the two major sources of water supply are imported water from Sonoma Water and groundwater. Sonoma Water uses energy to treat and distribute water before delivery to the District. However, the energy is used outside of the District's service area, and the energy consumption information is not typically shared with the District. Therefore, Sonoma Water energy usage is not included.

The "Total Utility Approach" as defined by DWR in the 2025 UWMP Guidebook is used to report water-related energy-consumption data for the District. Fiscal year 2025 is selected as the one-year reporting period, and utility bills for the associated time period are used as the source for energy consumption data. Total energy consumed by District during fiscal year 2025 based on reported utility bills is 572,176 kilowatt hours (kWh).

Table 6-10 shows the energy consumed for each million gallons (MG) of water entering the distribution system in District, including energy associated with extracting and diverting, placing into storage, treating, conveying, and distributing drinking water, but not including energy associated with the treatment of wastewater. Based on this, the energy intensity is estimated to be 775 kWh/MG (equivalent to 254 kWh/MG). Note that kWh per MG is the required unit for this DWR table and differs from the units of AF used to measure volume throughout the rest of this UWMP.

Table 6-10 Recommended Energy Reporting: Single Delivery Product, Total Utility Approach (DWR Table O-1B)

| Water Delivery Product | Retail Potable Deliveries | Only for Water Delivery Products Under the Urban Water Supplier's Operational Control | | |
|--|---------------------------|---|------------------------------|------------|
| | | Sum of All Water Management Processes | Non-Consequential Hydropower | |
| Start Date of Reporting Period | 7/1/2024 | | Total Utility | Hydropower |
| End Date of Reporting Period | 6/30/2025 | | | |
| Is upstream embedded energy in the values reported? | No | | | |
| Units of Measure for Water | (AF) | | | |
| Volume of Water Entering Process | | 2,256 | - | 2,256 |
| Energy Consumed (kWh) | | 15,475 | - | 15,475 |
| Energy Intensity (kWh/vol. converted to MG) | | 21 | - | 21 |
| Quantity of Self-Generated Renewable Energy | | | | |
| | 0 kWh | | | |
| Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data) | | | | |
| Metered Data | | | | |
| Data Quality Narrative: | | | | |
| Utility bills for the associated reporting period are used as the source for energy consumption data. | | | | |
| Narrative: | | | | |
| Total energy consumption represents the energy consumed during pumping, treatment, conveyance, and distribution. | | | | |

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 section describes the reliability of the District's water supplies. Assessment of water supply reliability is complex and depends on various factors, such as the water supply portfolio, 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, District has made its best determination of future water supply reliability of for its service area.

7.1 Constraints on Water Sources

Purchased water from Sonoma Water and local groundwater are the primary supply sources for the District. Potential constraints on future purchased water availability have been identified, including water quality and climate change. These constraints, along with associated management strategies, are summarized in the following sections.

7.1.1 Supply Availability

Purchased Water

The water available to Sonoma Water's customers is constrained by both physical and legal constraints. The capacity of Sonoma Water's transmission system is a physical constraint that can limit the District's water supply from Sonoma Water. The District receives Sonoma Water supply through the Sonoma Aqueduct facilities located south of the Oakmont community in Santa Rosa, which serves both the District and the City of Sonoma. The main booster pump station for the Sonoma Aqueduct is the Sonoma Booster Pump Station which is located on the east side of Spring Lake. A minor booster pump station is the Eldridge booster pump station located near Glen Ellen, which is typically off-line.

Legal constraints include the Restructured Agreement for Water Supply (Agreement), Sonoma Water Rights, and the Russian River Biological Opinion. These legal constraints are described below.

Restructured Agreement

The Agreement includes specific maximum amounts of water that Sonoma Water is obligated to supply to its Water Contractors, including the District. The Agreement states that Sonoma Water is not obligated to provide the District with more than 3,200 acre feet per year (AFY) or more than 6.3 mgd as an average flow during any single month.

Sonoma Water Rights

Four SWRCB permits (SWRCB Permit Numbers 12947A, 12949, 12950, and 1596) currently authorize Sonoma Water to store water in Lake Mendocino (122,500 AFY) on the East Fork Russian River and Lake Sonoma (245,000 AFY) on Dry Creek, and to divert and redivert 180 cubic feet per second (cfs) of water from the Russian River, up to 75,000 AFY. Sonoma Water estimates the existing annual diversion and

rediversion limit of 75,000 AFY will be exceeded by 2035. Consequently, Sonoma Water will need to file an application to SWRCB by around 2030 to increase its annual diversion and rediversion limit. The permits also establish minimum instream flow requirements for fish and wildlife protection as well as for recreational considerations. These minimum instream flow requirements vary according to the hydrologic cycle as defined by SWRCB Decision 1610. Sonoma Water meets the Decision 1610 flow requirements by making releases from Coyote Valley Dam at Lake Mendocino and Warm Springs Dam at Lake Sonoma.

Biological Opinion

On September 24, 2008, the National Marine Fisheries Service (NMFS) issued a 15-year Biological Opinion for water supply operations, flood control activities, and channel maintenance conducted by the U.S. Army Corps of Engineers (USACE), the Sonoma County Water Agency (Sonoma Water), and the Mendocino County Russian River Flood Control and Water Conservation Improvement District within the Russian River watershed. The 2008 Russian River Biological Opinion concluded that the elevated river flows required by State Water Resources Control Board (SWRCB) Decision 1610 were adversely affecting fish habitat and contributing to adverse effects on listed salmonid species.

To address these effects, the 2008 Biological Opinion identified a suite of alternatives intended to reduce impacts to listed species while maintaining water supply reliability, including:

- Reducing summertime flows in the Russian River and Dry Creek
- Enhancing approximately six miles of habitat in Dry Creek
- Creating and maintaining a freshwater lagoon in the Russian River estuary during summer months
- Conducting long-term habitat and fish monitoring in Dry Creek, the Russian River, and the estuary
- Eliminating barriers to fish passage and improving habitat conditions in several tributary streams

The 2008 Biological Opinion required that summertime flows be permanently reduced to better replicate natural dry-year river conditions. Following issuance of the Biological Opinion, Sonoma Water submitted a petition to the SWRCB requesting permanent changes to the Decision 1610 minimum instream flow requirements consistent with NMFS's recommendations and initiated preparation of an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA). While the permanent change process was underway, Sonoma Water requested and obtained temporary changes to the Decision 1610 minimum instream flows on an annual basis beginning in 2010, consistent with the 2008 Biological Opinion.

On April 29, 2025, NMFS issued a new 10-year Biological Opinion addressing substantially similar water supply operations, flood control activities, and channel maintenance actions in the Russian River watershed. In contrast to the 2008 Biological Opinion, the 2025 Russian River Biological Opinion concluded that the proposed action is not likely to jeopardize the continued existence of Central California Coast coho salmon, California Coastal Chinook salmon, Central California Coast steelhead, or Southern Resident Killer Whale, and is not likely to destroy or adversely modify designated critical habitat for these species.

The 2025 Biological Opinion reflects over a decade of interim operational experience, habitat improvements, monitoring data, and incorporation of updated operational approaches. Although the jeopardy determination was removed, NMFS included Reasonable and Prudent Measures (RPMs) and associated terms and conditions to address remaining potential adverse effects to listed species. Key elements of the proposed action evaluated in the 2025 Biological Opinion include:

- Continued reservoir flood control and water supply operations at Coyote Valley Dam (Lake Mendocino) and Warm Springs Dam (Lake Sonoma), including approved deviations from Water Control Manuals

- Implementation of Forecast-Informed Reservoir Operations (FIRO) to improve water supply reliability and flood management while enhancing downstream ecological conditions
- Modification of the Russian River Hydrologic Index (Water Year Classification methodology) to shift from reliance on Eel River hydrology at Lake Pillsbury to Russian River hydrology based on conditions at Lake Mendocino, improving alignment between hydrologic classifications and actual watershed conditions

The 2025 Biological Opinion represents a substantial evolution from the 2008 framework, transitioning from emergency, annually renewed flow modifications to a longer-term, integrated operational and regulatory approach that balances water supply, flood management, and species protection objectives in the Russian River watershed. (NOAA, 2025; Sonoma Water, 2025)

Purchased Water Storage via ASR Wells

As discussed in Section 6.2, the District has constructed two ASR wells to inject purchased Sonoma Water supply for storage and later use. This project will improve supply reliability by allowing for storage of Sonoma Water supply during wet periods for use during drought or other times when Sonoma Water supply is constrained.

PVP Decommissioning

PG&E is decommissioning its Potter Valley Project hydropower facilities¹¹ primarily due to economic considerations (PG&E, n.d.). Historically, the PVP has diverted water from the Eel River through a trans-basin tunnel into the East Fork Russian River, where a portion of the diverted flow is used by the Potter Valley Irrigation District (PVID), and the remainder continues to Lake Mendocino. These imported flows have played a critical role in supplementing the highly variable, rainfall-driven hydrology of the Watershed. Stored water in Lake Mendocino has been managed and released to support downstream diversions, municipal and agricultural demands, and instream flow requirements.

This decommissioning effort carries significant implications for regional water reliability across the Upper Russian River Watershed. Historically, imported Eel River flows have supplemented the Russian River system during extended dry periods, providing an important hydrologic buffer that sustained baseflows, reservoir storage and instream habitat conditions. These imports have helped stabilize municipal, agricultural, and environmental water supplies, particularly during late summer and early fall when natural runoff is minimal.

Sonoma Water and regional partners have proposed a successor diversion and pumping facility (the “New Eel-Russian Facility”) and potential expanded storage at Lake Mendocino to preserve at least seasonal transfers, but future imports would likely be smaller, occur only in wetter periods, and cost more to operate. For the District, this means that Russian River supply reliability is no longer assumed to be supported indefinitely by year-round Eel River imports.

Local Groundwater

As described in Section 6.2.4, the Sonoma Valley Subbasin GSP established a sustainable yield of 5,400 AFY, though this estimate is not allocated among pumpers. The sustainable yield was estimated based on assumptions that included assumed pumping volumes for each pumper. The District’s historical pumping volume assumed in GSP modeling ranged from 340 AFY to 670 AFY and averaged approximately 500 AFY

¹¹ PVP, initiated in 1908, captures water at Cape Horn Dam (Van Arsdale Reservoir) and Scott Dam (Lake Pillsbury) on the Eel River. It diverts water through a tunnel to a powerhouse on the Russian River principally for hydropower generation. In addition to power production, Potter Valley plays a critical role in providing essential water supplies for agricultural irrigation and municipal uses across the Watershed.

(Sonoma Valley Subbasin GSA, 2022). These volumes are assumed to be available to the District in the future.

The district's existing wells have a capacity of 1,115 gpm and are run approximately 9 months of the year, resulting in the ability to pump up to 1,300 AFY. If the two new ASR wells are added to this total, the District will have the ability to pump up to 1,650 AFY.

The District will continue to use its wells to supplement its purchased Sonoma Water supply. Groundwater production will be expanded to meet demands in the event of a drought or a decrease in Sonoma Water supply.

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 has the potential to affect water supply reliability. A summary of groundwater quality in the Sonoma Valley Subbasin is included in the GSP materials available on the Sonoma Valley GSA website¹². It should be noted that water quality conditions in groundwater represent conditions for source water, prior to treatment by the District and service to customers.

The District 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 SWRCB 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.

The District routinely monitors 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 the District's website¹³.

The District proactively monitors and manages water quality in its source water supplies. Given emerging contaminants of concern (PFOA/PFOS), additional treatment may be required in the future for four of the District's seven wells that are currently offline due to high PFAS concentrations.

¹² Sonoma Valley Subbasin GSP materials are available at <http://sonomavalleygroundwater.org/gsp/>.

¹³ District's water quality information is available at <https://www.vomwd.org/waterquality>.

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 climate change may affect the District’s supply availability. As noted in **Section 6.10**, Sonoma Water’s Climate Adaptation Plan, completed in 2021, identifies vulnerability and risk to water supply system components, and identifies projects that can be implemented to address the risks. The Sonoma Valley Subbasin GSP incorporated climate change into the basin water budget and identified projects and actions to sustainably manage the basin under these conditions. Based on the analyses described in these plans, climate change may be expected reduce supplies available and potentially impact water system facilities, but the projects and actions identified in the plans incorporate these considerations to ensure that supplies are reliable into the future.

7.2 Reliability by Type of Year

CWC §10631 (b)

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

CWC §10631 (b)(1)

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

CWC §10635 (a)

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

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

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

Identification of these dry year periods consistent with the 2025 UWMP Guidebook methodology is provided below (**Table 7-1**). The representative year types align with the years used in the Sonoma Water 2025 UWMP. As part of its 2025 UWMP, Sonoma Water modeled available supply under each of these year types. Sonoma Water’s modeling indicates there is adequate supply to meet retailer demands for purchased water for all hydrologic conditions. Sonoma Water’s 2025 UWMP concludes that sufficient water supplies are available to meet projected demands under all hydrologic conditions through 2050.

However, the District’s projected demand for purchased water is less than the full contract entitlement. Accordingly, the purchased water reliability assessment assumes that the City’s full contracted amount would be available during normal hydrologic years. In single dry years and extended drought conditions, the volume of purchased water available is assumed to be the remaining potable demand after groundwater supplies have been utilized. The available supply in **Table 7-1** includes the estimate purchased water demand in 2050.

Groundwater is expected to make up the balance between projected demands and Sonoma Water available supply, and has been sufficient in the past to meet the balance of demands in years when Sonoma Water purchases are reduced (Sonoma Water, 2026). Groundwater is expected to be available to meet future demands out to 2050, assuming the projects and management actions described in the Sonoma Valley Subbasin GSP are implemented, including increasing groundwater storage using the District’s ASR wells (Sonoma Valley Subbasin GSA, 2021).

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

| Year Type | Base Year | Available Supplies if Year Type Repeats | |
|--|-----------|---|--|
| | | <input type="checkbox"/> | Checked box indicates quantification of available supplies is not compatible with this table |
| Quantification of available supplies is provided in this table as either volume only, percent only, or both. | | | |
| | | Volume Available | % of Average Supply |
| Average Year | 1999 | 3,700 | 100% |
| Single-Dry Year | 1977 | 3,054 | 100% |
| Consecutive Dry Years 1st Year | 1987 | 3,054 | 100% |
| Consecutive Dry Years 2nd Year | 1988 | 3,054 | 100% |
| Consecutive Dry Years 3rd Year | 1989 | 3,054 | 100% |
| Consecutive Dry Years 4th Year | 1990 | 3,054 | 100% |
| Consecutive Dry Years 5th Year | 1991 | 3,054 | 100% |

NOTES:
 (a) Volumes are in units of AF.
 (b) Volume available assumes groundwater will first be maximized, then purchased water will be used to meet remaining demands, and is based on 2050 demands.

7.3 Supply and Demand Assessment

CWC §10635(a)

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

Water supply and demand patterns change during normal, single dry, and multiple dry years. **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 4-5**, 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. The District is projected to have sufficient supplies to meet projected demands in normal years, single dry years, and multiple dry years through 2050.

Given the uncertainties in future supply availability, the District has developed strategies and actions to minimize potential for water supply shortfalls. The District has been implementing, and plans to continue to implement, the demand management measures described in Chapter 9. Further, in response to the anticipated future shortfalls, the District has developed a robust Water Shortage Contingency Plan (WSCP) that systematically identifies ways in which the District can reduce water demands. The WSCP is discussed in Chapter 8 and is included in **Appendix E**.

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

| | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|--------------|--------------|------------|------------|------------|
| Supply totals (from DWR Table 6-9) | 3,700 | 3,700 | 3,700 | 3,700 | 3,700 |
| Use totals (from DWR Table 4-2) | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| Surplus/(shortfall) | 1,146 | 1,051 | 935 | 799 | 646 |
| NOTES: (a) Volumes are in units of AF. | | | | | |

Table 7-3 Single Dry Year Supply and Demand Comparison – District Total (DWR Table 7-3)

| | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|----------|----------|----------|----------|----------|
| Supply totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| Use totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| Surplus/(shortfall) | 0 | 0 | 0 | 0 | 0 |
| NOTES: (a) Volumes are in units of AF. | | | | | |

Table 7-4 Five Consecutive Dry Years Supply and Demand Comparison (DWR Table 7-4)

| | | 2030 | 2035 | 2040 | 2045 | 2050 |
|---------------------------------|----------------------------|----------|----------|----------|----------|----------|
| First year | Supply totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| | Use totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| | Surplus/(shortfall) | 0 | 0 | 0 | 0 | 0 |
| Second year | Supply totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| | Use totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| | Surplus/(shortfall) | 0 | 0 | 0 | 0 | 0 |
| Third year | Supply totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| | Use totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| | Surplus/(shortfall) | 0 | 0 | 0 | 0 | 0 |
| Fourth year | Supply totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| | Use totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| | Surplus/(shortfall) | 0 | 0 | 0 | 0 | 0 |
| Fifth year | Supply totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| | Use totals | 2,554 | 2,649 | 2,765 | 2,901 | 3,054 |
| | Surplus/(shortfall) | 0 | 0 | 0 | 0 | 0 |
| NOTES: | | | | | | |
| (a) Volumes are in units of AF. | | | | | | |

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.

As described in Chapter 2, the District is a member of the SMSWP, which is a regional partnership program that represents twelve utilities in Sonoma and Marin counties that have joined together to provide a regional approach to water use efficiency. Participating in the partnership, the District has continued to implement an extensive water conservation program which reduces the demand on imported supplies. As described in Chapter 9, the District manages per capita water use through the implementation of a series of demand management measures (DMMs).

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.

In addition to the long-term water service reliability assessment presented above, the Drought Risk Assessment evaluates District's supply risks under a severe drought period lasting for the next five consecutive years after the assessment is completed, i.e., from 2026 through 2030. The Drought Risk Assessment is intended to inform the DMMs and water supply projects and programs to be included in the UWMP (**Section 9**). Suppliers may conduct an interim update or this Drought Risk Assessment within the five-year cycle of its UWMP update (i.e., before the 2030 UWMP).

7.5.1 Data, Methods, and Basis for Water Shortage Condition

This evaluation considers historical drought hydrology and plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

As a first step to the Drought Risk Assessment, the District estimated unconstrained water demand for the next five years (i.e., 2026-2030). Unconstrained water demand is the expected water use in the

absence of drought water use restrictions. The characteristic five-year water demand is described in **Section 4.4.5**.

The available potable water supplies assumed in the Drought Risk Assessment are based upon the same methodology and assumptions used for the long-term water service reliability assessment (**Section 7.3**) and rely on information provided by Sonoma Water and the Sonoma Valley Subbasin GSP. The approach for estimating the District's available supplies follow below, as part of the Drought Risk Assessment.

7.5.2 Drought Risk Assessment Individual Water Source Reliability

As described in Chapter 6, the District relies on purchased water from Sonoma Water and groundwater from the Sonoma Valley Subbasin. The District's available supplies during the five-consecutive-year drought are based on the results of modeling completed by Sonoma Water which states that sufficient supply is available to meet retailer demands under drought risk assessment conditions, and through review of the Sonoma Valley Subbasin GSP which explored groundwater storage under varying hydrologic conditions.

7.5.3 Drought Risk Assessment Total Water Supply and Use Comparison

Table 7-5 provides a comparison of the water supply sources available to District with the total projected water use for an assumed drought period of 2026 through 2030. The District's supply is expected to be sufficient to meet demands in all hydrologic conditions, including an extended five-year drought period. **Table 7-5** also summarizes planned WSCP actions that the District will implement to augment supply and/or reduce demands (see **Appendix E**).

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

| 2026 | Total |
|--|--------------|
| Total Water Use | 2,316 |
| Total Supplies | 2,316 |
| Surplus/(Shortfall) without WSCP Action | 0 |
| 2027 | Total |
| Total Water Use | 2,375 |
| Total Supplies | 2,375 |
| Surplus/(Shortfall) without WSCP Action | 0 |
| 2028 | Total |
| Total Water Use | 2,435 |
| Total Supplies | 2,435 |
| Surplus/(Shortfall) without WSCP Action | 0 |
| 2029 | Total |
| Total Water Use | 2,494 |
| Total Supplies | 2,494 |
| Surplus/(Shortfall) without WSCP Action | 0 |
| 2030 | Total |
| Total Water Use | 2,554 |
| Total Supplies | 2,554 |
| Surplus/(Shortfall) without WSCP Action | 0 |
| NOTES: (a) Volumes are in units of AF. | |

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 District is included in this UWMP as **Appendix E**. The WSCP serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will be implemented at various shortage level scenarios. The primary objective of the WSCP is to ensure that the District has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions.

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

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

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

| <input checked="" type="checkbox"/> | Checked box indicates the supplier uses the standard six levels of water shortage (and supplier will not complete this table). | | |
|-------------------------------------|--|---------------------------|------------------------|
| Standard Shortage Levels | Percent Shortage Range | Suppliers Shortage Levels | Percent Shortage Range |
| 1 | Up to 10% | | |
| 2 | Up to 20% | | |
| 3 | Up to 30% | | |
| 4 | Up to 40% | | |
| 5 | Up to 50% | | |
| 6 | >50% | | |

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

| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | |
|----------------|---|--|------------------------------|---|
| Shortage Level | Supply Augmentation Methods and Other Actions by Water Supplier | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference |
| | | Volume or Percentage | Shortage Gap Reduction Value | |
| 1 | Expand Public Information Campaign | Percentage | <1% - 2% | Publicize the water shortage and conservation measures using a media campaign, newspaper articles, and website. |
| 1 | Expand Public Information Campaign | Percentage | <1% - 2% | Promote water conservation programs. |
| 1 | Expand Public Information Campaign | Percentage | <1% - 2% | Hold water efficiency workshops and public events. |
| 1 | Expand Public Information Campaign | Percentage | <1% - 2% | Distribute water bill inserts with information about water shortage and conservation. |
| 2 | Expand Public Information Campaign | Percentage | Up to 2% | Continue with action and measures from Stage 1 except where superseded by more stringent requirements. |
| 2 | Other Actions (describe) | Percentage | 1% | Accelerate leak detection and repair program. |
| 2 | Other Actions (describe) | Percentage | <1% | Suspend routine flushing of water mains except when necessary to address immediate health or safety concerns. |
| 2 | Other Actions (describe) | Percentage | <1% | Reduce distribution system pressures. |
| 2 | Implement or Modify Drought Rate Structure or Surcharge | Percentage | Up to 5% | The District will implement drought rate structure / water budget. |
| 3 | Other Actions (describe) | Percentage | Up to 5% | Continue with action and measures from Stage 2 except where superseded by more stringent requirements. |
| 3 | Implement or Modify Drought Rate Structure or Surcharge | Percentage | Up to 5% | The District will implement drought rate structure / water budget. |
| 4 | Other Actions (describe) | Percentage | Up to 10% | Continue with action and measures from Stage 3 except where superseded by more stringent requirements. |
| 5 | Other Actions (describe) | Percentage | Up to 10% | Continue with action and measures from Stage 4 except where superseded by more stringent requirements. |

| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | |
|----------------|---|--|------------------------------|--|
| Shortage Level | Supply Augmentation Methods and Other Actions by Water Supplier | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference |
| | | Volume or Percentage | Shortage Gap Reduction Value | |
| 6 | Other Actions (describe) | Percentage | Up to 10% | Continue with action and measures from Stage 5 except where superseded by more stringent requirements. |
| 6 | Expand Public Information Campaign | Percentage | Up to 2% | Increase staff enforcement to ensure customers complying with the assigned water budget. |

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

| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | | |
|----------------|--|--|------------------------------|--|--|
| Shortage Level | Demand Reduction Actions | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage | Shortage Gap Reduction Value | | |
| | | | Percent | | |
| 1 | Other - Prohibit use of potable water for washing hard surfaces | Percentage | 1% | Washing sidewalks, walkways, driveways, parking lots and other hard-surfaced areas by direct hosing is not recommended, unless necessary for public health and safety. | No |
| 1 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | Percentage | 1% | Breaks or leaks are recommended to be corrected within 72 hours of discovery or notice from the District. | No |
| 1 | Landscape - Restrict or prohibit runoff from landscape irrigation | Percentage | 1% | Irrigation in manner that allows excessive runoff of water, or unreasonably over-sprays the area of irrigation, is not recommended. | No |
| 1 | Other - Require automatic shut off hoses | Percentage | <1% | Washing cars, boats, trailers or other vehicles and machinery directly with a hose not equipped with a shutoff nozzle is not recommended. | No |

| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | | |
|----------------|---|--|------------------------------|--|--|
| Shortage Level | Demand Reduction Actions | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage | Shortage Gap Reduction Value | | |
| | | | Percent | | |
| 1 | Water Features - Restrict water use for decorative water features, such as fountains | Percentage | <1% | Use of potable water for non-recycling decorative water fountains is not recommended. | No |
| 1 | CII - Other CII restriction or prohibition | Percentage | <1% | Use of water for single pass evaporative cooling systems for air conditioning is not recommended for all connections installed after 6 June 2000 unless required for health or safety reasons. | No |
| 1 | Other - Prohibit vehicle washing except at facilities using recycled or recirculating water | Percentage | <1% | Use of water for new, non-recirculating conveyor car wash systems is not recommended. | No |
| 1 | CII - Other CII restriction or prohibition | Percentage | <1% | Use of water for new non-recirculating industrial clothes wash systems is not recommended. | No |
| 1 | CII - Restaurants may only serve water upon request | Percentage | <1% | Restaurants may only serve water upon request. | No |
| 1 | CII - Lodging establishment must offer opt out of linen service | Percentage | <1% | Hotels and lodging establishments offer a linen service opt-out. | No |
| 1 | Landscape - Prohibit certain types of landscape irrigation | Percentage | <1% | The irrigation with potable water of ornamental turf on public street medians is not recommended. | No |

| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | | |
|----------------|---|--|------------------------------|--|--|
| Shortage Level | Demand Reduction Actions | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage | Shortage Gap Reduction Value | | |
| | | | Percent | | |
| 1 | Landscape - Other landscape restriction or prohibition | Percentage | 1% | Irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or microspray systems is not recommended. | No |
| 1 | Decrease Line Flushing | Percentage | 1% | Suspend routine flushing of water mains except when necessary to address immediate health or safety concerns. | No |
| 1 | Other | Percentage | <1% | Reduce distribution system pressures. | No |
| 2 | Other | Percentage | Up to 10% | Voluntary action and measures from Stage 1 are now mandatory | Yes |
| 2 | Other | Percentage | 1% | Accelerate leak detection and repair program. | Yes |
| 2 | Other - Require automatic shut off hoses | Percentage | 2% | Use of any garden or utility hose without a hose-end shut-off nozzle is prohibited. | Yes |
| 2 | Landscape - Limit landscape irrigation to specific days | Percentage | 5% | Irrigation limited to three days per week, and irrigation is limited to the hours between 8pm to 6am. | Yes |
| 2 | Other - Prohibit use of potable water for construction and dust control | Percentage | <1% | Recycled water must be used for construction dust control. | Yes |
| c | Offer Water Use Surveys | Percentage | <1% | Conduct water use surveys targeting high water users. | Yes |
| 2 | Other - Prohibit vehicle washing except at facilities using recycled or recirculating water | Percentage | 1% | Car washing shall be allowed only at facilities using recycled or recirculating water. | Yes |

| Yes | | | | | |
|---|--|--|------------------------------|--|--|
| Is the Supplier completing this table using the standard six levels? (yes/no) | | | | | |
| Shortage Level | Demand Reduction Actions | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage | Shortage Gap Reduction Value | | |
| | | | Percent | | |
| 2 | Offer Water Use Surveys | Percentage | <1% | Dedicated irrigation customers are required to conduct the irrigation survey. | Yes |
| 2 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | Percentage | 1% | Breaks or leaks are recommended to be corrected within 48 hours of discovery or notice from the District. | Yes |
| 3 | Other | Percentage | Up to 20% | Continue with action and measures from Stage 2 except where superseded by more stringent requirements. | Yes |
| 3 | Implement or Modify Drought Rate Structure or Surcharge | Percentage | 4% | The District will implement drought rate structure / water budget. | Yes |
| 3 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | Percentage | 1% | Breaks or leaks are recommended to be corrected within 24 hours of discovery or notice from the District. | Yes |
| 3 | Landscape - Limit landscape irrigation to specific days | Percentage | 10% | Irrigation limited to two days per week, and irrigation is limited to the hours between 8pm to 6am. This measure is voluntary under Stage 2 and becomes mandatory under Stage 3. | Yes |
| 3 | Pools and Spas - Require covers for pools and spas | Percentage | <1% | All pools must be covered when not in use. | Yes |
| 4 | Other | Percentage | Up to 30% | Continue with action and measures from Stage 3 except where superseded by more stringent requirements. | Yes |

| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | | |
|----------------|---|--|------------------------------|--|--|
| Shortage Level | Demand Reduction Actions | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage | Shortage Gap Reduction Value | | |
| | | | Percent | | |
| 4 | Other water feature or swimming pool restriction | Percentage | <1% | Filling and/or refilling new and existing decorative water features (i.e. ponds, lakes and fountains) is prohibited. | Yes |
| 4 | Other water feature or swimming pool restriction | Percentage | <1% | Filling new swimming pools is prohibited. | Yes |
| 4 | Other water feature or swimming pool restriction | Percentage | <1% | Filling or topping-off of existing swimming pools is prohibited. | Yes |
| 4 | Landscape - Limit landscape irrigation to specific days | Percentage | 18% | Irrigation limited to one day per week, and irrigation is limited to the hours between 9pm to 6am. | Yes |
| 4 | Offer Water Use Surveys | Percentage | 2% | Conduct water surveys targeting high water users | Yes |
| 5 | Other | Percentage | Up to 40% | Continue with action and measures from Stage 4 except where superseded by more stringent requirements. | Yes |
| 5 | Landscape - Prohibit all landscape irrigation | Percentage | (a) | Use of potable water for irrigation is prohibited for all customers. | Yes |
| 5 | Other | Percentage | Up to 35% | All residential and Commercial, Industrial, and Institutional (CII) customers shall reach a water reduction of forty five percent (45%) from previous use. | Yes |
| 6 | Other | Percentage | Up to 50% | Continue with action and measures from Stage 5 except where superseded by more stringent requirements. | Yes |

| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | | |
|---|---|--|------------------------------|---|--|
| Shortage Level | Demand Reduction Actions | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage | Shortage Gap Reduction Value | | |
| | | | Percent | | |
| 6 | Landscape - Other landscape restriction or prohibition | Percentage | <1% | No water-using landscape may be installed in new construction. | Yes |
| 6 | Moratorium or Net Zero Demand Increase on New Connections | Percentage | <1% | New construction must offset new demand by conserving one times the new demand within the community. | Yes |
| 6 | Landscape - Other landscape restriction or prohibition | Percentage | <1% | No new water-using landscape may be installed by any customer. | Yes |
| 6 | Other | Percentage | Up to 45% | All residential and CII customers shall reach a water reduction of fifty five percent (55 percent) from previous use. | Yes |
| <p>NOTES: (a) Prohibition of irrigation with potable water under Stages 5 and 6 is assumed to contribute to water budgets enacted under Stages 5 and 6, and therefore are not reported here to avoid double counting.</p> | | | | | |

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 provides an overview of the District's current and planned Demand Management Measures (DMMs), as well as an overview of the expected water savings.

9.1 Regional Water Conservation

As described in Chapter 2, the 13 SMSWP water suppliers in Sonoma and Marin Counties include the Cities of Santa Rosa, Rohnert Park, Petaluma, Sonoma, Cotati, Cloverdale, and Healdsburg, North Marin Water District, Marin Municipal Water District, Town of Windsor, California American Water – Larkfield District, Sonoma Water, and the District (Partners). The SMSWP was formed in 2010 and its Memorandum of Understanding was amended in May 2018, extending the term another ten years and adding language to streamline the addition of members to the SMSWP.

Sonoma Water coordinates the work of the SMSWP in conjunction with the Water Advisory Committee (WAC), which provides input to Sonoma Water and holds certain powers and responsibilities enumerated in the Restructured Agreement for Water Supply between Sonoma Water and SMSWP. The SMSWP is committed to continued water conservation and is in compliance with the final 2020 gallons per capita targets established by Senate Bill X7-7 as described in Chapter 5.

Funding

Sonoma Water's wholesaler water conservation programs are funded by the Partners annually through a WAC recommended budget that allocates a Water Conservation sub-charge for each acre-foot of water sold. The Partners agreed to expend \$15 million dollars on water conservation implementation from July 2018 through June 2028. They have also agreed to maintain membership in good standing with the California Water Efficiency Partnership (CalWEP) and implement or use best efforts to secure the implementation of any water conservation requirements added as terms or conditions of Sonoma Water's appropriate water rights or other regulation or law. Sonoma Water pursues grant funding on behalf of

the SMSWP to offset some of the programmatic costs associated with water use efficiency (WUE) programs and to test new technology.

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The Partners are committed to remain as members in good standing of CalWEP and to implement water conservation measures that provide regional benefits and/or that may exceed the targets established from time to time by the Partners or the state. The Partners will implement or use best efforts to secure the implementation of any water conservation requirements and will publish an Annual Report to track progress. The Annual Report will track program implementation, highlight program milestones, and reinforce the importance of protecting and preserving water resources for future generations. The 2024/2025 Annual Report for the SMSWP could be found in the SMSWP's website.¹⁴

Water and Energy Education Program

The Water and Energy Education Program is a comprehensive approach to helping educators teach students the “value” of water as an important natural resource. Water and energy conservation and stewardship of our local watersheds are promoted throughout the program. Students are encouraged to use water wisely and make environmentally sustainable choices to help secure a reliable source of freshwater now and in the future. The program includes classroom instructional presentations, field study opportunities at Sonoma Water's Westside Education Facility, free curriculum materials aligned with the existing California State Frameworks and the California Science Standards, a lending library of videos, interactive models and printed materials, production of a newsletter for teachers and endorsement, participation and financial sponsorship of events, assemblies, and workshops. All of the education programs and materials are free to teachers in the service area, which covers over 200 schools throughout Sonoma and northern Marin counties.

The total number of students receiving direct instruction in 2024/2025 was 17,392. Students in 2,129 classrooms received school supplies from the program, 21 students participated in the water awareness video contest, 78 classrooms participated in the Steelhead in the Classroom program, and 9,148 students participated in ZunZun Musical Watershed Assemblies.

Public Outreach Program

The SMSWP develops an annual regional outreach campaign that aligns with the region's current water supply conditions and promotes water use efficiency programs. Sonoma Water, in collaboration with the members of the SMSWP, produces collateral material that aligns with the specific campaign. Sonoma Water coordinates an annual media buy that includes outreach in English and Spanish. Each member of the SMSWP can choose to supplement the campaign with their own media buys. The buys generally include the following:

- Radio (streaming and broadcast),
- Newsprint and online digital media placements in 14 various local publications,
- Sonoma County Fair presence,
- Social Media (Facebook, Twitter, Instagram, YouTube, NextDoor),
- Mall banners, and
- Movie theater trailers.

¹⁴ The 2024-2025 Annual Report for the SMSWP: <http://www.savingwaterpartnership.org/wp-content/uploads/SMSWP-Annual-Report-2020-FINAL.pdf>.

Regional Programs

Sonoma Water on behalf of the SMSWP implements numerous regional programs. This includes offering staff support for interested Partners as a cost-effective way to offer local programs to customers of smaller agencies. Some of these programs are:

- High Efficiency Clothes Washer Water Rebate – a rebate for replacing a top-loading clothes washer with a qualifying front-loading clothes washer.
- Green Business Program – Certification for local businesses that are going green.
- Qualified Water Efficient Landscaper Training Program – A low-cost professional certification program that educates landscapers about irrigation system auditing, while providing customers with a trusted source for knowledgeable hired help that can save them water.
- Eco-Friendly Garden Tour – An annual self-guided garden tour in Sonoma County and North Marin that promotes sustainable landscaping practices.
- Garden Sense – A free garden consultation program open to all Sonoma County residents. Consultants provide site-specific advice on lawn removal, sprinkler conversion to drip irrigation, and low water use plant selection.
- DIY Energy and Water Savings Toolkit – The Do-It-Yourself (DIY) Home Energy and Water Saving Toolkits are stocked with energy and water saving supplies that can help measure how much energy or water is being consumed in the home and make easy upgrades to your home to help save money on the utility bills.
- Landscape Design Templates – These free, front yard designs are scalable to fit landscaped areas up to 2,500 square feet, ready-to-permit, and in compliance with local Water Efficient Landscape Ordinances.
- Water Smart Plant Label – A free water smart plant labeling program to local nurseries. The water smart plant label highlights low water use plants to nursery customers and promotes sustainable landscaping practices in Sonoma and Marin counties.
- Water-Energy Rebates for Restaurants and Food Service Facilities – a rebate program for replacing inefficient commercial kitchen equipment with new water and energy efficient models.

Sonoma Water participates in numerous regional and statewide initiatives to ensure the SMSWP is on the forefront of water use efficiency, legislation, and conservation planning, such as:

- CalWEP (including presence in the Programs Subcommittee, Research Subcommittee),
- California Irrigation Institute,
- Association of California Water Agencies (Water Management and Water Use Efficiency Subcommittees),
- Russian River Watershed Association, and
- California Landscape Contractors Association.

9.2 Agency Water Conservation

The District has actively pursued cost-effective conservation efforts for over 30 years. Over this period, the District has implemented a wide variety of conservation measures, including, but not limited to, the following: residential water audits; turf removal rebates; toilet rebates; clothes washer rebates; new construction development standards; public education and outreach; and smart irrigation controller (also referred to as weather-based irrigation controller [WBIC]) rebates. As discussed in Chapter 4, the District's service area has a high proportion of residential water use compared to other sectors and as a result, a significant amount of residential outdoor water use. Consequently, residential conservation programs produce the most savings. The District's service area does not have a large commercial sector (i.e.,

approximately 10 percent of total District water use in FY 2025) and therefore the conservation potential in this area relatively low.

9.2.1 DMM 1 – Water Waste Prevention Ordinances

In 2016, the District adopted Water Waste Ordinance No. 1010 (see **Appendix G**), which added additional water waste prohibitions as mandated in the Governor’s Executive Order B-37-16 and repealed and built on the previous Water Waste Ordinance No. 1007 (which was originally adopted in 2000). Ordinance No. 1010 imposes the following mandates and prohibitions:

1. Irrigating ornamental turf with potable water on public street medians.
2. Washing sidewalks, walkways, driveways, parking lots and other hard-surfaced areas by direct hosing is prohibited, unless necessary for public health and safety.
3. Breaks or leaks are required to be corrected within 72 hours of discovery or notice from the District.
4. Irrigation in manner that allows excessive runoff of water, or unreasonably over-sprays the area of irrigation, is prohibited.
5. Washing cars, boats, trailers or other vehicles and machinery directly with a hose not equipped with a shutoff nozzle is prohibited.
6. Use of potable water for non-recycling decorative water fountains is prohibited.
7. Use of water for single pass evaporative cooling systems for air conditioning is prohibited for all connections installed after 6 June 2000 unless required for health or safety reasons.
8. Use of water for new non-recirculating conveyor car wash systems is prohibited.
9. Use of water for new non-recirculating industrial clothes wash systems is prohibited.
10. Irrigating outdoors during and within 48 hours following (1/4”) one quarter inch rainfall.
11. Restaurants serving water automatically.
12. Hotels and motels not offering and promoting an opt-out program for towel and linen service.

The prohibitions and mandates listed above do not apply to any water use associated with the operation and maintenance of fire suppression equipment or employed by the District for water quality flushing and sanitation purposes. Additionally, use of water supplied by a private well or from a reclaimed wastewater, gray water or rainwater utilization system is exempt from the requirements of Ordinance No. 1010. Variances for individual customers may be granted by the District’s General Manager, and the decision by the General Manager is subject to appeal to the Board of Directors.

As described in Section 7.4, depending on the extent of the water waste, the District may take action to enforce the requirements of Ordinance No. 1010. Prior to taking enforcement action, the District must provide written notification to the customer and allow a reasonable time to correct the violation. All penalties, fees, and charges associated with the enforcement of the District’s water waste prevention ordinance must be established by resolution of the District. The District established a water waste administration fee schedule with the adoption of Resolution No. 140802 on 5 August 2014 (see **Appendix E**).

9.2.2 DMM 2 – Metering

CWC §526 (a)

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

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

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

CWC §527 (a)

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

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

Since the inception of the District, water meters have been required on all service connections. The District completed replacement of its customer meters with Advanced Metering Infrastructure (AMI) meters. The AMI system has the capability to detect low flow usage at rates that are five times lower than traditional positive displacement meters. With the AMI system, customers are able to go online and look at near-real-time water use records for their accounts through the consumer engagement portal.

The District currently checks production meters every three years to ensure accuracy.

9.2.3 DMM 3 – Conservation Pricing

The District’s current water rate structure consists of two components: (1) a bi-monthly service charge based on meter size, to recover the fixed cost associated with meter reading and billing, customer service, meter replacement and repair, and a portion of the costs for maintaining the water system; and (2) a volumetric charge for all water consumed, or a commodity rate charge based on the actual amount of water used, measured in billing units (BUs) of 1,000 gallons. The District’s volumetric charge is made up of two tiers for single family residential and 2- & 3-units multi-family customers, and a uniform tier for all other customer classes. **Table 9-1** presents for the District’s current volumetric rate structure, effective 1 July 2025 (VOMWD, 2020). In the event of a drought, the District may implement a pass-through of any Sonoma Water rate increases through a Prop 218 process.

Table 9-1 Volumetric Water Rates

| Customer Category | Range of BUs (a) | Current Rate per BU |
|---|------------------|---------------------|
| SFR / MFR 2 or 3 Units Tiered Rates - usage per billing period | 0-4 | \$5.45 |
| | >4 | \$9.41 |
| Commercial / Industrial / MFR 4+ Units / Commodity / Institutional / Irrigation | -- | \$8.47 |
| Abbreviations: BU = billing units (1,000 gallons) MFR = multi-family residential SFR = single family residential Note: (a) Each BU is 1,000 gallons and the tier break points represent consumption over a two-month period. | | |

9.2.4 DMM 4 – Public Education and Outreach

As discussed in Section 9.1 the District is a member of a regional water conservation partnership, the SMSWP, which conducts the bulk of public education efforts in the region. Information provided ranges from promotion of conservation programs to water supply/quality, and hardware distribution. Further information on the public education and outreach by the SMSWP is included in Section 9.1.

In addition to the activities of the SMSWP, the District also has a robust public education program that conducts the following activities in the event of a drought:

1. **Up-to-Date Website:** The District’s water conservation website (<https://www.vomwd.org/conservation>) provides messages regarding current drought status, water savings targets, and current conservation programs.
2. **Water Use Efficiency Workshops:** During drought periods, the District hosts workshops that focus on how customers can conserve additional water at their home and business, including information regarding indoor and outdoor water use. During drought conditions, the District sponsors drive-up events where customers can receive information about water conservation and free water-conserving hardware.
3. **Newspaper Articles:** The District reaches out to local newspapers to advocate for articles containing information about the current drought status and water saving targets.
4. **Social Media:** The District regularly posts to Facebook and NextDoor providing up-to-the-minute updates to customers about conservation actions they can take, weather forecasts with recommended watering schedules, the current drought status, water saving targets, and conservation programs
5. **Conservation Tips / Tricks:** The District provides various conservation tips and tricks in their website (<https://saveourwater.com/>). These tips / tricks include indoor and outdoor water savings habits such as fill bathtub halfway or less, recycle indoor water for outdoor irrigation, use mulch, etc.

In a drought scenario, the District coordinates with SMSWP member agencies to make sure that media content is generally consistent across the various agencies.

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

The District is aggressive at tackling distribution system loss. As noted in Section 4.3, the District performs a water loss audit consistent with CWC § 10608.34 annually, which includes completing the AWWA Water Loss Worksheet (M36), and has been performing these evaluations periodically for years prior to the State-mandate.

In addition to monitoring water loss through the AWWA Water Loss Worksheet (with third-party validation), the District actively manages its distribution system to minimize the potential for water loss and frequently monitors the system for leaks. The District conducts system-wide pressure management to prevent pressure spikes and breaks. The District has installed acoustic leak sensors that continuously monitor for leaks in the distribution system from which data is reviewed daily. The District contracts with a company to perform a comprehensive manual audit of the entire distribution system every two to three years using movable ultrasonic leak detection equipment. The District has also completed an aggressive program to remove pipelines made of leak-prone materials such as steel and polybutylene.

9.2.6 DMM 6 – Water Conservation Program Coordination and Staffing Support

The District’s water conservation program is administered by the District’s Administration Manager, with the support of office staff and field staff, depending on the required activity. Through collective efforts,

approximately 90 percent of a full-time equivalent staff person is dedicated to the implementation of the District's water conservation program.

The District currently expends on average approximately \$16,000 annually on conservation-related activities, not including staff time to administer the program.

9.2.7 DMM 7 – Other Demand Management Measures

The District's 2025 Urban Water Management Plan Water Demand Analysis and Water Conservation Measures Update (**Appendix B**) provided detail descriptions on the conservation program implementation efforts by the District, including high-efficiency washer rebate, turf rebate, and home evaluation survey programs. The District also gives out free showerheads, aerators, and toilet leak dye tabs in the office. In addition to the device rebate and giveaway programs, the District has adopted two water conservation ordinances (Ordinances No. 1008 and No. 1009). Ordinance No. 1008 was adopted in July 2017 and implements "mandatory water conservation measures." Ordinance No. 1009 was adopted in March 2009 as an update to the Ordinance No. 1008 and changes the "mandatory water conservation measures" to "water conservation measures."

The water conservation measures in these two ordinances were very similar, and language from the Ordinance No. 1009 is excerpted below:

1. Use water efficiently and reduce less essential uses of water with the goal of achieving an overall system-wide 15 percent reduction in water use.
2. Implement the following irrigation practices with the goal of reducing system-wide water use for irrigation by 20 percent. Customers who use non-District source of water for irrigation are also encouraged to conserve water to the extent possible.
3. Irrigate between 12:00 a.m. and 6:00 a.m. to reduce water loss from evaporation.
4. Inspect all irrigation systems, repair leaks, and adjust irrigation spray heads to provide optimum coverage and eliminate avoidable over-spray.
5. For irrigation valves controlling water applied to lawns, vary the run-time consistent with fluctuations in weather.
6. Reduce run-time for each irrigation cycle if water begins to run-off to gutters and ditches before the irrigation cycle is completed.
7. Become conversant with and strictly adhere to the Valley of the Moon Water District's Water Waste Prohibition Ordinance No. 1007.¹⁵
8. Utilize water conservation incentives, rebates and give-a-way programs to replace plumbing fixtures and appliances with water efficient models.
9. Take advantage of the free information available from the Valley of the Moon Water District on how to use water efficiently, read water meter, repair ordinary leaks, and implement water efficient landscapes.
10. Run dishwashers and clothes washers with full loads only.
11. Use a broom, not water, to clean sidewalks, driveways, decks, or patios.
12. Use a hose with an automatic shut-off nozzle when washing vehicles or take vehicles to a carwash that recycles water.
13. Prevent and report water waste.

¹⁵ Waste Prohibition Ordinance No. 1007 was subsequently repealed and replaced by Waste Prohibition Ordinance No. 1010.

9.3 Implementation over the Past Five Years

Table 9-2 summarizes program implementation for the previous five years that data is available. Estimated water savings do not include savings from water waste prevention ordinances, conservation pricing, public information, or distribution system water loss management. Water savings have been estimated using the Alliance for Water Efficiency Conservation Tracking Tool.

Table 9-2 Implementation of Customer DMMs: 2020-2024

| DMM Measures (Rebate, Direct Install, and Free Distribution Programs) | 2020 – 2024 Total | Average Annual |
|--|-------------------------|------------------------|
| HECW Rebate Program | 32 program participants | 6 program participants |
| Cash for Grass/ Mulch Madness Program | 68,000 square feet | 13,600 square feet |
| AMI Leak Notifications Program | 32,338 meters | 6,470 meters |
| Estimated Water Savings (AF) | 63 AF | 13 AF |

NOTES:

(a) The above DMMs are those measures where data is available, and may not include all programs currently in place.

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

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

In July 2024, California enacted the MCCWL regulation implementing Senate Bill (SB) 606 and Assembly Bill (AB) 1668 to support long-term water conservation and drought resilience. CWC §10609 requires that urban retail water suppliers report on Urban Water Use Objectives (UWUOs) that are based on specific standards for certain water use sectors. Annual reporting compliance began in January 2025, with UWUO compliance starting in January 2027. As discussed in Section 4.7, the District is anticipated to comply with its Objectives through 2040.

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

This chapter provides information on a public hearing, the adoption process for the Urban Water Management Plan (UWMP or Plan) 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.

10.1 Notification of UWMP Preparation

Valley of the Moon Water District (District) sent a letter to ten entities including the County of Sonoma and other local agencies informing them that the District was in the process of updating its UWMP and WSCP and soliciting their input in the update process. A listing of the entities contacted is provided in **Table 2-5**; the notices are included in **Appendix C** for reference. The letter was sent more than 60 days before the public hearing as required by code.

10.2 Inclusion of All 2025 Data

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

10.3 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, District held a public hearing to present information on its UWMP and WSCP on 17 June 2026 at 6:30 PM.

Relevant entities were notified of the UWMP and WSCP review at least 60 days prior to the public hearing, including: (1) cities and the county, 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 California Government Code (CGC) §6066, and letters to relevant agencies can be found in **Appendix C** and **Appendix D**, respectively.

10.3.1 Notice to Cities and Counties

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

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

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

At least two weeks prior to the public hearing, the entities mentioned above in Section 10.1 were noticed that the UWMP and WSCP public hearing would be occurring on 17 June 2026. The letter informed them of the locations the Public Review Draft 2025 UWMP and the updated WSCP would be available for review and welcoming their input and comments on the document. The Public Review Draft 2025 UWMP and the WSCP was available for public review on the District’s website (<https://www.vomwd.org/>).

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

| City Name | 60 Day Notice | Notice of Public Hearing |
|--------------------------------|---------------|--------------------------|
| Town of Windsor | Yes | Yes |
| Marin Municipal Water District | Yes | Yes |
| North Marin Water District | Yes | Yes |
| City of Santa Rosa | Yes | Yes |
| City of Petaluma | Yes | Yes |
| City of Sonoma | Yes | Yes |
| City of Rohnert Park | Yes | Yes |
| County Name | 60 Day Notice | Notice of Public Hearing |
| Sonoma County Water Agency | Yes | Yes |
| Sonoma County | Yes | Yes |
| Sonoma Valley GSA | Yes | Yes |

10.3.2 Notice to the Public

Notification to the public and to cities and counties also provided instructions on how to view the 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**.

The District issued public notifications soliciting public input during the preparation of 2025 UWMP and the WSCP. On 29 May 2026 and 5 June 2026, the District published a notice in Sonoma Index Tribune informing the public that the 2025 UWMP and the WSCP would be available for public review on the District's website, consistent with requirements of California Government Code 6066. The notice also informed the public that the 2025 UWMP and WSCP public hearing would be held on 17 June 2026 at 6:30 PM. A copy of this notice is included in **Appendix D**.

10.4 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 17 June 2026, the date of the public hearing. The final Plan was formally adopted by District's Board on 17 June 2026, and was submitted to DWR within 30 days of approval. **Appendix F** presents a copy of the signed Resolution of Plan Adoption. **Appendix D** contains letters and correspondence regarding notification of the Public Hearing.

Prior to adopting the Plan, the District held a formal public hearing to present information on the 2025 UWMP and WSCP on 17 June 2026 at 6:30 PM.

This UWMP was adopted by Board Resolution No. 260603 on 17 June 2026. The WSCP included as Appendix E was adopted by Resolution No. 260603 during the same meeting. A copy of the resolutions is included in Appendix F.

10.5 Plan Submittal

CWC §10621 (f)

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

CWC §10635 (c)

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

CWC §10644 (a)

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

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

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

This UWMP and WSCP were submitted to DWR within 30 days of adoption and by the 1 July 2026 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 Sonoma County.

10.6 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 19 May 2026, printed hard-copies of the public draft 2025 UWMP and WSCP were made available for review during normal business hours at the District's office. Electronic versions were also made available by visiting the District's website (<https://www.vomwd.org/>).

Within 30 days after filing a copy of its plan with DWR, the District made the Final UWMP and WSCP available to the public through District's website.

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

11 REFERENCES

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Appendix A: UWMP Act Checklist

Completed UWMP Checklist
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| Retail | Wholesale | 2025 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Relevant Submittal Table | Subject | 2025 UWMP Location |
|--------|-----------|-------------------------|--------------------|--|--------------------------|---------------------------|---------------------------------|
| x | x | Chapter 1 | 10615 | A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. | n/a | Introduction and Overview | Chapter 4, Chapter 6, Chapter 9 |
| 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. | n/a | Summary | Lay Description |
| x | x | Section 2.1 | 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. | n/a | Plan Preparation | Section 2.1 |
| x | n/a | Section 2.5 | 10644 | Supplier shall report the Public Water Systems number, volume of delivered water, and number of connections that are included in this UWMP | 2-1 | Plan Preparation | Section 2.1 |
| x | x | Section 2.5 | 10644 | Supplier shall report if this UWMP is an individual UWMP and whether the Supplier belongs to a regional UWMP or regional alliance. | 2-2 | Plan Preparation | Section 2.2 |

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| Retail | Wholesale | 2025 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Relevant Submittal Table | Subject | 2025 UWMP Location |
|--------|-----------|-----------------------------|--------------------|--|--------------------------|------------------|--|
| x | x | Section 2.5 | 10644 | Supplier shall report whether the data is in fiscal or calendar years and the units of measure used for reporting water volumes | 2-3 | Plan Preparation | Section 2.3 |
| x | x | Section 2.4 | 10642 | Provide supporting documentation that the Supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan | n/a | Plan Preparation | Section 2.5.2 Section 2.5.3 Section 10.2 |
| x | x | Section 2.4.2 | 10620(d)(3) | Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable. | 2-5 | Plan Preparation | Section 2.5.2 Section 10.2 |
| x | n/a | 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. | 2-4 R | System Supplies | Section 2.5.1 |

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| Retail | Wholesale | 2025 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Relevant Submittal Table | Subject | 2025 UWMP Location |
|--------|-----------|-------------------------|--------------------|--|--------------------------|--|-----------------------------|
| n/a | 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. | 2-4 W | System Supplies | n/a |
| x | x | Chapter 3.0 | 10631(a) | Describe the Supplier service area. | n/a | System Description | Section 3.1 |
| x | x | Section 3.3 | 10631(a) | Describe the climate of the Supplier's service area. | n/a | System Description | Section 3.2 |
| x | x | Section 3.4.1 | 10631(a) | Provide population projections for 2030, 2035, 2040, 2045, and optionally 2050. | 3-2 R | System Description | Section 3.3 |
| x | x | Section 3.4.2 | 10631(a) | Describe other social, economic, and demographic factors affecting the supplier's water management planning. | n/a | System Description | Section 3.3.2 |
| x | x | Sections 3.4 and 5.4 | 10631(a) | Indicate the current population of the service area. | 3-1 R | System Description and Baselines and Targets | Section 3.1.1 and Table 3-1 |
| x | x | Section 3.5 | 10631(a) | Describe the land uses within the service area... include the current and projected land uses within the existing or anticipated service area affecting the Supplier's water | n/a | System Description | Section 3.4 and Figure 3-5 |

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| Retail | Wholesale | 2025 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Relevant Submittal Table | Subject | 2025 UWMP Location |
|--------|-----------|-------------------------|--------------------|--|--------------------------|------------------|----------------------------|
| | | | | management planning. Describe the land uses within the service area. | | | |
| x | Optional | Section 4.2.3 and 4.2.4 | 10631(d)(1) | Quantify past, current, and projected water use, identifying the uses among water use sectors. | 4-1 and 4-2 | System Water Use | Section 4.2 Sections 4.4.3 |
| x | n/a | Section 4.3.2 | 10631(d)(3)(C) | Retail suppliers shall provide data to show the distribution loss standards were met. | 4-6 | System Water Use | Section 4.3 |
| x | x | Section 4.2.5.3 | 10631(d)(4)(A) | In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws. | 4-3 | System Water Use | Section 4.4.3 |
| x | x | Section 4.2.6 | 10631(d)(4)(B) | Provide citations of codes, standards, ordinances, or plans used to make water use projections. | 4-3 | System Water Use | Section 4.4.3 |
| x | Optional | Section 4.3.1 | 10631(d)(3)(A) | Report the distribution system water loss for each of the five years preceding the plan update. | 4-5 | System Water Use | Section 4.3 |
| x | n/a | Section 4.4 | 10631.1(a) | Include projected water use needed for lower income housing projected in the service area of the supplier. | 4-3 | System Water Use | Section 4.4.3 |
| x | n/a | Section 4.2.5.3 | 10631(d)(4)(B)(ii) | To the extent that a Supplier reports the information described in subparagraph (A), an urban water Supplier shall... Indicate the extent that the water use | 4-3 | System Water Use | Section 4.4.2 |

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|--------|-----------|-------------------------|--------------------|---|--------------------------|-----------------------|----------------------------|
| | | | | 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. | | | |
| x | x | Section 4.2.5.6 | 10635(b) | Demands under climate change considerations must be included as part of the drought risk assessment. | n/a | System Water Use | Section 4.4 Section 7.5 |
| 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 | Chapter 5 |
| n/a | x | Section 5.1 | 10608.36 | Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions. | n/a | Baselines and Targets | n/a |

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| Retail | Wholesale | 2025 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Relevant Submittal Table | Subject | 2025 UWMP Location |
|--------|-----------|-------------------------|--------------------|--|--------------------------|-----------------------|--------------------|
| 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 | N/A |
| 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 | Chapter 5 |
| x | n/a | Section 5.2 | 10608.4 | Retail Suppliers shall report on their compliance in meeting their water use targets. Reporting requirements will vary depending on whether the Supplier: <ul style="list-style-type: none"> - Was considered an urban retail water supplier in 2020, - Met its 2020 target in 2020, or - Was part of a merger or consolidation since 2020. Chapter 5 Subsections 5.2.1, 5.2.2, and 5.2.3 address each of these situations. | 5-1 | Baselines and Targets | Section 5 |

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|--------|-----------|-------------------------|--------------------|--|--------------------------|-----------------|--------------------|
| 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. | n/a | System Supplies | Section 7.2 |
| 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, <i>including changes in supply due to climate change.</i> | n/a | System Supplies | Section 6.10.1 |
| 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. | n/a | System Supplies | Chapter 6 |
| x | x | Section 6.1.1 | 10631(b)(3) | Describe measures taken to acquire and develop planned sources of water. | | System Supplies | Chapter 6 |
| x | x | Section 6.1 | 10631(b) | Identify and quantify the existing and planned sources of water available for 2025, 2030, 2035, 2040, 2045, and optionally 2050. | 6-8 and 6-9 | 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 |

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| Retail | Wholesale | 2025 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Relevant Submittal Table | Subject | 2025 UWMP Location |
|--------|-----------|-------------------------|--------------------|---|--------------------------|-----------------------------------|--------------------|
| 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. | n/a | System Supplies | Section 6.2.3 |
| x | x | Section 6.2.2 | 10631(b)(4)(B) | Describe the groundwater basin. | n/a | 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. | n/a | System Supplies | n/a |
| x | x | Section 6.2.2 | 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. | n/a | System Supplies | Section 6.2.1 |
| x | x | Section 6.2.2 | 10631(b)(4)(C) | Indicate whether groundwater is an existing or planned source of water available to the Supplier. If groundwater is identified as an existing or planned source of water... (include) a detailed | 6-1 | Water Supplies and Recycled Water | Section 6.2.3 |

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| Retail | Wholesale | 2025 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Relevant Submittal Table | Subject | 2025 UWMP Location |
|--------|-----------|-------------------------|--------------------|--|--------------------------|----------------------------------|--------------------------------|
| | | | | description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years. | | | |
| x | x | Section 6.2.2. | 10631(b)(4)(C) | If groundwater is identified as an existing or planned source of water... (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years. | n/a | System Supplies | Section 6.2.3 |
| 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. | 6-9 | 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. | n/a | System Supplies | Section 6.7.1 Section 6.7.2 |
| x | x | Section 6.2.5 | 10633(b) | Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project. | 6-3 | System Supplies (Recycled Water) | Section 6.5.2 |
| x | x | Section 6.2.5 | 10633(c) | Describe the recycled water currently being used in the supplier's service area. | 6-4 | System Supplies (Recycled Water) | Section 6.5.3 |

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| Retail | Wholesale | 2025 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Relevant Submittal Table | Subject | 2025 UWMP Location |
|--------|-----------|-------------------------|--------------------|--|--------------------------|----------------------------------|----------------------------|
| x | x | Section 6.2.5 | 10633(d) | Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses. | 6-4 | 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. | 6-4 and 6-5 | System Supplies (Recycled Water) | Section 6.5.3 |
| 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. | 6-6 | System Supplies (Recycled Water) | Section 6.5.4 |
| x | x | Section 6.2.5 | 10633(g) | Provide a plan for optimizing the use of recycled water in the supplier's service area. | n/a | System Supplies (Recycled Water) | Section 6.5.4 |
| x | x | Section 6.2.6 | 10631(g) | Describe desalinated water project opportunities for long-term supply. | 6-7 | System Supplies | Section 6.6 Section 6.8 |
| n/a | 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. | 6-2 | System Supplies (Recycled Water) | Section 6.5.2 |

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|--------|-----------|----------------------------|--------------------|---|---------------------------|-------------------------------------|--------------------------------|
| x | x | Section 6.2.10 | 10631(f) | Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years. | 6-7 | System Supplies | Section 6-8 |
| x | x | Section 6.3 and Appendix O | 10631.2(a) | The UWMP must include energy information, as stated in the code, that a supplier can readily obtain. | O-1A, O-1B, O-1C, and O-2 | System Suppliers, Energy Intensity | Section 6.11 |
| x | | Section 7.1 | 10634 | Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability | n/a | Water Supply Reliability Assessment | Section 7.1.1 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. | n/a | Water Supply Reliability Assessment | Section 7.4 |
| x | x | Section 7.2 | 10635(a) | Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years. | 7-2, 7-3, and 7-4 | Water Supply Reliability Assessment | Section 7.3 |

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|--------|-----------|-------------------------|--------------------|---|--------------------------|-------------------------------------|------------------------------|
| 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. | n/a | 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. | n/a | Water Supply Reliability Assessment | Section 7.3 Section 7.5.1 |
| 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. | n/a | Water Supply Reliability Assessment | Section 7.5.2 |
| 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. | 7-5 | Water Supply Reliability Assessment | Section 7.5.3 |
| 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. | n/a | Water Supply Reliability Assessment | Section 7.5 |

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|--------|-----------|-------------------------|--------------------|---|--------------------------|-------------------------------------|-----------------------|
| x | x | Chapter 8 | 10632(a) | Provide a water shortage contingency plan (WSCP) with specified elements below. | n/a | Water Shortage Contingency Planning | Appendix E |
| x | x | Chapter 8 | 10632(a)(1) | Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP | n/a | Water Shortage Contingency Planning | Appendix E Section 2 |
| 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. | n/a | Water Shortage Contingency Planning | Appendix E Section 12 |
| 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. | n/a | Water Shortage Contingency Planning | Appendix E Section 2 |
| 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. | n/a | Water Shortage Contingency Planning | Appendix E Section 2 |

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|--------|-----------|-------------------------|--------------------|--|--------------------------|-------------------------------------|---|
| x | x | Section 8.3 | 10632(a)(3)(A) | Define six standard water shortage levels of 10%, 20%, 30%, 40%, 50% shortage, and greater than 50% shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply. | n/a | Water Shortage Contingency Planning | Appendix E Section 5 |
| 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. | 8-1 | Water Shortage Contingency Planning | Chapter 8 and Appendix E Section 5 |
| 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. | 8-2 | Water Shortage Contingency Planning | Chapter 8, Appendix E Section 6.1 and Table 6-2 |
| x | x | Section 8.4 | 10632(a)(4)(B) | Specify locally appropriate demand reduction actions to adequately respond to shortages. | 8-3 | Water Shortage Contingency Planning | Chapter 8, Appendix E Section 6.2 and Table 6-1 |

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|--------|-----------|-------------------------|----------------------------------|--|--------------------------|-------------------------------------|--|
| x | x | Section 8.4 | 10632(a)(4)(C) | Specify locally appropriate operational changes. | 8-2 | Water Shortage Contingency Planning | Chapter 8, Appendix E Section 6.3 and Table 6-1 |
| 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. | Table 8-3 | Water Shortage Contingency Planning | Chapter 8, Appendix E Section 6.4 and Table 6-1 |
| 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. | 8-2 and 8-3 | Water Shortage Contingency Planning | Chapter 8, Appendix E Section 6.1 and 6.2 and Tables 6-1 and 6-2 |
| x | x | Section 8.4.6 | 10632.5 | The UWMP shall include a seismic risk assessment and mitigation plan. | n/a | Water Shortage Contingency Plan | Appendix E Section 6.6 |
| 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. | n/a | Water Shortage Contingency Planning | Appendix E Section 7 |
| 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. | n/a | Water Shortage Contingency Planning | Appendix E Section 7 |

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|--------|-----------|-------------------------|--------------------|--|--------------------------|-------------------------------------|-----------------------|
| x | n/a | Section 8.6 | 10632(a)(6) | Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP. | n/a | Water Shortage Contingency Planning | Appendix E Section 8 |
| x | x | Section 8.7 | 10632(a)(7)(A) | Describe the legal authority that empowers the supplier to enforce shortage response actions. | n/a | Water Shortage Contingency Planning | Appendix E Section 9 |
| 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 Emergencies. | n/a | Water Shortage Contingency Planning | Appendix E Section 9 |
| 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. | n/a | Water Shortage Contingency Planning | Appendix E Section 9 |
| x | x | Section 8.8 | 10632(a)(8)(A) | Describe the potential revenue reductions and expense increases associated with activated shortage response actions. | n/a | Water Shortage Contingency Planning | Appendix E Section 10 |
| 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. | n/a | Water Shortage Contingency Planning | Appendix E Section 10 |
| x | n/a | Section 8.8 | 10632(a)(8)(C) | Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3, Excessive | n/a | Water Shortage Contingency Planning | Appendix E Section 10 |

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|--------|-----------|-------------------------|--------------------|---|--------------------------|--|--------------------------|
| | | | | Residential Water Use During Drought | | | |
| x | n/a | 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. | n/a | Water Shortage Contingency Planning | Appendix E Section 11 |
| x | n/a | Section 8.11 | 10632(b) | Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas. | n/a | Water Shortage Contingency Planning | Appendix E Section 6.2.2 |
| 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 | Appendix E Section 13 |
| x | x | Section 8.12 | 10632(c) | Make available the WSCP to customers and any city or county where it provides water within 30 days after adoption of the plan. | n/a | Water Shortage Contingency Planning | Appendix E Section 13 |

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|--------|-----------|-------------------------|--------------------|---|--------------------------|--|---------------------|
| n/a | 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. | n/a | Demand Management Measures | n/a |
| x | n/a | 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. | n/a | Demand Management Measures | Section 9.1 and 9.2 |
| x | n/a | Chapter 10 | 10608.26(a) | Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance). | n/a | Plan Adoption, Submittal, and Implementation | Section 10.2 |
| 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. | 10-1 | Plan Adoption, Submittal, and Implementation | Section 10.2.1 |

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 Valley of the Moon Water District



| Retail | Wholesale | 2025 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Relevant Submittal Table | Subject | 2025 UWMP Location |
|--------|-----------|---------------------------------|--------------------|---|--------------------------|--|--------------------|
| x | x | Section 10.4 | 10621(f) | Each urban water Supplier shall update and submit its 2025 plan to DWR by July 1, 2026. | n/a | Plan Adoption, Submittal, and Implementation | Section 10.4 |
| 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. | n/a | Plan Adoption, Submittal, and Implementation | Section 10.2 |
| 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. | 10-1 | 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. | n/a | Plan Adoption, Submittal, and Implementation | Section 10.2 |
| x | x | Section 10.4 | 10644(a) | Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library. | n/a | 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. | n/a | Plan Adoption, Submittal, and Implementation | Section 10.4 |

Completed UWMP Checklist
 2025 Urban Water Management Plan
 Valley of the Moon Water District



| Retail | Wholesale | 2025 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Relevant Submittal Table | Subject | 2025 UWMP Location |
|--------|-----------|----------------------------|--------------------|---|--------------------------|--|--------------------|
| x | x | Sections 10.4.1 and 10.4.2 | 10644(a)(2) | The UWMP, or amendments to the plan, submitted to the department shall be submitted electronically. | n/a | 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 UWMP with the department, the supplier has or will make the plan available for public review during normal business hours. | n/a | 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 WSCP with the department, the supplier has or will make the plan available for public review during normal business hours. | n/a | 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. | n/a | Plan Adoption, Submittal, and Implementation | n/a |
| x | x | Section 10.7.2 | 10644(b) | If revised, submit a copy of the WSCP to DWR within 30 days of adoption. | n/a | Plan Adoption, Submittal, and Implementation | Section 10.6 |

Appendix B: 2025 Water Demand Analysis and Water Conservation Measure Update

2025 WATER DEMAND ANALYSIS AND WATER CONSERVATION MEASURE UPDATE

Valley of the Moon Water District

19 December 2025

EKI C40180.00

2025 WATER DEMAND ANALYSIS AND WATER CONSERVATION MEASURE UPDATE

19 December 2025

Prepared for:

Valley of the Moon Water District

Prepared by:

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EKI C40180.00

2025 Water Demand Analysis and Water Conservation Measure Update

Valley of the Moon Water District

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APPENDICES

- Appendix A Methodology for Estimating Indoor and Outdoor Water Use
- Appendix B Conservation Program Savings Assumptions
- Appendix C Prioritization and Screening of Future Water Conservation Measures

ABBREVIATIONS AND ACRONYMS

| | |
|-------------------|--|
| AB | Assembly Bill |
| AFY | acre-feet per year |
| AMI | advanced metering infrastructure |
| AWE | Alliance for Water Efficiency |
| BMPs | Best Management Practices |
| CII | Commercial, Industrial, and Institutional |
| CWC | California Water Code |
| DIM | dedicated irrigation meter |
| District | Valley of the Moon Water District |
| DMM | demand management measure |
| DWR | Department of Water Resources |
| GPCD | gallons per capita per day |
| HECW | high-efficiency clothes washer |
| HET | high-efficiency toilet |
| LEF | landscape efficiency factors |
| MCCWL | Making Conservation a California Way of Life |
| MFR | multi-family residential |
| MUMs | mixed-use meters |
| Objective | Urban Water Use Objective |
| QWEL | Qualified Water Efficient Landscaper |
| Report | Water Demand and Conservation Report |
| SB | Senate Bill |
| SFR | single-family residential |
| SMSWP | Sonoma-Marín Saving Water Partnership |
| State Water Board | State Water Resources Control Board |
| TM | technical memorandum |
| UWMP | Urban Water Management Plan |
| Water Contractors | The nine members of the SMWSP participating in this project. |

1 INTRODUCTION

To support the development of the 2025 Urban Water Management Plan (UWMP) updates, nine members of the Sonoma-Marín Saving Water Partnership (SMSWP) coordinated to conduct a joint update of their water demand projections and water conservation planning efforts (i.e., the *2025 Water Demand and Conservation Project*). The participating SMSWP members include the City of Cotati, City of Petaluma, City of Rohnert Park, City of Santa Rosa, City of Sonoma, Marin Municipal Water District, North Marin Water District, Town of Windsor, and Valley of the Moon Water District. These nine participating SMSWP members (referred to as Water Contractors herein) are shown on **Figure 1-1**.

The goals of the *2025 Water Demand and Conservation Project* are to apply a common methodology to conduct the following analysis for each Water Contractor:

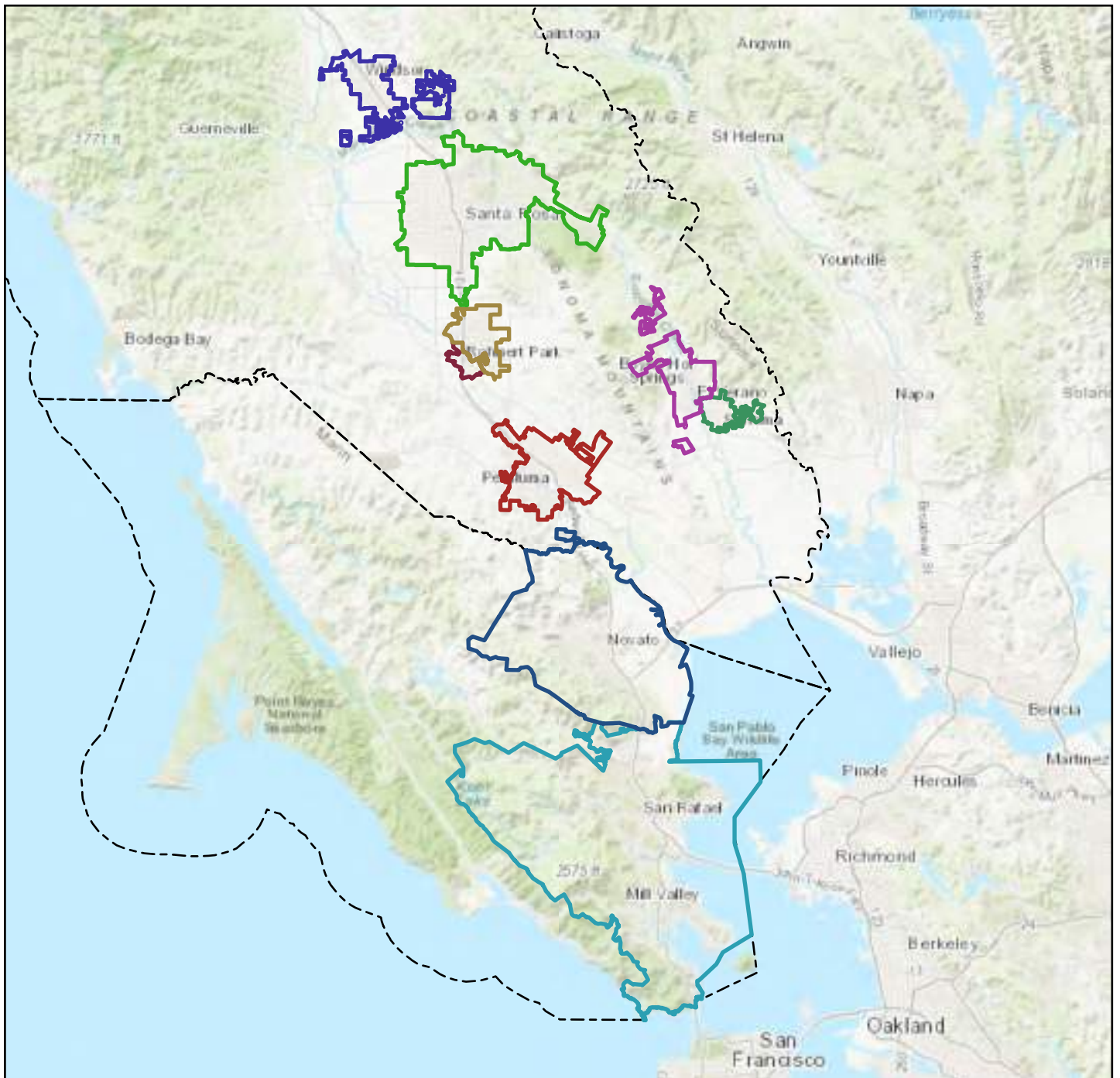
- Evaluate and document recent historical water use characteristics and trends, including population and account growth (in this report, the term “account” indicates “water connection”);
- Estimate projected water demands for the years 2030 through 2050 to support both the 2025 UWMP update and coordination and planning efforts with Sonoma Water;
- Update the suite of common regional conservation measures that are being considered for implementation in the future;
- Review and document past participation in water conservation programs; and
- Estimate the potential water savings associated with future water conservation program implementation.

This 2025 Water Demand and Conservation Measure Update presents the results for the Valley of the Moon Water District (District), located in Sonoma County, and serving a population of approximately 23,107 people in 2024 (**Figure 1-2**). The District’s water supplies include surface water purchased from Sonoma Water and local groundwater supply pumped by the District from the Sonoma Valley Subbasin (EKI, 2021). Conservation has been achieved through the implementation of water conservation programs, including most administered by the District and some administered through the regional SMSWP.

This 2025 Water Demand and Conservation Report is organized as follows:

- **Section 1** identifies the goals and objectives of the Report;
- **Section 2** provides the regulatory context for the demand projections as described in the Report, as well as new requirements related to *Making Conservation a California Way of Life* (MCCWL; Assembly Bill [AB]-1668/ Senate Bill [SB]-606) that impact the water demand and conservation planning components of the 2025 UWMPs;
- **Section 3** describes historical water use patterns and characteristics within the District;
- **Section 4** documents past participation in conservation programs and estimated savings associated with program implementation, and presents the results of a detailed analysis of program participation trends for select conservation programs;

- **Section 5** describes the projected water demands through 2050, including the assumptions and methodology used;
- **Section 6** documents the water conservation measure screening process, identifies individual programs and program scenarios for potential future implementation by the District;
- **Section 7** documents the key findings and conclusions from the analyses presented throughout this report; and
- **Section 8** provides key references and sources.



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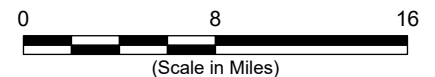
- City of Cotati Service Area
- City of Petaluma Service Area
- City of Rohnert Park Service Area
- City of Santa Rosa Service Area
- City of Sonoma Service Area
- Marin Municipal Water District Service Area
- North Marin Water District Service Area
- Town of Windsor Service Area
- Valley of the Moon Water District Service Area
- County Boundaries

Notes

- 1. All locations are approximate.

Sources

- 1. Service area boundaries provided by respective agencies.
- 2. Basemap provided by ESRI.



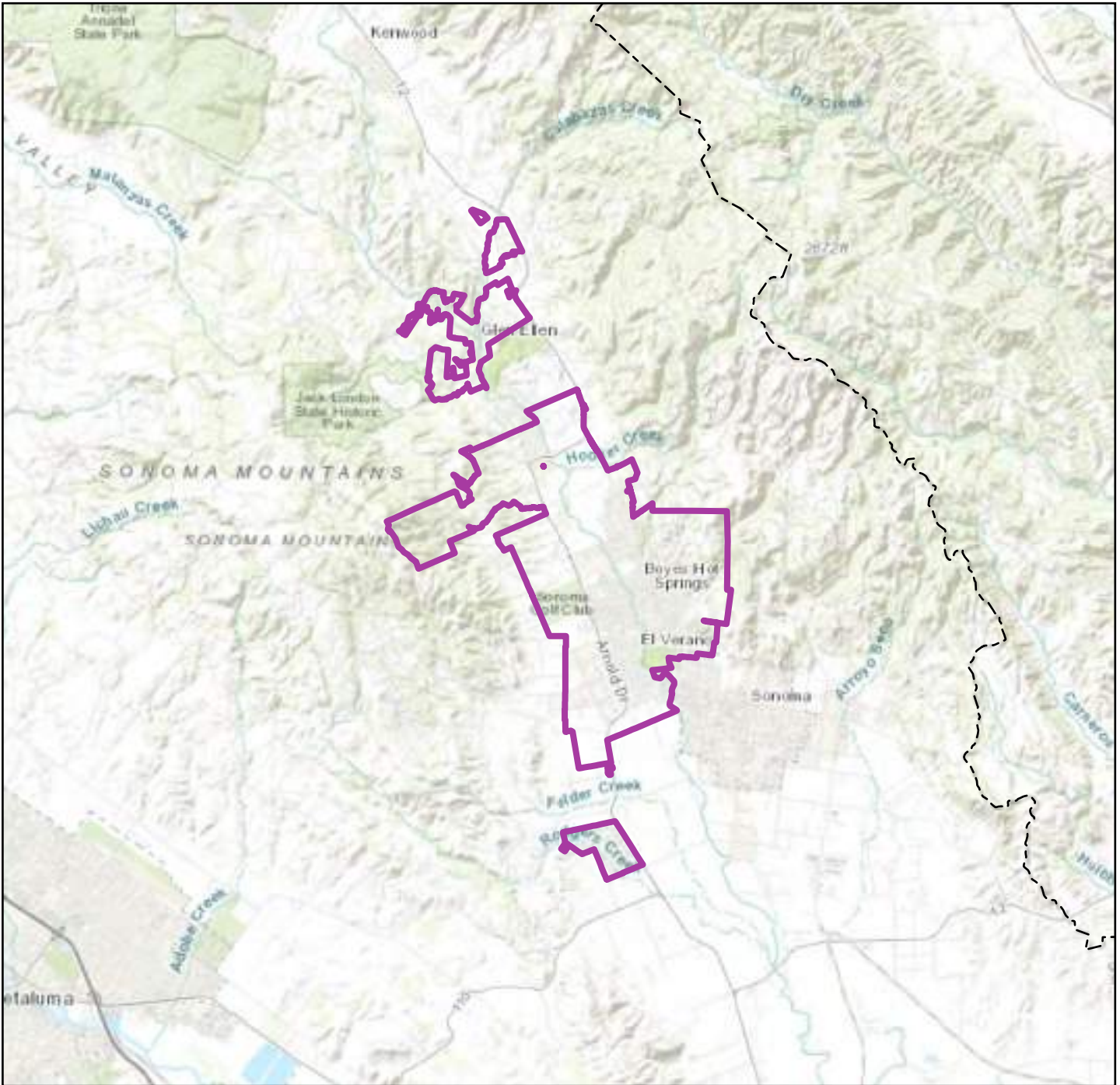
Participating Sonoma-Marin Saving Water Partnership Members

Sonoma Marin Saving Water Partnership
 December 2025
 C40180.00





Figure 1-1

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Legend

-  Valley of the Moon Water District Service Area
-  County Boundaries

Sources

1. Service area boundary provided by Valley of the Moon Water District.
2. Basemap provided by ESRI.

Notes

1. All locations are approximate.



**Service Area Boundary –
Valley of the Moon Water District**

Sonoma Marin Saving Water Partnership
December 2025
C40180.00



Figure 1-2

2 REGULATORY CONTEXT

This section provides the regulatory background for the requirements to project future demand in the 2025 UWMP. Although there are no updates to the UWMP regulations since 2020, the MCCWL and other state regulations will impact the 2025 UWMPs, as they will inform the water demand projections and conservation planning components.

2.1 UWMP Demand Projections Requirements

California Water Code (CWC) § 10631, excerpted below, describes the requirements to develop water demand projections that consider water use by customer sector, incorporate distribution system water loss, and account for anticipated water savings. Water demand projections herein were developed for the District using a land-use-based approach that is consistent with these requirements, and can be incorporated into the District's 2025 UWMP.

CWC § 10631

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

...

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

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

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

(I) Agricultural.

(J) Distribution system water loss.

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

...

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

(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 note that fact.

2.2 New Requirements for Water Use Efficiency

2.2.1 Making Conservation a California Way of Life

The State Water Resources Control Board (State Water Board) adopted a new Conservation Framework to implement Senate Bill 606 and Assembly Bill 1668 through the enactment of the MCCWL regulation in July 2024. The Conservation Framework requires each urban water supplier to calculate and comply with an annual Urban Water Use Objective (Objective) and to implement Commercial, Industrial, and Institutional (CII) Performance Measures, both of which must be reported on annually starting January 1, 2024 (although compliance with the Objective is not required until January 1, 2027).

As illustrated on **Figure 2-1** below, the Objective is calculated as the sum of the following components: (1) residential indoor water use standard, (2) residential outdoor water use standard, (3) CII landscape outdoor water use standard (for landscapes with dedicated irrigation meters [DIMs]), (4) water loss standard, (5) allowable variances, and (6) bonus provisions. Per the latest guidelines released by the Department of Water Resources (DWR) and the State Water Board, agencies will need to assess whether they meet their overall Objective (i.e., they are not required to comply with the individual water use standards as long as they meet the overall Objective).

Figure 2-1 Components of Urban Water Use Objective



The components of the Objective Water use include the following:

- Indoor and Outdoor Residential.** Indoor and outdoor residential includes supplier-specific water use standards for indoor and outdoor single-family and multi-family residential use. The standard for efficient residential indoor water use is expressed in gallons per capita per day (GPCD) and is currently set at 47 GPCD, which took effect January 1, 2025. This standard will be lowered to 42 GPCD beginning January 1, 2030 (**Figure 2-2**). The residential indoor water use budget is calculated by multiplying a supplier’s residential service area population by the residential indoor standard and by the number of days in the year. The standard for efficient residential outdoor water use is expressed as the landscape efficiency factor (LEF), a unitless number used to indicate the amount of water a supplier may need to deliver a healthy and efficient landscape in the service area, and represents plant factors and irrigation efficiency (**Figure 2-2**). The

outdoor budget is then calculated by multiplying the relevant outdoor LEF by landscape area, net evapotranspiration, and a unit conversion factor of 0.62;

- **CII Landscapes with Dedicated Irrigation Meters.** The budget for CII water use associated with dedicated irrigation meters (DIMs) is calculated by multiplying the outdoor LEF (**Figure 2-2**) for the CII special landscape area, by area of the large landscape, net evapotranspiration, and a unit conversion of 0.62. However, the CII landscapes with DIMs budgets will not become effective until June 30, 2028; until then, the budget is equal to actual water deliveries to CII DIMs. In the future, urban retail suppliers will have the option of installing DIMs at “large landscapes” that are over 0.5 acres and currently served by mixed-use meters (MUMs) (see discussion of CII Performance Measures below);
- **Water Loss.** Water loss represents “real water losses” or physical water losses from the pressurized potable water system (water mains and customer service connections) and the utility’s storage tanks, up to the point of customer consumption. These losses do not include apparent losses such as meter inaccuracies or theft. The water loss component is calculated based on the volumetric standards discussed in Section 2.2.2;
- **Variiances.** Variiances are an additional volume of water that an urban retail water supplier may request to add to its Objective for a unique use that has a substantial impact on a supplier’s Objective. Types of variiances include the following: (1) emergency response; (2) recycled water with high levels of total dissolved solids; and (3) other variiances, which encompasses water use related to seasonal populations, dust control for horse corrals and animal exercise areas, irrigation of residential agricultural landscapes, water use for sustaining wildlife in ponds and lakes when required by regulation, and irrigation of existing trees. Approved variiances can be included in a supplier’s budget for up to five years and have documentation demonstrating that the variance does not conflict with permit requirements;
- **Bonus Incentives.** Bonus incentives apply to potable reuse projects to help suppliers meet the Objective through alternative water sources. The bonus incentive is calculated by multiplying the urban retail water supplier’s potable reuse volume, in gallons, depending on where the potable reuse water is obtained (i.e., groundwater basin, reservoir, direct potable reuse project) by the portion of total potable water production delivered to residential and landscape irrigation connections for the reporting year. Suppliers must report and update the bonus incentive calculation annually. Required documentation includes data on potable reuse volumes, loss factors for groundwater recharge and recovery, and verification from relevant regulatory authorities.

The progression of the residential indoor water use standard, residential outdoor LEF, and CII landscape with DIMs outdoor LEF is summarized on **Figure 2-2** below.

In addition, the Conservation Framework includes a number of requirements for CII Performance Measures, which include the following:

- **Implementing a classification system for CII water users.** Requires classification of CII accounts based on customer end use, and suppliers shall annually maintain at least a 95% classification rate of CII end users. CII accounts are to be classified based on customer end use, in accordance with the 18 Energy Star Portfolio Manager’s broad categories (e.g.,

banking services, education, office, retail, utility, etc.), including four additional CII categories of laundries, landscapes with DIMs, water recreation, and car washes.

- **Converting MUMs to DIMs for CII customers with large landscapes, or employing in-lieu technologies combined with rolling out Best Management Practices (BMPs).** Suppliers must install DIMs for CII customers with large landscapes (which include those over half an acre) or employ in-lieu technology (e.g., area median income [AMI]) and offer BMPs to CII customers.
- **Providing BMP programs for CII customers.** Suppliers must identify CII water users that exceed a recommended size, volume of water use, or another threshold. Options include identifying the top water users, identifying the top water users within CII classification categories, or identifying inefficient CII water users with the use of key business activity indicators. For CII customers identified, suppliers must design and implement conservation plans from a list of approved BMP themes.

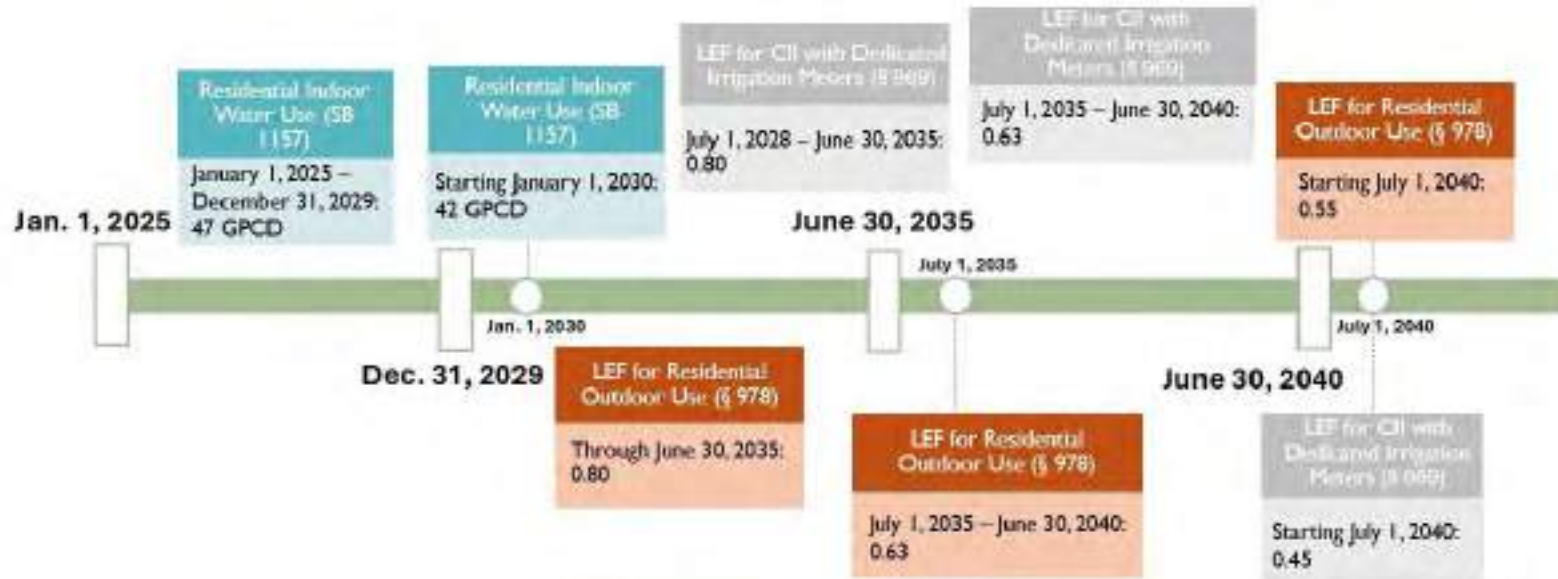
The implementation timeline of the MCCWL regulatory requirements is illustrated on **Figure 2-3**.

2.2.2 Related Regulations with MCCWL Compliance Implications

The following two regulations are separate from those embedded in the compliance requirements of MCCWL and are required to be reported on within annual Objective reporting:

- **Water Loss Control.** Urban water retailers are required to comply with State-assigned volumetric standards for real water loss. Suppliers must calculate system-specific water loss budgets by multiplying their State Board-assigned water loss standard by the number of days in the year and, depending on the units associated with the standard, by either the number of total service connections or the length of the distribution system. Suppliers with multiple systems must calculate an aggregate water loss budget by summing the estimated losses for each system.
- **Nonfunctional Turf Irrigation Ban (AB 1572).** The nonfunctional turf irrigation ban applies to turf (mowed grass maintained for aesthetic purposes) that does not provide recreational or community benefits, including CII properties, and common areas of homeowner associations. Water suppliers need to identify what landscapes fall under the ban and implement a plan to comply with the required schedule between 2027 and 2031, depending on the property type.

Figure 2-2 Progression of Objectives Indoor and Outdoor Efficiency Standards Through 2040



Abbreviations:

- CII = commercial, industrial, and institutional
- LEF = landscape efficiency factors
- SB = Senate Bill

Figure 2-3 General Timeline of MCCWL Regulatory Requirements



Abbreviations:

- BMPs = best management practices
- CII = commercial, industrial, and institutional
- DIMs = dedicated irrigation meters
- UWUO = Urban Water Use Objective

3 WATER USE CHARACTERISTICS

This section describes historical water use by customers within the District including changes in observed water use, changes in average water use per account over time, and estimates of indoor and outdoor water use. This information is used to provide context and background to support the projection of future water demands and estimates of potential conservation program benefits. The terms “water use,” “water consumption,” and “water demand” are used interchangeably in this document.

3.1 Historical Total and Per Capita Water Use

Table 3-1 and **Figure 3-1** show the total annual water use, total per capita water use, and residential per capita water use for the past 15 years, 2010 through 2024. As shown in **Table 3-1** and on **Figure 3-1**, total water use was highest in 2013 at 3,205 acre-feet per year (AFY) before declining in response to the historic 2014-2017 drought and the State’s water use reduction mandates. Water use rebounded between 2016 and 2020, before declining again due to the 2021-2023 drought to a low of 2,113 AFY in 2022. While there was a modest increase between 2022 and 2024 to 2,240 AFY, total water use remains below historical levels observed in the early 2010s.

Total per capita water use has declined over the 2010 through 2024 period, from a high of 122 GPCD in 2013 to a low of 82 GPCD in 2022. A similar trend was observed in residential per capita water use. These trends reflect the impact of water efficiency improvements, as well as demand hardening as structural and behavioral changes during droughts result in lasting water use reductions.

Historical water consumption per customer sector is provided in **Table 3-2** and shown by sector groups on **Figure 3-2**¹. **Figure 3-3** shows the proportional water use by sector group. The single-family residential (SFR) sector comprises the largest proportion of the District’s total water consumption (65.6%). By comparison, the proportional water use consumption for the other sectors includes the multi-family residential (MFR) sector at 20.8%; the combined CII sector at 11.1%; and dedicated irrigation accounts at 2.4%. Separately, non-revenue water was estimated to be 16.1% of the District’s total water demand (**Table 3-2**).

¹ Customer sectors are grouped into categories of SFR, MFR, CII total (mixed-use meters), irrigation, and recycled water.

Table 3-1 Total and Per Capita Water Use

| Year | Potable Water Use (AFY) (a) | Total Per Capita Water Use (b) (GPCD) | Residential Per Capita Water Use (c) (R-GPCD) |
|------|-----------------------------|---------------------------------------|---|
| 2010 | 2,711 | 103 | - |
| 2011 | 2,720 | 103 | - |
| 2012 | 2,930 | 111 | - |
| 2013 | 3,205 | 122 | 91 |
| 2014 | 2,637 | 101 | 81 |
| 2015 | 2,526 | 97 | 71 |
| 2016 | 2,334 | 90 | 69 |
| 2017 | 2,470 | 95 | 77 |
| 2018 | 2,671 | 103 | 78 |
| 2019 | 2,583 | 101 | 80 |
| 2020 | 2,700 | 104 | 86 |
| 2021 | 2,381 | 93 | 77 |
| 2022 | 2,113 | 82 | 69 |
| 2023 | 2,159 | 83 | 66 |
| 2024 | 2,240 | 87 | 72 |

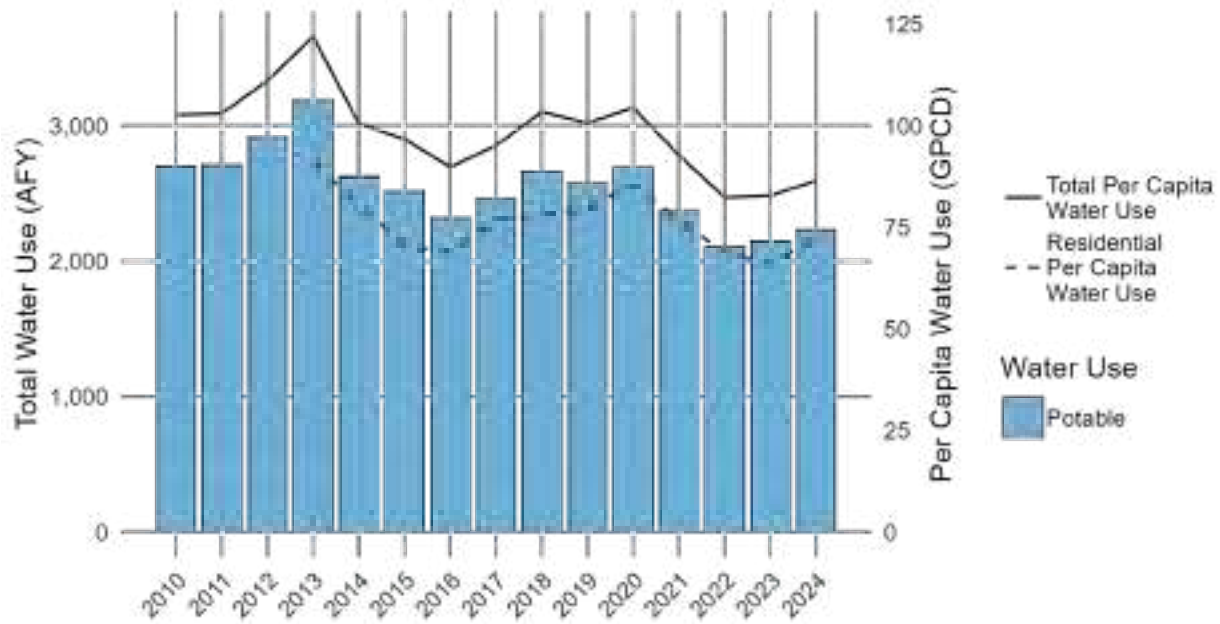
Abbreviations:

AFY = acre-feet per year
GPCD = gallons per capita per day
R-GPCD = residential gallons per capita per day

Notes:

- (a) Water use data are based on water production data provided by District staff.
- (b) Total per capita water use is calculated by dividing the annual water use by service area population (see Section 4) and the number of days in a year.
- (c) Residential per capita water use is calculated by dividing the annual residential water use by the service area population and the number of days in a year.

Figure 3-1 Total Water Production and Per-Capita Water Use



Abbreviations:

AFY = acre-feet per year

GPCD = gallons per capita per day

Table 3-2 Annual Water Use by Customer Sector

| Water Use Sector | Water Use (AFY) | | | | | | | | | | | |
|------------------------------------|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| Single Family Residential | 1,867 | 1,640 | 1,412 | 1,387 | 1,523 | 1,552 | 1,550 | 1,718 | 1,507 | 1,318 | 1,296 | 1,424 |
| Multi-family Residential | 530 | 474 | 432 | 405 | 471 | 469 | 495 | 500 | 463 | 445 | 423 | 452 |
| Commercial | 285 | 260 | 246 | 229 | 254 | 246 | 235 | 208 | 199 | 190 | 212 | 241 |
| Irrigation | 61 | 41 | 30 | 32 | 47 | 51 | 42 | 50 | 34 | 32 | 26 | 40 |
| Fireline | 0.2 | 0.1 | 0.1 | 0.3 | 0.5 | 0.7 | 0.9 | - | - | - | - | - |
| Other | - | - | - | - | - | - | - | 0.3 | 10 | 0.5 | 0.7 | 12 |
| Total Water Consumption (b) | 2,744 | 2,415 | 2,120 | 2,053 | 2,295 | 2,318 | 2,323 | 2,476 | 2,213 | 1,986 | 1,957 | 2,170 |
| Non-Revenue Water (c) | 461 | 222 | 406 | 281 | 176 | 352 | 260 | 224 | 168 | 127 | 202 | 70 |
| | 14.4% | 8.4% | 16.1% | 12.0% | 7.1% | 13.2% | 10.1% | 8.3% | 7.0% | 6.0% | 9.3% | 3.1% |
| Total Water Demand (b) | 3,205 | 2,637 | 2,526 | 2,334 | 2,470 | 2,671 | 2,583 | 2,700 | 2,381 | 2,113 | 2,159 | 2,240 |

Abbreviations:

AFY = acre-feet per year

Notes:

- (a) Water use data are provided by City staff.
- (b) Totals may not sum due to rounding.
- (c) Non-revenue water is calculated as the difference between total production and total consumption.

Figure 3-2 Annual Water Use by Sector Group

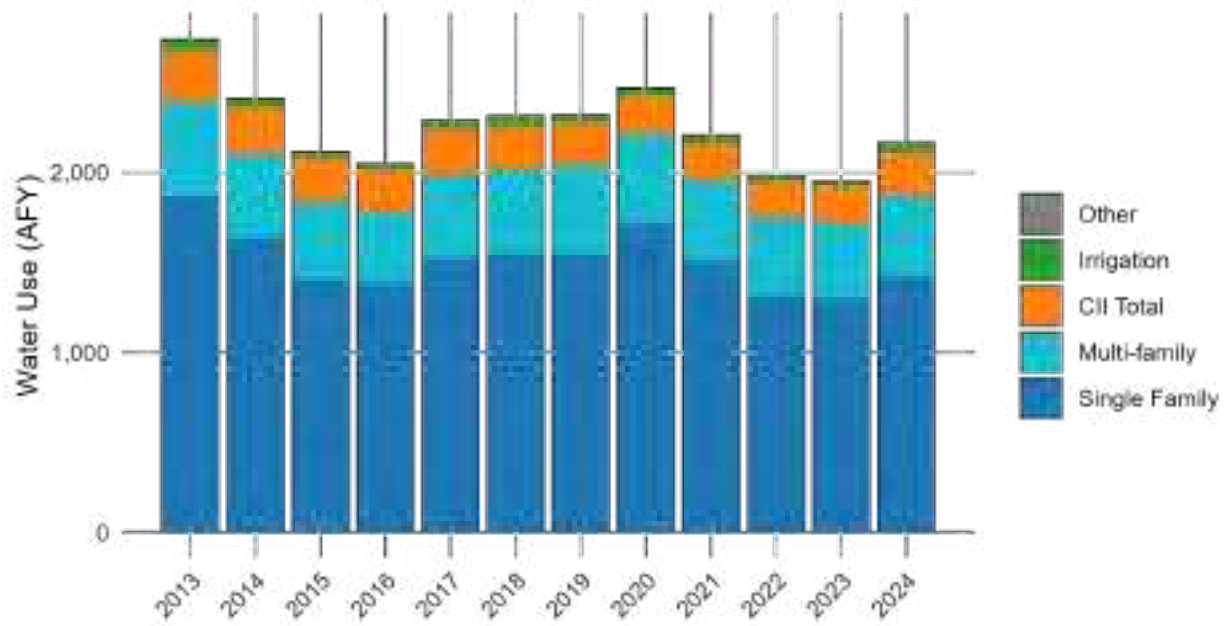
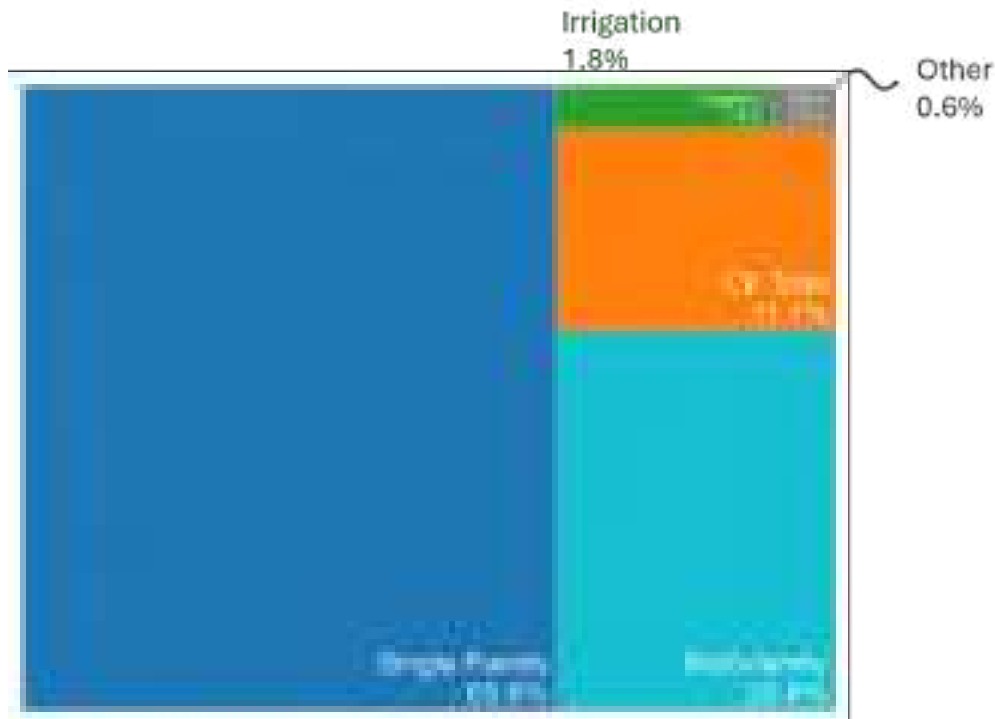


Figure 3-3 Proportional Water Use by Sector Group in 2024



Abbreviations:

AFY = acre-feet per year
CII = commercial, industrial, and institutional

Notes:

The CII Total sector group represents water use across all CII sectors with mixed-use meters.
The other sector group represents water use in the Other and Fireline sectors, shown in **Table 3-2**.

3.2 Water Use Trends by Customer Sector

This section discusses long-term trends in both total water use and per-account water use across the SFR, MFR, CII, and irrigation sector groups between 2010 and 2024. **Figure 3-4** shows monthly water use with 12-month moving averages. **Figure 3-5** summarizes the average annual water use per account. And **Table 3-3** provides water use per customer sector. In total, these results provide insight into how each sector has responded to drought conditions, economic changes, and shifts in demographics.

- **SFR and MFR:** In the SFR and MFR sectors, total water use has declined between 2010 and 2024. Within both sectors, there are notable reductions during drought periods and partial rebounds after the droughts. In SFR, the reductions during the 2014-2017 and 2021-2023 drought periods are accompanied by diminished seasonality (**Figure 3-4**) that reflects likely reductions in outdoor irrigation in response to water use restrictions.

Average per-account water use was highest in 2013 in both sectors and rose again in 2020; likely due to stay-at-home measures during the beginning of the pandemic (**Figure 3-5**). Per account use in both sectors has only just started to increase in 2023 and 2024, and current levels are lower than most of the historical record.

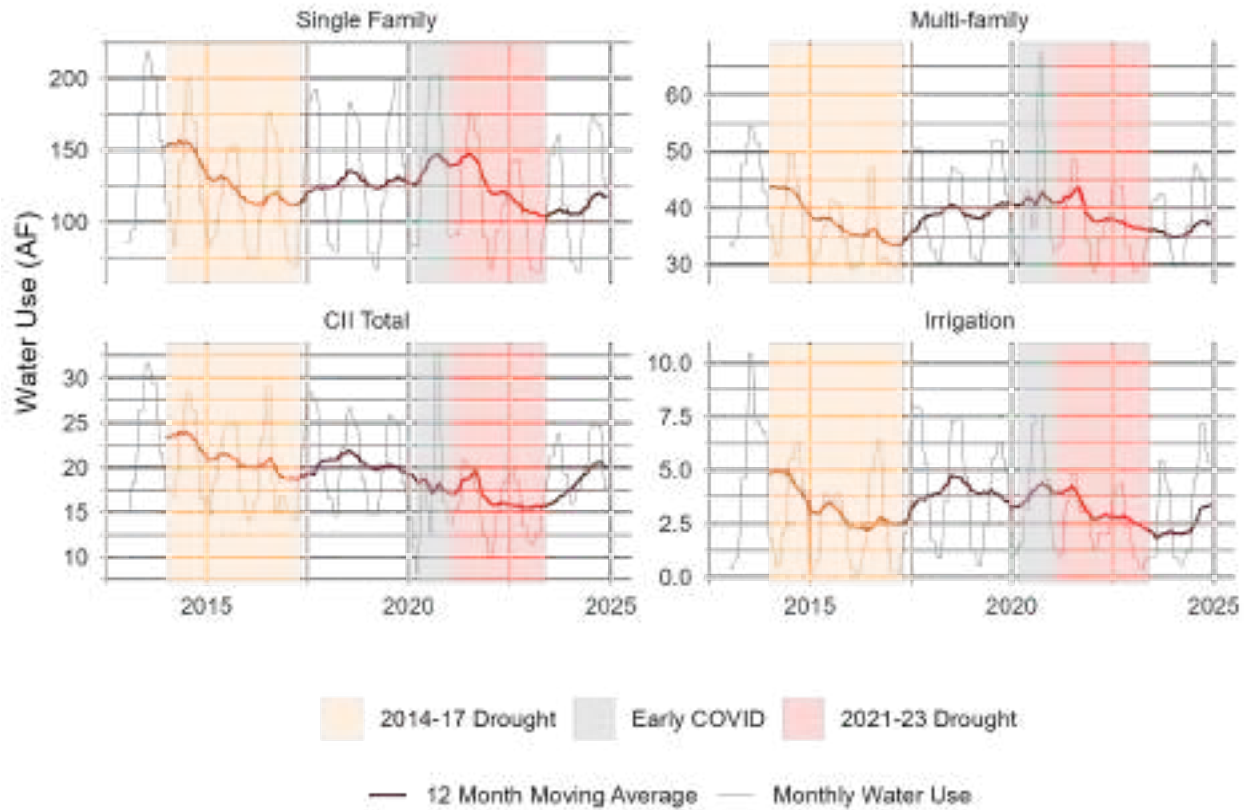
- **CII Total:** Total water use in the CII sectors exhibited a major peak in 2020. Water use continued to trend downward to a low during the 2021-2023 drought, with a rebound observed during 2023-2024.

Average water use per account in the CII sectors declined or held steady during drought events and had a sharp decline during COVID. These shifts may be tied to long-term changes in business activity and employment in the District, with reduced water demand persisting from 2021 through 2024. Per account water use has rebounded to levels seen in 2017-2019.

- **Irrigation:** Water use in the irrigation sector showed reductions during the 2014-2017 drought years, followed by a partial rebound through 2018. Then a decline was observed to a record low in 2023, followed by a second rebound.

Average water use per account in the irrigation sector generally followed the same pattern as total irrigation water use. Water use in 2024 has rebounded to pre-pandemic water use in 2015-2016.

Figure 3-4 Monthly Water Use and 12-Month Moving Average



Abbreviations:

- AF = acre-feet
- CII = commercial, industrial, institutional

Notes:

The CII Total sector group includes water use across all CII sectors with mixed-use meters.

Table 3-3 Average Per Account Water Use by Sector Group

| Water Use Sector | Water Use Per Account (GPD/Account) | | | | | | | | | | | |
|---|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| Single Family Residential | 269 | 236 | 202 | 199 | 218 | 222 | 222 | 245 | 215 | 189 | 183 | 202 |
| Multi-Family Residential (a) | 1,079 | 961 | 876 | 824 | 955 | 938 | 990 | 1,009 | 920 | 846 | 832 | 895 |
| CII Total (b) | 1,248 | 1,121 | 1,078 | 1,025 | 1,099 | 1,077 | 1,025 | 706 | 885 | 857 | 883 | 1,059 |
| Irrigation | 1,694 | 1,139 | 867 | 893 | 1,204 | 1,341 | 1,130 | 1,204 | 801 | 774 | 407 | 893 |
| Other | 8 | 4 | 4 | 12 | 19 | 27 | 38 | 12 | 468 | 25 | 35 | 554 |
| <p>Abbreviations: CII = commercial, industrial, and institutional GPD = gallons per day</p> <p>Notes: (a) The water use per account for multi-family residential customers measures water use at the master meter level, which can serve multiple units or the entire complex. This does not reflect water use per dwelling unit, as many properties are not individually submetered. (b) Based on the total water use and number of accounts across all CII sectors with mixed-use meters.</p> | | | | | | | | | | | | |

Figure 3-5 Average Per Account Water Use by Sector Group



Abbreviations:

CII = commercial, industrial, and institutional
GPD = gallons per day

Notes:

The CII Total sector group includes water use across all CII sectors with mixed-use meters.

3.3 Estimated Indoor and Outdoor Water Use

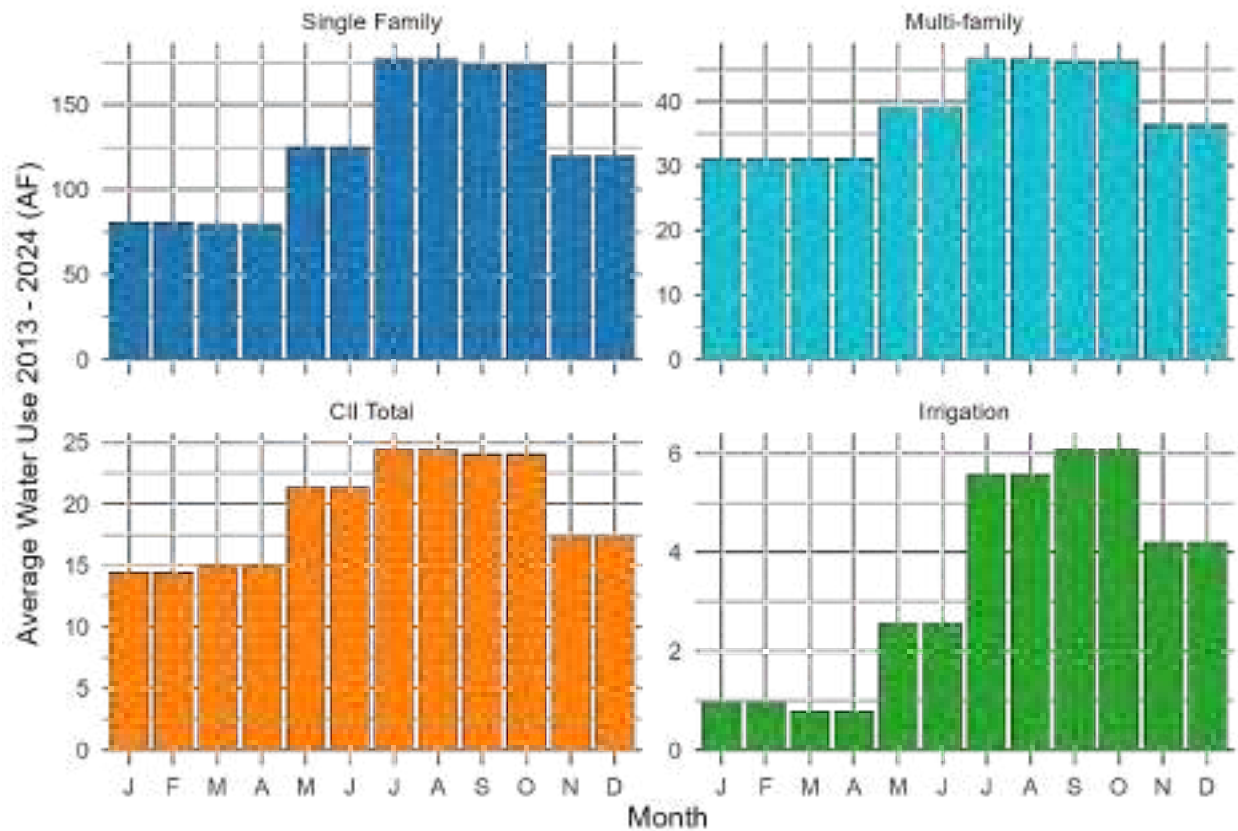
Water use within the District varies seasonally (**Figure 3-6**), primarily driven by increased irrigation needs in the summer compared to the more limited irrigation water use during the wetter and cooler winter months. The most pronounced seasonal fluctuations occur in the irrigation and recycled water sectors, where water use is limited to outdoor irrigation and water use is minimal during the winter.

In contrast, SFR, MFR, and the CII sectors include water use from mixed-use meters and record both indoor and outdoor water use. In the SFR sector, summer water use is approximately double that of winter water use. The MFR and CII sectors show less seasonality, with summer water use approximately 49% and 69% higher than winter water use, respectively.

It is important to note that many MFR and CII customers have dedicated irrigation meters that are included in the irrigation sector, not within the MFR and CII mixed-use sectors. As a result, the outdoor water use estimated for MFR and CII sectors herein reflects only the portion of irrigation that remains on the domestic or mixed-use accounts. Some CII industries, such as

restaurants, manufacturing, or facilities with cooling needs, may also experience seasonal variation in indoor water use, contributing to the modest increase in CII summer demands.

Figure 3-6 Average Monthly Water Use, 2010-2024



Abbreviations:

- AF = acre-feet
- CII = commercial, industrial, and institutional

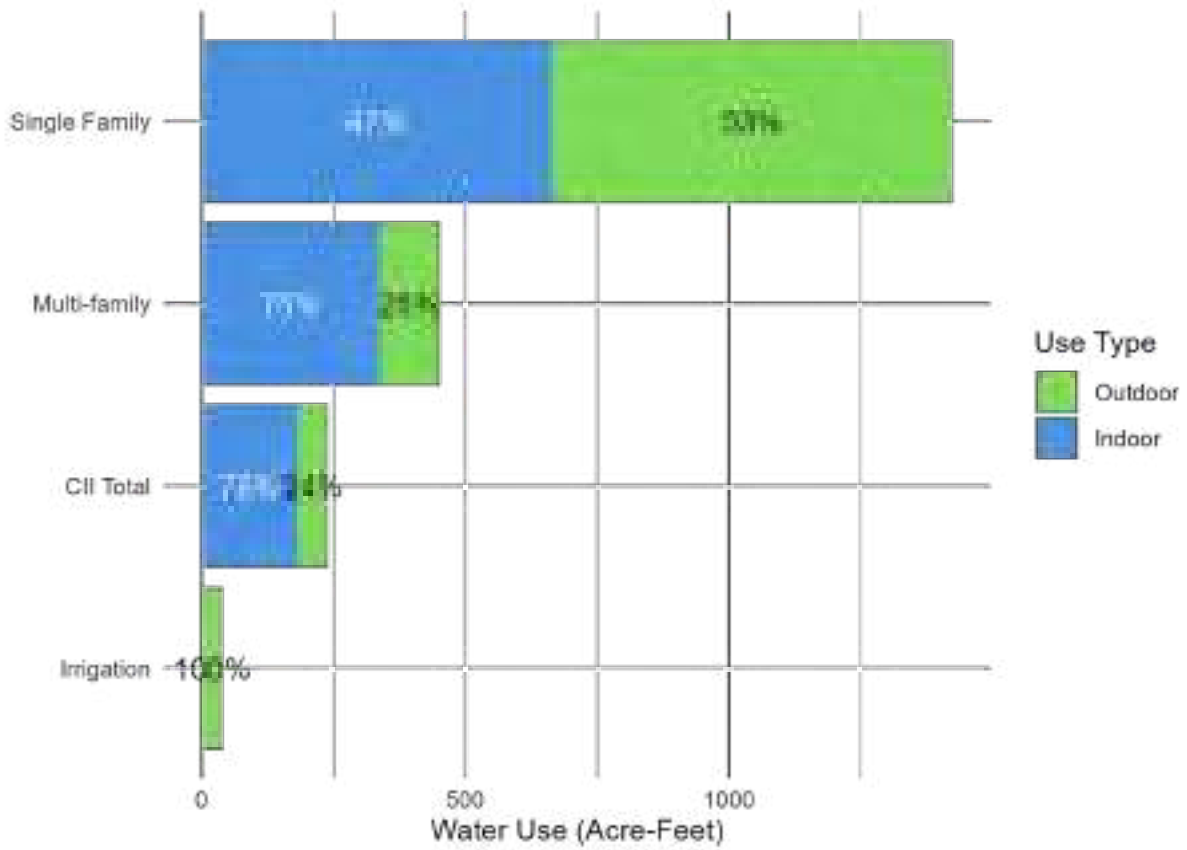
Notes:

The CII Total sector group includes water use across all CII sectors with mixed-use meters.

A Seasonal Adjustment Method was used to estimate the relative proportions of water use that are used indoors versus outdoors in non-irrigation sectors. The methodology is further described in Appendix A. The results of this estimate are shown on **Figure 3-7**.

Aside from the dedicated irrigation sector (100% outdoor water use), SFR water use is estimated to have the highest proportion of outdoor water use at 53%. This is followed by the mixed-use accounts in the MFR sector at 25% and the CII sector at 24% outdoor water use, which also corresponds to the lesser seasonality observed in these sectors. These values should be interpreted with the understanding that a substantial portion of MFR and CII landscape irrigation is already captured in the irrigation sector through dedicated irrigation meters. Given their landscape-only demands, MFR and CII dedicated irrigation accounts represent meaningful opportunities for outdoor conservation programs.

Figure 3-7 Estimated Indoor and Outdoor Water Use, 2024



Abbreviations:

CII = commercial, industrial, and institutional

Notes:

The CII Total sector group includes water use across all CII sectors with mixed-use meters.

4 CONSERVATION PROGRAM PARTICIPATION

This section evaluates past participation in water conservation programs by District customers, including presenting historic program participation and estimated water savings associated with program participation. The purpose of this section is to document program participation and savings in order to inform future program selection and implementation, and to support the demand management measure (DMM) reporting required in the UWMP under CWC § 10631(e).²

4.1 Conservation Programs

The description of water conservation programs, eligible customer classes, and program run dates provided by the District to their customers is summarized in **Table 4-1** below. The District currently implements three conservation programs offered directly to customers.

In addition to programs offered by the District, several regional programs are offered through the SMSWP, including: (1) education and outreach to schools, (2) public outreach and educational workshops, (3) Qualified Water Efficient Landscaper (QWEL) Training, and (4) garden tours. The full Report will additionally present participation in these SMWSP programs after school year 2024-25 data are available.

Table 4-1 Description of Conservation Programs

| Program | Description | Eligible Customer Class(es) | Program Run Dates |
|-------------------------------|--|-----------------------------|----------------------|
| AMI Leak Notification Program | Customers with AMI meters receive notifications of water use patterns indicative of leaks and are able to receive timely information and stop leaks much faster. Water Efficiency staff run automated reports to monitor the water use of AMI customers. AMI meters record water use in 15-minute intervals, as compared to every other month, as is typical for most residential meter reads. | All (Both) | 2014-Current |
| HECW Rebate Program | The HECW Rebate Program offers \$50 rebates to residential customers who replace their existing clothes washers with a HECW included on the EnergyStar Most Efficient list. | SFR, MFR (Outdoor) | 2018, 2020 - Current |

² The information presented herein supports a portion of the required DMM analysis, focusing on device and education-focused programs. Additional details regarding customer billing rates and structure, conservation staffing levels, customer metering, etc. are required under CWC § 10631(e) but not addressed herein.

Table 4-1 Description of Conservation Programs (Continued)

| Program | Description | Eligible Customer Class(es) | Program Run Dates |
|--|---|-----------------------------|-------------------|
| Cash for Grass/Mulch Madness Program | Customers are eligible for a rebate for replacing their existing lawn with water-conserving plants, vegetable gardens, and other low-water-using plant material that uses sufficient mulch material around new plants. They must also remove their existing lawn sprinklers and modify the lawn irrigation system so that newly landscaped areas are served through separate valves that can be controlled independently. Drip irrigation systems must be installed for all new plant material. In order to receive the rebate, customers must agree not to re-install the previous turf; if turf is re-installed, the rebate amount must be refunded to the District. In addition to the turf rebate, customers are eligible to receive a rebate for 25 percent of the cost of mulch and 75 percent of the cost of drip irrigation equipment | SFR (Outdoor) | 2017 -Current |
| <p>Abbreviations: AMI = advanced metering infrastructure HECW = High Efficiency Clothes Washer MFR = multi-family residential SFR = single family residential</p> | | | |

In addition to programs offered by the District, several regional programs are offered through the SMSWP, including: (1) education and outreach to schools, (2) public outreach and educational workshops, (3) Qualified Water Efficient Landscaper (QWEL) Training, and (4) garden tours.

4.2 Historical Conservation Program Participation

Table 4-3 summarizes participation in the District’s conservation programs from 2015 through 2024. Darker shading indicates higher participation values. The table shows the total number of participants in each program as a percentage of the total number of accounts in the predominant sector. This percentage serves as a measurement of program saturation (i.e., how extensively the program has been adopted within the target customer base) and whether there remains future potential from the program. **Figure 4-1** further illustrates the data included in **Table 4-3**, showing the participation by end use, sector group, or program categories, and turf replacement square footage over time.

As shown on **Table 4-3** and **Figure 4-1**:

- The High-Efficiency Clothes Washer (HECW) Rebate Program has reached 0.5% of customers in the SFR and MFR sectors as of 2024. The program saw moderate early participation from 2011 through 2014, but activity declined in the following years (**Figure 4-1**, graphs A, B, and D). While there were occasional upticks, overall participation remained low from 2018 through 2023.
- Through the Cash for Grass/Mulch Madness Program, 83,195 sq ft of turf was replaced in the SFR sector³. Participation in the program peaked during the 2021-2023 drought and declined in more recent years (**Figure 4-1**, graph C).
- The District completed installing AMI for all of its customers in 2022 and maintains associated leak notification and tiered water rate programs.

Table 4-2 summarizes participation in the regional SMWSP water conservation direct instruction school education and outreach programs from the 2020-2021 through 2024-2025 school years. Over this period, 144 students were reached by direct instruction. Additional students were reached through indirect instruction such as assemblies, video and poster contests, and other educational materials.

Table 4-2 Participation in SMSWP School Education Programs, Direct Instruction

| Grade Level | Number of Students Reached by School Year | | | | |
|---|---|-----------|-----------|-----------|-----------|
| | 2020-2021 | 2021-2022 | 2022-2023 | 2023-2024 | 2024-2025 |
| Kindergarten | - | - | - | - | - |
| 1 st – 3 rd Grade | 18 | 18 | 18 | 40 | 30 |
| 4 th – 5 th Grade | - | - | - | - | - |
| Middle/High School | - | 14 | 6 | - | - |
| Other | - | - | - | - | - |
| Total | 18 | 32 | 24 | 40 | 30 |

4.3 Estimated Savings from Past Conservation Programs

The Alliance for Water Efficiency (AWE) model⁴ was used to estimate water savings associated with the implementation of all devices or turf replacement, high-efficiency clothes washers, leak reduction measures, and water loss audit programs identified in **Table 4-3** for the period of 2015 to 2024. Water savings estimates were based on AWE model default values and other literature values as needed. The specific assumptions used in this assessment are presented in Appendix B. The results of this analysis are presented in **Table 4-4** and illustrated on **Figure 4-2**. It is estimated that conservation programs included in this assessment resulted in active savings of 80 AF between 2010 and 2024.

³ Participation rate not available for the SFR sector because tracking for this program is based on square footage.

⁴ Alliance for Water Efficiency, Water Conservation Tracking Tool Version 4.3.

As shown on **Figure 4-2**, the most successful program types in terms of estimated savings include the following, listed in order of savings:

- AMI Leaks Notification;
- Turf Replacements (Cash for Grass/Mulch Madness Program); and
- Clothes Washers (HECW Rebate Program).

In addition, over this period, it is estimated that 269 AF was saved through passive savings.⁵ Thus, total active and passive savings are estimated to be 348 AF.

⁵ Passive water savings are water savings associated with the natural replacement of water using fixtures and devices with higher efficiency ones, due to plumbing code and market changes. Passive savings are estimated for the whole service area.

Table 4-3 Summary of Conservation Program Participation
Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Program Name | End Use | | Program Category | Number of Program Participants | | | | | | | | | | | Pct. of Accounts (b) |
|---|------------|----------------|------------------------|--------------------------------|-------|-------|-------|-------|-------|--------|--------|--------|-------|--------|----------------------|
| | Sector (a) | Indoor/Outdoor | | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | Total | |
| HECW Rebate Program | SFR, MFR | Indoor | Clothes Washers | - | - | - | 1 | - | 9 | 9 | 1 | 7 | 6 | 33 | 0.5% |
| Total Turf Removed (square feet) | | | | | | | | | | | | | | | |
| Cash for Grass/ Mulch Madness Program | SFR | Outdoor | Turf Replacement | - | - | 7,384 | 6,886 | 882 | 2,973 | 15,215 | 33,370 | 12,250 | 4,235 | 83,195 | - |
| Active AMI Meters | | | | | | | | | | | | | | | |
| AMI Leak Notifications Program (d) | All | Both | Leaks and Water Losses | 869 | 1,738 | 2,607 | 3,476 | 4,345 | 5,214 | 6,083 | 6,954 | 7,065 | 7,022 | 7,022 | 100% |

Abbreviations

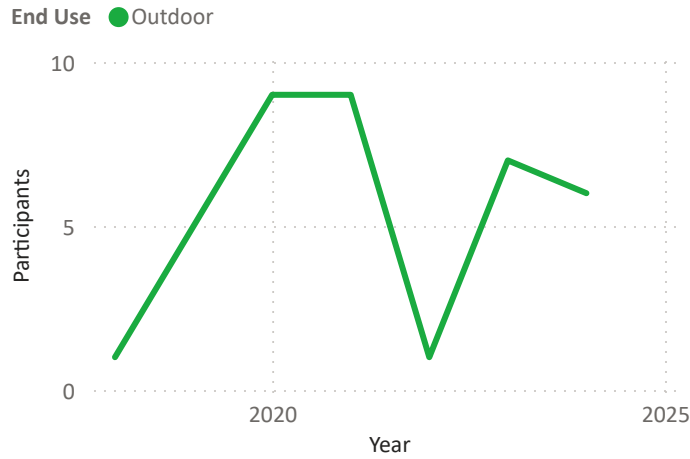
AMI = advanced meter infrastructure
 HECW = High Efficiency Clothes Washer
 SFR = Single-family residential
 MFR = Multi-Family Residential

Notes

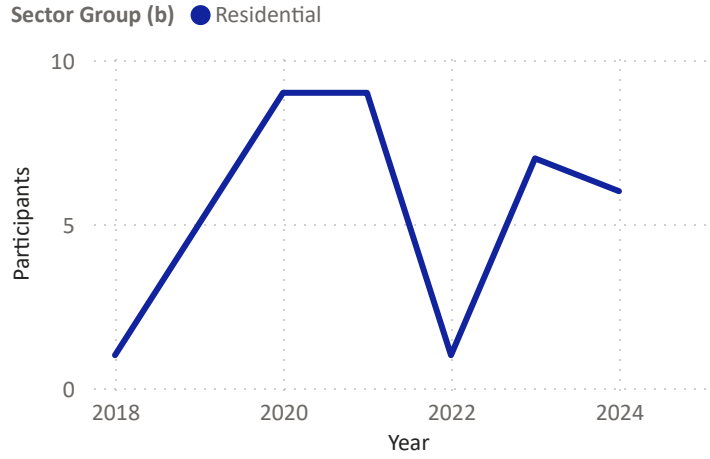
- (a) Predominant sector for program participants.
- (b) Participation is calculated as a percentage of total accounts of the predominant sector indicated.
- (c) Colored shading is added for visualization purposes. Green shading represents higher participation values.
- (d) The District began installing AMI meters in late 2014 and were fully installed by 2022. One meter is assumed per account and a linear increase in AMI meters is assumed between 2015 and 2022.

Figure 4-1
Conservation Program Participation
 Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

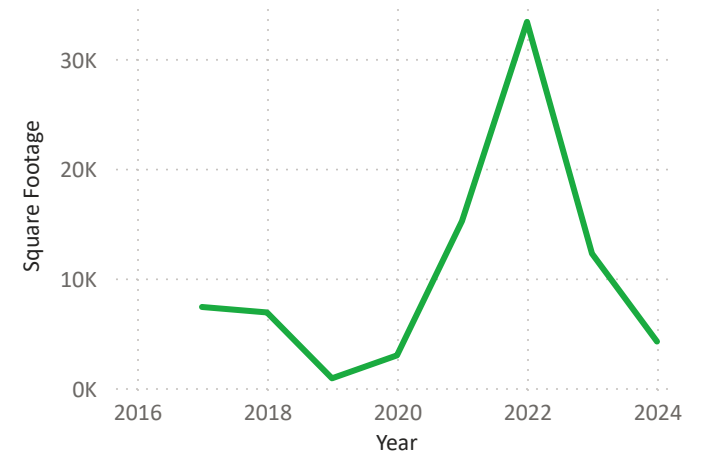
A. Participants by Year and End Use



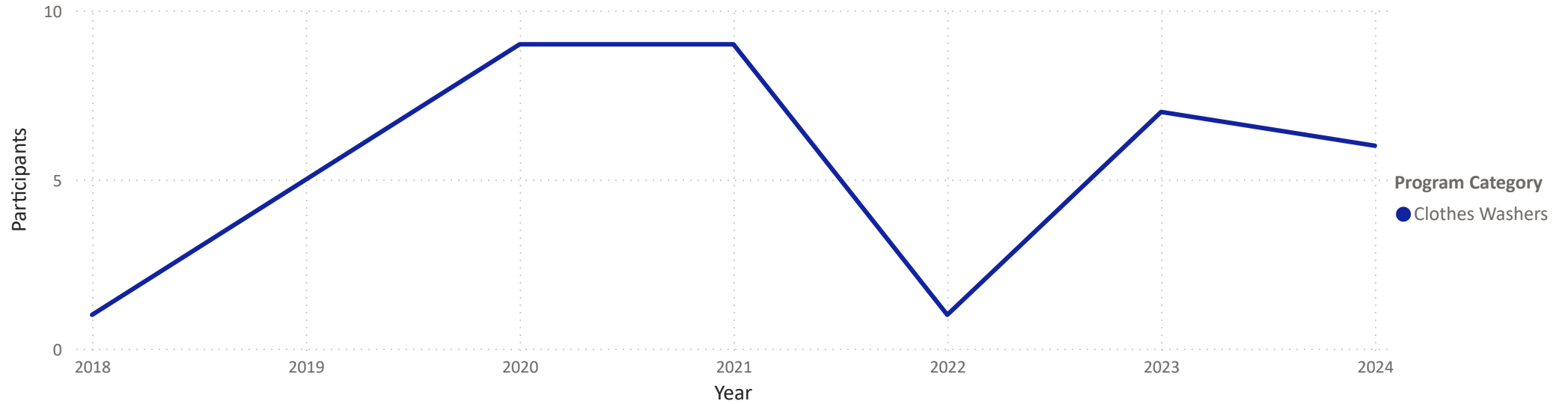
B. Participants by Year and Sector Group



C. Turf Replacement Square Footage



D. Participants by Year and Program Category



Abbreviations:

CII = commercial, industrial, institutional
 HET = high efficiency toilet

Notes:

- (a) See Table 4-3 for program end use, sector, category information and detailed program participation data.
- (b) Programs are summarized by Residential, CII, Irrigation, or Multiple sector groups based on their targeted sectors. Programs that cannot be exclusively assigned to the Residential, CII, Irrigation sector groups are assigned to the Multiple sector group.
- (c) Participation in the AMI leaks notification program (i.e., AMI meters installed), outreach, and education programs are excluded from this figure.

Table 4-4 Estimated Water Savings Achieved by Conservation Programs and Passive Savings
Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Water Savings Type | End Use | | Program Category | Estimated Annual Water Savings (AFY) (b) | | | | | | | | | | | | | | Cumulative Water Savings (AF) | |
|--|------------|--------------------|------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------------------------|------------|
| | Sector (a) | Indoor/ Outdoor | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | | 2024 |
| HECW Rebate Program | SFR, MFR | Outdoor | Clothes Washers | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| Cash for Grass/ Mulch Madness Program | SFR | Outdoor | Turf Replacement | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 4 | 7 | 9 | 9 | 35 | |
| AMI Leak Notifications Program | All | Both | Leaks and Water Losses | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 6 | 7 | 7 | 42 |
| <i>Conservation Program Water Savings (Active Savings)</i> | | | | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 5 | 6 | 7 | 10 | 14 | 16 | 16 | 80 |
| <i>Passive Water Savings (c)</i> | | | | 16 | 14 | 15 | 16 | 20 | 19 | 18 | 18 | 23 | 21 | 19 | 19 | 18 | 16 | 15 | 269 |
| Total Water Savings | | | | 16 | 14 | 15 | 16 | 20 | 20 | 20 | 21 | 28 | 27 | 27 | 29 | 32 | 32 | 32 | 348 |

Abbreviations

HECW = High Efficiency Clothes Washer
MFR = Multi-family residential

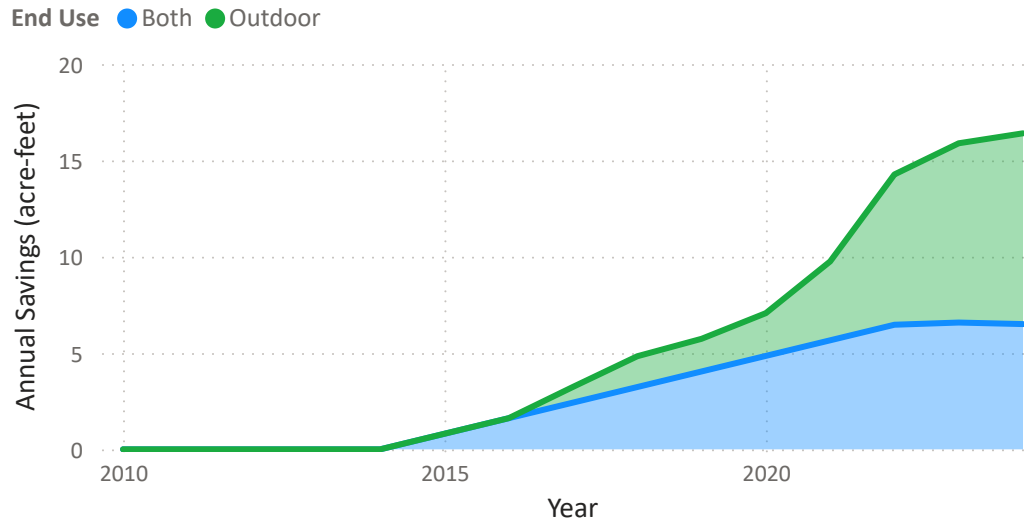
SFR = Single-family residential

Notes

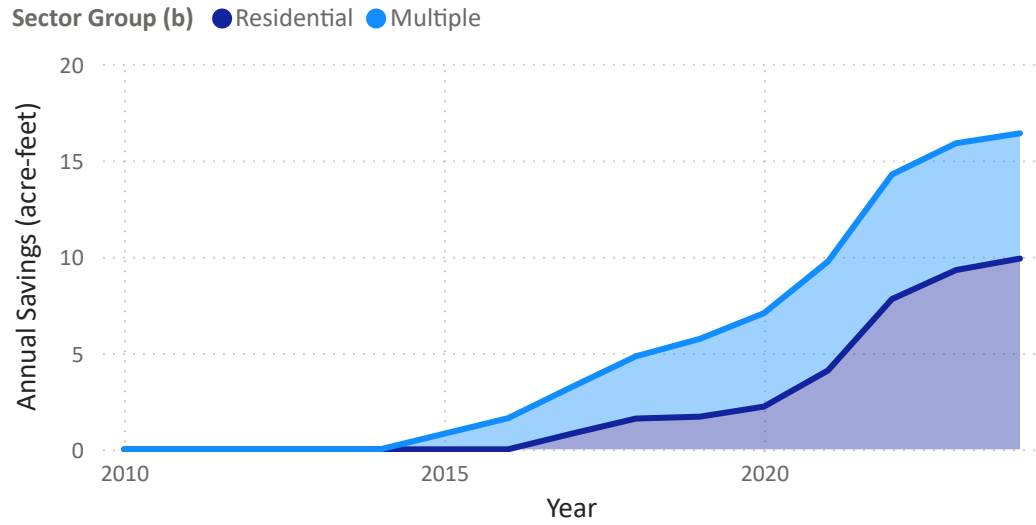
- (a) Predominant sector for program participants.
- (b) Water savings are estimated per the AWE model based on program participation data. Program water saving assumptions are included in Appendix B.
- (c) Passive water savings are water savings associated with the natural change out of water using fixtures and devices with higher efficiency ones, due to plumbing code and market changes. Passive savings are estimated for the whole service area.

Figure 4-2
Estimated Annual Water Savings Achieved by Conservation Programs
 Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

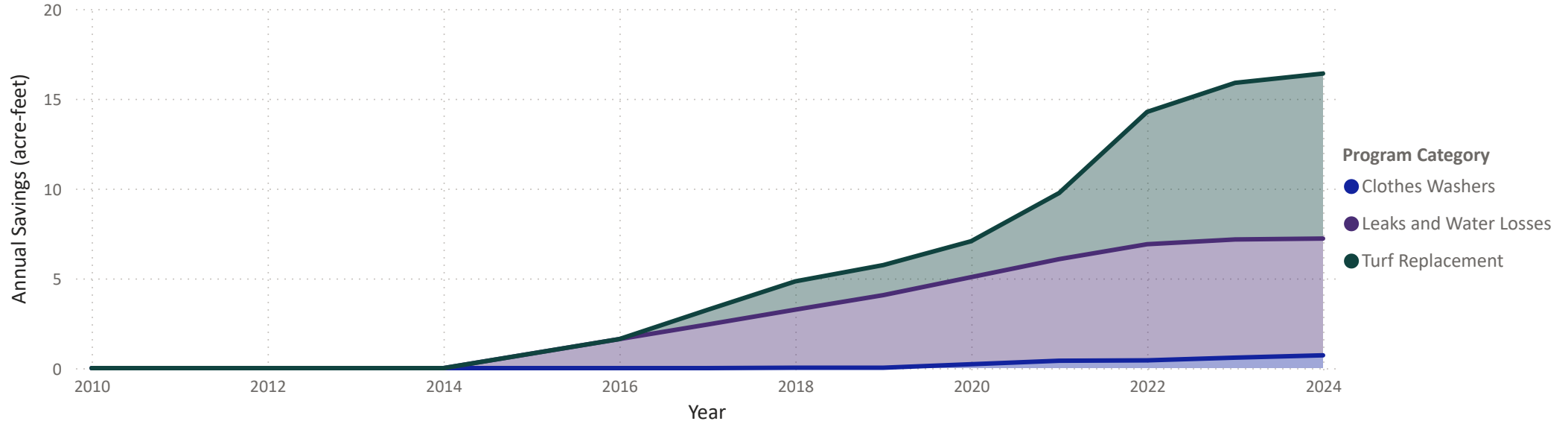
A. Active Conservation Savings by Year and End Use



B. Active Conservation Savings by Year and Sector Group



C. Active Conservation Savings by Year and Program Category



Abbreviations:

CII = commercial, industrial, institutional
 HET = high efficiency toilet

Notes:

(a) See Table 4-4 for program end use, sector, category information and detailed savings by program.
 (b) Programs are summarized by Residential, CII, Irrigation, or Multiple sector groups based on their targeted sectors. Programs that cannot be exclusively assigned to the Residential, CII, Irrigation sector groups are assigned to the Multiple sector group.

5 WATER DEMAND PROJECTIONS

The purpose of this section is to document the basis, methodology, and resulting projected demands for the District through 2050. As described in more detail below, the future water demands for the District were estimated by:

- 1) Applying an estimated growth rate to accounts within each water use sector based on projected population and employment growth rates,
- 2) Evaluating and selecting water demand factors for each water use sector based on a review of recent average per-account water use representing three scenarios,
- 3) Estimating future passive savings using the Alliance for Water Efficiency (AWE) Water Conservation Tracking Tool (AWE model), and
- 4) Calculating estimated future water demand that incorporates the anticipated account growth, water demand factors, and estimated future passive water savings.

This methodology is consistent with CWC § 10631(d)(4)(A), which requires that “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.” The assumptions used as the basis for demand projections were developed in close coordination with the District and reflect a land-use based approach consistent with the District’s community planning.

5.1 Basis for Account Growth Projections

Baseline water demand is estimated by multiplying the number of accounts by the sector-specific demand factors, before applying other adjustment factors. In order to estimate how accounts will grow within the District, recent historical account growth within the District was considered, as well as projected future growth in population and employment. As described below, it was assumed that, depending on the customer sector, the number of accounts would grow at the same rate as the projected population or employment growth.

Table 5-1 identifies the growth projection assumptions applied to each potable water use sector per the District’s direction and identifies the average annual growth rate in accounts observed within the District from 2010 to 2024 to provide context for the growth assumptions. Growth for all sectors is based on the annual population growth estimates provided by the District (VOMWD, 2025b). The District’s annual projected population growth assumes a compound growth rate of 1.46%, resulting in a linear growth rate of 1.75% from 2025 to 2050. These growth rates consider the planned developments that are anticipated to come online during the planning horizon, as discussed in more detail in Section 5.2.

Table 5-2 presents the District’s historical population, which was estimated by multiplying the annual number of active connections by a person per connection value of 3.3, based on direction from District staff (VOMWD, 2025a). Projected population values were provided by the District (VOMWD, 2025b) and the split in population between single-family and multifamily residential is based on the proportional split in the total number of household units.

Table 5-1 Historical and Projected Account Growth Rate by Customer Sector

| Water Use Sector | Basis for Account Growth | Average Annual Growth (a) | |
|------------------|--------------------------|--------------------------------|-------------------------------|
| | | Historical (2015-2024) (b) (c) | Projected Growth Through 2050 |
| Single Family | Population Growth (c) | 0.15% | 1.75% |
| Multifamily | Population Growth (c) | 0.28% | 1.75% |
| Commercial | Population Growth (c) | -0.05% | 1.75% |
| Irrigation | Population Growth (c) | 3.23% | 1.75% |
| Other | Population Growth (c) | -2.88% | 1.75% |

Notes:

- (a) Growth is presented on an average annual basis over the indicated period. When applied to account growth, the specific growth rate between each 5-year period was applied.
- (b) Historical annual growth percentage is based on the historical number of accounts.
- (c) Account growth for all sectors is based on a 1.46% annual compound growth rate for population, provided by the District (VOMWD, 2025b), for a projected growth rate of 1.75% from 2025 to 2050.

Table 5-2 Population and Employment Growth Projections
Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Category | Growth Projections | | | | | | | | | | | Total Growth Rate 2025-2050 | Average Annual Growth Rate 2025-2050 |
|-------------------------------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------------------|---|
| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 | | |
| Population | | | | | | | | | | | | | |
| Historical Population Estimates (a) | 23,077 | 22,912 | 22,895 | 23,258 | 23,107 | -- | -- | -- | -- | -- | -- | -- | -- |
| Population Projections (b) | -- | -- | -- | -- | -- | 23,153 | 24,893 | 26,764 | 28,776 | 30,939 | 33,264 | 44% | 1.75% |
| Single Family Population | -- | -- | -- | -- | -- | 17,836 | 19,176 | 20,618 | 22,167 | 23,833 | 25,625 | 44% | 1.75% |
| Multifamily Population | -- | -- | -- | -- | -- | 5,317 | 5,717 | 6,147 | 6,609 | 7,105 | 7,640 | 44% | 1.75% |

Abbreviations:

-- = not available

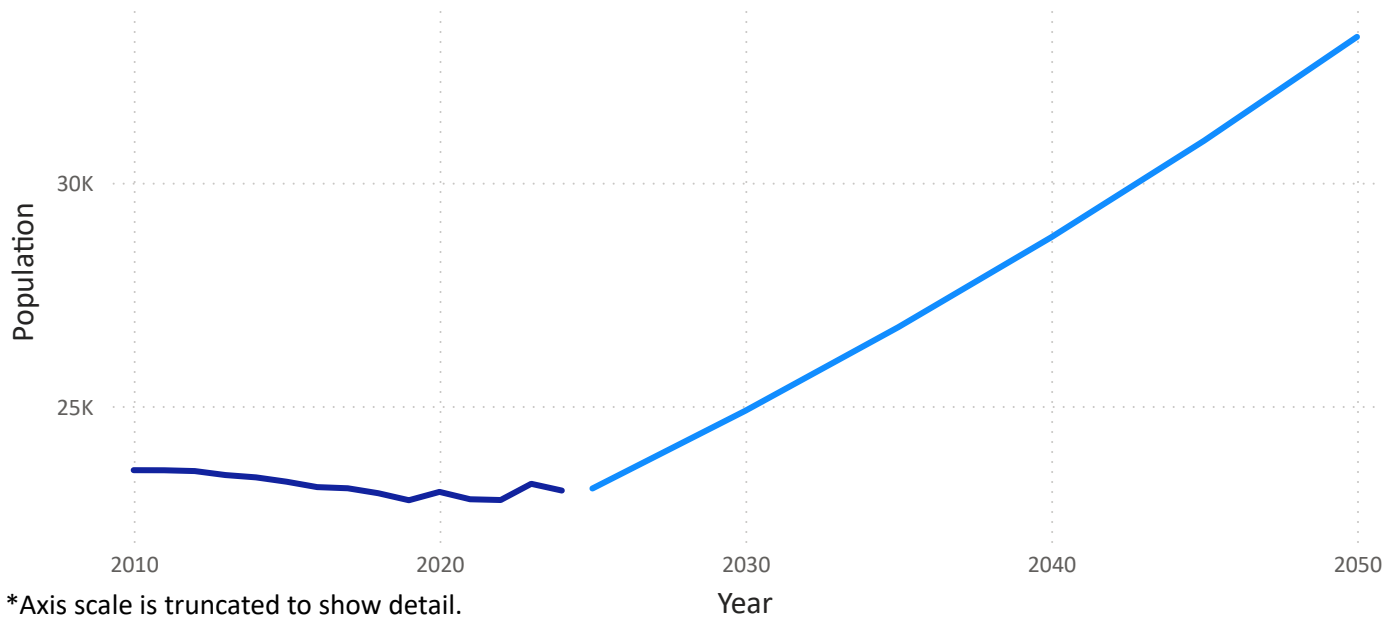
Notes:

- (a) Historical population estimates were estimated by multiplying the annual number of active connections by a person per connection value of 3.3 (VOMWD, 2025a).
- (b) Population projections were provided by the District that reflect a compound growth rate of 1.46% (equivalent to a linear annual growth rate of 1.75%).

Figure 5-1 Population and Employment Projections
Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

Population

Source ● Historical Population ● Projected Population



5.2 Planned Development Within the Service Area

There are no development projects additional to the growth assumptions identified by District staff. If additional growth occurs that is not included within the growth assumptions, a Water Supply Assessment, as required by SB 610, will be performed as needed to understand the water supply availability for that new development.

However, the anticipated population and employment growth within the District does consider the following planned development projects:

- 1.) The 810 West Aqua Caliente Road project: A mixed-use development that includes the construction of a hotel, townhomes, affordable housing units, and a retirement community, anticipated to come fully online by 2030 (EKI, 2024);
- 2.) The Verano Avenue project: A 72-dwelling-unit multifamily residential project, anticipated to come fully online between 2025 and 2030 (VOMWD, 2024); and
- 3.) The Springs Specific Plan: A mixed-use development that includes the construction of single-family, multi-family, and live-work dwelling units, commercial use, hotel use, office use, and recreational area, anticipated to be completed over the next 50 years (Sonoma County, 2022).

5.3 Water Demand Factors

Water use rates are influenced by a variety of factors, including weather, economic recession, and state and local regulations, among other drivers. Given this, selecting a “representative” baseline is important to developing the land-use-based water demand factors to estimate baseline water use by existing customers, which can then be extrapolated and applied to future growth within the District. **Table 5-3** shows the water demand factors used to estimate baseline water demand.

Table 5-3 Selected Water Demand Factors

| Water Use Sector Group | Water Demand Factor | Units | Basis for Demand Factor |
|--------------------------|---------------------|----------------|---------------------------|
| Water Consumption | | | |
| Single Family | 222 | GPD/account | Maximum of 2017-2019 |
| Multi-family | 990 | GPD/account | Maximum of 2017-2019 |
| CII Total (a) | 1,099 | GPD/account | Maximum of 2017-2019 |
| Irrigation | 982 | GPD/account | Partial Rebound from 2024 |
| Other | 554 | GPD/account | Maximum of 2017-2019 |
| Non-Revenue Water | | | |
| Apparent Losses | 2.2 | GPD/connection | FY 2024 Water Loss Audit |
| Real Losses | 9.2 | GPD/connection | FY 2024 Water Loss Audit |
| Unbilled Authorized | 0.21 | GPD/connection | FY 2024 Water Loss Audit |

Table 5-3 Selected Water Demand Factors (Continued)

Abbreviations:

CII = commercial, industrial, institutional
FY = fiscal year
GPD = gallons per day

Note:

(a) Represents the combined demands of all CII sectors with mixed-use meters. The CII sectors are evaluated as a single group, as the same growth rate is applied uniformly across all CII sectors; therefore, it is mathematically equivalent to projecting each sector individually and summing the results. Final projected demands are then allocated back to each CII sector based on their relative proportions within the CII Total group.

5.3.1 Potable Water

Water demand factors based on historical use within the District were used as the basis of future demand projections for potable water accounts. As discussed in Section 3.1, the City’s per-account water use declined over the past 15 years due to improvements in water use efficiency and showed a significant response to key events such as the 2014-2017 drought, the 2021-2023 drought, and the COVID-19 pandemic. Current (2024) water use is generally below historical levels. Potable water demand factors for all sectors except irrigation are developed based on the maximum per-account annual water use by sector for 2017 through 2019, generally representing the lower levels of recent water use but considering some rebound to pre-2020 levels. The potable water demand factor for the irrigation sector is developed based on a partial rebound from 2024, representing the more dramatic rebound for this sector post-2021-2023 drought.

5.3.2 Non-Revenue Water and Water Loss

Non-revenue water is water that has been produced but not billed and thus does not generate revenue for the supplier. To more fully capture total water use within the District, non-revenue water is estimated based on a sum of (1) unbilled authorized uses (such as water for fighting fires and flushing mains), (2) apparent water loss due to metering inaccuracies, and (3) real water loss due to distribution system leaks. Rates of non-revenue water in gpd per service connection are based on the District’s Fiscal Year (FY) 2024 water loss report.

5.4 Passive Water Savings Estimate

Passive water savings are the water savings associated with the natural replacement of older toilets, showerheads, clothes washers, and other water using appliances with newer high efficiency devices that are available due to both market shifts and increasing efficiency mandated by the building code and other regulatory requirements. The AWE model was used to estimate future passive savings within the District (AWE, 2021). These future water savings are a result of (1) plumbing/energy codes interacting with the natural replacement of toilets, showerheads, and other water using appliances whose current or future efficiency is dictated by national, state, or local code requirements, and (2) water savings from water conservation program freeriders. The AWE model calculates efficient plumbing fixture saturation rates and takes into account historical

and projected replacement of plumbing fixtures by utility programs as well as natural replacement.

The AWE model also considers estimates of historical population, residential building stock, number of accounts, and projected population and account growth to estimate future passive savings. The estimated passive savings are presented in **Table 5-4** and are subtracted from the water demand projected based on the water demand factors described in Section 5.3 above.

Table 5-4 Projected Demand and Passive Conservation

| Water Use Sector | Projected Demand (AFY) (a) | | | | | |
|---|----------------------------|--------------|--------------|--------------|--------------|--------------|
| | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| Baseline Potable Water Demand | 2,502 | 2,690 | 2,893 | 3,110 | 3,344 | 3,595 |
| Passive Water Conservation (b) | (20) | (138) | (244) | (345) | (443) | (542) |
| Total Potable Water Demand (c) | 2,483 | 2,553 | 2,648 | 2,765 | 2,901 | 3,054 |
| <p>Abbreviations: AFY = acre-feet per year AWE = Alliance for Water Efficiency</p> <p>Notes: (a) Water demand projections are estimated based on growth in accounts shown in Table 5-1 and the water demand factors identified in Table 5-3. Non-revenue water projections are estimated by water loss factors shown in Table 5-3 and the total growth in number of services from all sectors. (b) Passive water savings are based on the AWE Conservation Tracking Tool. (c) Totals may not sum due to rounding.</p> | | | | | | |

5.5 Projected Water Demand Through 2050

Future potable water demand was projected for each sector based on their respective demand factors, non-revenue water estimated as a proportion of total potable water production, and estimated passive savings, and is shown in **Table 5-4**. Water demand is projected to increase to 3,054 AFY in 2050, which is a 36% increase over 2024 water demand.

Table 5-5 Projected Water Demand by Sector

| Water Use Sector | Projected Demand (AFY) (a) | | | | | |
|---------------------------------|----------------------------|--------------|--------------|--------------|--------------|--------------|
| | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| Single Family Residential | 1,578 | 1,621 | 1,681 | 1,755 | 1,840 | 1,937 |
| Multifamily Residential | 504 | 522 | 545 | 571 | 602 | 636 |
| Commercial | 251 | 249 | 249 | 253 | 258 | 266 |
| Irrigation | 45 | 48 | 52 | 55 | 60 | 64 |
| Other | 13 | 14 | 15 | 16 | 17 | 18 |
| Non-Revenue Water | 93 | 100 | 107 | 115 | 124 | 133 |
| Total Potable Demand (b) | 2,483 | 2,553 | 2,648 | 2,765 | 2,901 | 3,054 |

Abbreviation:

AFY = acre-feet per year

Notes:

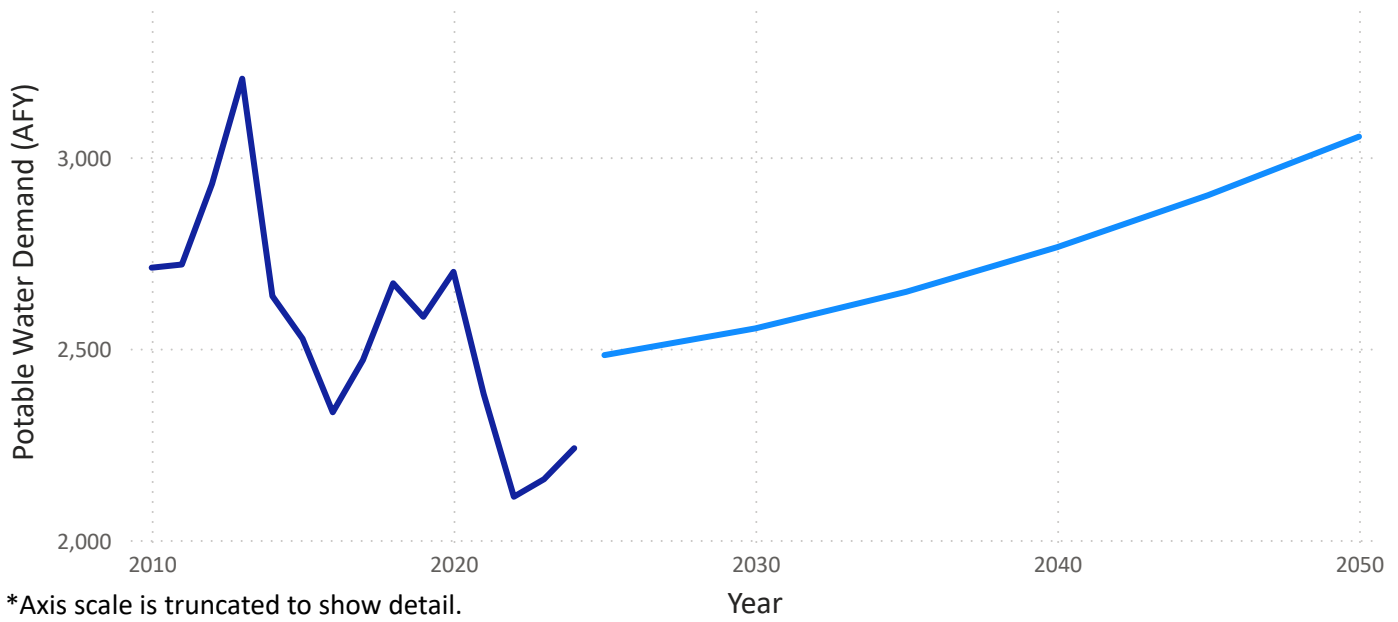
- (a) Water demand projections are estimated based on growth in accounts shown in **Table 5-1** and the water demand factors identified in **Table 5-3**. Non-revenue water projections are estimated by water loss factors shown in **Table 5-3** and the total growth in number of services from all sectors.
- (b) Totals may not sum due to rounding.

Figure 5-2 Water Demand Projections

Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

Potable Water Demand

Source ● Historical Demand ● Projected Demand



*Axis scale is truncated to show detail.

Abbreviations:

AFY = acre-feet per year

5.6 Projected Compliance with UWUOs

To forecast the District's Objective compliance, an analysis was conducted comparing the District's projected water use to its Objectives for 2025, 2030, 2035, and 2040. The projected water demands subjective to the Objectives and the corresponding Objectives are calculated using the following data sources and assumptions:

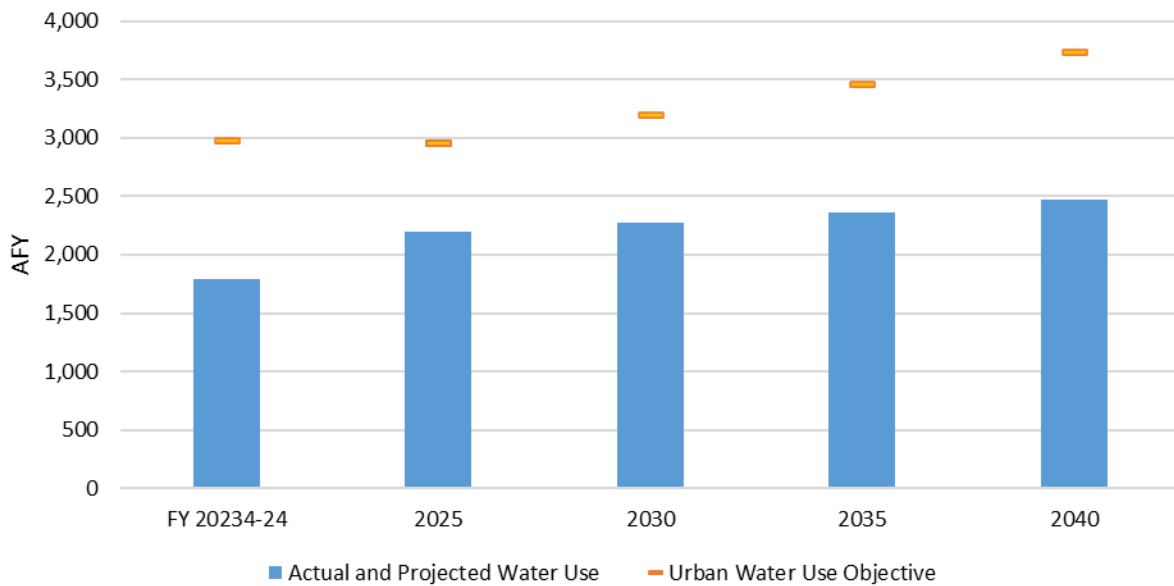
- Projected population, water use components subject to the objectives (e.g., residential water use and dedicated irrigation water use), and real water loss described in Sections 5.1 and 5.5;
- Decreasing Objective water use standards through 2040 as described in Section 2.2.1;
- Excluding agricultural irrigation and geothermal recycled water use from water use and Objectives calculations;
- Residential landscape area based on values reported in the District's fiscal year (FY) 2023-24 UWUO Annual Report and increasing proportional to population projections;
- Existing (2025) CII landscape area on DIMs irrigated with potable water estimated from projected 2025 water use, assuming a LEF of 0.80; and
- Future CII landscape area on DIMs irrigated with potable water, increasing proportionally with District's irrigation accounts.

The results of this analysis show that the District is anticipated to comply with its Objectives through 2040, as shown below in **Table 5-6** and **Figure 5-3**. **Figure 5-4** compares projected values of each Objective component from 2025 through 2040 to examine relative contributions to Objectives compliance. However, agencies are only assessed against the overall Objective (i.e., they are not required to comply with the individual water use standards as long as they meet the overall Objective).

Table 5-6 Actual and Projected Water Use vs. Urban Water Use Objectives

| Year (a) | Actual and Projected Water Use Subject to the Objectives (b) (AFY) | UWUO (AFY) |
|------------|--|------------|
| FY 2023-24 | 1,789 | 2,977 |
| 2025 | 2,200 | 2,953 |
| 2030 | 2,270 | 3,196 |
| 2035 | 2,362 | 3,454 |
| 2040 | 2,473 | 3,729 |

Figure 5-3 Actual and Projected Water Use vs. Urban Water Use Objectives



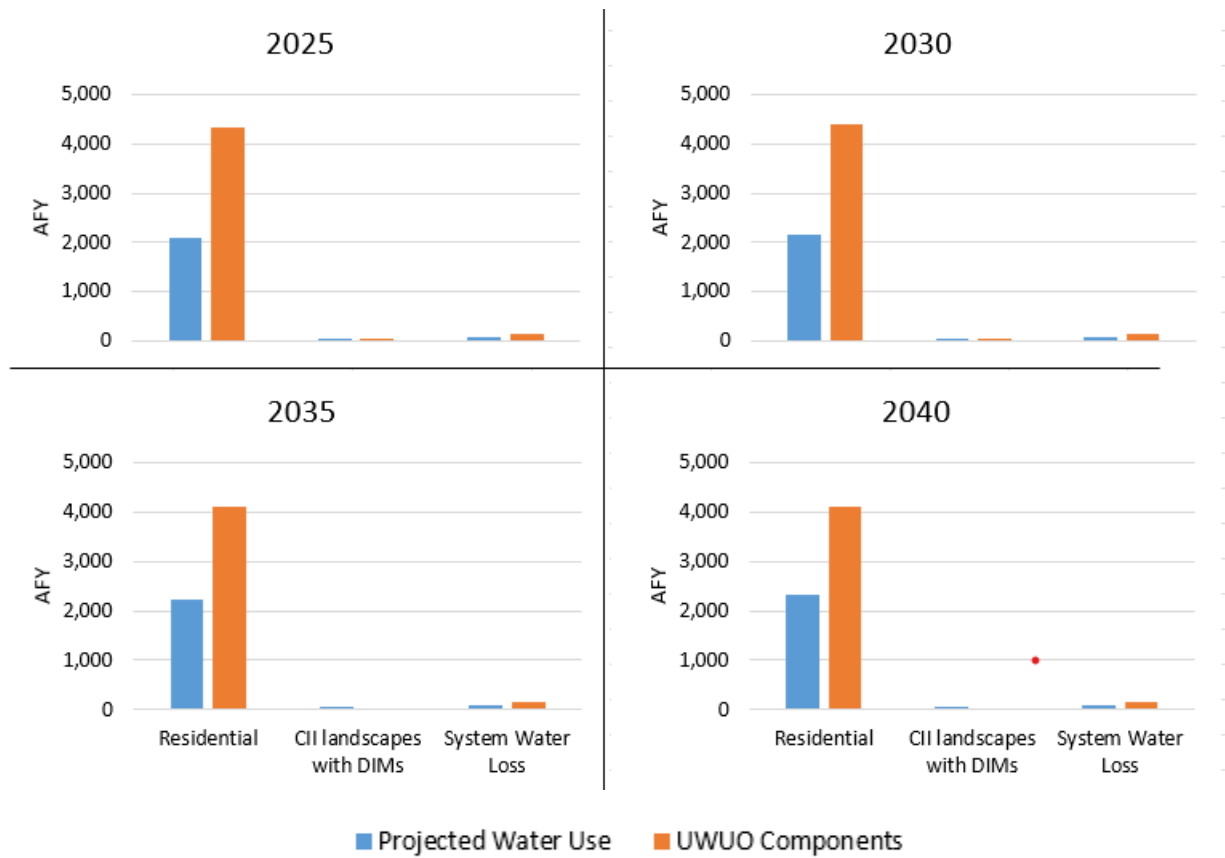
Abbreviations:

- AFY = acre-feet
- FY = fiscal year
- UWUO = Urban Water Use Objective

Notes:

- (a) Calendar years unless otherwise noted.
- (b) Only includes the water use components that are subject to the Objective.

Figure 5-4 Projected Water Use vs. Urban Water Use Objectives by Component



Abbreviations:

- AFY = acre-feet per year
- CII = commercial, industrial, and institutional
- DIM = dedicated irrigation meter
- UWUO = Urban Water Use Objective

Notes:

This figure provides a comparison for each component to examine its relative contributions to Objectives compliance. However, agencies are only assessed against the overall Objective (i.e., they are not required to comply with the individual water use standards as long as they meet the overall Objective).

6 CONSERVATION MEASURES UPDATE

The following section evaluates current and potential conservation programs and measures for both the District and the SMSWP. The purpose of this section is to compile programs and measures that are prioritized by both the District and by all Water Contractors in the SMSWP collectively, and calculate the potential water savings and economic feasibility of the programs. Section 6.1 discusses the methodology used to prioritize conservation programs and measures. Section 6.2 describes the programs and measures given high priority for regional implementation by the nine Water Contractors collectively, and Section 6.3 describes programs and measures given high priority by the District. Next steps will include analyzing the potential water savings and cost-benefit for those programs selected by the District as both individual programs and in select program portfolios. By assessing the feasibility of these programs, the District can make more informed decisions regarding program selection and implementation.

6.1 Methodology for Screening of Potential Water Conservation Measures

A comprehensive ranking list of over 100 conservation programs and measures was developed (Appendix C) to help agencies prioritize future conservation efforts and update the suite of common measures for modeling and future implementation, as required for the 2025 UWMPs. The Water Contractors ranked their priority projects and measures, which will contribute to the broader goals of forecasting demand through 2050, evaluating demand management strategies, and meeting regulatory goals.

The list includes the measures from the prior (2015 and 2020) screenings, minus those that are now obsolete, and new measures and technologies. New measures came from the library of the AWE Conservation Tracking Tool, version 4.0, and other identified measures per literature or implemented by other suppliers, including those that are available to the industry since 2020. The list also included measures currently implemented by the Water Contractors and the priority rankings selected in 2020.

Each of the nine Water Contractors was first asked to review and identify any additional programs to add to the ranking list. Following receipt of feedback from the Water Contractors, each Water Contractor was asked to rank the list and identify:

- Priority (on a scale of one to five, with five being the highest priority) as a program to be implemented regionally through the SMSWP;
- Priority (on a scale of one to five, with five being the highest priority) as a program to be implemented locally through their agency;
- The current implementation status with options of (1) currently administered by their agency, (2) previously administered by their agency, or (3) current regional program through SMSWP.

The list of water conservation measures is organized into four categories, specifically: (1) agency actions and water rates, (2) public outreach and education, (3) device-based and financial incentive programs, and (4) policies and regulations.

6.2 Screening of Conservation Measures for Regional Implementation

The regional results of the water conservation measures prioritization screening are summarized for all Water Contractors combined, representing overall regional priorities and preferences (**Table 6-1**), which shows (1) the average prioritization ranking for all Water Contractors for each program for regional implementation, (2) the percentage of Water Contractors that prefer each program to be implemented at the regional level, and (3) an indication of each measure as a current SMSWP program or not.

Of the 116 measures and programs ranked, the Water Contractors screened these down to 11 high-priority measures that received an average score of three or more and were comprised of two of the four categories, including Public Outreach and Education Based Conservation Programs and Device-Based and Financial Incentive Programs.

6.2.1 Public Outreach and Education-Based Conservation Programs

Of the 14 public outreach and education-based water conservation programs included in the screening, the Water Contractors identified the following eight programs as high priority (average score of three or higher), with a preference for regional implementation through SMSWP:

- 1) Public Outreach through Print & Electronic Media - Focused on Outdoor Irrigation
- 2) School Education Programs
- 3) Promote QWEL Training
- 4) Public Outreach through Print & Electronic Media - Focused on Indoor Conservation
- 5) Educational Workshops
- 6) Garden Tour
- 7) Do-It-Yourself Home Energy and Water Savings Toolkit
- 8) Garden Sense Consultation

These eight programs are already being implemented by SMWSP.

6.2.2 Device and Financial Incentive-Based Conservation Programs

Of the 60 device- and financial incentive-based water conservation programs included in the screening list, the Water Contractors identified the following three programs as high priority (average score of three or higher), with a preference for regional implementation through SMSWP, through pass-through grant funding:

- 9) Landscape Conversion or Turf Removal – SFR
- 10) Landscape Conversion or Turf Removal – MFR and CII
- 11) High Efficiency Clothes Washer Rebate – Residential

Table 6-1 Regional Prioritization of Conservation Measures and Programs
Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | Preference (b) | Sector | Indoor | Outdoor | Primary End Use | Current SMSWP Program |
|---|--------------------|----------------|----------|--------|---------|-----------------|-----------------------|
| PUBLIC OUTREACH AND EDUCATION | | | | | | | |
| Public Outreach through Print & Electronic Media - Focused on Outdoor Irrigation | 4.4 | 100% | All | | X | Irrigation | ✓ |
| School Education Programs | 4.0 | 100% | SFR, MFR | X | X | All | ✓ |
| Promote QWEL Training (Qualified Water efficient Landscaper) | 3.9 | 89% | All | | X | All Outdoor | ✓ |
| Public Outreach through Print & Electronic Media - Focused on Indoor Conservation | 3.7 | 89% | All | X | | All Indoor | ✓ |
| Educational Workshops | 3.3 | 78% | All | | X | All Outdoor | ✓ |
| Garden Tour | 3.2 | 78% | SFR | | X | All Outdoor | ✓ |
| Garden Sense Consultation | 3.1 | 78% | SFR | | X | All Outdoor | ✓ |
| Do-It-Yourself Home Energy and Water Savings Toolkit | 3.2 | 78% | SFR | X | X | All | ✓ |
| DEVICE-BASED AND FINANCIAL INCENTIVE PROGRAMS | | | | | | | |
| Landscape Conversion or Turf Removal - SFR | 3.3 | 67% | SFR | | X | Irrigation | ✗ |
| Landscape Conversion or Turf Removal - MFR and CII | 3.2 | 67% | MFR, CII | | X | Irrigation | ✗ |
| High Efficiency Clothes Washer Rebate - Residential | 3.1 | 67% | SFR, MFR | X | | Clothes Washer | ✗ |

Abbreviations:

AMI = advanced metering infrastructure

CalWEP = California Water Efficiency Partnership

CII = commercial, industrial, institutional

COM = commercial

HEU = High-Efficiency Urinals

IRR = irrigation

MFR = multi-family residential

MWEL = Model Water Efficient Landscape Ordinance

PRV = pressure reducing valve

SFR = single-family residential

SMSWP = Sonoma-Marín Saving Water Partnership

UHET = ultra high efficiency toilet

Notes:

(a) Each Water Contractor was asked to rank each conservation program or measure in terms of priority as a regionally-administered program, where 5 indicated highest priority and 1 indicated the lowest priority. Results are presented as an average of the responses of all nine Water Contractors.

(b) Presents the percentage of Water Contractors who indicated a priority of greater or equal to 3 for regional implementation.

6.2.3 Regional Program Screening Findings

During the May 2025 project workshop, the Water Contractors indicated that the three device- and financial incentive-based programs identified under Section 6.2.2 are already being implemented at the local level and expressed a preference for them to continue to be implemented at a local level. The takeaway from this exercise is that the existing SMWSP public and education-based programs should remain regional programs and that there is currently no preference for new regional programs.

6.3 Screening of Conservation Measures for Local Implementation

The local results of water conservation program prioritization screening were summarized for all Water Contractors individually, representing their local priorities and preferences. Appendix C presents the results for the District and shows (1) the average prioritization ranking for each program for local implementation, (2) the targeted sector, (3) whether the program targets indoor or outdoor savings, (4) the primary end use, and (5) the implementation status as a local program.

6.3.1 Agency Actions and Water Rate Conservation Programs

Two agency action and water rate-based conservation programs were identified for the District as high priority (score of three or higher) for potential future implementation. These are water rate structure-related programs that are currently implemented by the District.

6.3.2 Public Outreach and Education-Based Conservation Programs

None of the public outreach and education-based programs were identified as high priority (average score of three or higher) for potential future implementation.

6.3.3 Device and Financial Incentive-Based Conservation Programs

Twelve device- and financial incentive-based water conservation programs were identified as high priority (average score of three or higher) for potential future implementation, including seven that would target indoor water use and five that would target outdoor water use. The District currently implements seven of these programs, primarily targeting residential bathroom fixtures, high-efficiency clothes washers, and irrigation improvements for single-family residential customers. The five potential new programs identified as high priority are as follows, in general order of priority, with the first three programs (**bolded**) on the list receiving a score of four (no programs were rated a five for this category):

- 1. High Efficiency Faucet Aerator / Showerhead Giveaway - CII Customers**
- 2. Landscape Conversion or Turf Removal - MFR and CII**
- 3. Commercial Landscape Irrigation Improvement Program (CLIIP) Rebates**
4. Efficient Dishwasher Rebates
5. Water Savings Incentive Program for CII

6.3.4 Policy and Regulation-Based Conservation Programs

The District identified one policy and regulation-based program as high priority (average score of three or higher). This program is currently implemented at the local level and targets water waste across all customer sectors.

6.4 Evaluation of Future Water Conservation Programs

Based on the conservation screening process described above, a suite of conservation programs to be considered for future implementation was evaluated. These programs were evaluated both individually and as components in four water conservation program scenarios, as shown in **Table 6-2**. The program scenarios each represent a potential approach or strategy for the District's future conservation programs, specifically:

- **Scenario A** represents the District's existing programs as a baseline,
- **Scenario B** represents programs ranked most highly for local implementation by the District,
- **Scenario C** focuses on programs that target outdoor water savings under Scenario B, and
- **Scenario D** focuses on programs that target water savings in CII customers under Scenario B.

Table 6-2 also identifies the customer sectors each program would target, as well as whether the program focuses on indoor or outdoor water use, or both.

The benefits and costs associated with implementation of these programs were evaluated using the AWE model, using a series of assumptions documented in Appendix B. Key assumptions and considerations related to the methodology used by the AWE model and in this analysis are provided below:

- Water savings assumptions were based on a combination of (1) AWE model default assumptions, (2) water savings factors developed based on other published literature sources, and (3) water savings estimates developed for other Water Contractors.
- Costs to the utility were based on (1) rebate amounts of existing programs, (2) rebate amounts of similar programs implemented by the Water Contractors, or (3) AWE model default assumptions.
- Utility benefit (i.e., avoided cost of water) is assumed to be \$1,458/AF, consistent with the FY 2024-2025 cost of purchasing wholesale water from Sonoma Water.
- Financial assumptions related to customer water rates were provided by the District.
- Financial assumptions related to energy costs to the customer were assumed based on typical PG&E rates (PG&E, 2024).
- Assumed rate of program implementation was based on historical participation levels by District customers in similar programs.

- For purposes of near-term conservation program analysis, it is assumed that all programs are active from 2026 through 2030; water savings beyond this period reflect cumulative savings achieved over time from implementation during this five-year period.
- Lost revenue due to reduced water sales is not included as a cost.
- Additional program-specific considerations are provided as notes in the attached tables.

Table 6-3 presents a combination of individual water conservation measures, and identifies the following information for each program:

- **Net present value of costs and benefits** – represents the present value over the 25-year period, discounted to current 2025 dollars.
- **Benefit to cost ratio** – calculated as present value of costs divided by the present value of benefits.
- **Water utility costs** – costs that the District, as a water utility, will incur to operate the program, including administrative costs.
- **Customer costs** – the costs customers will incur to implement a program in the District’s service area.
- **Utility benefits** – the avoided cost to the District to produce the volume of water saved.
- **Customer benefits** – the savings from reduced water/sewer utility bills and energy savings resulting from reduced use of hot water.
- **Total water utility costs** – includes costs to the District for program implementation from 2026-2030.
- **Water savings in 2030** – one-year estimate of water savings in 2030.
- **Water utility cost of water saved for individual programs** – cost of water saved divided by the lifetime water savings of that program.
- **Water utility cost of water saved for program scenarios** – weighted average of water utility cost of water saved for individual programs by the cumulative savings through 2050.

The analysis estimates active program savings based on the AWE model and does not include additional savings anticipated from passive savings (i.e., water savings associated with the natural replacement of less efficient water-using fixtures and appliances due to both market shifts and increasing efficiency mandated by the building code and other regulatory requirements). Based on this analysis and the assumptions presented in Appendix B, the benefit-cost ratios for the District range from 0.2 to 13.9. A benefit-cost ratio value greater than one indicates that the cost of implementing the program would be cheaper than purchasing supplies from Sonoma Water.

Table 6-4 presents the results of the analysis of the four conservation program scenarios identified in **Table 6-3**, and includes a summary of costs and benefits to the District and customers, estimated cumulative water savings through 2050 (based on assumed program implementation from 2026-2030), and the estimated cost of water saved to the District. Based on this, the District’s preferred water conservation measures for local implementation (i.e.,

Scenario B) have a benefit-to-cost ratio of 4.3 while its existing programs (i.e., Scenario A) have benefit-to-cost ratios of 2.3. In comparison, the benefit-to-cost ratio of outdoor programs (i.e., Scenario C) is 3.5, and CII programs (i.e., Scenario D) is 5.7. The projected cumulative water savings associated with implementation of locally preferred measures (i.e., Scenario B) is 456 AF by 2030 and 885 by 2050, at a cost of approximately \$329/AF. The figure in **Table 6-4** shows active savings in 2030 associated with each scenario, as well as anticipated passive savings.

Table 6-2 Conservation Program Scenarios
Valley of the Moon Water District, Sonoma-Marin Water Saving Partnership

| Program | Sector | Indoor/ Outdoor | Note | Program Scenario (a) | | | |
|--|----------|--------------------|------|----------------------|----------------------------------|------------------------------------|--------------------------------|
| | | | | (A) Baseline | (B) Highly-Ranked Local Programs | (C) Highly-Ranked Outdoor Programs | (D) Highly-Ranked CII Programs |
| AMI Leak Notifications Program | All | Both | | X | X | | |
| HECW Rebate Program | SFR, MFR | Indoor | | X | X | | |
| Cash for Grass / Mulch Madness Program | SFR | Outdoor | | X | X | X | |
| High Efficiency Faucet Aerator / Showerhead Giveaway - Residential Customers | SFR, MFR | Indoor | | X | X | | |
| High Efficiency Faucet Aerator / Showerhead Giveaway - CII Customers | CII | Indoor | | | X | | X |
| High Efficiency Clothes Washer Rebate Program - CII | CII | Indoor | | | X | | X |
| Efficient Dishwasher Rebates | CII | Indoor | | | X | | X |
| Water Savings Incentive Program for CII | CII | Indoor | (b) | | X | | X |
| Landscape Conversion or Turf Removal - MFR and CII | MFR, CII | Outdoor | | | X | X | X |
| Incentivize Irrigation Equipment Upgrades - SFR | SFR | Outdoor | | | X | X | |
| Commercial Landscape Irrigation Improvement Program (CLIIP) Rebates | CII | Outdoor | | | X | X | X |

Abbreviations

CII = Commercial, Industrial, and Institutional
HECW = High-efficiency clothes washer

MFR = Multi-family residential
SFR = Single-family residential

Notes

- (a) The program scenarios represent four potential approaches to program selection. Scenario 1 represents existing programs as a baseline, Scenario 2 represents programs prioritized for local implementation, Scenario 3 focuses on outdoor water savings, and Scenario 4 focuses on CII programs.
- (b) Preferences for various CII devices are combined into a custom incentive program where a rebate is given per unit of water saved.

Table 6-3 Costs and Savings of Potential Conservation Programs
Valley of the Moon Water District, Sonoma-Marin Water Saving Partnership

| Program (a) | Sector | Indoor/ Outdoor | Net Present Value of Benefits | | Net Present Value of Cost | | Benefit-to-Cost Ratio | | Water Utility Costs 2026-2030 (b) | Water Savings in 2030 (AFY) | Water Utility Cost of Water Saved (\$/AF) |
|--|----------|--------------------|-------------------------------|-----------|---------------------------|-----------|-----------------------|-----------|-----------------------------------|-----------------------------|---|
| | | | Water Utility | Customers | Water Utility | Customers | Water Utility | Customers | | | |
| AMI Leak Notifications Program | All | Both | \$43,420 | \$69,320 | \$32,067 | \$176,369 | 1.4 | 0.4 | \$35,010 | 6.5 | \$1,077 |
| HECW Rebate Program | SFR, MFR | Indoor | \$10,653 | \$53,877 | \$1,555 | \$17,943 | 6.9 | 3.0 | \$1,950 | 0.6 | \$200 |
| Cash for Grass / Mulch Madness Program | SFR | Outdoor | \$88,202 | \$140,815 | \$37,004 | \$683,144 | 2.4 | 0.2 | \$44,228 | 7.5 | \$589 |
| High Efficiency Faucet Aerator / Showerhead Giveaway - Residential Customers | SFR, MFR | Indoor | \$26,771 | \$348,498 | \$2,047 | \$0 | 13.1 | - | \$6,496 | 1.6 | \$250 |
| High Efficiency Faucet Aerator / Showerhead Giveaway - CII Customers | CII | Indoor | \$43,374 | \$564,628 | \$3,317 | \$0 | 13.1 | - | \$10,525 | 2.5 | \$250 |
| High Efficiency Clothes Washer Rebate Program - CII | CII | Indoor | \$29,754 | \$150,482 | \$2,134 | \$46,482 | 13.9 | 3.2 | \$2,501 | 3.1 | \$101 |
| Efficient Dishwasher Rebates | CII | Indoor | \$156 | \$2,943 | \$634 | \$13,995 | 0.2 | 0.2 | \$833 | 0.0 | \$5,473 |
| Water Savings Incentive Program for CII | CII | Indoor | \$512,359 | \$817,987 | \$97,299 | \$472,594 | 5.3 | 1.7 | \$141,393 | 22.6 | \$272 |
| Landscape Conversion or Turf Removal - MFR and CII | MFR, CII | Outdoor | \$17,640 | \$28,163 | \$7,401 | \$136,629 | 2.4 | 0.2 | \$8,846 | 1.5 | \$589 |
| Incentivize Irrigation Equipment Upgrades - SFR | SFR | Outdoor | \$68,357 | \$109,132 | \$21,668 | \$8,334 | 3.2 | 13.1 | \$25,898 | 5.8 | \$445 |
| Commercial Landscape Irrigation Improvement Program (CLIP) Rebates | CII | Outdoor | \$95,577 | \$152,589 | \$11,713 | \$5,020 | 8.2 | 30.4 | \$14,000 | 8.1 | \$172 |

Abbreviations

AFY = acre-feet per year
CII = Commercial, Industrial, and Institutional
MFR = Multi-family residential

SFR = Single-family residential
sq ft = square feet
\$/AF = dollars per acre-foot

Notes

- (a) Estimated water savings, benefits, and costs are calculated using the AWE model. Program savings, costs, and implementation rate assumptions used are presented in Appendix B. Utility benefit (i.e., avoided cost of water) is assumed to be the cost of purchasing wholesale water from Sonoma Water. Customer benefit is assumed to be the variable cost of purchasing water from the utility (i.e., variable customer water rates).
- (b) For purposes of near-term conservation program analysis, it is assumed that all programs are active from 2026 through 2030.

Table 6-4 Comparison of Program Scenarios – Costs and Savings
Valley of the Moon Water District, Sonoma-Marín Water Saving Partnership

| Scenario (a) | Present Value of Benefits | | Present Value of Cost | | Benefit-to-Cost Ratio | | Water Savings in 2030 (AFY) | Cumulative Active Water Savings (AF) | | | | | Water Utility Cost of Water Saved (\$/AF) (b) |
|------------------------------------|---------------------------|--------------|-----------------------|--------------|-----------------------|-----------|-----------------------------|--------------------------------------|------|------|------|------|---|
| | Water Utility | Customers | Water Utility | Customers | Water Utility | Customers | | 2025 | 2030 | 2035 | 2040 | 2045 | |
| (A) Baseline | \$ 169,046 | \$ 612,510 | \$ 72,673 | \$ 877,456 | 2.3 | 0.7 | 16 | 62 | 109 | 131 | 139 | 143 | \$611 |
| (B) Highly-Ranked Local Programs | \$ 936,262 | \$ 2,438,435 | \$ 216,838 | \$ 1,560,509 | 4.3 | 1.6 | 60 | 193 | 456 | 608 | 761 | 885 | \$329 |
| (C) Highly-Ranked Outdoor Programs | \$ 269,776 | \$ 430,700 | \$ 77,785 | \$ 833,126 | 3.5 | 0.5 | 23 | 69 | 184 | 230 | 230 | 230 | \$404 |
| (D) Highly-Ranked CII Programs | \$ 698,860 | \$ 1,716,793 | \$ 122,498 | \$ 674,720 | 5.7 | 2.5 | 38 | 114 | 300 | 419 | 564 | 684 | \$260 |

Abbreviations

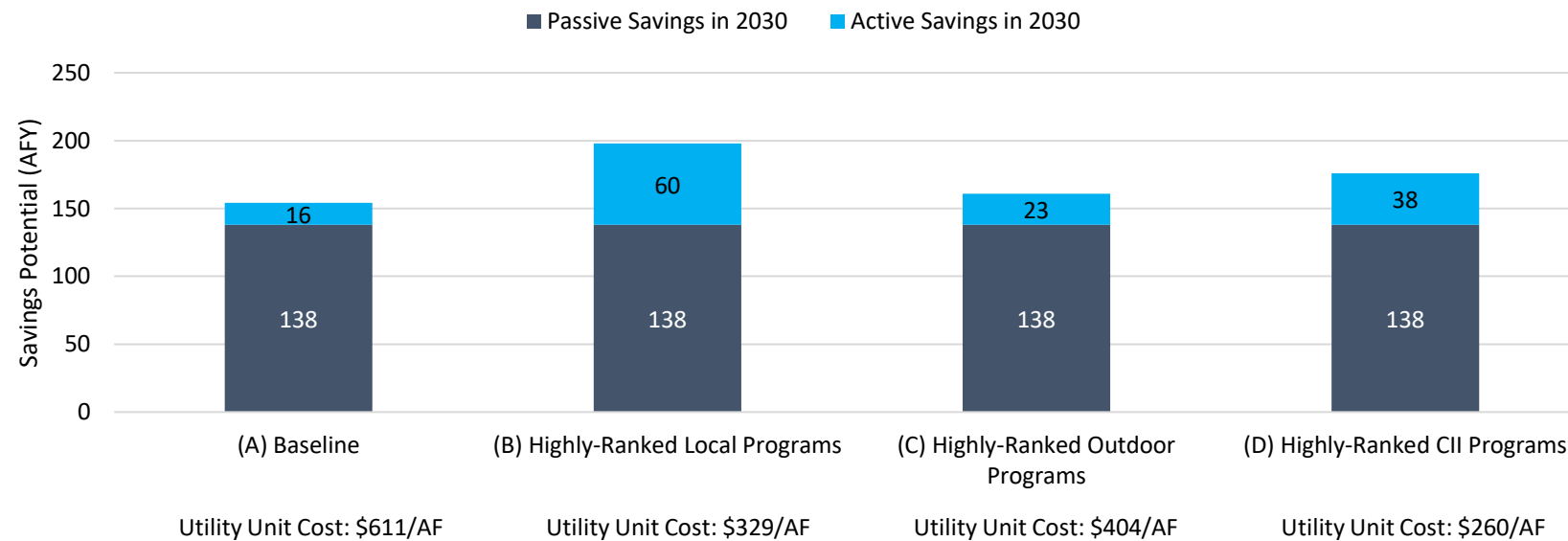
AF = acre-feet

\$/AF = dollars per acre-foot

Notes

- (a) For purposes of near-term conservation program analysis, it is assumed that all programs are active from 2026 through 2030. Cumulative water savings achieved beyond 2030 reflect the ongoing benefit of program implementation.
- (b) The water utility cost is based on the cumulative savings achieved through 2050 cumulative water savings.

Comparison of Program Scenarios - Savings in 2030



7 CONCLUSIONS

Although there have been no updates to the UWMP regulations since 2020, the MCCWL framework and related regulations will influence the 2025 UWMPs, as they will inform the water demand and conservation planning components. This project forecasted water demand through 2050 in accordance with CWC requirements and evaluated both historical and anticipated implementation of conservation programs.

7.1 Historical, Current, and Projected Water Demand

Water demand projections are developed consistent with CWC § 10631(d)(4)(A), which requires that “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.” The assumptions used as the bases for demand projections were developed in close coordination with the District and reflect a land-use based approach consistent with the District’s understanding of growth and planned development within its service area. It should be noted that all demand and conservation projections have limitations and should be considered estimates that require revisiting as factors that affect demand arise, such as economic or population shifts, extreme hydrological conditions, etc.

The methodology used to develop demand projections herein is also consistent with the CWC §10635(b)(4), requirement to consider climate change on projected demands.⁶ The District’s per account water use declined significantly over the past 15 years as a result of the District’s conservation efforts and showed significant response to key events such as the 2014-2017 drought, the 2021-2023 drought, and the COVID-19 pandemic. The demand factors evaluated herein are based on water use during the 2017-2019 period, which assumes a rebound in demand following the recent drought, and represents a higher level of demand compared to current levels. Thus, the periods used to develop the demand projections reflect conditions representative of the hotter, drier weather expected as a result of climate change.

Although MCCWL Objective water use standards are expected to become more stringent over time, the District is projected to remain in compliance with its Objectives through 2040 based on forecasted population and baseline water use, prior to accounting for active conservation savings.

7.2 Conservation Measures Participation, Savings, and Update

Participation data indicate that the District’s conservation programs are successful in achieving water savings between 2010 and 2024. Most programs have had a lower adoption rate over the recent five years compared to historical rates, with higher popularity observed during drought periods.

⁶ CWC §10635(b)(4) requires that suppliers consider plausible changes on projected supplies and demands under climate change conditions specific to their five-year drought risk assessments. Section 4.5 of the draft 2020 UWMP Guidebook more generally recommends that consideration of climate change be incorporated into all demand projections.

A benefit-cost analysis of future program scenarios shows that all options yield a benefit-to-cost ratio greater than one, meaning program implementation is more cost-effective than purchasing additional water supplies from Sonoma Water. The preferred program portfolio achieves an estimated benefit-to-cost ratio of 4.3, while the existing program portfolio has a benefit-to-cost ratio of 2.3.

8 REFERENCES

- AWE, 2021. "Water Conservation Tracking Tool - Version 4.0." Alliance for Water Efficiency (AWE), 2021. <https://www.allianceforwaterefficiency.org/resources/tools/water-conservation-tracking-tool>.
- EKI, 2021. *2020 Urban Water Management Plan for Valley of the Moon Water District*. EKI Environment & Water, Inc. (EKI), June 2021.
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- PG&E, 2024. Pacific Gas and Electric (PG&E) Electric Rate Advisory, effective 1 March 2024. Pacific Gas and Electric, 2024.
- Sonoma County, 2022. Draft Environmental Impact Report for the Springs Specific Plan, dated May 2022.
- U.S. Bureau of Labor Statistics, 2024. Consumer Price Index: 2024 in Review, dated 24 January 2024, <https://www.bls.gov/opub/ted/2025/consumer-price-index-2024-in-review.htm>, accessed 19 November 2025.
- VOMWD, 2024. Information provided by the Valley of the Moon Water District (VOMWD) on 30 September 2024.
- VOMWD, 2025a. Information provided by the Valley of the Moon Water District (VOMWD) on 14 February 2025.
- VOMWD, 2025b. Projected population growth information provided by the Valley of the Moon Water District (VOMWD) on 26 September 2025.

APPENDIX A

Methodology for Estimating Indoor and Outdoor Water Use

Methodology for Estimating Indoor and Outdoor Water Use

This appendix documents the methodology used in Section 3.3 of the *2025 Water Demand and Conservation Measure Update* for the nine participating members of the Sonoma-Marín Saving Water Partnership (Water Contractors) prepared by EKI Environment & Water (EKI).

For customer accounts without dedicated irrigation meters, the amount of water used indoors versus outdoors is not directly measured and must be estimated. Traditionally, indoor and outdoor water use has been estimated using the “minimum winter month” method, which assumes that water use during the lowest-demand winter month is entirely attributable to indoor consumption. However, winter irrigation is common in California and this assumption tends to overestimate indoor water use.

EKI has developed the method below to estimate water use for meters with mixed indoor and outdoor water use (i.e. mixed-use meters, or MUMs) using an annual irrigation scaling factor developed based on data collected from dedicated irrigation meters. This method is consistent with the “Seasonal Adjustment Method” utilized in the Department of Water Resources’ residential indoor water use study to inform water use efficiency standards as part of the *Making Conservation a California Way of Life* Legislation (DWR, 2021).

1 DATA SOURCES

The analysis is based on potable water consumption data covering calendar year 2024. While multi-year water consumption data are available, indoor and outdoor use estimates were derived from the most recent complete calendar year (2024) to reflect current usage and seasonal patterns.

The dataset was parsed for the analysis herein and includes the following fields:

- **Year and Month** – Derived from service period or billing date.
- **Sector Group** – Consolidated customer sectors, including Single Family, Multi-family, Commercial/Industrial/Institutional (CII Total), and Irrigation.
- **Consumption** – Monthly water use converted to acre-feet.
- **Water Type** – Only potable water use was included in the analysis.

Potable irrigation accounts were used to infer the seasonal profile of outdoor water use. Estimates of indoor and outdoor use were produced for sector groups where both types of use are present (e.g., Single Family, Multi-family, CII Total).

2 METHODOLOGY

This section describes the method used to estimate the indoor and outdoor components of total annual water use for each sector group.

2.1 Step 1: Identify Analysis Year

The most recent year with complete monthly data (2024) was selected to represent current conditions and ensure seasonal variation is captured accurately.

2.2 Step 2: Calculate Seasonal Scaling Factor

Potable dedicated irrigation meters (DIMs) were assumed to represent purely outdoor water use. Monthly water use in the most recent year (2024) was aggregated for all irrigation accounts (i.e. accounts on DIMs), and a seasonal scaling factor (SF) was calculated as:

$$\text{Scaling Factor (SF)} = \frac{\text{Max (monthly use)}}{\text{Min (monthly use)}}$$

This metric reflects the ratio between peak summer irrigation and baseline winter irrigation, which is assumed to persist year-round at a reduced level. The metric also reflects the local conditions and climatic conditions during 2024. As shown on Figure 2-1, the variations in monthly water use from DIMs generally follow a consistent pattern: highest water use in the summer months and early fall (July through September), lowest water use in the winter month and early spring (January through March).

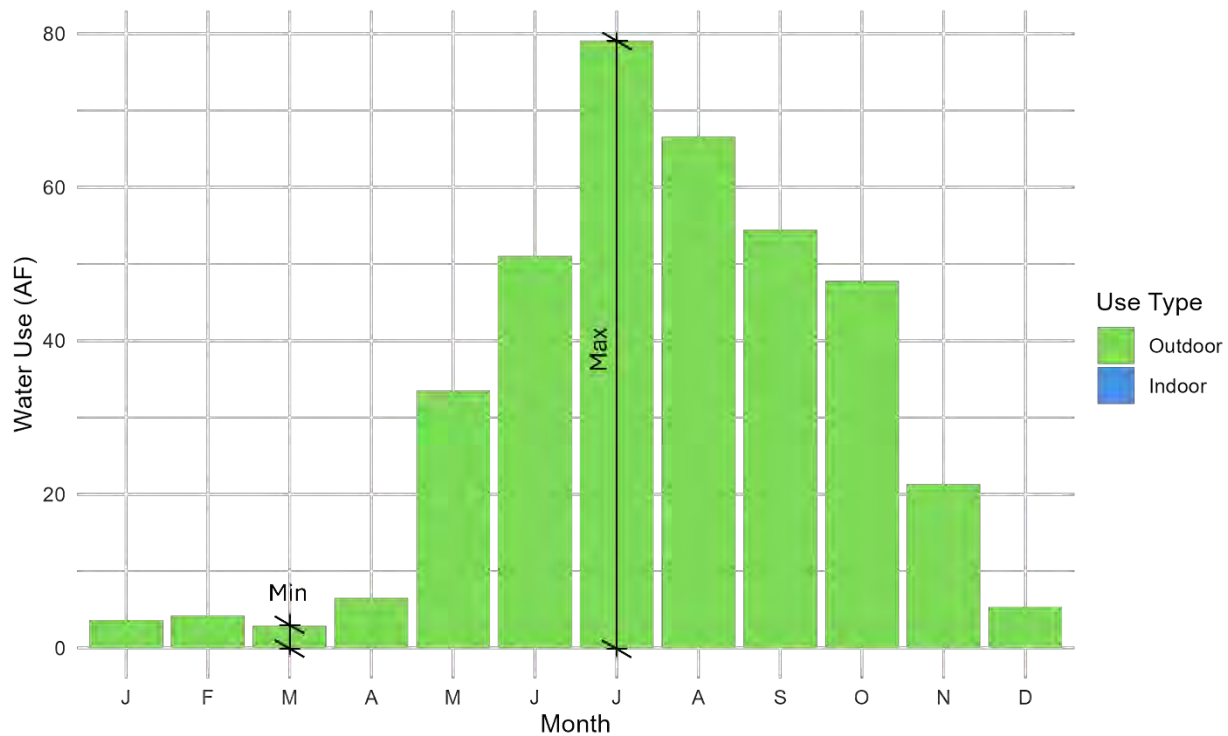


Figure 2-1 Example Irrigation Outdoor Use by DIMs Used to Calculate Scaling Factor

2.3 Step 3: Filter Target Sector Groups

The analysis focuses on three sector groups on MUMs expected to include both indoor and outdoor use:

- Single Family
- Multi-family
- CII Total

Only potable water demand from MUMs is considered.

2.4 Step 4: Extract Seasonal and Annual Demand

Monthly potable water demand by MUMs was aggregated by sector group. The representative low-irrigation month (winter) is selected by finding the minimum water use across the months of January, February, and March. Similarly, the high-irrigation month (summer) is selected by finding the maximum

water use from the months of July, August, and September. Total annual demand was also computed for each sector group.

2.5 Step 5: Estimate Indoor and Outdoor Use

The SF calculated under Step 2 are used to estimate the proportion of water used for irrigation purposes by MUMs. This method assumes that indoor water use is generally consistent over the course of the year and that customers within the Water Contractor’s service area experience similar irrigation patterns. This assumption tends to hold more strongly for residential customers. However, for CII customers, although some use water through MUMs for outdoor irrigation, they may also have seasonally variable indoor demands, such as cooling towers. As a result, this method may underestimate indoor use and overestimate outdoor use in service areas with significant CII cooling demands.

Figure 2-2 illustrates the annual water use pattern and the components of the equations below used to derive estimated indoor and outdoor water use for sectors with MUMs.

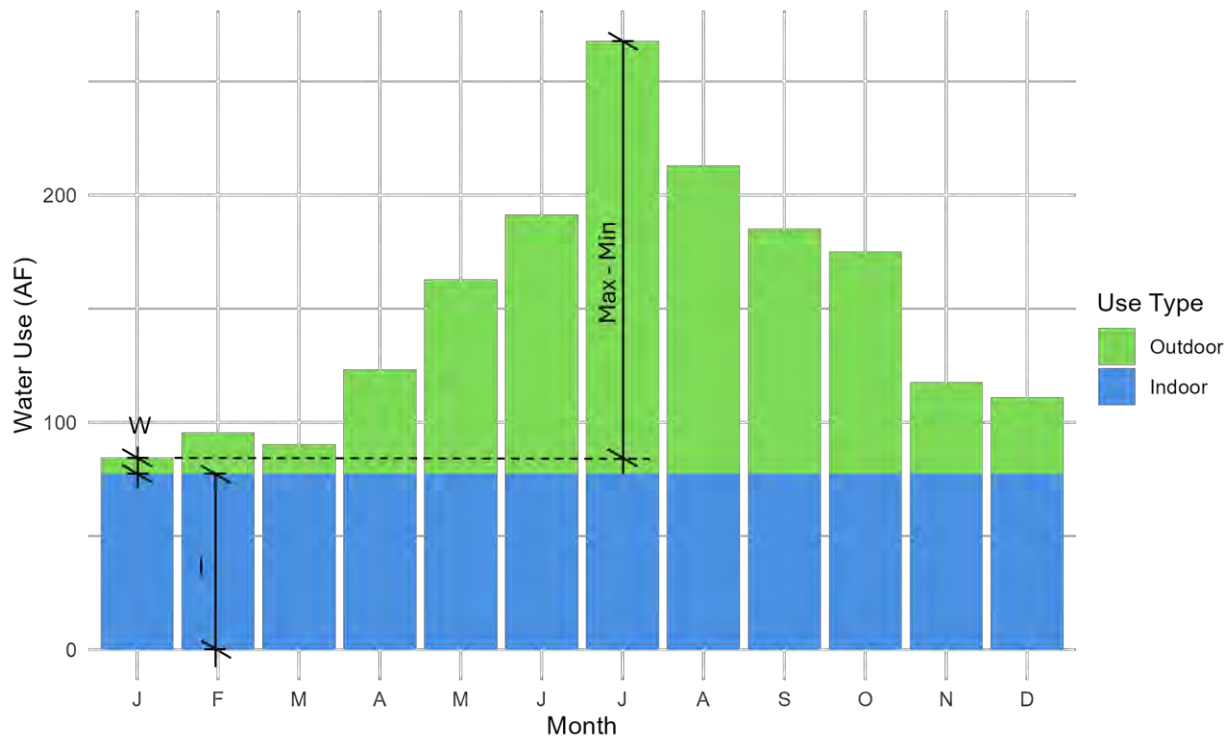


Figure 2-2 Indoor and Outdoor Separation Methodology for Water Use on MUMs

Indoor use was estimated as the month with the least water use in January, February, or March, adjusted to remove residual winter irrigation using the SF.

Winter irrigation is estimated as:

$$\begin{aligned}
 SF &= \frac{W + (Max - Min)}{W} \\
 &= 1 + \frac{Max - Min}{W} \\
 \Rightarrow W &= \frac{Max - Min}{SF - 1}
 \end{aligned}$$

Where:

- W = Outdoor winter irrigation during the lowest water use month
- Max = Max monthly use in one of July, August, or September
- Min = Min monthly use in January, February, or March
- SF = Scaling factor

Indoor monthly use is then:

$$I = \text{Min} - W$$

Indoor annual use is computed as:

$$I \times 12$$

Outdoor annual use is then the residual between total annual use and indoor annual use:

$$\text{Outdoor Annual Use} = \text{Total Annual Use} - \text{Indoor Annual Use}$$

3 ASSUMPTIONS AND LIMITATIONS

- DIMs reflect purely outdoor use, with consistent year-round patterns across groups.
- Low point of outdoor irrigation happens in one of January, February, or March; similarly peak summer irrigation happens in one of July, August, or September.
- Indoor water use is assumed to be consistent throughout the year.
- Customers within each sector group are assumed to exhibit similar usage patterns.
- The scaling factor derived from DIMs is representative of outdoor demand across all MUMs, which is a stronger assumption for residential customers but less so for CII customers due to seasonal cooling demands.

4 REFERENCES

DWR, 2021. *Recommendations for urban water use efficiency standards, variances, performance measures, and annual water use reporting* (Report No. WUES-DWR-2021-01A). California Department of Water Resources. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation/Performance-Measures/UWUE_STD_VAR_PM_REPORT_WUES-DWR-2021-01A_COMPLETE.pdf

APPENDIX B

Conservation Program Savings Assumptions

Table B-1 Conservation Program Savings Assumptions

Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Agency Program Name | Units | Savings Assumption (gpd/unit) | Life of Savings (Years) | Decay Rate (%/Yr) | Free Riders (% activity) | Source(s) |
|--|-------------|-------------------------------|-------------------------|-------------------|--------------------------|--|
| AMI Leak Notifications Program (SFR) | AMI Meter | 0.7 | 1 | 0% | 0% | AWE Tool Conservation Program Library. |
| AMI Leak Notifications Program (MFR, CII, IRR) | AMI Meter | 2.0 | 1 | 0% | 0% | AWE Tool Conservation Program Library. |
| HECW Rebate Program | Washer | 19 | 15 | 0% | 0% | AWE Tool Conservation Program Library. |
| Cash for Grass/ Mulch Madness Program | Square Feet | 0.1 | 10 | 0% | 0% | AWE Tool Conservation Program Library. |
| High Efficiency Faucet Aerator / Showerhead Giveaway - Residential Customers | Showerhead | 2.4 | 10 | 0% | 0% | AWE Tool Conservation Program Library. |
| High Efficiency Faucet Aerator / Showerhead Giveaway - CII Customers | Showerhead | 2.4 | 10 | 0% | 0% | AWE Tool Conservation Program Library. |
| High Efficiency Clothes Washer Rebate Program - CII | Washer | 116 | 8 | 0% | 0% | AWE Tool Conservation Program Library. |
| Efficient Dishwasher Rebates | Dishwasher | 1.1 | 20 | 0% | 0% | AWE Tool Conservation Program Library. |
| Water Savings Incentive Program for CII | gpd | 1.0 | 25 | 0% | 0% | Inputs based on per gpd reduced |
| Landscape Conversion or Turf Removal - MFR and CII | Square Feet | 0.1 | 10 | 0% | 0% | AWE Tool Conservation Program Library. |
| Incentivize Irrigation Equipment Upgrades - SFR | Site | 26.1 | 10 | 0% | 0% | AWE Tool Conservation Program Library for Smart Irrigation Controller Rebate |
| Commerical Landscape Irrigation Improvement Program (CLIIP) Rebates | Site | 727 | 10 | 0% | 0% | AWE Tool Conservation Program Library for Smart Irrigation Controller Rebate |

Abbreviations

AMI = advanced metering infrastructure

AWE = Alliance for Water Efficiency Water Conservation Tracking Tool

CII = Commercial, Industrial, and Institutional

gpd = gallons per day

HECW = high-efficiency clothes washer

MFR = multi-family residential

SFR = single-family residential

References

1. AWE, 2021. Water Conservation Tracking Tool. Version 4.0. Alliance for Water Efficiency, 2021.

Table B-2 Conservation Program Cost Assumptions

Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Agency Program Name | Units | Utility Cost per Unit (a) | Customer Cost per Unit | Source(s) |
|--|-------------|---------------------------|------------------------|--|
| AMI Leak Notifications Program (SFR) | AMI Meter | \$1 | \$5.5 | Utility cost from AWE Tool Conservation Program Library. Customer costs based on Note (b). |
| AMI Leak Notifications Program (MFR, CII, IRR) | AMI Meter | \$1 | \$5.5 | Similar to SFR AMI Leak Notifications Program. |
| HECW Rebate Program | Washer | \$65 | \$750 | Utility cost based on District's rebate amount. Customer cost based on cost of a low-end ENERGY STAR residential washer model. |
| Cash for Grass / Mulch Madness Program | Square Feet | \$0.7 | \$12 | Utility cost based on District's rebate amount. Customer cost from Marin Municipal Water District's SWSA modeling. |
| High Efficiency Faucet Aerator / Showerhead Giveaway - Residential Customers | Showerhead | \$10 | \$0 | Utility cost from AWE Tool Conservation Program Library. Assumes no customer cost. |
| High Efficiency Faucet Aerator / Showerhead Giveaway - CII Customers | Showerhead | \$10 | \$0 | Utility cost from AWE Tool Conservation Program Library. Assumes no customer cost. |
| High Efficiency Clothes Washer Rebate Program - CII | Washer | \$105 | \$2,294 | Utility cost based on the on the average Sonoma–Marín High-Efficiency Clothes Washer rebate amount. Customer cost is estimated using the price of a low-end commercial high-efficiency washer. |
| Efficient Dishwasher Rebates | Dishwasher | \$130 | \$2,870 | Utility cost assumes a rebate amount of \$100. Customer cost is estimated using the price of a low-end commercial high-efficiency dishwasher. |
| Water Savings Incentive Program for CII | GPD Reduced | \$7 | \$34 | (c) |
| Landscape Conversion or Turf Removal - MFR and CII | Square Feet | \$0.7 | \$12 | Utility cost based on District's rebate amount. Customer cost from Marin Municipal Water District's SWSA modeling. |
| Residential WBIC Rebates Program | Site | \$130 | \$50 | Utility cost based on AWE Tool Conservation Program Library adjusted to 2025 dollars. Assumes a total cost of \$150 for a single family controller. |
| Commerical Landscape Irrigation Improvement Program (CLIIP) Rebates | Site | \$1,400 | \$600 | Utility cost based on AWE Tool Conservation Program Library adjusted to 2025 dollars. Customer cost based on cost of a mid-range Smart Irrigation Controller. |

Table B-2 Conservation Program Cost Assumptions

Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

Abbreviations

AMI = advanced metering infrastructure

AWE = Alliance for Water Efficiency Water Conservation Tracking Tool

CII = commercial, industrial, institutional

gpd = gallons per day

HECW = high-efficiency clothes washer

MFR = multi-family residential

SFR = single-family residential

WBIC = weather-based irrigation controller

Notes

(a) Utility cost for rebate programs includes a 30% administrative cost in addition to the District's rebate amount.

(b) An average household leak is estimated to be 180 gallons per week, per Reference 3. It is assumed that fixing such leak costs \$200, averaged across the entire customer base with AMI.

(c) Utility cost for each gpd reduced calculated from the average of Santa Rosa's Sustained Reduction program and Marin Municipal's Custom Rebate program. Customer cost assumed to be five times the District's rebate amount.

References

1. AWE, 2021. Water Conservation Tracking Tool. Version 4.0. Alliance for Water Efficiency, 2021.

Table B-3 Conservation Program Implementation Rate Assumptions

Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Agency Program Name | Units | Implementation Rate | Unit | Source(s) |
|--|-------------|---------------------|--------------------|---|
| HECW Rebate Program | Washer | 6 | Washer / Year | Based on past program participation rates from 2020–2024. |
| Cash for Grass / Mulch Madness Program | Square Feet | 13,609 | Square Feet / Year | Based on past program participation rates from 2020–2024. |
| AMI Leak Notifications Program (SFR) | AMI Meter | 6,308 | AMI Meter / Year | Based on total number of meters. |
| AMI Leak Notifications Program (MFR, CII, IRR) | AMI Meter | 694 | AMI Meter / Year | Based on total number of meters. |
| High Efficiency Faucet Aerator / Showerhead Giveaway - Residential Customers | Showerhead | 130 | Showerhead / Year | Assume 1% of SFR customers will participate. Assumes two showerheads per account. |
| High Efficiency Faucet Aerator / Showerhead Giveaway - CII Customers | Showerhead | 211 | Showerhead / Year | Assume 1% of commercial customers will participate. Assumes 10 showerheads per account. |
| High Efficiency Clothes Washer Rebate Program - CII | Washer | 4.8 | Washer / Year | Assume 1% of MFR customers will participate. |
| Efficient Dishwasher Rebates | Dishwasher | 1.3 | Dishwasher / Year | Assume 0.6% of commercial customers will participate. |
| Water Savings Incentive Program for CII | GPD Reduced | 4,040 | GPD Reduced / Year | Based on 2010-2024 program participation from the City of Santa Rosa. |
| Landscape Conversion or Turf Removal - MFR and CII | Square Feet | 2,722 | Square Feet / Year | Assumes 20% of the 2020–2024 square footage replaced for SFR customers. |
| Residential WBIC Rebates Program | Site | 40 | Site / Year | Assume 0.6% of SFR customers will participate. |
| Commercial Landscape Irrigation Improvement Program (CLIIP) Rebates | Site | 2 | Site / Year | Assume 5% of irrigation customers will participate. |

Abbreviations

AMI = advanced metering infrastructure
 AWE = Alliance for Water Efficiency Water Conservation Tracking Tool
 CII = Commercial, Industrial, and Institutional
 gpd = gallons per day

HECW = high-efficiency clothes washer
 MFR = multi-family residential
 SFR = single-family residential
 WBIC = weather-based irrigation controller

APPENDIX C

Prioritization and Screening of Future Water Conservation Measures

Table C-1 Regional Prioritization of Conservation Measures and Programs
Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | | Preference (b) | | Current SMSWP Program |
|---|--------------------|-------|----------------|-------|-----------------------|
| | Regional | Local | Regional | Local | |
| AGENCY ACTIONS AND WATER RATES | | | | | |
| Increase Enforcement of Customer Pressure Reducing Valve (PRV) Requirement | 1.5 | 1.6 | 25% | 25% | ✗ |
| Increase Enforcement of Indoor Fixture Retrofit at Time of Sale | 1.7 | 2.4 | 33% | 56% | ✗ |
| Increase Enforcement of State Water Waste Regulations | 2.0 | 2.6 | 38% | 63% | ✗ |
| Rate Structure Evaluation | 2.0 | 2.0 | 25% | 50% | ✗ |
| Regional UHET and/or Urinal Bulk Purchase Program | 1.3 | 1. | 11% | 0% | ✗ |
| Water Budgeting/Monitoring for Large Landscape Accounts | 1.8 | 2.9 | 33% | 67% | ✗ |
| Establish Separate Pricing Structure for Irrigation Accounts | 1.4 | 2.7 | 13% | 50% | ✗ |
| Implementation or Modification of Tiered Water Rates (Conservation Pricing) | 2.4 | 3.3 | 38% | 75% | ✗ |
| Water Budget Based Billing for All Customers | 1.3 | 1.9 | 11% | 33% | ✗ |
| Water Budget Based Billing for Only Irrigation Customers | 1.7 | 2.9 | 22% | 56% | ✗ |
| Install AMI for Existing Accounts | 2.6 | 4.3 | 25% | 88% | ✗ |
| Install AMI for High Water Users and Large Landscape Accounts | 2.8 | 4.4 | 50% | 88% | ✗ |
| Install AMI in New Development | 2.4 | 4.3 | 38% | 88% | ✗ |
| End Point Leak Detection and Flow Monitoring | 2.1 | 3.0 | 25% | 50% | ✗ |
| CalWEP District Distribution Program | 1.8 | 2.3 | 33% | 33% | ✗ |
| Behavior Based Customer Messaging Platforms | 1.9 | 2.9 | 25% | 63% | ✗ |
| Average by Program Type | 1.9 | 2.8 | | | |
| PUBLIC OUTREACH AND EDUCATION | | | | | |
| Water Use Surveys/Audits - CII | 2.3 | 2.9 | 44% | 56% | ✓ |
| Water Use Surveys/Audits - MFR | 2.7 | 3.1 | 67% | 67% | ✓ |
| Water Use Surveys/Audits - SFR | 2.6 | 3.0 | 67% | 67% | ✗ |
| Garden Sense Consultation | 3.1 | 2.3 | 78% | 56% | ✓ |
| Educational Workshops | 3.3 | 2.7 | 78% | 56% | ✓ |

Table C-1 Regional Prioritization of Conservation Measures and Programs
Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | | Preference (b) | | Current SMSWP Program |
|---|--------------------|-------|----------------|-------|-----------------------|
| | Regional | Local | Regional | Local | |
| Garden Tour | 3.2 | 1.6 | 78% | 11% | ✓ |
| SFR Home Water Report | 2.0 | 2.8 | 44% | 67% | ✗ |
| Promote Green Building and Certification | 2.4 | 1.3 | 56% | 11% | ✗ |
| Provide Support with Smart Irrigation Controller Setup | 2.7 | 2.6 | 67% | 56% | ✗ |
| Public Outreach through Print & Electronic Media - Focused on Indoor Conservation | 3.7 | 3.4 | 89% | 89% | ✓ |
| Public Outreach through Print & Electronic Media - Focused on Outdoor Irrigation | 4.4 | 4.1 | 100% | 89% | ✓ |
| Promote QWEL Training (Qualified Water efficient Landscaper) | 3.9 | 2.6 | 89% | 33% | ✓ |
| School Education Programs | 4.0 | 2.6 | 100% | 67% | ✓ |
| Do-It-Yourself Home Energy and Water Savings Toolkit | 3.2 | 2.2 | 78% | 44% | ✓ |
| Average by Program Type | 3.1 | 2.7 | | | |
| DEVICE-BASED AND FINANCIAL INCENTIVE PROGRAMS | | | | | |
| High Efficiency Faucet Aerator / Showerhead Giveaway - CII Customers | 2.4 | 3.1 | 44% | 56% | ✗ |
| High Efficiency Faucet Aerator / Showerhead Giveaway - Residential Customers | 2.7 | 4.0 | 56% | 89% | ✗ |
| Toilet Flapper Giveaway - Residential and CII | 2.2 | 3.0 | 44% | 67% | ✗ |
| UHET Direct Installation - Residential and CII | 1.7 | 2.2 | 33% | 33% | ✗ |
| Urinal Direct Installation - CII | 1.7 | 2.0 | 44% | 33% | ✗ |
| Thermostatic Shut-Off Valve Showerheads/Tub Spouts Rebates | 1.7 | 1.8 | 33% | 33% | ✗ |
| HET (<1.28 gal/flush) Replacement Rebates | 2.3 | 2.6 | 44% | 44% | ✗ |
| High Efficiency Urinal (<0.25 gal/flush) Replacement Rebates - CII | 2.1 | 2.6 | 44% | 44% | ✗ |
| Plumber Initiated UHET and / or HEU Retrofit Program | 1.7 | 2.0 | 22% | 22% | ✗ |
| Direct Install of Efficient Indoor Fixtures - Commercial and Industrial | 1.9 | 2.4 | 33% | 44% | ✗ |
| Direct Install of Efficient Indoor Fixtures - Government Buildings | 2.1 | 2.4 | 44% | 44% | ✗ |
| Direct Install of Efficient Indoor Fixtures - Low Income Residential | 2.3 | 2.9 | 44% | 56% | ✗ |
| Direct Install of Efficient Indoor Fixtures - Residential | 2.3 | 2.7 | 44% | 44% | ✗ |

Table C-1 Regional Prioritization of Conservation Measures and Programs
Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | | Preference (b) | | Current SMSWP Program |
|--|--------------------|-------|----------------|-------|-----------------------|
| | Regional | Local | Regional | Local | |
| High Efficiency Clothes Washer Install - Low Income Residential Customers | 1.6 | 1.2 | 22% | 11% | ✗ |
| High Efficiency Clothes Washer Rebate - Residential | 3.1 | 3.1 | 67% | 67% | ✗ |
| High Efficiency Clothes Washer Rebate Program - CII | 2.0 | 2.8 | 44% | 78% | ✗ |
| Efficient Dishwasher Rebates | 1.9 | 1.9 | 44% | 44% | ✗ |
| Indoor Fixture Program For Hotels & Motels | 2.0 | 2.8 | 44% | 67% | ✗ |
| Indoor Fixture Program For Schools | 2.1 | 2.0 | 44% | 33% | ✗ |
| Water Savings Incentive Program for CII | 1.8 | 2.9 | 33% | 78% | ✗ |
| Nonresidential Incentive for Self-closing or Metering Faucets | 1.9 | 2.6 | 22% | 44% | ✗ |
| Laminar Flow Restrictor Rebate for Health Care Related Facilities | 1.9 | 2.8 | 22% | 67% | ✗ |
| Autoclave (Steam-Sterilizer) Retrofit Rebates | 1.3 | 1.4 | 11% | 22% | ✗ |
| Air Cooled Ice Machine Rebates | 1.7 | 1.9 | 22% | 44% | ✗ |
| Connectionless Food Steamer Rebates | 2.0 | 1.9 | 33% | 44% | ✗ |
| Commercial Kitchen High Efficiency Dishwasher Rebate | 1.3 | 1.8 | 11% | 33% | ✗ |
| Dipper Well Rebates | 2.2 | 2.3 | 44% | 67% | ✗ |
| Hot Water on Demand Pump System Rebate/ Hot Water Recirculating System | 1.7 | 2.2 | 33% | 56% | ✗ |
| Dry Vacuum Pumps | 1.3 | 1.9 | 11% | 44% | ✗ |
| Ozone Laundry Washer Rebate - CII | 1.6 | 2.1 | 22% | 56% | ✗ |
| Plumbing Flow Control Valve - CII (Faucets and Showerheads) | 1.9 | 2.7 | 22% | 56% | ✗ |
| Incentivize Cooling Tower Upgrades | 1.3 | 2.1 | 11% | 56% | ✗ |
| Rebates for Conductivity Controllers on Cooling Towers | 1.6 | 2.1 | 22% | 56% | ✗ |
| Sustained Reduction, or rebates for any CII project which demonstrates water savings | 1.6 | 2.0 | 22% | 33% | ✗ |
| Landscape Conversion or Turf Removal - MFR and CII | 3.2 | 4.7 | 67% | 100% | ✗ |
| Landscape Conversion or Turf Removal - SFR | 3.3 | 4.8 | 67% | 100% | ✗ |
| Mulch Rebate | 2.4 | 3.4 | 44% | 67% | ✗ |

Table C-1 Regional Prioritization of Conservation Measures and Programs
Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | | Preference (b) | | Current SMSWP Program |
|--|--------------------|------------|----------------|-------|-----------------------|
| | Regional | Local | Regional | Local | |
| Incentivize Irrigation Equipment Upgrades - SFR | 2.0 | 3.4 | 33% | 67% | ✗ |
| Commerical Landscape Irrigation Improvement Program (CLIIP) Rebates | 2.4 | 3.5 | 50% | 75% | ✗ |
| Rotating Sprinkler Nozzle Giveaway | 2.4 | 2.8 | 56% | 56% | ✗ |
| Nozzle Replacement Irrigation - Residential | 1.9 | 2.9 | 33% | 44% | ✗ |
| Nozzle Replacement Irrigation CII - Large Landscape | 1.9 | 3.0 | 33% | 56% | ✗ |
| In-Stem Flow Regulators | 1.9 | 2.1 | 33% | 33% | ✗ |
| Smart Irrigation Controller (Weather-Based Irrigation Controller) Giveaway - Large Landscape | 1.9 | 2.3 | 44% | 44% | ✗ |
| Smart Irrigation Controller (Weather-Based Irrigation Controller) Giveaway - SFR | 1.9 | 2.7 | 44% | 44% | ✗ |
| Soil Moisture Sensor Giveaway | 2.0 | 2.1 | 44% | 22% | ✗ |
| Soil Moisture Sensor Rebate | 1.9 | 2.0 | 44% | 22% | ✗ |
| Pilot Spring Irrigation Repairs Rebate | 2.0 | 2.2 | 44% | 33% | ✗ |
| Rain Barrel Rebate | 2.2 | 3.1 | 44% | 67% | ✗ |
| Rain Barrel Rebate - MFR & Large Landscapes | 2.0 | 2.9 | 33% | 56% | ✗ |
| Incentivize Gray Water Retrofit for Existing SFR Customers | 1.9 | 2.7 | 22% | 56% | ✗ |
| Incentivize Gray Water Systems for New CII Development | 1.8 | 1.9 | 22% | 33% | ✗ |
| Incentivize Submetering for Existing Customers - MFR, CII | 1.7 | 2.4 | 33% | 56% | ✗ |
| Incentivize Submetering of Cooling Towers for Existing Customers | 1.1 | 1.9 | 0% | 33% | ✗ |
| Flow Sensor Rebate Irrigation System | 1.7 | 2.3 | 33% | 44% | ✗ |
| SFR Wireless Flow Monitor | 1.7 | 2.0 | 33% | 33% | ✗ |
| Incentivize Replacement of Pressure Reducing Valves (PRVs) with 60-70 psi PRVs | 1.4 | 1.7 | 11% | 22% | ✗ |
| Pool Removal Rebates | 1.8 | 2.6 | 22% | 44% | ✗ |
| Swimming Pool and Hot Tub Cover Rebates | 1.6 | 2.7 | 33% | 56% | ✗ |
| Tiered Water Rate Exemption Assitance Program | 1.0 | 1.4 | 0% | 11% | ✗ |
| Average by Program Type | 1.9 | 2.5 | | | |

Table C-1 Regional Prioritization of Conservation Measures and Programs
Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | | Preference (b) | | Current SMSWP Program |
|--|--------------------|-------|----------------|-------|-----------------------|
| | Regional | Local | Regional | Local | |
| POLICIES AND REGULATIONS | | | | | |
| Demand Offset/Water Neutral Policy for Large New Developments | 2.7 | 3.7 | 44% | 78% | ✗ |
| Prohibit Once through Cooling Systems | 2.7 | 3.9 | 44% | 78% | ✗ |
| Require <0.25 gal/flush Urinals in New Development | 1.6 | 1.9 | 22% | 33% | ✗ |
| Require <1.0 gal/flush Toilets in New Development | 2.1 | 3.1 | 33% | 56% | ✗ |
| Require Cooling Tower Retrofits | 2.2 | 2.6 | 44% | 56% | ✗ |
| Require High Efficiency Clothes Washers in New Development | 1.7 | 2.6 | 22% | 44% | ✗ |
| Require Hot Water on Demand / Structured Plumbing in New Residential Development | 2.0 | 2.4 | 44% | 56% | ✗ |
| Require Irrigation Designers / Installers be Certified (QWEL) | 1.6 | 1.9 | 22% | 33% | ✗ |
| Require On-Site Water Reuse Systems (Grey Water or Black Water) for Large CII Developments | 1.8 | 1.9 | 33% | 33% | ✗ |
| Require Plumbing for Gray Water in New SFR Development | 2.2 | 1.9 | 33% | 33% | ✗ |
| Require Plumbing for Recycled Water in New CII Development | 1.6 | 3.0 | 11% | 56% | ✗ |
| Require Plumbing for Recycled Water in New MFR Development | 1.8 | 2.3 | 33% | 33% | ✗ |
| Require Rain Barrels in New Development | 1.8 | 2.0 | 33% | 44% | ✗ |
| Require Submetering by Unit for Existing Commercial Customers | 1.8 | 2.1 | 33% | 44% | ✗ |
| Require Submetering by Unit for New Commercial Developments | 1.6 | 2.8 | 22% | 67% | ✗ |
| Require Submetering for New MFR Developments | 2.1 | 2.4 | 44% | 44% | ✗ |
| Require Submetering for New Mobile Home Park Developments | 2.2 | 2.1 | 33% | 44% | ✗ |
| Require Submetering of Cooling Towers for Existing Customers | 1.8 | 2.3 | 22% | 33% | ✗ |
| Require Submetering of Cooling Towers for New Development | 1.1 | 2.1 | 0% | 33% | ✗ |
| Require Submetering of Existing MFR (and Mobile Home Park) Customers | 1.3 | 1.7 | 11% | 22% | ✗ |
| Require Submetering of Landscaping for Existing MFR and Commercial Customers | 1.3 | 2.0 | 11% | 33% | ✗ |
| Require Submetering of Landscaping for New MFR and Commercial Developments | 1.8 | 2.8 | 11% | 44% | ✗ |
| Require Swimming Pool and Hot Tub Covers | 1.6 | 2.4 | 11% | 33% | ✗ |

Table C-1 Regional Prioritization of Conservation Measures and Programs
Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | | Preference (b) | | Current SMSWP Program |
|---|--------------------|------------|----------------|-------|-----------------------|
| | Regional | Local | Regional | Local | |
| Require Water Efficiency Plan Reviews for New CII Development | 1.8 | 2.8 | 22% | 56% | ✗ |
| Require Weather Adjusting Smart Irrigation Controllers, Rain Sensors, and/or Soil Moisture Sensors in New Development | 1.8 | 3.1 | 22% | 56% | ✗ |
| Restrict Landscape Irrigation to Designated Days/Times | 1.3 | 2.1 | 11% | 33% | ✗ |
| Water Conserving Landscape and Irrigation Codes, More Stringent than MWEL0 | 2.2 | 3.6 | 33% | 67% | ✗ |
| Water Waste Ordinance | 2.7 | 4.2 | 33% | 78% | ✗ |
| Average by Program Type | 1.9 | 2.6 | | | |

Abbreviations:

AMI = advanced metering infrastructure

CalWEP = California Water Efficiency Partnership

CII = commercial, industrial, and institutional

COM = commercial

HEU = High-Efficiency Urinals

IRR = irrigation

MFR = multi-family residential

MWEL0 = Model Water Efficient Landscape Ordinance

PRV = pressure-reducing valve

SFR = single-family residential

SMSWP = Sonoma-Marín Saving Water Partnership

UHET = ultra high efficiency toilet

Notes:

(a) Each Water Contractor was asked to rank each conservation program or measure in terms of priority as a regionally-administered program, and as a locally administered program, where 5 indicated highest priority and 1 indicated the lowest priority. Results are presented as an average of the responses of all nine Water Contractors.

(b) Presents the percentage of Water Contractors who indicated a priority of greater or equal to 3 for regional or local implementation.

Table C-2 Prioritization of Conservation Measures and Programs
Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | Sector | Indoor | Outdoor | Primary End Use | Local Program |
|---|--------------------|---------------|--------|---------|------------------------------------|----------------|
| AGENCY ACTIONS AND WATER RATES | | | | | | |
| Increase Enforcement of Customer Pressure Reducing Valve (PRV) Requirement | 1 | All | X | X | Water loss; Irrigation | No |
| Increase Enforcement of Indoor Fixture Retrofit at Time of Sale | 1 | All | X | X | Toilet, Urinal, Faucet, Showerhead | No |
| Increase Enforcement of State Water Waste Regulations | 1 | All | X | | Irrigation | No |
| Rate Structure Evaluation | 3 | All | X | X | All | Yes, currently |
| Regional UHET and/or Urinal Bulk Purchase Program | 1 | All | X | | Toilet / Urinal | No |
| Water Budgeting/Monitoring for Large Landscape Accounts | 1 | IRR | X | X | Irrigation | No |
| Establish Separate Pricing Structure for Irrigation Accounts | 3 | IRR | | X | Irrigation | Yes, currently |
| Implementation or Modification of Tiered Water Rates (Conservation Pricing) | 1 | All | X | X | All | No |
| Water Budget Based Billing for All Customers | 1 | All | X | X | All | No |
| Water Budget Based Billing for Only Irrigation Customers | 1 | CII, IRR | | X | Irrigation | No |
| Install AMI for Existing Accounts | 1 | All | X | X | Water loss; Irrigation | Yes, currently |
| Install AMI for High Water Users and Large Landscape Accounts | 1 | All | | X | Water loss; Irrigation | Yes, currently |
| Install AMI in New Development | 1 | All | X | X | Water loss; Irrigation | Yes, currently |
| End Point Leak Detection and Flow Monitoring | 2 | All | X | X | Water loss; Irrigation | No |
| CalWEP District Distribution Program | 2 | SFR, MFR, COM | X | X | All | No |
| Behavior Based Customer Messaging Platforms | 1 | All | X | X | All | Yes, currently |
| PUBLIC OUTREACH AND EDUCATION | | | | | | |
| Water Use Surveys/Audits - CII | 2 | CII | X | X | All | No |
| Water Use Surveys/Audits - MFR | 2 | MFR | X | | All | No |
| Water Use Surveys/Audits - SFR | 2 | SFR | X | X | All | No |
| Garden Sense Consultation | 1 | SFR | | X | All Outdoor | Yes, currently |

Table C-2 Prioritization of Conservation Measures and Programs
Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | Sector | Indoor | Outdoor | Primary End Use | Local Program |
|---|--------------------|---------------|--------|---------|------------------------------------|----------------|
| Educational Workshops | 2 | All | | X | All Outdoor | Yes, currently |
| Garden Tour | 2 | SFR | | X | All Outdoor | Yes, currently |
| SFR Home Water Report | 1 | SFR | X | X | All | No |
| Promote Green Building and Certification | 1 | CII | X | X | All | No |
| Provide Support with Smart Irrigation Controller Setup | 2 | All | | X | Irrigation | No |
| Public Outreach through Print & Electronic Media - Focused on Indoor Conservation | 1 | All | X | | All Indoor | Yes, currently |
| Public Outreach through Print & Electronic Media - Focused on Outdoor Irrigation | 2 | All | | X | Irrigation | Yes, currently |
| Promote QWEL Training (Qualified Water efficient Landscaper) | 2 | All | | X | All Outdoor | Yes, currently |
| School Education Programs | 2 | SFR, MFR | X | X | All | Yes, currently |
| DEVICE-BASED AND FINANCIAL INCENTIVE PROGRAMS | | | | | | |
| High Efficiency Faucet Aerator / Showerhead Giveaway - CII Customers | 4 | CII | X | | Faucet, Showerhead | No |
| High Efficiency Faucet Aerator / Showerhead Giveaway - Residential Customers | 4 | SFR, MFR | X | | Faucet, Showerhead | Yes, currently |
| High Efficiency Clothes Washer Rebate - Residential | 4 | SFR, MFR | X | | Clothes Washer | Yes, currently |
| UHET Direct Installation - Residential and CII | 2 | CII | X | | Toilet | No |
| Urinal Direct Installation - CII | 2 | CII | X | | Urinal | No |
| Thermostatic Shut-Off Valve Showerheads/Tub Spouts Rebates | 2 | SFR, MFR, CII | X | | Shower | No |
| HET (<1.28 gal/flush) Replacement Rebates | 2 | SFR, MFR | X | | Toilet | No |
| High Efficiency Urinal (<0.25 gal/flush) Replacement Rebates - CII | 2 | CII | X | | Urinal | No |
| Plumber Initiated UHET and / or HEU Retrofit Program | 2 | All | X | | Toilet / Urinal | No |
| Direct Install of Efficient Indoor Fixtures - Commercial and Industrial | 2 | CII | X | | Toilet, Urinal, Faucet, Showerhead | No |
| Direct Install of Efficient Indoor Fixtures - Government Buildings | 2 | CII | X | | Toilet, Urinal, Faucet, Showerhead | No |
| Direct Install of Efficient Indoor Fixtures - Low Income Residential | 2 | SFR, MFR | X | | Toilet, Faucet, Showerhead | No |

Table C-2 Prioritization of Conservation Measures and Programs
Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | Sector | Indoor | Outdoor | Primary End Use | Local Program |
|--|--------------------|---------------|--------|---------|----------------------------|----------------|
| Direct Install of Efficient Indoor Fixtures - Residential | 2 | SFR, MFR | X | | Toilet, Faucet, Showerhead | No |
| Do-It-Yourself Home Energy and Water Savings Toolkit | 2 | SFR | X | X | All | Yes, currently |
| High Efficiency Clothes Washer Install - Low Income Residential Customers | 1 | SFR, MFR | X | | Clothes Washer | No |
| High Efficiency Clothes Washer Rebate Program - CII | 4 | CII | X | | Clothes Washer | Yes, currently |
| Landscape Conversion or Turf Removal - MFR and CII | 4 | MFR, CII | | X | Irrigation | No |
| Landscape Conversion or Turf Removal - SFR | 4 | SFR | | X | Irrigation | Yes, currently |
| Indoor Fixture Program For Hotels & Motels | 1 | CII | X | | All Indoor | No |
| Indoor Fixture Program For Schools | 2 | CII | X | | All Indoor | No |
| Mulch Rebate | 4 | SFR | | X | Irrigation | Yes, currently |
| Nonresidential Incentive for Self-closing or Metering Faucets | 2 | CII | X | | Faucet | No |
| Laminar Flow Restrictor Rebate for Health Care Related Facilities | 1 | Institutional | X | | Faucet | No |
| Autoclave (Steam-Sterilizer) Retrofit Rebates | 1 | CII | X | | CII Equipment | No |
| Air Cooled Ice Machine Rebates | 1 | CII | X | | CII Equipment | No |
| Connectionless Food Steamer Rebates | 1 | CII | X | | CII Equipment | No |
| Commercial Kitchen High Efficiency Dishwasher Rebate | 2 | Commercial | X | | Dishwashers | No |
| Dipper Well Rebates | 1 | CII | X | | CII Equipment | No |
| Hot Water on Demand Pump System Rebate/ Hot Water Recirculating System | 1 | SFR, MFR | X | | Hot Water | No |
| Dry Vacuum Pumps | 1 | CII | X | | CII Equipment | No |
| Ozone Laundry Washer Rebate - CII | 1 | CII | X | | Clothes Washer | No |
| Plumbing Flow Control Valve - CII (Faucets and Showerheads) | 1 | Commercial | X | | Faucet | No |
| Incentivize Cooling Tower Upgrades | 1 | CII | X | | Cooling Towers | No |
| Rebates for Conductivity Controllers on Cooling Towers | 1 | CII | X | | Cooling Towers | No |
| Sustained Reduction, or rebates for any CII project which demonstrates water savings | 1 | CII | X | X | All | No |

Table C-2 Prioritization of Conservation Measures and Programs
Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | Sector | Indoor | Outdoor | Primary End Use | Local Program |
|--|--------------------|---------------|--------|---------|-------------------------|----------------|
| Incentivize Irrigation Equipment Upgrades - SFR | 4 | SFR | | X | Irrigation | Yes, currently |
| Commercial Landscape Irrigation Improvement Program (CLIP) Rebates | 4 | Commercial | | X | Irrigation | No |
| Toilet Flapper Giveaway - Residential and CII | 3 | All | X | | Toilet | Yes, currently |
| Efficient Dishwasher Rebates | 3 | SFR | X | | Dishwashers | No |
| Water Savings Incentive Program for CII | 3 | CII | X | | All Indoor | No |
| Rotating Sprinkler Nozzle Giveaway | 2 | All | | X | Irrigation | No |
| Nozzle Replacement Irrigation - Residential | 2 | SFR, MFR | | X | Irrigation | No |
| Nozzle Replacement Irrigation CII - Large Landscape | 2 | CII | | X | Irrigation | No |
| In-Stem Flow Regulators | 2 | Commercial | | X | Irrigation | No |
| Smart Irrigation Controller (Weather-Based Irrigation Controller) Giveaway - Large Landscape | 2 | MFR, CII | | X | Irrigation | No |
| Smart Irrigation Controller (Weather-Based Irrigation Controller) Giveaway - SFR | 2 | SFR | | X | Irrigation | No |
| Soil Moisture Sensor Giveaway | 2 | All | | X | Irrigation | No |
| Soil Moisture Sensor Rebate | 2 | All | | X | Irrigation | No |
| Pilot Spring Irrigation Repairs Rebate | 2 | MFR, COM, IRR | | X | Irrigation | No |
| Rain Barrel Rebate | 2 | SFR | | X | Irrigation | No |
| Rain Barrel Rebate - MFR & Large Landscapes | 2 | MFR, CII | | X | Irrigation | No |
| Incentivize Gray Water Retrofit for Existing SFR Customers | 1 | SFR | | X | Irrigation / Gray Water | No |
| Incentivize Gray Water Systems for New CII Development | 1 | CII | | X | Irrigation / Gray Water | No |
| Incentivize Submetering for Existing Customers - MFR, CII | 1 | MFR, COM, IRR | | X | All Indoor | No |
| Incentivize Submetering of Cooling Towers for Existing Customers | 1 | CII | X | | Cooling Towers | No |
| Flow Sensor Rebate Irrigation System | 1 | SFR, MFR | | X | Irrigation | No |
| SFR Wireless Flow Monitor | 1 | SFR | X | X | Water Loss | No |

Table C-2 Prioritization of Conservation Measures and Programs
Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | Sector | Indoor | Outdoor | Primary End Use | Local Program |
|--|--------------------|----------|--------|---------|--|---------------|
| Incentivize Replacement of Pressure Reducing Valves (PRVs) with 60-70 psi PRVs | 1 | All | X | X | Water loss; Irrigation | No |
| Pool Removal Rebates | 1 | SFR, MFR | | X | Pool/Hot Tub | No |
| Swimming Pool and Hot Tub Cover Rebates | 1 | SFR, MFR | | X | Pool/Hot Tub | No |
| Tiered Water Rate Exemption Assistance Program | 1 | SFR | X | X | Toilet, Faucet, Showerhead, Clothes Washer, Irrigation | No |
| POLICIES AND REGULATIONS | | | | | | |
| Demand Offset/Water Neutral Policy for Large New Developments | 2 | All | X | X | All | No |
| Prohibit Once through Cooling Systems | 2 | CII | X | X | CII Equipment | No |
| Require <0.25 gal/flush Urinals in New Development | 2 | CII | X | | Urinal | No |
| Require <1.0 gal/flush Toilets in New Development | 2 | All | X | | Toilet | No |
| Require Cooling Tower Retrofits | 2 | CII | X | | Cooling Towers | No |
| Require High Efficiency Clothes Washers in New Development | 2 | SFR, MFR | X | | Clothes Washer | No |
| Require Hot Water on Demand / Structured Plumbing in New Residential Development | 2 | SFR, MFR | X | | Shower/Sink | No |
| Require Irrigation Designers / Installers be Certified (QWEL) | 2 | All | | X | Irrigation | No |
| Require On-Site Water Reuse Systems (Grey Water or Black Water) for Large CII Developments | 2 | CII | | X | Irrigation / Recycled Water | No |
| Require Plumbing for Gray Water in New SFR Development | 2 | SFR | | X | Irrigation / Gray Water | No |
| Require Plumbing for Recycled Water in New CII Development | 2 | CII | | X | Irrigation / Recycled Water | No |
| Require Plumbing for Recycled Water in New MFR Development | 2 | MFR | | X | Irrigation / Recycled Water | No |
| Require Rain Barrels in New Development | 2 | SFR | | X | Irrigation | No |
| Require Submetering by Unit for Existing Commercial Customers | 2 | CII | X | | All Indoor | No |
| Require Submetering by Unit for New Commercial Developments | 2 | CII | X | | All Indoor | No |
| Require Submetering for New MFR Developments | 2 | MFR | X | | All Indoor | No |

Table C-2 Prioritization of Conservation Measures and Programs
Valley of the Moon Water District, Sonoma-Marín Saving Water Partnership

| Conservation Measure/Program | Prioritization (a) | Sector | Indoor | Outdoor | Primary End Use | Local Program |
|---|--------------------|----------|--------|---------|-----------------|----------------|
| Require Submetering for New Mobile Home Park Developments | 2 | MFR | X | | All Indoor | No |
| Require Submetering of Cooling Towers for Existing Customers | 2 | CII | X | | Cooling Towers | No |
| Require Submetering of Cooling Towers for New Development | 2 | CII | X | | Cooling Towers | No |
| Require Submetering of Existing MFR (and Mobile Home Park) Customers | 2 | MFR | X | | All Indoor | No |
| Require Submetering of Landscaping for Existing MFR and Commercial Customers | 2 | MFR, CII | | X | Irrigation | No |
| Require Submetering of Landscaping for New MFR and Commercial Developments | 2 | CII | | X | Irrigation | No |
| Require Swimming Pool and Hot Tub Covers | 2 | SFR,MFR | | X | Pool/Hot Tub | No |
| Require Water Efficiency Plan Reviews for New CII Development | 2 | CII | X | X | All Indoor | No |
| Require Weather Adjusting Smart Irrigation Controllers, Rain Sensors, and/or Soil Moisture Sensors in New Development | 2 | All | | X | Irrigation | No |
| Restrict Landscape Irrigation to Designated Days/Times | 2 | All | | X | Irrigation | No |
| Water Conserving Landscape and Irrigation Codes, More Stringent than MWEL0 | 2 | All | | X | Irrigation | No |
| Water Waste Ordinance | 4 | All | | X | All Outdoor | Yes, currently |

Abbreviations

AMI = advanced metering infrastructure
 CalWEP = California Water Efficiency Partnership
 CII = Commercial, Industrial, and Institutional
 COM = commercial
 HEU = High-Efficiency Urinals
 IRR = irrigation

MFR = multi-family residential
 MWEL0 = Model Water Efficient Landscape Ordinance
 PRV = pressure reducing valve
 SFR = single-family residential
 SMSWP = Sonoma-Marín Saving Water Partnership
 UHET = ultra high efficiency toilet

Notes

(a) Each Water Contractor was asked to rank conservation programs and measures in terms of priority as a locally-administered program, where 5 indicated highest priority and 1 indicated the lowest priority.

Appendix C: UWMP Agency Notification Letter

Dawn Flores

From: Matthew Fullner <mfullner@vomwd.org>
Sent: Tuesday, December 23, 2025 10:04 AM
To: Scott Orr; Grant.Davis@scwa.ca.gov; administrator@sonomavalleygroundwater.org; twilliams@nmwd.com; mberger@sonomacity.org; mhendersen@rpcity.org; jburke@srcity.org; cscott@cotaticity.gov; pkaushal@cityofpetaluma.org; scotulla@townofwindsor.ca.gov
Cc: Dawn Flores; Dave Umezaki; Ellie White; Kendra Olmos; Amanda Hudson
Subject: Notice of Preparation of the Valley of the Moon Water District's 2025 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: VOMWD UWMP-WSCP NOP Letter.pdf

⚠ EXTERNAL EMAIL – Use Caution Before Clicking Links or Opening Attachments.

Good morning everyone,

On behalf of Valley of the Moon Water District, I am sharing the attached notice regarding the update of our 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP).

If you have any questions or would like to discuss participation in the planning process, please do not hesitate to contact me at (707) 996-1037 or by replying to this email.

Thank you, and happy holidays!

Yours,



Matt Fullner
General Manager
Valley of the Moon Water District

Service, Pride, Commitment.

Office: 707-996-1037
Cell: 707-888-4109
mfullner@vomwd.org
www.vomwd.org
P.O. BOX 280, El Verano CA 95433

It is the mission of the Valley of the Moon Water District to provide our customers with reliable, safe water at an equitable price and to ensure the fiscal and environmental vitality of the District for future generations.



VALLEY OF THE MOON WATER DISTRICT

A Public Agency Established in 1962
19039 Bay Street · P.O. Box 280
El Verano, CA 95433-0280
Phone: (707) 996-1037
Fax: (707) 996-7615

Emailed December 23rd, 2025

Re: Notice of Preparation of the Valley of the Moon Water District's 2025 Urban Water Management Plan and Water Shortage Contingency Plan

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

The District coordinates with its wholesale water supplier, nearby water agencies, relevant public entities, and other interested parties in preparing the UWMP and WSCP. A draft of the 2025 UWMP and WSCP will be made available for public review, and a public hearing will be scheduled in 2026. If you would like more information regarding the 2025 UWMP and WSCP, and the schedule for updating these documents, or if you would like to participate in the preparation of the 2025 UWMP and WSCP, please contact Matt Fullner at: mfullner@vomwd.org, or the above listed contact.

Sincerely,

A handwritten signature in blue ink, appearing to read "Matt Fullner", with a long horizontal flourish extending to the right.

Matt Fullner – General Manager

Distribution List

Sonoma County Water Agency & Sonoma County Sanitation District – Grant Davis
Sonoma Valley Groundwater Sustainability Agency – Bill Keene

County of Sonoma, PRMD – Scott Orr
City of Sonoma – Mike Berger
City of Santa Rosa – Jennifer Burke
City of Rohnert Park – Mark Henderson

City of Cotati – Craig Scott
North Marin Water District – Tony Williams
City of Petaluma – Paul Kaushal
Town of Windsor – Shannon Cotulla

DIRECTORS:
OFFICERS:

Gary Bryant – Steve Caniglia – Jon Foreman – David Williams – Colleen Yudin-Cowan
Matt Fullner, General Manager – Burke, Williams & Sorensen, LLP, District Counsel

Appendix D: Public Hearing Notices and Presentation

Public Hearing Notice Proof of Publication

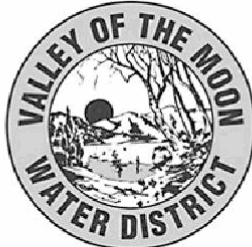
Public Hearing Presentation

Advertising Order Confirmation

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Notice of Public Hearing Valley of the Moon Water District

Hearing Topics:

Draft 2025 Urban Water Management Plan and Draft 2025 Water Shortage Contingency Plan

Date:

June 17, 2026, 6:30 PM

Location:

19039 Bay Street, Sonoma, California 95476

The Board of Directors of the Valley of the Moon Water District will hold a public hearing on June 17, 2026, at 6:30 PM at 19039 Bay Street, Sonoma, California to receive comments on the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP), which are adopted every five years. The purpose of the UWMP and WSCP is to consolidate information regarding water supply and demand, provide public information, and improve state-wide water planning. The UWMP and WSCP may be reviewed at <https://www.vomwd.org/watersupplyplanning>. Visit <https://www.vomwd.org/boardmeetings> for the District Board meeting agenda.

Oral and written testimony will be taken at the hearing. Written comments may also be submitted to the following address for receipt prior to the hearing:

Valley of the Moon Water District
P.O. Box 280
El Verano, CA 95433
customerservice@vomwd.or

| <u>Product</u> | <u>Requested Placement</u> | <u>Requested Position</u> | <u>Run Dates</u> | <u># Inserts</u> |
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VALLEY OF THE MOON WATER DISTRICT 2025 URBAN WATER MANAGEMENT PLAN 2025 WATER SHORTAGE CONTINGENCY PLAN



PUBLIC HEARING AND ADOPTION

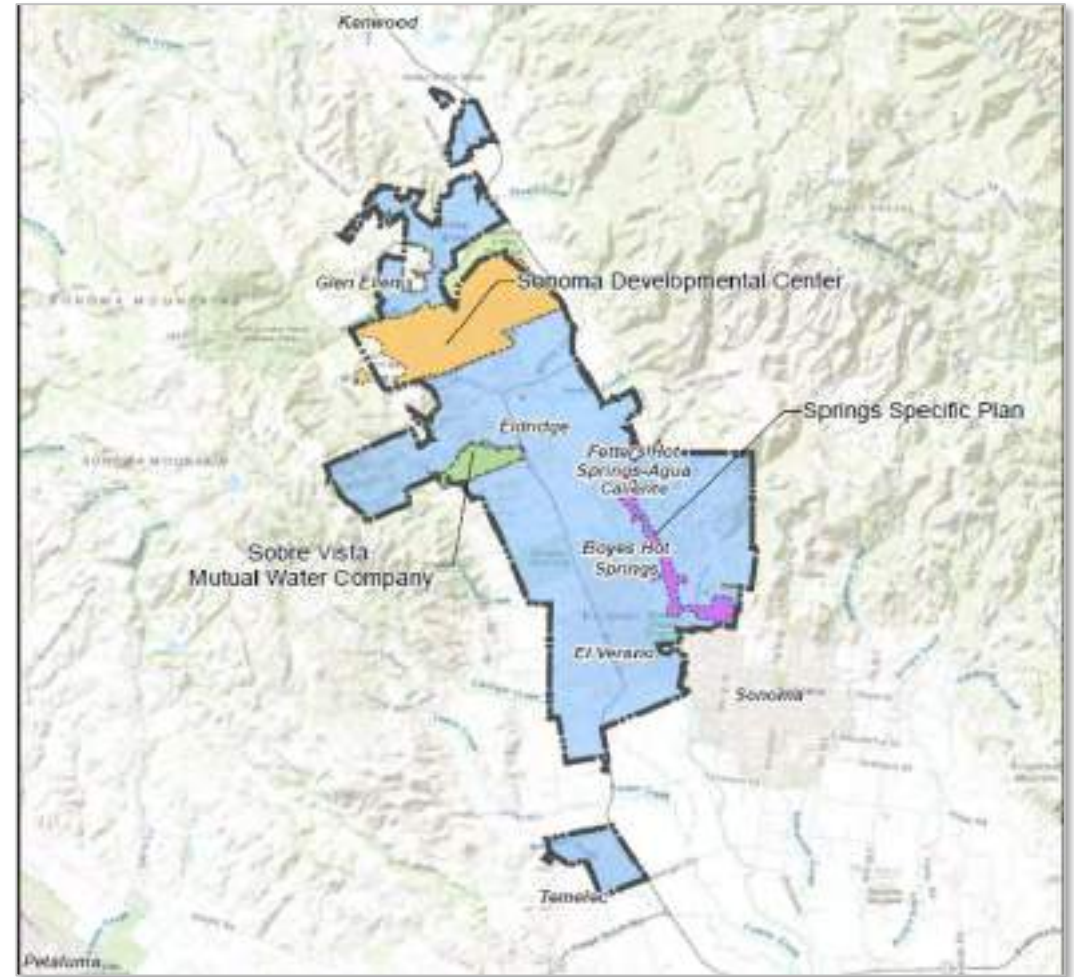
JUNE 17, 2026



URBAN WATER MANAGEMENT PLAN (UWMP)

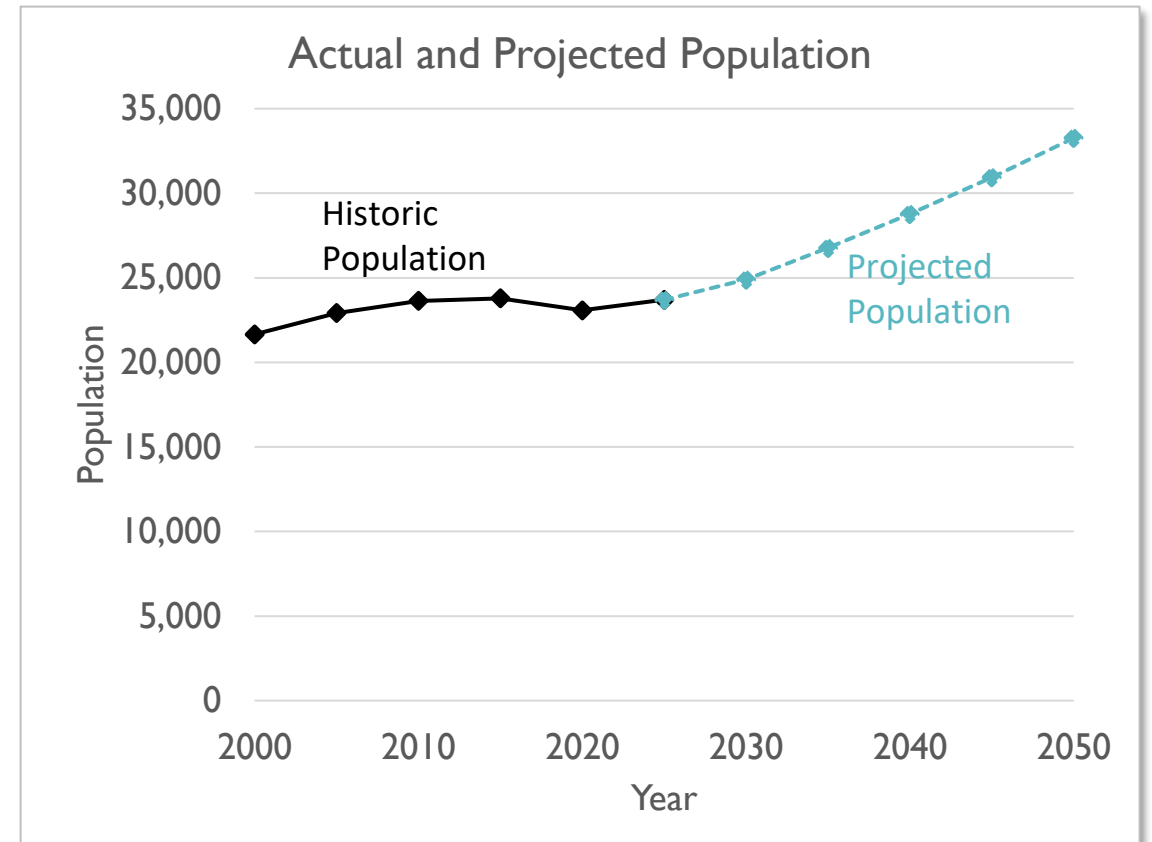
2025 UWMP OVERVIEW

- Required to be updated every five years and submitted to DWR
- Pre-requisite to receive State loans and grants
- Service area description
- Historical supply and demand
- Supply and demand projections through 2050 in normal, single dry and multiple dry years
- Water conservation and drought planning



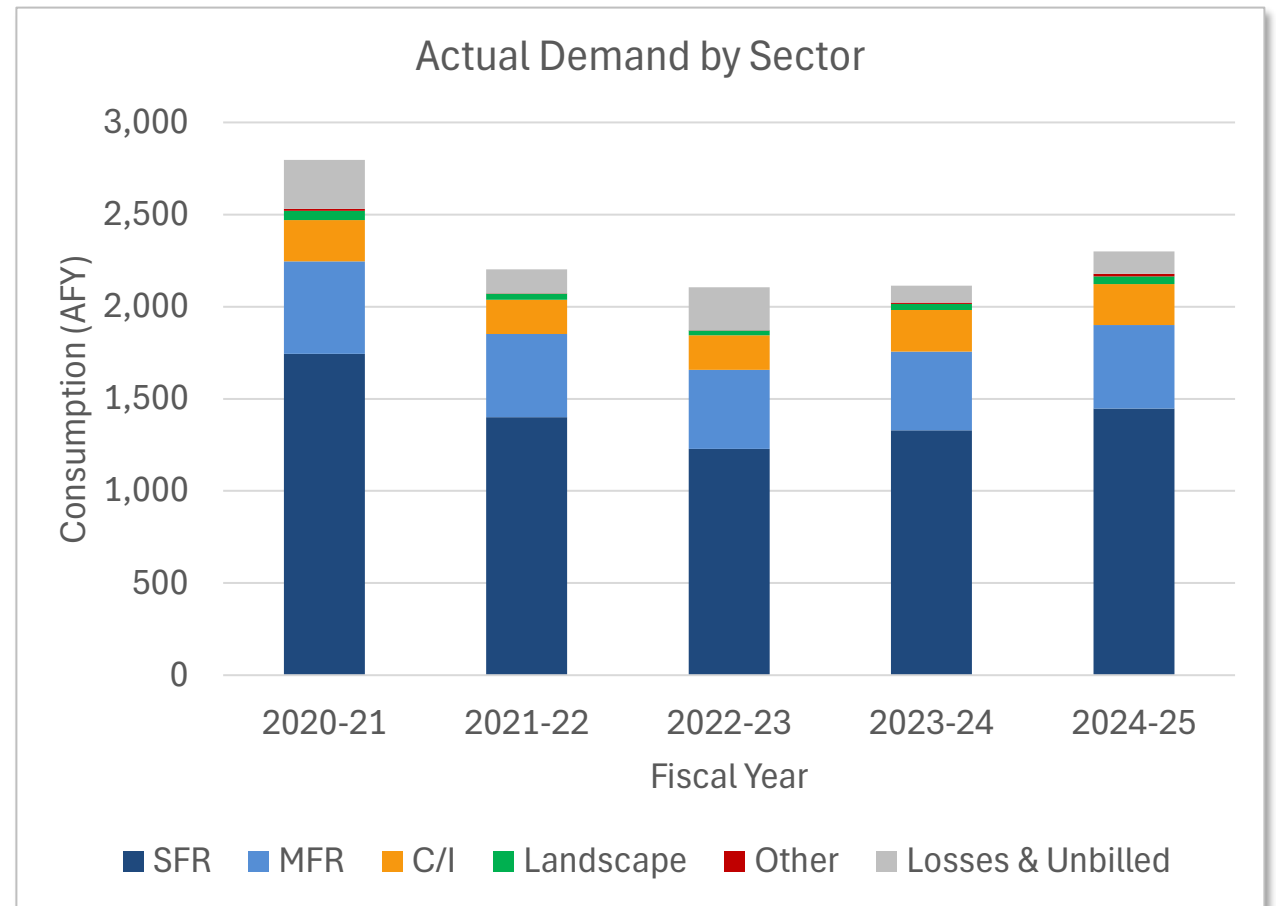
THE DISTRICT'S POPULATION IS PROJECTED TO INCREASE BY 40% BY 2050

- Population is projected for the District: linear annual growth rate of 1.5% due to population increase from planned developments (per District staff)
- Total population of approximately 33,000 by 2050



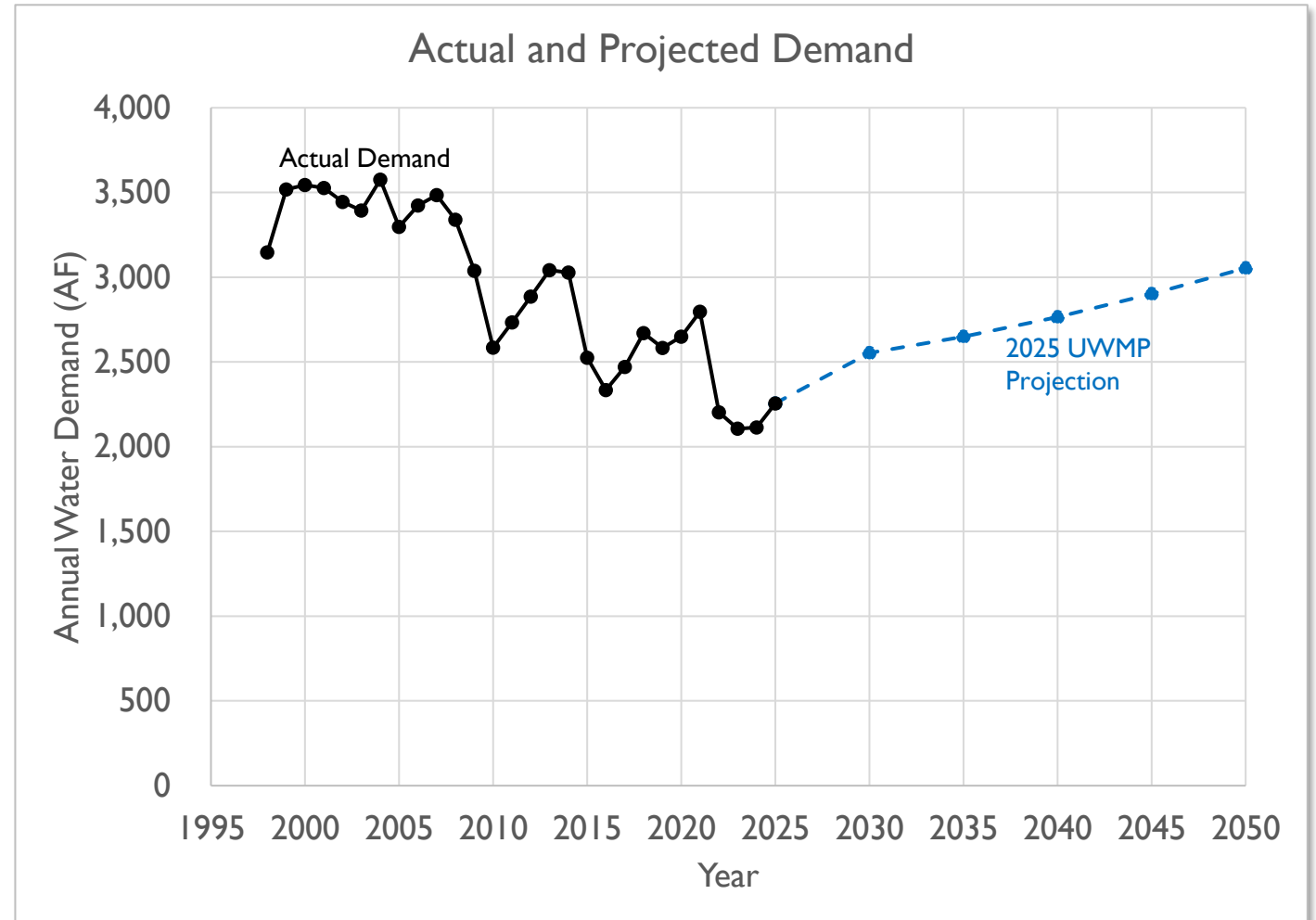
WATER DEMANDS HAVE FLUCTUATED OVER THE LAST FIVE YEARS

- Water demands decreased due to drought cutbacks from 2021-2023, and is rebounding
- Largest sector is Single Family (64% of total demand)
- 2020-21 demand reflects COVID-19 restrictions



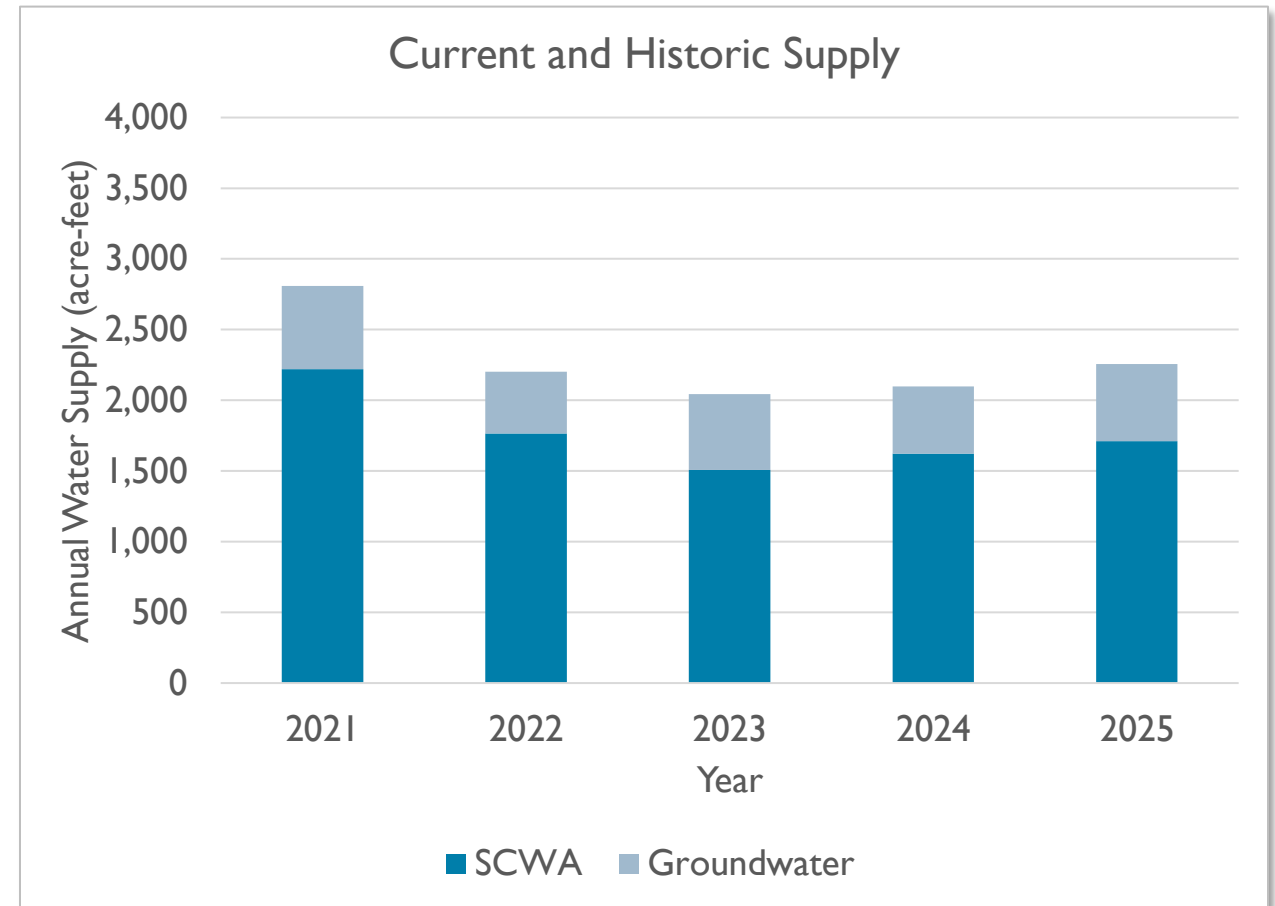
WATER DEMAND IS PROJECTED TO INCREASE, BUT REMAINING WITHIN RANGE OF HISTORICAL DEMANDS

- Demand projections account for future population growth, climate change and passive conservation savings
- Total water demand is projected to increase to near 3,100 AFY by 2050
- 2050 demand is a 32% increase over 2019, but is less than demands from the early 2000s.



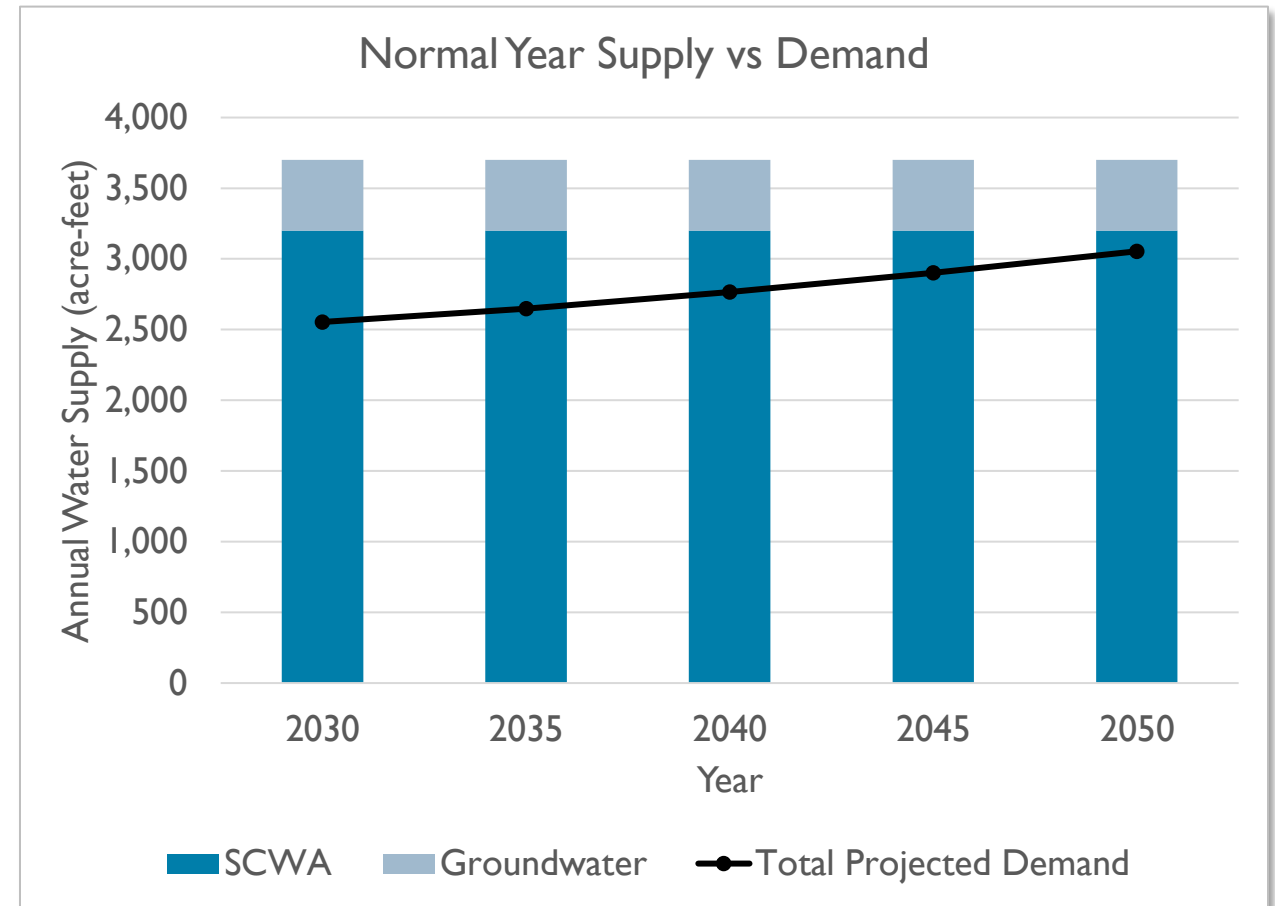
HISTORICALLY THE DISTRICT HAS BEEN ABLE TO MEET ALL WATER DEMANDS

- On average, 75-80% of the District's supply has been imported water from the Sonoma County Water Agency (Sonoma Water)
- Local groundwater has provided about 20-25% of the supply.



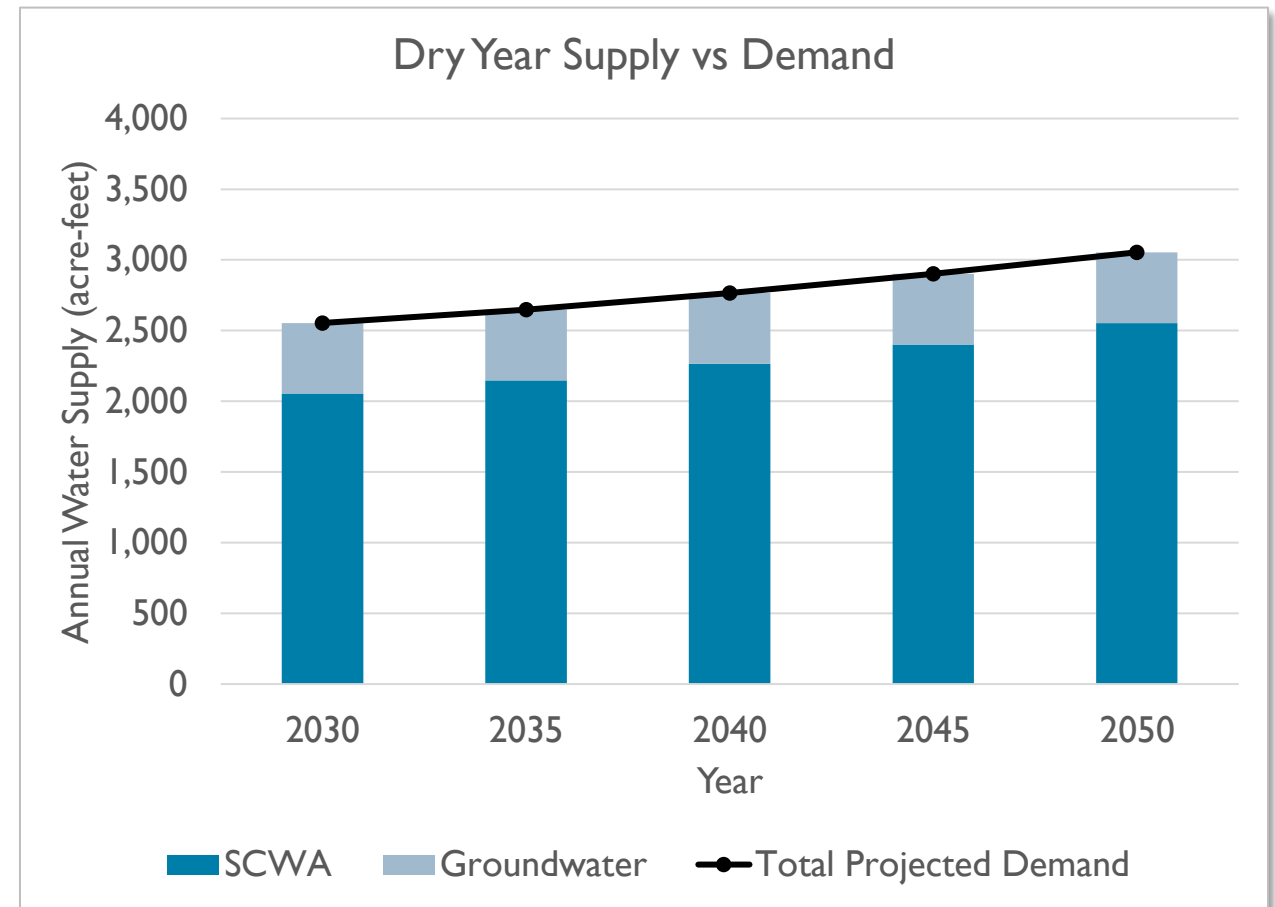
DISTRICT WILL BE ABLE TO MEET PROJECTED NORMAL YEAR DEMANDS THROUGH 2050

- In normal rainfall years, supplies are projected to be sufficient to meet demands through 2050
- District is tracking emerging contaminants of concern, such as PFOA/PFOS



PROJECTED SUPPLIES ARE SUFFICIENT TO MEET DEMANDS IN DRY YEARS

- According to Sonoma Water, it will be able to meet 100% of demand for purchased water in single dry-year and multiple dry-year scenarios, so District will be able to meet demands in all hydrologic year types
- Supplies are sufficient to meet demands through 2050



WATER SUPPLY/DEMAND MANAGEMENT STRATEGIES AND ACTIONS FOR DRY YEARS

- Implementing water conservation programs
- Actions described in the Water Shortage Contingency Plan



WATER SHORTAGE CONTINGENCY PLAN (WSCP)

2025 WSCP OVERVIEW

- Framework of planned response measures to mitigate future water supply shortages
- Prepared alongside the 2025 UWMP
- Standalone plan that can be updated independently of the UWMP

WSCP ELEMENTS

1. Water supply reliability analysis
2. Annual Assessment Procedures
3. Six standard shortage stages
4. Shortage response actions
5. Communication protocols
6. Compliance and enforcement
7. Legal authorities
8. Financial consequences
9. Monitoring and reporting
10. WSCP refinement procedures

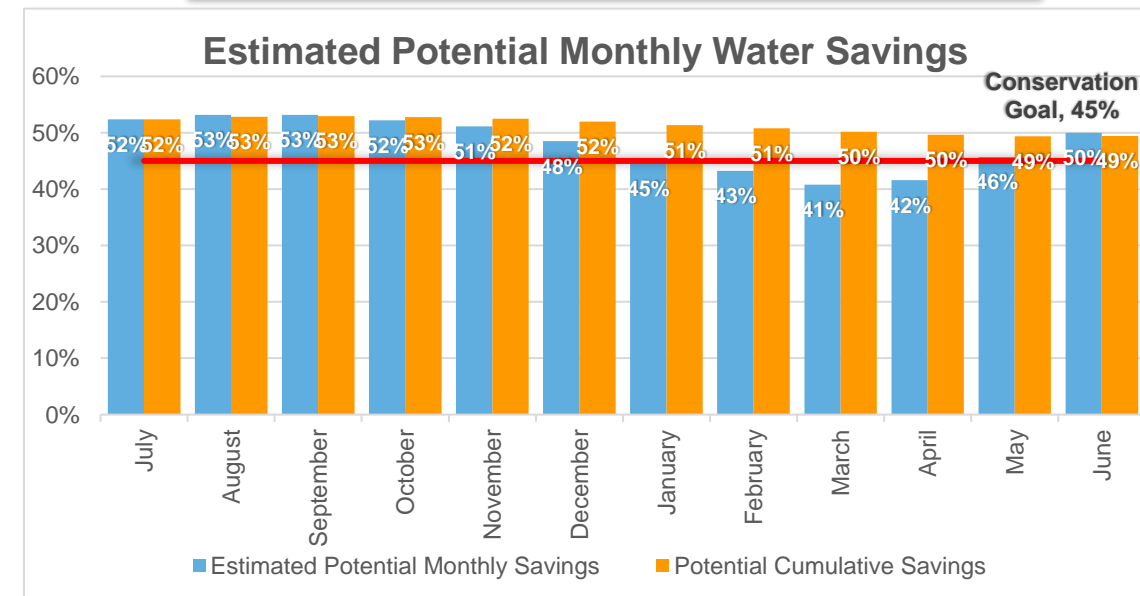
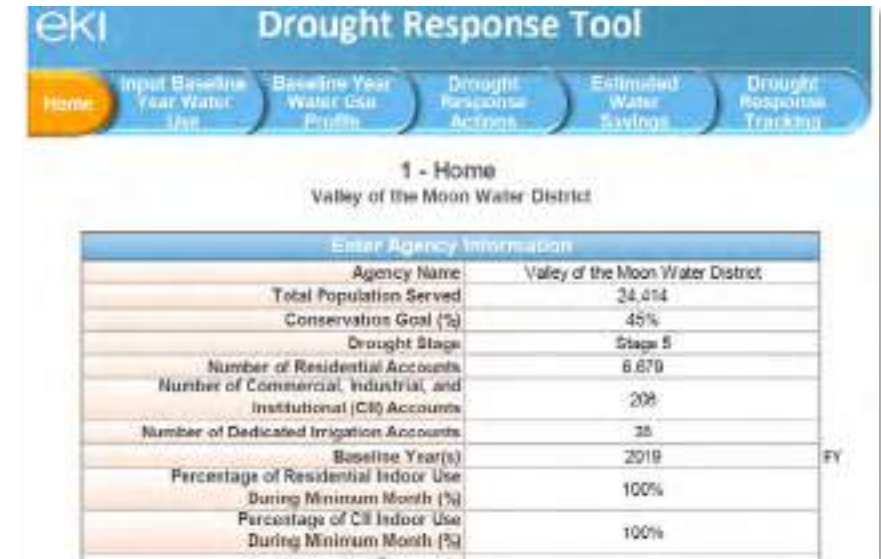
SIX STANDARD SHORTAGE STAGES

| Shortage Level | Percent Shortage Range | Shortage Response Actions |
|----------------|------------------------|--|
| 1 | Up to 10% | Minimal Shortage – Up to 10% (Voluntary) |
| 2 | Up to 20% | Moderate Shortage – Up to 20% (Mandatory) |
| 3 | Up to 30% | Severe Shortage – 20% to 30% (Mandatory) |
| 4 | Up to 40% | Severe Shortage – 30% to 40% (Mandatory) |
| 5 | Up to 50% | Critical Shortage – 40% to 50% (Mandatory) |
| 6 | >50% | Critical Shortage – greater than 50% (Mandatory) |

NOTES: The appropriate Stage will be enacted by the Board of Directors to respond to the corresponding estimated water shortage that may result from the following: droughts, extreme weather events, natural disasters, extended power outages, reduced deliveries from Sonoma Water, regulatory droughts, and other water shortage conditions.

BASIS FOR SELECTION OF DROUGHT RESPONSE ACTIONS

- Focus on outdoor water use
- Focus on a few, simple actions to make messaging, enforcement, and compliance easier
- At Stage 5, no outdoor potable water use allowed for irrigation, and at Stage 6, new construction must offset new demand, and no new water using landscape may be installed by any customer.
- Quantitatively assessed using Drought Response Tool.



VALLEY OF THE MOON WATER DISTRICT 2025 URBAN WATER MANAGEMENT PLAN 2025 WATER SHORTAGE CONTINGENCY PLAN



PUBLIC HEARING AND ADOPTION

JUNE 17, 2026

Appendix E: Water Shortage Contingency Plan



Water Shortage Contingency Plan 2025 Update

Valley of the Moon Water District

May 2026



Introduction
2025 Water Shortage Contingency Plan

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Introduction

2025 Water Shortage Contingency Plan

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ATTACHMENTS

- Attachment 1. Sonoma County Water Agency Annual Water Supply and Demand Assessment Procedures
- Attachment 2. Drought Response Tool Quantitative Assessment
- Attachment 3. Water Shortage Contingency Plan Resolution



Introduction

2025 Water Shortage Contingency Plan

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.

Valley of the Moon Water District's (District's) Water Shortage Contingency Plan (WSCP) has been developed to serve as a flexible framework of planned response measures to mitigate future water supply shortages. This WSCP builds upon and supersedes the WSCP that was presented in the 2020 Urban Water Management Plan (UWMP).

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. The WSCP also includes procedures to conduct an annual assessment of water supply and demand in order to determine whether water shortage conditions are likely to exist in the forthcoming year, and to proactively begin the process of implementing WSCP stages of action, as appropriate.

This WSCP has been prepared in accordance with California Water Code (CWC) § 10640 and CWC § 10632 of the UWMP Act. Text from the UWMP Act has been included in grey text boxes with italicized font at beginning of relevant sections of this WSCP. The information presented in the respective WSCP sections and the associated text and tables are collectively intended to fulfill the requirements of that sub-section of the UWMP Act.



Water Supply Reliability Analysis 2025 Water Shortage Contingency Plan

2 WATER SUPPLY RELIABILITY ANALYSIS

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

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

The District relies on and plans to rely on two main water supply sources, including surface water supplies from the Sonoma County Water Agency (Sonoma Water or SCWA) and groundwater production.

The reliability analysis was performed based on, among other things, Sonoma Water’s water reliability analysis and the District’s historical groundwater production. Based on the service reliability analysis, the District is expected to have adequate water supplies during all hydrologic scenarios, including normal years, single dry years, and multiple dry years, to meet projected demands through 2050.

A Drought Risk Assessment (DRA) was also conducted during the water supply reliability assessment, which evaluates the effects on available water supply sources of an assumed five-year drought commencing the year after the assessment is completed (i.e., from 2026 through 2030). Based on the DRA, the District is expected to have sufficient water supply from 2026 to 2050. This WSCP addresses potential water shortage conditions and identifies a variety of actions that the District will implement to reduce demand and further ensure supply reliability at various levels of water shortage.



Prior Drought Actions

2025 Water Shortage Contingency Plan

3 PRIOR DROUGHT ACTIONS

The District has historically developed different strategies for reducing water demand during water shortages. The District's actions in response to the recent severe drought that occurred in California between 2014 and 2017 are discussed below.

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

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

The mandatory conservation standards included in CWC § 865(c) range from 8 percent for suppliers with an R-GPCD below 65 R-GPCD, up to 36 percent for suppliers with an R-GPCD of greater than 215 GPCD. As with previous emergency drought regulations adopted by the SWRCB in 2014, the new water conservation regulation was primarily intended to reduce outdoor urban water use. Based on their R-GPCD, the District was required to reduce water use by 20 percent relative to its 2013 water use. Through enactment of its WSCP, the District surpassed these reduction targets. During the June 2015 through May 2016 compliance period, the District surpassed its water use reduction target with cumulative savings of 30 percent relative to its 2013 use. In June 2016, the District adopted its 2015 UWMP and associated WSCP update. In April 2017, the State Governor ended the drought State of Emergency.

Another severe drought impacted the region between 2019 and 2022. In April 2021, after the region experienced record drought, a State of Emergency Proclamation was declared for Sonoma County by the State Governor, and the Sonoma County Board of Supervisors declared a local drought emergency. At this time, Sonoma Water sought 20 percent voluntary conservation from retailers. In response, the District entered into Stage 2 of its 2020 WSCP. The drought was declared officially over in 2023.



Annual Water Supply and Demand Assessment Procedures 2025 Water Shortage Contingency Plan

4 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

CWC § 10632 (a) (2)

The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

CWC § 10632.1

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

CWC § 10632.2

An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision (a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.

On an annual basis, the District will conduct an Annual Assessment to identify whether there is likely to be a water shortage condition in the following year. Because the District's primary source of potable water supply is from Sonoma Water, the evaluation of Sonoma Water supplies for a particular year will be based on information provided by Sonoma Water.

For purposes of this assessment, a water shortage condition is defined as an anticipated shortfall of 10 percent or more, corresponding to Water Shortage Level 2. Each element of the Annual Assessment is described below, along with the key data inputs and methodologies for determining these elements, and expected timing of the decision process.



Annual Water Supply and Demand Assessment Procedures

2025 Water Shortage Contingency Plan

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:

- **Sonoma Water Available Supply** – Sonoma Water will develop and present the draft annual assessment to the Technical Advisory Committee (TAC) at the April meeting. The final annual assessment will be presented at the June TAC meeting. The District is a member of the TAC and the Water Advisory Committee (WAC) that represents the major cities and water districts that receive water delivered by Sonoma Water aqueduct system. The District will conduct the Annual Assessment regarding Sonoma Water available supply as part of a coordinated effort led by Sonoma Water.

Further details about the evaluation criteria and procedure used by Sonoma Water in conducting an Annual Assessment could be found in **Attachment 1** of this WSCP. As discussed in **Attachment 1**, evaluation criteria used by Sonoma Water include the following:

- Unconstrained customer demand for each of Sonoma Water’s wholesale customers, considering weather, growth, and other influencing factors.
 - Russian River operations, including current reservoir releases from Lake Sonoma and Mendocino and anticipated releases to meet in-stream flow requirements and water demand.
 - Hydrology and watershed conditions, including Lake Sonoma and Lake Mendocino cumulative inflows and storage levels, soil moisture, and snowpack.
 - Potter Valley Project inflows, including Lake Pillsbury storage levels and observed and projected project transfers.
- **Groundwater Supply Well Constraints** – A comparison of groundwater level elevations to well operational depths to identify any constraints on accessing the groundwater supply (e.g., dropping water levels due to limited rainfall/runoff) and to identify any potential needs to (1) deepen existing wells, or (2) site and drill additional supply wells.
 - **Local Regulatory Conditions** – Evaluation of (1) any new Groundwater Sustainability Agency (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.
 - **State Regulatory Conditions** - Evaluation of any state-mandated drought or water use restrictions known during preparation of the Annual Assessment.

These criteria will be assessed by District staff with detailed knowledge of District operations, including the District’s General Manager, Water System Manager, Administration Manager, and Finance Manager. The data used to support these assessments may include, but are not limited to, groundwater levels, system demand, and available supply from Sonoma Water.

2. Water Supply

Based on the evaluation criteria above and available supporting information, the District will quantify the projected available supply over the forthcoming year. This quantification will likely be a range and subject to revision as new data is available and as conditions evolve.



Annual Water Supply and Demand Assessment Procedures

2025 Water Shortage Contingency Plan

3. Unconstrained Customer Demand

Unconstrained customer demands (i.e., the expected water use in the absence of shortage-caused reductions in water use) will be evaluated and estimated for the forthcoming year based on:

- A comparison of monthly customer demands relative to prior years (e.g., last 3 years),
- Evaluation of current and anticipated weather conditions,
- New demands anticipated during the coming year (e.g., new accounts coming online), and
- Any other potentially pertinent factors identified by the District (e.g., pandemic-related stay-at-home orders).

4. Planned Water Use for Current Year Considering Dry Subsequent Year

The District will compare the estimated unconstrained demands to the anticipated supplies for the current year, assuming that the following year will be dry (i.e., a 10 percent supply shortfall), using the Evaluation Criteria identified above.

5. Infrastructure Considerations

The District will evaluate how infrastructure capabilities and constraints may affect its ability to deliver supplies to meet expected customer water demands in the coming year. The constraints and capabilities are expected to include, among other things:

- Anticipated capital projects and upgrades, and
- Anticipated maintenance and repairs.

6. Other Factors

Other factors that might affect groundwater supply include groundwater pumping restrictions from the Groundwater Sustainability Agency (GSA) and groundwater demand from the local agricultural customers.

7. Team Members and Decision Makers

- The General Manager is the primary decision maker but relies on information from the Water System Manager.
- The Water System Manager oversees local groundwater supply and provides information to the General Manager.
- Other team members or agencies involved in the process include:
 - Sonoma Water
 - Administration Manager
 - Finance Manager

Consistent with California Water Code (CWC) § 10632.1, the District will perform and submit an Annual Assessment to DWR by July 1st of each year. **Table 4-1** shows the timeline for preparing the Annual Assessment.



**Annual Water Supply and Demand Assessment Procedures
2025 Water Shortage Contingency Plan**

Table 4-1 Annual Assessment Procedures Decision-Making Timeline

| Decision-Making Step | Start Date | End Date |
|---|------------|---|
| Determine groundwater supply capacity for the current year. | February | April |
| Obtain Draft Annual Assessment from Sonoma Water and provide comments on Sonoma Water Draft Assessment. | April | April |
| Calculate water supply reliability using data from Sonoma Water and District's groundwater supply wells. | March | April |
| Determine shortages and response actions. | April | May |
| Prepare and present preliminary report to the Board if a supply shortage is identified. | February | May |
| Update assessment based on final water supplies. | April | May |
| Prepare decision-making documents for approval and activating appropriate protocols to declare a WSCP stage of action as necessary. | April | May |
| Prepare annual water shortage assessment report. | April | May |
| Obtain the Final Annual Assessment from Sonoma Water. Prepare the draft Annual Assessment for the June Board meeting. Implement WSCP actions as approved. | May | June |
| Submit final annual water shortage assessment report to the State. | June | No later than July 1 st of each year |



Water Shortage Levels
2025 Water Shortage Contingency Plan

5 WATER SHORTAGE LEVELS

Consistent with the requirements of CWC § 10632(a)(3), this WSCP is based on the six water shortage levels (also referred to as “stages”) shown in **Table 5-1**. These stages are intended to address shortage caused by any condition, including the catastrophic interruption of water supplies. **Table 5-1** also summarizes the water supply reductions and supply conditions associated with each stage of action.

Table 5-1 Water Shortage Contingency Plan Levels (DWR Table 8-1)

| <input checked="" type="checkbox"/> | Check the box if the Supplier uses the Standard six levels of water shortage. | |
|--|---|--|
| Shortage Level | Percent Shortage Range | Shortage Response Actions |
| 1 | Up to 10 percent | Minimal Shortage – Up to 10 percent (Voluntary) Includes implementation of voluntary restrictions on end uses (see Table 6-1) as well as agency actions (see Table 6-2). |
| 2 | Up to 20 percent | Moderate Shortage – Up to 20 percent (Mandatory) Includes implementation of mandatory restrictions on end uses (see Table 6-1) as well as agency actions (see Table 6-2). |
| 3 | Up to 30 percent | Severe Shortage – 20 percent to 30 percent (Mandatory) Includes implementation of mandatory restrictions on end uses (see Table 6-1) as well as agency actions (see Table 6-2). |
| 4 | Up to 40 percent | Severe Shortage – 30 percent to 40 percent (Mandatory) Includes implementation of mandatory restrictions on end uses (see Table 6-1) as well as agency actions (see Table 6-2). |
| 5 | Up to 50 percent | Critical Shortage – 40 percent to 50 percent (Mandatory) Includes implementation of mandatory restrictions on end uses (see Table 6-1) as well as agency actions (see Table 6-2). |
| 6 | >50 percent | Critical Shortage – greater than 50 percent (Mandatory) Includes implementation of mandatory restrictions on end uses (see Table 6-1) as well as agency actions (see Table 6-2). |
| <p>NOTES: The appropriate Stage will be enacted by the Board of Directors to respond to the corresponding estimated water shortage that may result from the following: droughts, extreme weather events, natural disasters, extended power outages, reduced deliveries from Sonoma Water, regulatory droughts, and other water shortage conditions.</p> | | |



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6 SHORTAGE RESPONSE ACTIONS

This section describes the response actions the District will take to deal with the shortages associated with each of the six stages listed in Section 5.

6.1 Supply Augmentation

There are currently no supply augmentation actions planned in the District's shortage response actions. However, as discussed in Section 6.7 of the UWMP, potential transfer and exchange opportunities exist with other Sonoma Water contractors under the Restructured Agreement.

6.2 Demand Reduction

Consumption reduction methods are actions that are taken by the District to reduce water demand within the District's service area. These actions, summarized in **Table 6-1** and **Table 6-2**, include expanded customer outreach, various customer rebates, decreased line flushing, increased water waste patrols and a Drought Revenue Recovery Surcharge. The monthly and cumulative annual water savings impacts associated with each restriction, prohibition and consumption reduction method were quantitatively estimated using the Drought Response Tool (DRT) for each stage of action, as described in Section 6.7 and included in **Attachment 2**.



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Table 6-1 Demand Reduction Actions (DWR Table 8-2)

| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | | |
|----------------|---|--|---|--|--|
| Shortage Level | Demand Reduction Actions These are the only categories that will be accepted by the WUEdata online submittal tool. | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage Drop down | Shortage Gap Reduction Value (a) Percent | | |
| 1 | Other - Prohibit use of potable water for washing hard surfaces | Percentage | 1% | Washing sidewalks, walkways, driveways, parking lots and other hard-surfaced areas by direct hosing is not recommended, unless necessary for public health and safety. | No |
| 1 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | Percentage | 1% | Breaks or leaks are recommended to be corrected within 72 hours of discovery or notice from the District. | No |
| 1 | Landscape - Restrict or prohibit runoff from landscape irrigation | Percentage | 1% | Irrigation in manner that allows excessive runoff of water, or unreasonably over-sprays the area of irrigation, is not recommended. | No |
| 1 | Other - Require automatic shut off hoses | Percentage | <1% | Washing cars, boats, trailers or other vehicles and machinery directly with a hose not equipped with a shutoff nozzle is not recommended. | No |
| 1 | Water Features - Restrict water use for decorative water features, such as fountains | Percentage | <1% | Use of potable water for non-recycling decorative water fountains is not recommended. | No |
| 1 | CII - Other CII restriction or prohibition | Percentage | <1% | Use of water for single pass evaporative cooling systems for air conditioning is not recommended for all connections installed after 6 June 2000 unless required for health or safety reasons. | No |



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| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | | |
|----------------|---|--|---|--|--|
| Shortage Level | Demand Reduction Actions These are the only categories that will be accepted by the WUEdata online submittal tool. | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage Drop down | Shortage Gap Reduction Value (a) Percent | | |
| 1 | Other - Prohibit vehicle washing except at facilities using recycled or recirculating water | Percentage | <1% | Use of water for new, non-recirculating conveyor car wash systems is not recommended. | No |
| 1 | CII - Other CII restriction or prohibition | Percentage | <1% | Use of water for new non-recirculating industrial clothes wash systems is not recommended. | No |
| 1 | CII - Restaurants may only serve water upon request | Percentage | <1% | Restaurants may only serve water upon request. | No |
| 1 | CII - Lodging establishment must offer opt out of linen service | Percentage | <1% | Hotels and lodging establishments offer a linen service opt-out. | No |
| 1 | Landscape - Prohibit certain types of landscape irrigation | Percentage | <1% | The irrigation with potable water of ornamental turf on public street medians is not recommended. | No |
| 1 | Landscape - Other landscape restriction or prohibition | Percentage | 1% | Irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or microspray systems is not recommended. | No |
| 2 | Other | Percentage | Up to 10% | Voluntary action and measures from Stage 1 are now mandatory | Yes |
| 2 | Other | Percentage | 1% | Accelerate leak detection and repair program. | Yes |
| 2 | Other - Require automatic shut off hoses | Percentage | 2% | Use of any garden or utility hose without a hose-end shut-off nozzle is prohibited. | Yes |



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| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | | |
|----------------|---|--|---|---|--|
| Shortage Level | Demand Reduction Actions These are the only categories that will be accepted by the WUEdata online submittal tool. | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage Drop down | Shortage Gap Reduction Value (a) Percent | | |
| 2 | Landscape - Limit landscape irrigation to specific days | Percentage | 5% | Irrigation limited to three days per week, and irrigation is limited to the hours between 8pm to 6am. | Yes |
| 2 | Other - Prohibit use of potable water for construction and dust control | Percentage | <1% | Recycled water must be used for construction dust control. | Yes |
| 2 | Offer Water Use Surveys | Percentage | <1% | Conduct water use surveys targeting high water users. | Yes |
| 2 | Other - Prohibit vehicle washing except at facilities using recycled or recirculating water | Percentage | 1% | Car washing shall be allowed only at facilities using recycled or recirculating water. | Yes |
| 2 | Offer Water Use Surveys | Percentage | <1% | Dedicated irrigation customers are required to conduct the irrigation survey. | Yes |
| 2 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | Percentage | 1% | Breaks or leaks are recommended to be corrected within 48 hours of discovery or notice from the District. | Yes |
| 3 | Other | Percentage | Up to 20% | Continue with action and measures from Stage 2 except where superseded by more stringent requirements. | Yes |
| 3 | Implement or Modify Drought Rate Structure or Surcharge | Percentage | 4% | The District will implement drought rate structure / water budget. | Yes |



Shortage Response Actions
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| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | | |
|----------------|---|--|---|--|--|
| Shortage Level | Demand Reduction Actions These are the only categories that will be accepted by the WUEdata online submittal tool. | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage Drop down | Shortage Gap Reduction Value (a) Percent | | |
| 3 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | Percentage | 1% | Breaks or leaks are recommended to be corrected within 24 hours of discovery or notice from the District. | Yes |
| 3 | Landscape - Limit landscape irrigation to specific days | Percentage | 10% | Irrigation limited to two days per week, and irrigation is limited to the hours between 8pm to 6am. This measure is voluntary under Stage 2 and becomes mandatory under Stage 3. | Yes |
| 3 | Pools and Spas - Require covers for pools and spas | Percentage | <1% | All pools must be covered when not in use. | Yes |
| 4 | Other | Percentage | Up to 30% | Continue with action and measures from Stage 3 except where superseded by more stringent requirements. | Yes |
| 4 | Other water feature or swimming pool restriction | Percentage | <1% | Filling and/or refilling new and existing decorative water features (i.e. ponds, lakes and fountains) is prohibited. | Yes |
| 4 | Other water feature or swimming pool restriction | Percentage | <1% | Filling new swimming pools is prohibited. | Yes |
| 4 | Other water feature or swimming pool restriction | Percentage | <1% | Filling or topping-off of existing swimming pools is prohibited. | Yes |
| 4 | Landscape - Limit landscape irrigation to specific days | Percentage | 18% | Irrigation limited to one day per week, and irrigation is limited to the hours between 9pm to 6am. | Yes |
| 4 | Offer Water Use Surveys | Percentage | 2% | Conduct water surveys targeting high water users | Yes |



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| Is the Supplier completing this table using the standard six levels? (yes/no) | | | | | |
|---|---|--|---|--|--|
| Yes | | | | | |
| Shortage Level | Demand Reduction Actions These are the only categories that will be accepted by the WUEdata online submittal tool. | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? |
| | | Volume or Percentage Drop down | Shortage Gap Reduction Value (a) Percent | | |
| 5 | Other | Percentage | Up to 40% | Continue with action and measures from Stage 4 except where superseded by more stringent requirements. | Yes |
| 5 | Landscape - Prohibit all landscape irrigation | Percentage | (b) | Use of potable water for irrigation is prohibited for all customers. | Yes |
| 5 | Other | Percentage | 35% | All residential and Commercial, Industrial, and Institutional (CII) customers shall reach a water reduction of forty five percent (45%) from previous use. | Yes |
| 6 | Other | Percentage | Up to 50% | Continue with action and measures from Stage 5 except where superseded by more stringent requirements. | Yes |
| 6 | Landscape - Other landscape restriction or prohibition | Percentage | <1% | No water-using landscape may be installed in new construction. | Yes |
| 6 | Moratorium or Net Zero Demand Increase on New Connections | Percentage | <1% | New construction must offset new demand by conserving one times the new demand within the community. | Yes |
| 6 | Landscape - Other landscape restriction or prohibition | Percentage | <1% | No new water-using landscape may be installed by any customer. | Yes |
| 6 | Other | Percentage | 45% | All residential and CII customers shall reach a water reduction of fifty-five (55) percent from previous use. | Yes |



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| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | | | |
|--|---|--|--|--|--|--|
| Shortage Level | Demand Reduction Actions These are the only categories that will be accepted by the WUEdata online submittal tool. | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) | Penalty, Charge, or Other Enforcement? | |
| Volume or Percentage Drop down | | Shortage Gap Reduction Value (a) | | | | |
| | | Percent | | | | |
| <p>NOTES:</p> <p>(a) Shortage gap reduction percentages represent the percentage of total demand expected to be reduced through implementation of an action.</p> <p>(b) Prohibition of irrigation with potable water under Stages 5 and 6 is assumed to contribute to water savings realized through water budgets enacted under Stages 5 and 6 and therefore are not reported here to avoid double counting.</p> | | | | | | |



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Table 6-2 Supply Augmentation and Other Actions (DWR Table 8-3)

| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | |
|----------------|--|--|---|---|
| Shortage Level | Supply Augmentation Methods and Other Actions by Water Supplier <small>These are the only categories that will be accepted by the WUEdata online submittal tool</small> | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) |
| | | Volume or Percentage Drop down | Shortage Gap Reduction Value (a) Percent | |
| 1 | Expand Public Information Campaign | Percentage | <1% - 2% | Publicize the water shortage and conservation measures using a media campaign, newspaper articles, and website. |
| 1 | Expand Public Information Campaign | Percentage | <1% - 2% | Promote water conservation programs. |
| 1 | Expand Public Information Campaign | Percentage | <1% - 2% | Hold water efficiency workshops and public events. |
| 1 | Expand Public Information Campaign | Percentage | <1% - 2% | Distribute water bill inserts with information about water shortage and conservation. |
| 2 | Expand Public Information Campaign | Percentage | Up to 2% | Continue with action and measures from Stage 1 except where superseded by more stringent requirements. |
| 2 | Other Actions (describe) | Percentage | 1% | Accelerate leak detection and repair program. |
| 2 | Other Actions (describe) | Percentage | <1% | Suspend routine flushing of water mains except when necessary to address immediate health or safety concerns. |
| 2 | Other Actions (describe) | Percentage | <1% | Reduce distribution system pressures. |
| 2 | Implement or Modify Drought Rate Structure or Surcharge | Percentage | Up to 5% | The District will implement drought rate structure / water budget. |
| 3 | Other Actions (describe) | Percentage | Up to 5% | Continue with action and measures from Stage 2 except where superseded by more stringent requirements. |
| 3 | Implement or Modify Drought Rate Structure or Surcharge | Percentage | 5% | The District will implement drought rate structure / water budget. |



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| Yes | Is the Supplier completing this table using the standard six levels? (yes/no) | | | |
|--|--|--|---|--|
| Shortage Level | Supply Augmentation Methods and Other Actions by Water Supplier <small>These are the only categories that will be accepted by the WUEdata online submittal tool</small> | How much is this going to reduce the shortage gap? | | Additional Explanation or Reference (OPTIONAL) |
| | | Volume or Percentage Drop down | Shortage Gap Reduction Value (a) Percent | |
| 4 | Other Actions (describe) | Percentage | Up to 10% | Continue with action and measures from Stage 3 except where superseded by more stringent requirements. |
| 5 | Other Actions (describe) | Percentage | Up to 10% | Continue with action and measures from Stage 4 except where superseded by more stringent requirements. |
| 6 | Other Actions (describe) | Percentage | Up to 10% | Continue with action and measures from Stage 5 except where superseded by more stringent requirements. |
| 6 | Expand Public Information Campaign | Percentage | Up to 2% | Increase staff enforcement to ensure customers are complying with the assigned water budget. |
| NOTES: (a) Shortage gap reduction percentages represent the percentage of total demand expected to be reduced through implementation of an action | | | | |



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6.2.1 Prohibitions on End Uses

The District adopted Ordinance No. 1010¹ in 2016 to eliminate intentional or unintentional water waste when a reasonable alternative solution is available. In addition to these mandatory prohibitions, which are in place at all times, the District has incorporated prohibitions against specific water use practices during water shortages. The prohibitions on end uses associated with each Stage of the District's WSCP are summarized below and in **Table 6-1**.

6.2.2 Defining Water Features

CWC § 10632 (b)

For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

As required by CWC Section 10632, the District distinguishes between “decorative water features” such as ponds, lakes, and fountains that are artificially supplied with water and “recreational water features” such as swimming pools and spas. Prohibitions on water use for decorative water features are listed separately from those for recreational water features (see **Table 6-1**).

6.3 **Operational Changes**

The water shortage response actions included in **Table 6-2** include operational changes that the District will implement during each stage of action, including measures to: 1) reduce system losses through a reduction in line flushing and fire training exercises, (2) increase enforcement and patrols, (3) proactive calls to customers, (4) conduct leak surveys during droughts.

6.4 **Mandatory Restrictions**

The water shortage response actions included in **Table 6-1** 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 Section 8.

6.5 **Catastrophic Supply Interruption Plan**

Catastrophic supply interruptions may be caused by a regional power outage, an earthquake, or other disaster. In accordance with the Emergency Services Act, the District has developed an Emergency Operation Plan (EOP). This EOP guides response to unpredicted catastrophic events that might impact water delivery including regional power outages, earthquakes, or other disasters. The EOP outlines

¹ Further details about the Ordinance No. 1010 could be found in Chapter 9 of the District's 2025 UWMP.



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standard operating procedures for all levels of emergency, from minor accidents to major disasters for the following types of events:

- Earthquake
- Flooding
- Power outage
- Wildfire
- Pandemic
- Threat of or actual contamination to water system
- Structural damage from explosive device
- Armed/unarmed intruder/vandalism
- SCADA security
- Aqueduct interruption
- Bomb threat

The District's EOP has been coordinated with Sonoma Water and neighboring water purveyors.

6.6 Seismic Risk 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.

The District prepared a Local Hazard Mitigation Plan (LHMP) in 2021. Earthquake was identified as a likely hazard for the area due to the major faults in the region, including the San Andreas Fault and Rodgers Creek Fault. The San Andreas Fault is estimated to have a 33 percent chance of rupturing and causing earthquake activity, while the Rodgers Creek fault system's probability of 15 percent chance of rupture. Large seismic events could have catastrophic effects on the District's water supply and distribution infrastructure, as well as Sonoma Water infrastructure that the District depends on for water supply. These seismic events could possibly lead to damage to the District's water assets including damage to the access roads to reach infrastructure. According to modeling performed using the HAZUS software, 578 miles of potable water pipelines are estimated to experience 428 breaks and 1,713 leaks after a Magnitude 7.0 earthquake. HAZUS also estimates a loss ratio of 41.4 percent of potable water distribution lines resulting in \$7.7 million dollars in economic loss.



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The following mitigation actions were identified to address earthquake hazards:

- Conduct engineering-level study to understand seismic vulnerabilities of District critical assets
- Implement a water pipe inspection and maintenance program
- Earthquake hardening
- Cross connection to City of Sonoma water system
- Implement capital improvements in the Water System Master Plan
- “Map your Neighborhood” Preparedness Program
- Scotts Dam removal at Lake Pillsbury
- Conduct an Intertie Feasibility Study of new main aqueduct intertie from Sonoma Valley to Petaluma Valley
- Conduct an Intertie Feasibility Planning Study of new main aqueduct intertie from Sonoma Valley to American Canyon

The District is currently developing a Seismic Vulnerability Assessment. The assessment will provide a seismic assessment of the District’s drinking water transmission and distribution structure and recommend mitigation actions to enhance seismic resilience of critical infrastructure components. The draft assessment, dated 27 February 2026, identified several vulnerabilities in pipelines, water storage tanks, and one groundwater well infrastructure that could result in damage and service interruptions in a major earthquake. A prioritized capital improvement project list is provided in the assessment. In addition, the assessment recommended the District obtain emergency generators, procure spare hose systems and large diameter pipe, establish on call contracts for emergency materials and contractors, and develop protocols for leak tracking, repairs and FEMA documentation.

Impacts associated with earthquakes and liquefaction are also discussed in the *2021 Sonoma County Multijurisdictional Hazard Mitigation Plan* (County MJHMP; Tetra Tech, 2021). The County is currently updating its MJHMP, but as of the date of this WSCP, the update is not yet complete. The County MJHMP assesses Sonoma County’s vulnerabilities to various hazards, including seismic hazards, and presents mitigation strategies that are planned over the next five years. The District was a participating member of this County MJHMP, and the District is also participating in the ongoing process to update the MJHMP.

Discussion of seismic risks specific to the Sonoma Water system is provided in the *Sonoma County Water Agency Local Hazard Mitigation Plan*, dated 19 September 2024 (Sonoma Water LHMP; Sonoma Water, 2024). The Sonoma Water LHMP specifically assesses Sonoma Water’s natural hazard risks and vulnerabilities facing Sonoma Water infrastructure and provides a plan of action to address these vulnerabilities. The Sonoma Water LHMP identifies a series of mitigation measures to address seismic risk, including seismic retrofits of distribution system components to protect against damage due to liquefaction and lateral spread hazard and installation of automated throttling valves at aqueducts and interties to minimize uncontrolled releases out of Sonoma Water facilities.

6.7 Shortage Response Action Effectiveness

In order to evaluate and ensure that effective actions will be implemented with the proper level of intensity, the District employed the DRT, an Excel spreadsheet model developed by EKI Environment and



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Water, Inc. The DRT model calculates monthly savings anticipated by implementing each stage of action as detailed below.

6.7.1 Baseline Water Use Profile

Using the DRT, the District developed a pre-drought baseline water use profile that reflected usage patterns within the District’s service area by major water use sector during 2019 that was used to guide development of the WSCP. Demand in the year 2019 was selected as this year represents a non-drought year of demand. Key findings from this analysis are presented below.

Residential Per Capita Demand

The District’s baseline residential gallons per capita per day (R-GPCD) demand in 2019 was approximately 72 R-GPCD. As shown in **Table 6-3**, this R-GPCD is significantly lower than the statewide average of 85 R-GPCD.

Proportion of Outdoor Water Use

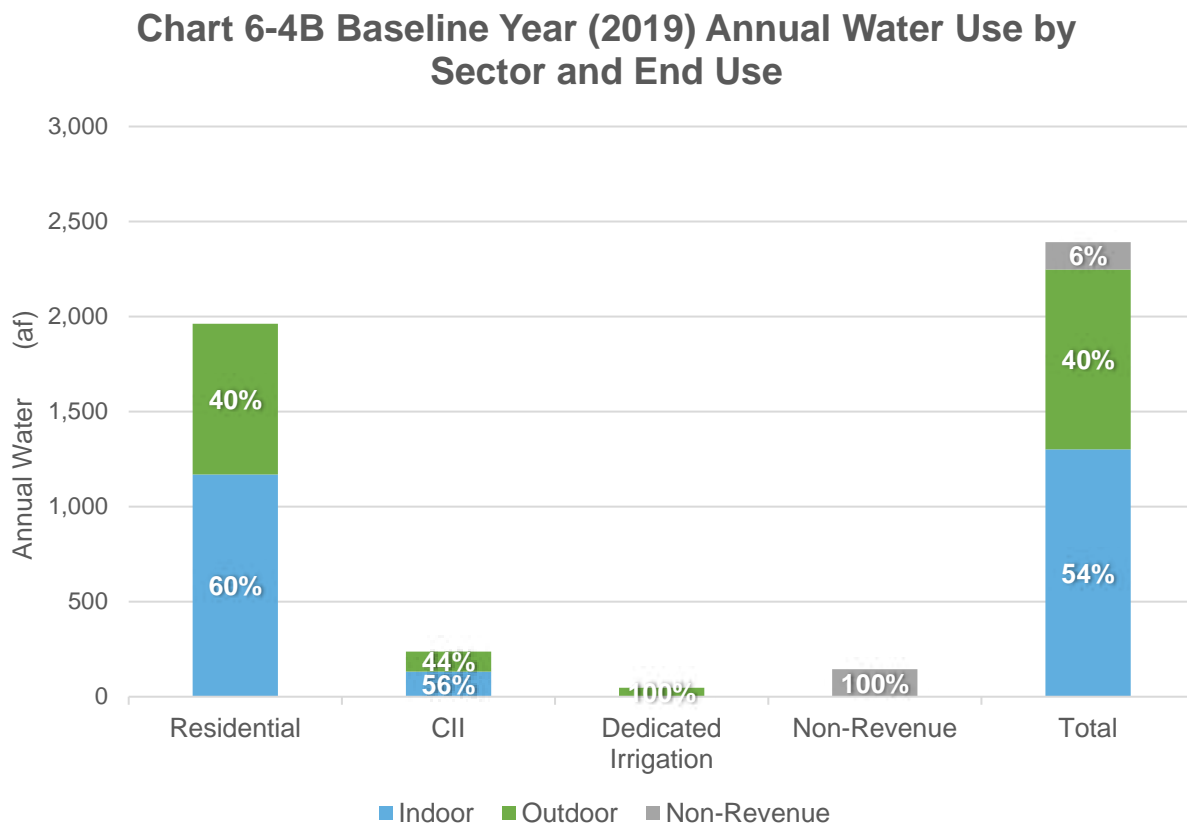
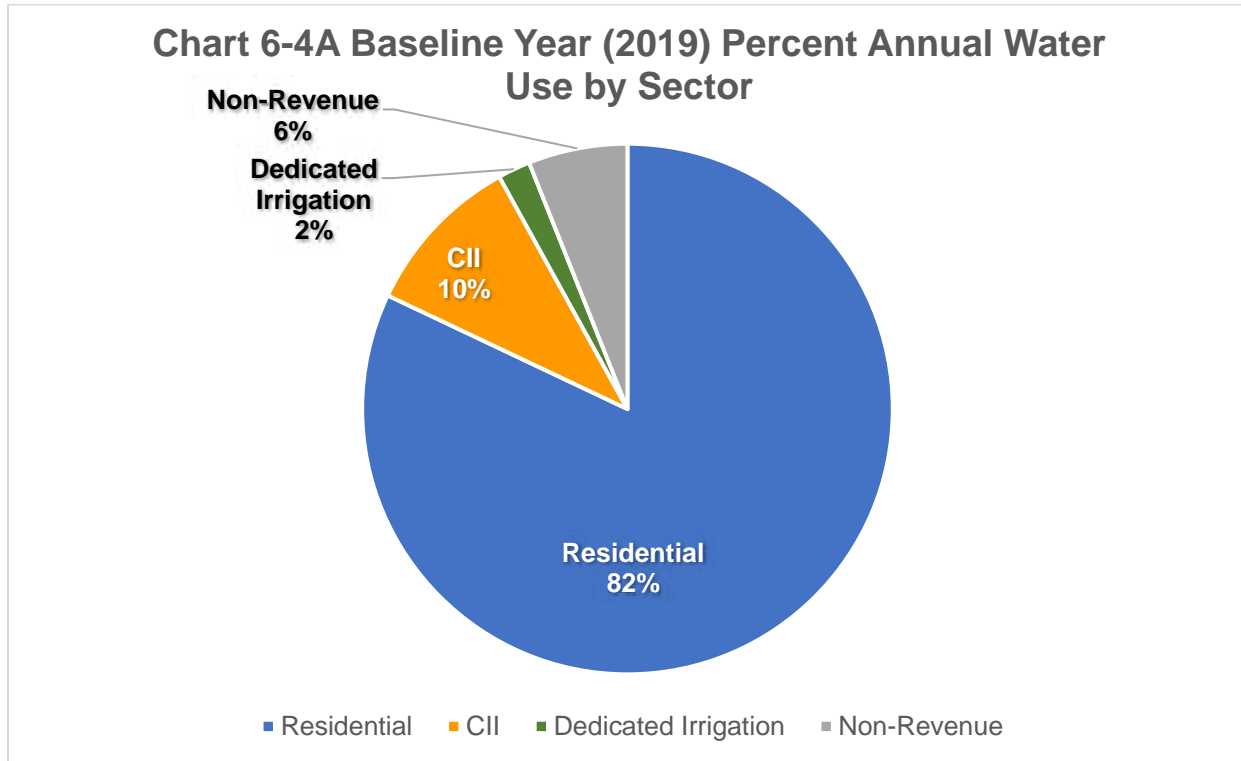
As shown in **Table 6-3** and associated charts, outdoor water use, which can generally be considered as a “discretionary water use”, was estimated to be approximately 40 percent of the District’s potable consumption during this pre-drought time period. Dedicated irrigation meters for potable water accounted for 2 percent of the total potable irrigation demand. The remaining irrigation water uses within the District’s service area are supplied by recycled water.

The DRT estimates indoor water use to be equivalent to the lowest monthly water use for each sector, accounting for the number of days in each month. Outdoor water use for each sector was estimated to be the difference between the total water use and the estimated indoor water use. If District customers tend to irrigate more heavily during winter months, an underestimation of the proportion of outdoor water use would occur.

The proportion of outdoor water use within the residential and commercial sectors is estimated to be 40 percent and 44 percent, respectively. This indicates that there is the potential to achieve significant potable water savings across these sectors, simply by focusing on outdoor uses. If the proportion of outdoor water use is being underestimated by the DRT method, then even more substantial savings may be achieved through targeting outdoor water use. As further shown in **Table 6-4** and its associated charts, the seasonal variation in baseline potable water use reflects increased irrigation demands during the summer and fall months. Therefore, the greatest potential for reductions in non-essential water use are expected during these months.

Table 6-3 Baseline Residential Per Capita Water Demand

| | Baseline Residential Per Capita Water Demand (R-GPCD) |
|--|---|
| District (a) | 72 |
| Statewide Average (c) | 85 |
| NOTES: (a) District R-GPCD calculated using 2019 metered data. (b) State-wide R-GPCD for 2019 obtained from data provided at California State Water Resources Control Board Water Conservation Portal - Conservation Reporting, http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.shtml , accessed March 2021. | |





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Table 6-4 Baseline Water Use Profile

| Sector | End-Use | Baseline (2019) Water Use | | | | | | | | | | | | | Annual percent of Total by Sector |
|----------------------|-----------------------------|---------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|-----------------------------------|
| | | July | August | September | October | November | December | January | February | March | April | May | June | Annual | |
| Residential | Indoor | 99 | 99 | 96 | 99 | 96 | 99 | 99 | 90 | 99 | 96 | 99 | 96 | 1,169 | 49% |
| | Outdoor | 108 | 154 | 121 | 126 | 84 | 61 | 21 | 10 | 0 | 0 | 30 | 78 | 793 | 33% |
| | <i>Subtotal Residential</i> | <i>207</i> | <i>253</i> | <i>217</i> | <i>226</i> | <i>180</i> | <i>160</i> | <i>120</i> | <i>100</i> | <i>99</i> | <i>96</i> | <i>129</i> | <i>174</i> | <i>1,962</i> | <i>82%</i> |
| CII | Indoor | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 11 | 11 | 11 | 11 | 132 | 6% |
| | Outdoor | 4 | 27 | 5 | 22 | 5 | 10 | 1 | 7 | 0 | 7 | 1 | 16 | 106 | 4% |
| | <i>Subtotal CII</i> | <i>15</i> | <i>38</i> | <i>16</i> | <i>34</i> | <i>16</i> | <i>21</i> | <i>12</i> | <i>17</i> | <i>11</i> | <i>18</i> | <i>12</i> | <i>27</i> | <i>238</i> | <i>10%</i> |
| Dedicated Irrigation | Outdoor | 10 | 4 | 11 | 3 | 8 | 2 | 2 | 0 | 1 | 0 | 3 | 2 | 47 | 2% |
| Non-Revenue | Non-Revenue | 15 | 19 | 16 | 17 | 13 | 12 | 9 | 8 | 7 | 7 | 9 | 13 | 145 | 6% |
| Total | Indoor | 111 | 111 | 107 | 111 | 107 | 111 | 111 | 100 | 111 | 107 | 111 | 107 | 1,301 | 54% |
| | Outdoor | 122 | 185 | 137 | 152 | 96 | 73 | 24 | 17 | 1 | 8 | 34 | 97 | 946 | 40% |
| | Non-Revenue | 15 | 19 | 16 | 17 | 13 | 12 | 9 | 8 | 7 | 7 | 9 | 13 | 145 | 6% |
| | Total | 247 | 315 | 260 | 280 | 216 | 195 | 143 | 125 | 119 | 122 | 153 | 217 | 2,392 | 100% |

NOTES:

(a) Volumes are in units of AF.

(b) Indoor water use was estimated to be the lowest monthly water use for each sector, accounting for the number of days in each month. Outdoor water use for each sector was estimated to be the difference between the total water use and the estimated indoor water use.



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Chart 6-5A Baseline Year (2019) Monthly Total Water Use by Sector

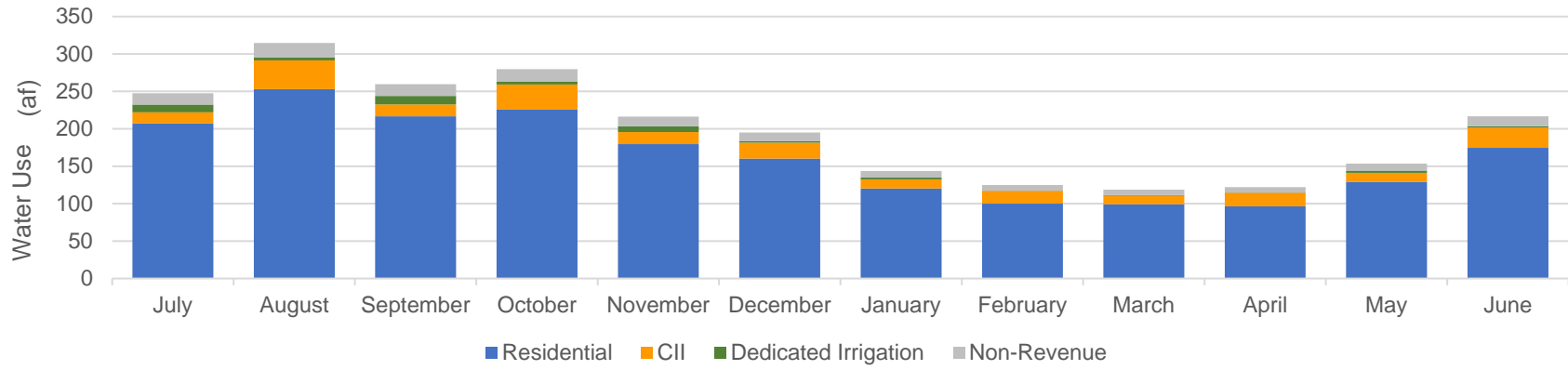
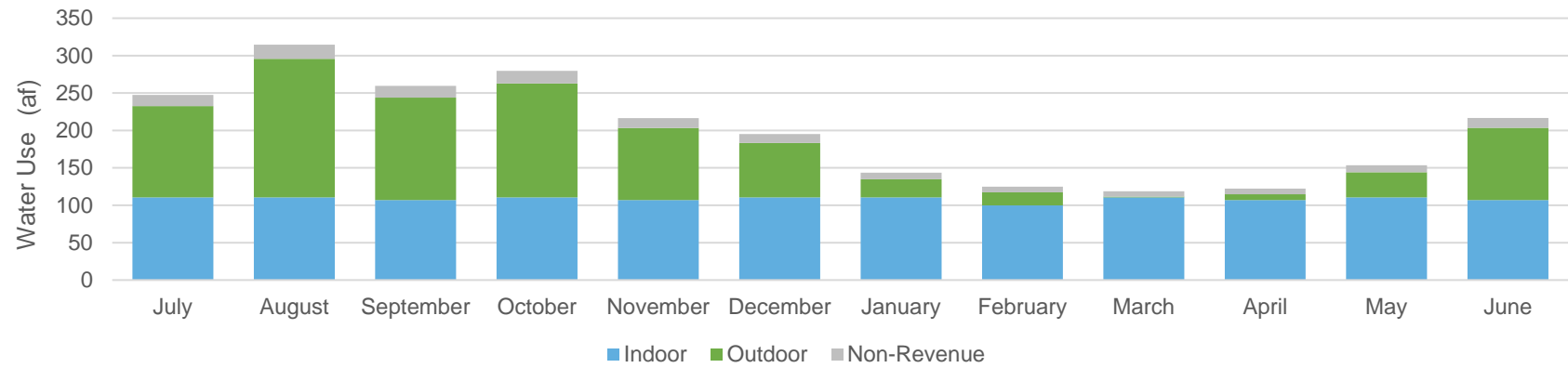


Chart 6-5B Baseline Year (2019) Monthly Indoor vs. Outdoor Water Use





6.7.2 Shortage Response Action Effectiveness

The DRT provides a quantitative framework that allows the District to systematically estimate the monthly and cumulative annual demand reductions expected to result from particular combinations of drought response actions and associated implementation rates. Data inputs to the DRT include total production, class-specific water use, population, and assumptions regarding the split between indoor and outdoor water use for each customer class.

For each drought response action, the user specifies:

- The customer class(es) and end use(s) that are affected.
- The percent savings for that end use for each account that implements the action. These are based on evaluations reported in the literature, or where such studies are not available, on best estimates based on the District's experience.
- The percentage of accounts assumed to implement the action, which is presumed to be the result of the intensity level of the District's program implementation, including but not limited to, marketing and enforcement activities.

An additional critical DRT user input is a set of constraints on demand reductions to ensure that usage levels do not endanger health and safety or result in unacceptable economic impacts. The DRT will not permit estimated usage reductions to violate these constraints, regardless of the demand reduction actions selected. The constraints are:

- A minimum residential indoor per capita daily usage of 25 gallons,
- A maximum residential outdoor usage reduction of 100 percent,
- A maximum Commercial, industrial, and institutional (CII) indoor usage reduction of 30 percent, and
- A maximum CII outdoor usage reduction of 100 percent.

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

For each stage of action, the modeling targeted the mid-range of the required demand reduction range, ergo:

- 5 percent for Stage 1
- 15 percent for Stage 2
- 25 percent for Stage 3
- 35 percent for Stage 4
- 45 percent for Stage 5
- 55 percent for Stage 6

The key DRT inputs and outputs for each of the stages of action are reproduced in **Attachment 2**.

Table 6-1 shows the water shortage reduction actions, savings assumptions, and implementation rates that are required for the District to achieve the required annual demand reductions for each of the six stages of action. At each stage, there are two types of demand-reduction actions identified:

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



Shortage Response Actions

2025 Water Shortage Contingency Plan

Many actions are implemented across a number of stages, some at increasing implementation levels. Therefore the actions in **Table 6-1** and **Table 6-2** are listed as a row under the first stage at which they are implemented. The percentages shown in the tables represent savings for the end uses.



Communication Protocols

2025 Water Shortage Contingency Plan

7 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.

Each stage of the WSCP is implemented with a formal declaration by the District Board of Directors upon the determination that Sonoma Water or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use due to a water supply shortage or emergency.

Even before formal declaration of a water shortage, a public information program will be activated to provide customers with as much advance notice as possible. Following declaration of a shortage, District customers would need to be provided notice of water shortage rules and regulations via a variety of media and communications methods.

Coordination between the District and with other public agencies can begin prior to formal declaration of a water shortage and can be accomplished through regular meetings, e-mail group updates, and presentations. In a regional water shortage scenario, the District would use public outreach resources and materials provided by Sonoma Water. In addition to these materials, the District may develop its own materials to communicate with customers, such as a dedicated customer service hotline, and expand its normal public outreach to support its water conservation efforts (see Chapter 9 of the 2025 UWMP).

As discussed in Chapter 9 of the 2025 UWMP, several District staff members jointly share the responsibility for water conservation. Staff time dedicated to water conservation and enforcement action will increase with the severity of a supply shortage. Additional duties may be assigned to current employees or hiring of temporary staff may be considered to meet staffing needs during extreme water shortages.

In summary, the general steps involved in communication include the following:

- If a water shortage is anticipated based on the preliminary evaluations performed for the Annual Assessment described in Section 4, the District will initiate a public information program, providing customers with notice of anticipated water shortage rules and regulations.
- At this time, the District will commence coordination with other public agencies via regular meetings, e-mail group updates, and presentations.
- Any change in stage of the WSCP will be implemented by a formal declaration by the District Board. The District will post declarations on its website and other multi-media outlets as feasible.
- The general public will be notified of the stage and the implementation actions necessary for them to follow. The implementation of the shortage action level will be noticed in the



Communication Protocols

2025 Water Shortage Contingency Plan

appropriate locations such as newspaper, District Office, and the Utilities Department, as well as other multi-media outlets.



Compliance and Enforcement
2025 Water Shortage Contingency Plan

8 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.*

Depending on the extent of the water waste the District may, after written notification to customer and a reasonable time to correct the violation as solely determined by the District, take action to enforce the District's water waste prevention ordinance (Ordinance No. 1010) or the WSCP. Penalties, fees, and charges are established by a resolution adopted by the District's Board of Directors. While Stages 2, 3, 4, 5 and 6 of the WSCP are in place, customers are subject to potential enforcement action if their water use exceeds the established allotment over two consecutive billing cycles or exceeds the established allotment in three billing cycles within a twelve-month period. Customers are at all times subject to potential enforcement action if they are found to be in violation of one or more of the requirements of Ordinance No. 1010. The following actions may be taken, at the discretion of the District's General Manager, to enforce Ordinance No. 1010 and the WSCP:

- At the customer's request and expense, the District will perform a complete site water audit, and the customer would be required to install additional water efficient fixtures on the basis of the audit.
- At the customer's expense, the District will install a flow-reducing device at the water meter.
- Disconnection of water service and payment of the then applicable reconnection fee for reconnection of the water service.
- The District may levy a water waste fee to the customer as summarized in **Table 8-1**.



Table 8-1 Procedure for Imposing Administrative Penalties

| District Action | Administrative Penalty |
|---|------------------------|
| Hang door tag notifying customer of water waste issue | No Penalty |
| Issue 1st letter to customer notifying them of water waste issue (14 days to comply) | No Penalty |
| Courtesy call to customer to discuss resolution of water waste issue | No Penalty |
| Issue 2nd letter and/or hang 2nd door tag for same water waste issue (7 days to comply) | \$25 |
| Issue 3rd letter and/or hang 3rd door tag for same water waste issue (7 days to comply) | \$50 |
| Install flow restrictor if domestic water or turn off if dedicated irrigation meter | \$125 |
| Continued water waste with a flow restrictor in place | \$250 |



Legal Authorities

2025 Water Shortage Contingency Plan

9 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.

As discussed above, the District has authority under Ordinance No. 1010 to require water rationing and conservation and to enforce penalties. Relevant code sections and an adopted water shortage contingency resolution are included as **Attachment 3** of this UWMP.

The District's WSCP update was adopted on 2 June 2026. The adoption ordinance is included as **Attachment 3** of this UWMP.

The District shall declare a water shortage emergency in accordance with Water Code Chapter 3 (commencing with Section 350) of Division 1 general provision regarding water shortage emergencies. The District shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency. The District will also coordinate with Sonoma Water as appropriate.



Financial Consequences of WSCP
2025 Water Shortage Contingency Plan

10 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.

The District's current water rate structure consists of two components: (1) a bimonthly service charge based on meter size, to recover the fixed cost associated with meter reading and billing, customer service, meter replacement and repair, and a portion of the costs for maintaining the water system; and (2) a volumetric charge for all water consumed, or a commodity rate charge based on the actual amount of water used, measured in billing units (BUs) of 1,000 gallons. The District's volumetric charge is made up of two tiers for single family residential and 2- and 3-unit multi-family customers, and a uniform tier for all other customer classes.

While designed to protect the District's financial condition, volumetric-based rate structure introduces financial risk for the District because some fixed costs are recovered through the commodity rate, which is based on total water usage. A reduction in water usage *may* result in commodity rate revenues not covering all the District's fixed costs.

To absorb the financial deficit caused by a reduction in water rate revenues (due to lower water sales) that exceeds the reduction in costs, the District's reserves will be drawn down in a manner consistent with the District's reserve policy that is in place at the time of the shortage. When the WSCP is implemented, the District's reserves will be employed to offset the loss of revenue from reduced water sales and the added costs for the water shortage response effort. For a single-year water supply shortage, District reserves are anticipated to be sufficient to make up the projected revenue shortfall. Furthermore, the transfer of funds for capital projects – which is held constant during all stages – may be reduced to prevent the reserves from dropping below a prudent level, as defined by the adopted reserve policy.

In cases where Sonoma Water has increased its wholesaler water rates during drought periods, the District may consider a rate adjustment through the Proposition 218 process to incorporate the increased cost of Sonoma Water supply.



Monitoring and Reporting

2025 Water Shortage Contingency Plan

11 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.*

The District's wells and Sonoma Water supply turnouts are all equipped with water meters. The District has replaced its customer meters with Advanced Metering Infrastructure (AMI) meters. The AMI system has the capability to detect low flow usage at rates that are five times lower than traditional positive displacement meters. With the AMI system, customers can go online and look at near-real-time water use records for their accounts through the consumer engagement portal. During a supply shortage, the District will continue to monitor water use to determine the effectiveness of the customer response to the implementation of the WSCP. Actual water savings achieved by implementing the WSCP will be determined by comparing water consumption records while the WSCP is in place with an appropriate baseline consumption.

Sonoma Water billing (turnout) meters have been converted to automatic read technology that provides 24-hour daily flow measurement. Further details on the AMI installations could be found in Chapter 9 of the UWMP.



WSCP Refinement Procedures
2025 Water Shortage Contingency Plan

12 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.*

As part of the Annual Assessment, the District’s team members will review the results of prior monitoring and reporting to determine the effectiveness of the WSCP. In addition, the District will consult with other Sonoma Water contractors and Sonoma Water directly. If modifications to shortage response actions are needed, the District team will present the proposed modifications to the District Board and request changes to the WSCP by resolution.

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



Plan Adoption, Submittal, and Availability

2025 Water Shortage Contingency Plan

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

A copy of the adopted 2025 WSCP including any amendments will be provided to the Department of Water Resources (DWR), the California State Library, and Sonoma County within 30 days of the adoption (**Attachment 3**). An electronic copy of the adopted 2025 WSCP will be submitted to the DWR using the DWR online submittal tool.

A copy of the adopted 2025 WSCP will be available for public review on the District's website within 30 days after filing the plan with DWR.



References

2025 Water Shortage Contingency Plan

14 REFERENCES

Infra Terra, 2026. Seismic Vulnerability Assessment and Development of a Prioritized Capital Improvement Project List. Draft Report. Prepared for Valley of the Moon Water District.

Sonoma County Water Agency (Sonoma Water), 2024. Local Hazard Mitigation Plan. Dated 19 September 2024.

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Tetra Tech, 2021. Sonoma County Multijurisdictional Hazard Mitigation Plan Update 2021. Dated October 2021. Prepared for Sonoma County, CA.

<https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Divisions/Planning/Long%20Range%20Plans/Hazard%20Mitigation%20Plan/Adopted-Sonoma-County-MJHMP-Volume-1-December-2021.pdf>

Attachment 1: Sonoma County Water Agency Annual Water Supply and Demand Assessment Procedures

Excerpted from Sonoma County Water Agency's Water Shortage Contingency Plan dated April 2026

Section 2: Water Supply Reliability Analysis

The water supply and demand assessment and the drought risk assessment are presented in Section 6 of the 2025 Plan and summarized below.

2.1 Water Supply and Demand Assessment (2030 – 2050)

The water supply and demand assessment described in Section 6.3 of the Plan provides a comparison of the projected water supply and demand for Sonoma Water from 2030 through 2050. The conclusion of the assessment is that Sonoma Water expects to have adequate water supply through the 2050 planning horizon, including in dry years. In the event of an unexpected shortage, Sonoma Water will work with its customers to reduce water demands, or to utilize additional local water sources, or both.

2.2 Drought Risk Assessment (2026 – 2030)

The drought risk assessment described in Section 6.5 of the Plan compares the estimated water supplies and demands for the next five years assuming that the next five years are similar to the five consecutive driest years on record (1987-1991). The comparison shows that Sonoma Water has adequate water supply to meet demands.

The key issues that may create a water shortage condition include drought conditions and emergencies resulting from events such as earthquakes and contamination.

Section 3: Annual Water Supply and Demand Assessment Procedures

This section presents the procedures used by Sonoma Water to conduct an annual water supply and demand assessment (annual assessment). The annual assessment is required to be submitted to DWR by July 1 of each year. The assessment forecasts near-term water supply conditions to ensure shortage response actions are triggered in a timely manner. The annual assessment provides a description and quantification of each source of Sonoma Water's water supply compared to water demands for the current year, with consideration of one subsequent dry year.

One of the most important functions provided by Sonoma Water is to monitor water supply conditions to gauge the likelihood of water shortages so that Sonoma Water's wholesale customers will be prepared to respond to the shortages. Sonoma Water constantly monitors the reservoir levels at Lake Pillsbury, Lake Mendocino, and Lake Sonoma and estimates flows in and out of those reservoirs, weather forecasts, and natural flows into and diversions from the Russian River and Dry Creek. By using this data as well as historical data regarding water use in different climatic conditions, Sonoma Water can project when a water shortage may be imminent.

The following subsections describe the decision-making process and data and methodologies used. Sonoma Water may modify these procedures based on its experience developing the annual assessment.

3.1 Decision Making Process

This section presents the decision-making process and timeline (see Table 3-1) that Sonoma Water uses each year to determine its water supply reliability. The timeline is approximate and may be adjusted by Sonoma Water in coordination with the water contractors, as long as the final annual assessment is submitted to DWR by July 1.

| Table 3-1. Annual Assessment Timeline | | | | | | |
|---|---------|----------|-------|-------|-----|------|
| Task | January | February | March | April | May | June |
| Monitor and forecast water supply conditions (continuous) | | | | | | |
| Sonoma Water's customers develop and provide water demand forecast by February 1. | | | | | | |
| 1. Present draft annual assessment to Sonoma Water's customers | | | | | | |
| 2. Receive review comments | | | | | | |
| 3. Present final annual assessment to the TAC | | | | | | |
| 4. Present annual assessment to the Board of Directors | | | | | | |
| 5. Submit annual assessment to DWR (due July 1 st) | | | | | | |

Note: The timelines presented in Table 1 are approximate and may be adjusted by Sonoma Water in coordination with the water contractors.

For the demand portion of the annual assessment, Sonoma Water uses the unconstrained water demand projections from the last adopted Plan unless more recent demand projections are provided by its customers. Sonoma Water staff provides the water contractors and Marin Water an opportunity to update their demand projections each year (typically by February 1). For Sonoma Water's other customers, which are not required to prepare their own Plans, Sonoma Water staff use the most recent demand data to develop demand projections considering population growth, available local supplies, and other factors. The annual assessment considers all demands on Sonoma Water's system to establish the supply available for Sonoma Water's customers including those that must complete and submit their own annual assessments to DWR.

For the supply portion of the annual assessment, Sonoma Water staff monitor water supply conditions (reservoir levels, stream/river flows, soil moisture, precipitation, etc.) to confirm adequate water supply and storage levels to meet customer demands and minimum instream flow requirements. The annual assessment reflects actual supply conditions up to the date of the assessment (typically March or April) and projects available water supply through the remainder of the year and one subsequent dry year using the Russian River System Model (RR ResSim). Sonoma Water uses modeling results to evaluate the potential for a water shortage condition to occur.

Each year, Sonoma Water presents and submits the annual assessment following the steps described below.

- 1. Share results of draft annual assessment with Sonoma Water's customers.** The draft annual assessment is shared with the TAC ad-hoc committee, typically in April. The assessment would also be shared with Sonoma Water's other customers if a shortage is projected. If a shortage is forecast, particularly during the critical months of July to October, implementation of shortage response actions would be coordinated with all the customers.
- 2. Receive review comments.** Sonoma Water's customers provide their review comments, if any, through the TAC. Sonoma Water communicates directly with Sonoma Water's other customers to obtain their review comments.

3. **Present final annual assessment to the TAC.** If there are comments on the draft assessment that require substantive changes, Sonoma Water will revise the assessment and present the final annual assessment report at the next TAC meeting. The annual assessment may be presented to the WAC. Sonoma Water will coordinate through the TAC to identify if any water supply gaps exist for each customer when considering both Sonoma Water supplies and local supplies. The assessment will be provided directly to Sonoma Water's other customers.
4. **Optional presentation of the annual assessment to the Board of Directors.** The annual assessment may be presented to Sonoma Water's Board of Directors during one of their regularly scheduled meetings, particularly if a shortage is anticipated or if an existing shortage condition is to be ended.
5. **Submit annual assessment to DWR.** Sonoma Water will submit the annual assessment report to DWR by July 1 of each year. Sonoma Water also posts the final annual assessment report online at <https://www.sonomawater.org/water-supply>.

3.2 Data and Methodologies

This section presents the key data inputs and assessment methodology that will be used to evaluate Sonoma Water's water supply. The evaluation criteria, water supply constraints, unconstrained demand, planned water use, and infrastructure considerations are described.

3.2.1 Evaluation Criteria

The evaluation criteria that will be relied on for each annual assessment include the key data inputs and the constraints that are imposed on the water supplies.

The key data inputs that are used by Sonoma Water staff to forecast water supply for the remainder of the current year and a subsequent dry year include the items described below.

- **Unconstrained customer demand.** Current and subsequent calendar year unconstrained demand for each of Sonoma Water's wholesale customers considering weather, growth, and other influencing factors.
- **Russian River operations.** Current reservoir releases from Lake Sonoma and Lake Mendocino, including anticipated releases to meet in-stream flow requirements and water demands and based on reservoir curves and forecast informed reservoir operations (FIRO) decision support tools.
- **Hydrology and watershed conditions.** Lake Sonoma and Lake Mendocino inflows and storage levels, and soil moisture.
- **Potter Valley Project inflows.** Lake Pillsbury storage levels and observed and projected project transfers. As discussed in Section 1.4.1 of the Plan, there is great uncertainty around the future of this project. The assumed Eel River transfers into the Russian River watershed will be based on information available at the time of the annual assessment, including recent observed transfers and anticipated conditions.
- **Weather forecasts and historical hydrological records.** Weather forecasts combined with historical records will be used to evaluate probabilities using statistical methods.

The water supply constraints are due to a variety of agreements and decisions, as follows.

- **Lake Sonoma storage level.** Sonoma Water’s water rights permits include a provision that requires Sonoma Water to impose a 30 percent reduction in deliveries from the Russian River to its service area when Lake Sonoma storage levels drop below 100,000 acre-feet (ac-ft) before July 15 of any year. This provision is described in more detail in Section 5.1.6.1 in the 2025 Plan.
- **Lake Mendocino storage level.** Having a sufficient supply of water in Lake Mendocino in the fall is of critical importance to the salmonid species in the Russian River and to meet municipal and industrial demands and agricultural irrigation needs.
- **Minimum instream flow requirements.** The minimum instream flow schedule varies based on the hydrologic classifications of Normal, Dry, and Critical water supply conditions as defined in Decision 1610 and modified by Temporary Urgency Change Petitions (TUCP) filed by Sonoma Water. As of development of the 2025 Plan, it is assumed Sonoma Water will continue to use storage thresholds at Lake Mendocino as the index for minimum instream flows. Minimum instream flow requirements for the Russian River and Dry Creek are met by releases from Coyote Valley Dam and Warm Springs Dam.
- **Flood control operations criteria.** The United States Army Corps of Engineers (USACE) determines the schedule and amount of water released from Lake Mendocino and Lake Sonoma during flood control operations when storage levels exceed the water supply storage pool. Until recently, rules of the water control manuals for Lake Mendocino and Lake Sonoma required the flood control pool to be empty except during periods of high flows downstream. Based on the 2025 update to Lake Mendocino’s Water Control Manual, USACE, at their discretion, can retain up to 11,650 ac-ft within the flood control pool and manage it using FIRO procedures. At Lake Sonoma, USACE is currently authorized to retain up to an additional 19,000 ac-ft in the flood control pool and manage it using FIRO procedures under a planned deviation to the Water Control Manual. In 2023, 2024, and 2025 an additional 30,000 ac-ft was retained between the two reservoirs going into the dry season each year.
- **The 2025 Russian River Biological Opinion.** The 2025 Russian River Biological Opinion places certain terms and conditions on Sonoma Water with respect to its water supply operations. See Section 1.4.2 of the Plan for details.

3.2.2 Water Supply

The Russian River provides most of Sonoma Water’s water supply, with groundwater from the Santa Rosa Plain Sub-basin as a secondary source. Sonoma Water diverts water from the Russian River near Forestville and conveys the water via its transmission system to its customers. Sonoma Water’s Plan (Section 5) provides a more detailed description of the water supplies. The method used to forecast the quantity of water supply is described in Section 3.2.4 below.

Almost all of Sonoma Water’s customers, surplus customers, and Russian River customers have other water supplies, in addition to those provided by Sonoma Water, which include local surface water, local groundwater, and recycled water. These local supplies are not included in Sonoma Water’s annual assessment, as each customer develops its own assessment of their available supplies.

3.2.3 Unconstrained Customer Demand

The assessment presents unconstrained demands from Sonoma Water's customers for the current year and one subsequent dry year, considering weather, growth, and other influencing factors. The unconstrained water demands are provided by the customers or developed by Sonoma Water.

3.2.4 Planned Water Use for Current Year Considering Dry Subsequent Year

The assessment presents an evaluation of the amount of anticipated water supplies for the current year as well as the amount of supplies available to meet demands should the following year be dry. As defined by DWR reporting requirements, the dry year represents the 12-month period between July 1 and June 30 of the following calendar year. Although Sonoma Water's analysis is performed using available hydrologic data on a water-year basis (the 12-month period between October 1 and September 30 of the following calendar year), the results are presented on a monthly basis from July through June for the annual assessment. The methodology to develop the annual assessment follows the general approach described below.

1. **Quantify current year water supply.** Starting with actual observed conditions at the time of the assessment, Sonoma Water will project conditions through the remainder of the water year using RR ResSim and a combination of forecasted and historical hydrology representing the most similar hydrologic conditions to the current year. Since the current year as defined in the annual assessment ends June 30, the last 3 months in the current water year represent the first 3 months of the subsequent dry year in the annual assessment (July through September).
2. **Quantify subsequent year supply.** Sonoma Water will base the estimate of the remaining subsequent dry year water supplies (October through June) on a statistical analysis of the historical precipitation record using the tenth percentile water year based on total Russian River unimpaired flow. The details of the methodology and selected modeling assumptions will be described in each annual assessment report.
3. **Identify infrastructure constraints.** The existing infrastructure capabilities and plausible constraints as they impact Sonoma Water's ability to deliver supplies to meet expected customer water use needs in the coming year will be considered. Examples of plausible constraints include water rights curtailments, minimum instream flows, and groundwater production capacity.
4. **Quantify unconstrained water demand.** The unconstrained water demands for all the customers will be provided by the customers or developed by Sonoma Water staff.
5. **Compare projected water supplies to demands.** The water supplies identified in the annual assessment will represent the water demand that can be met while maintaining adequate storage in Lake Mendocino and Lake Sonoma.
6. **Identify and quantify anticipated water supply shortages, if any.** The forecast of water supplies in comparison to water demands will identify and quantify any anticipated water shortages. The forecast will be coordinated with Sonoma Water's customers, surplus customers, and Russian River customers. Depending on the extent of the forecast shortage, the appropriate shortage stage will be selected. If the early winter season has been wet and the forecast is for a wet season, there would be no concerns. If the season was dry in the early wet season, there would be a potential concern and river flows and reservoir levels would be monitored more closely. Depending on the extent of precipitation in the latter portion of the wet season, the forecast could be changed to no concern or to an anticipated shortage.

7. **Implications of forecasted water shortage.** Depending on the extent of the forecasted water shortage for the current calendar year and particularly the summer months, Sonoma Water may implement voluntary reductions of its diversions and request its customers to conserve and utilize local supplies. The State Water Resources Control Board (SWRCB) could also mandate reduction of diversions by Sonoma Water. For example, mandatory reductions of water diverted from the Russian River would be required (as specified in Sonoma Water’s water rights, see Section 5.1.6.1 in the 2025 Plan for more detail) if Lake Sonoma levels reached 100,000 ac-ft by July 15 of a given year. Such reductions would be implemented in accordance with the applicable provisions of the Restructured Agreement for Water Supply between Sonoma Water and its retail customers and consistent with the defined shortage stages. If a shortage is identified, the water shortage allocation methodology specified by the Restructured Agreement would be used to allocate the reduced supply to each customer. Each of Sonoma Water’s customers will develop their own annual assessments that will include estimates of their projected quantity of local water supplies.

The forecast of the amount of available water supplies will be developed by Sonoma Water using RR ResSim. The model is used as a planning tool to simulate the effects of various climatic conditions, levels of demand, and operational criteria on the water supply available for use by Sonoma Water and others.

3.2.5 Infrastructure Considerations

The annual assessment includes an evaluation of how infrastructure capabilities and constraints may affect Sonoma Water’s ability to deliver supplies to meet expected customer water use needs in the current year.

3.2.6 Water Shortage Levels

Sonoma Water’s shortage levels are presented in Table 4-1. The shortage is defined as the unmet unconstrained demand divided by the unconstrained demand, which can be expressed as follows for when the forecast supply is less than the unconstrained demand:

Table 4-2. Water Shortage Contingency Plan Shortage Levels (DWR Table 8-1)

| Shortage Level | Percent Shortage Range | Shortage Response Actions |
|----------------|------------------------|--|
| 1 | Up to 10% | Reduction in Russian River diversions by Sonoma Water of up to 10%. Sonoma Water’s wholesale customers each have voluntary reduction of wholesale water deliveries as determined by shortage allocation. |
| 2 | 10 - 20% | Reduction in Russian River diversions by Sonoma Water of 10% to 20%. Sonoma Water’s wholesale customers each have voluntary reduction of wholesale water deliveries as determined by shortage allocation. |
| 3 | 20 - 30% | Reduction in Russian River diversions by Sonoma Water of 20% to 30%. Sonoma Water’s wholesale customers each have mandatory reduction of wholesale water deliveries as determined by shortage allocation. |
| 4 | 30 - 40% | Reduction in Russian River diversions by Sonoma Water of 30% to 40%. Sonoma Water’s wholesale customers each have mandatory reduction of wholesale water deliveries as determined by shortage allocation. |
| 5 | 40 - 50% | Reduction in Russian River diversions by Sonoma Water of 40% to 50%. Sonoma Water’s wholesale customers each have mandatory reduction of wholesale water deliveries as determined by shortage allocation. |
| 6 | >50% | Reduction in Russian River diversions by Sonoma Water greater than 50%. Sonoma Water’s wholesale customers each have mandatory reduction of wholesale water deliveries as determined by shortage allocation. |

Shortage, percent = ((unconstrained demand – forecast supply)/ unconstrained demand) X 100

The extent of the shortage of Sonoma Water’s supplies does not translate to the same proportion of shortage for many of Sonoma Water’s customers because the supply provided by Sonoma Water only represents a portion of their respective water supply portfolio. Many of these customers have their own local surface water, groundwater, and/or recycled water supplies. Each of these customers will develop its own annual water supply and demand assessment and, if a shortage is forecast, determine its own shortage level that considers their local supplies.

The allocation of Sonoma Water’s supplies to its customers in the event of a shortage is based on the procedures set forth in the Restructured Agreement for Water Supply. Section 3.5(a) of the Restructured Agreement describes the way Sonoma Water is to allocate water to its customers in the event of a water supply shortage, and Section 3.5(b) of the Restructured Agreement describes the manner in which Sonoma Water is to allocate water to its customers in the event of a temporary impairment of the capacity of some or all of Sonoma Water’s transmission system. Section 3.5(d) of the Restructured Agreement requires Sonoma Water to “have an adopted water shortage allocation methodology sufficient to inform each Customer of the water that would be available to it pursuant to Section 3.5(a) in the event of reasonably anticipated shortages, which methodology shall be consistent with this Section 3.5 and shall be included in the Urban Water Management Plan prepared pursuant to Section 2.7.”

On January 4, 2022, Sonoma Water’s Board of Directors adopted the 2021 Water Shortage Allocation Methodology and Model to be used to inform each Sonoma Water customer of the water that would be available to it pursuant to Section 3.5 of the Restructured Agreement in the event of reasonably anticipated shortages. The 2021 Model adoption completed work that began in 2010 to update Sonoma Water’s previous annual Water Shortage Allocation Methodology and Model. The 2021 Model includes a new monthly methodology to allocate water supply in the summer months when diversions from the Russian River may be constrained due to reduced flows or water availability.

Section 4: Shortage Response Actions

Sonoma Water regularly monitors supply and demand conditions to forecast potential water shortages. If a water shortage is anticipated, Sonoma Water would implement one or more potential shortage response actions. This section describes demand reduction, supply augmentation, operational changes, the emergency response plan, the seismic risk assessment and mitigation plan, and shortage response action effectiveness.

4.1 Demand Reduction

As a wholesale supplier, Sonoma Water has no ability to directly restrict the use of water by end users, or to impose financial penalties on end users for excessive use. Under the Restructured Agreement, Sonoma Water has several methods available to ensure that its contractors do not use more than the amount of water allocated by Sonoma Water during a shortage.

If it appeared that a water supply shortage might occur, Sonoma Water’s first stage of action would be to notify its customers and the public of that possibility. Depending on the severity of the shortage, Sonoma Water would work with its customers to encourage voluntary demand reduction measures. Sonoma Water would also encourage its customers to maximize use of local water supplies. Finally, Sonoma Water would take steps to publicize the potential shortage, and to encourage agricultural and non-Sonoma Water-related diverters from the Russian River and Dry Creek to reduce diversions to the extent possible.

Attachment 2: Drought Response Tool Quantitative Assessment

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

1 - Home

Valley of the Moon Water District

| Enter Agency Information | |
|--|-----------------------------------|
| Agency Name | Valley of the Moon Water District |
| Total Population Served | 24,414 |
| Conservation Goal (%) | 5% |
| Drought Stage | Stage 1 |
| Number of Residential Accounts | 6,679 |
| Number of Commercial, Industrial, and Institutional (CII) Accounts | 206 |
| Number of Dedicated Irrigation Accounts | 35 |
| Baseline Year(s) | 2019 |
| Percentage of Residential Indoor Use During Minimum Month (%) | 100% |
| Percentage of CII Indoor Use During Minimum Month (%) | 100% |
| Comments | |

FY

| Navigation | |
|--|---|
| USER'S GUIDE | Download and read the guide before using this Tool |
| 1 - HOME | Enter agency information |
| 2 - INPUT BASELINE YEAR WATER USE | Enter Baseline Year production and use |
| 3 - BASELINE YEAR WATER USE | Review and confirm entered information |
| 4 - DROUGHT RESPONSE ACTIONS | Select Drought Response Actions and input estimated water savings and implementation rates. |
| 5 - ESTIMATED WATER SAVINGS | Review estimated water production and compare estimated savings to conservation target. |
| 6 - DROUGHT RESPONSE TRACKING | Track production and water savings against the conservation target. |



Drought Response Tool

Home

Input Baseline
Year Water
Use

Baseline Year
Water Use
Profile

Drought
Response
Actions

Estimated
Water
Savings

Drought
Response
Tracking

1 - Home

Valley of the Moon Water District

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

Anona Dutton, P.G., C.Hg.

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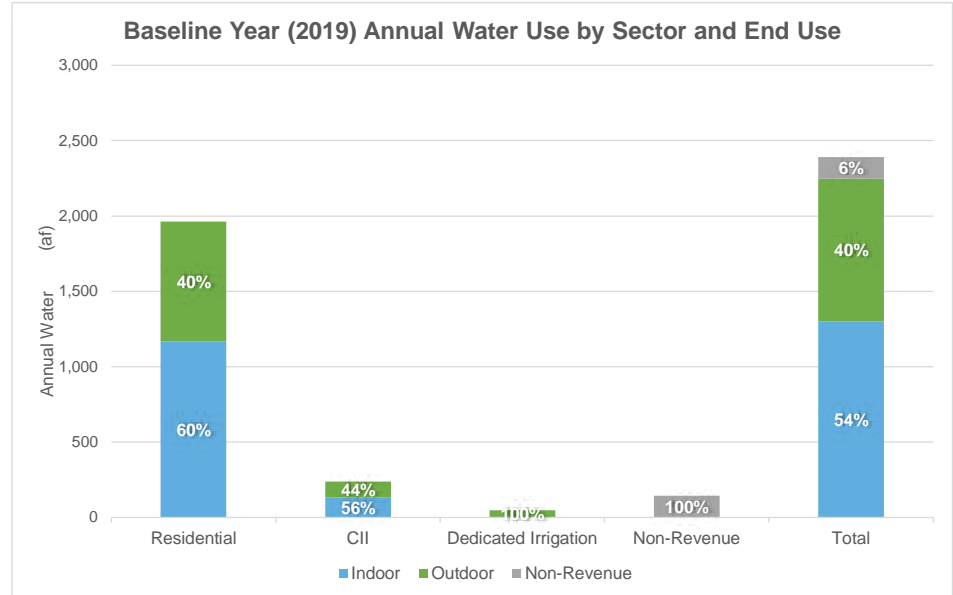
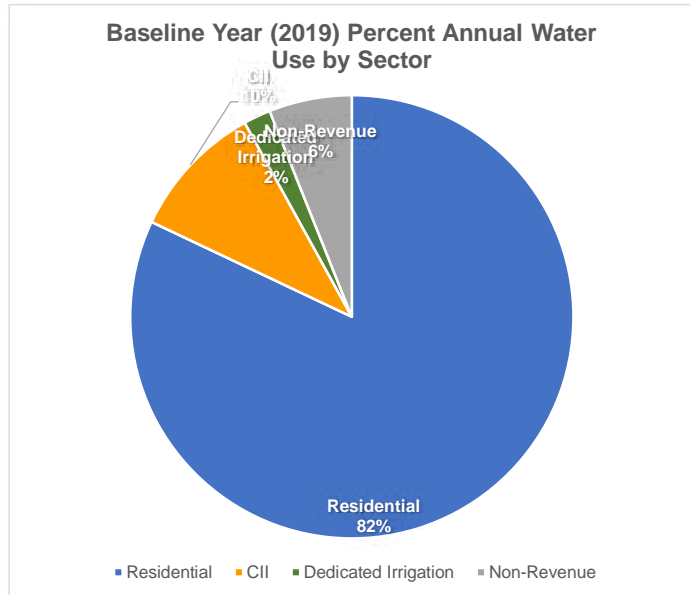
2 - Input Baseline Year (2019) Water Use

Valley of the Moon Water District

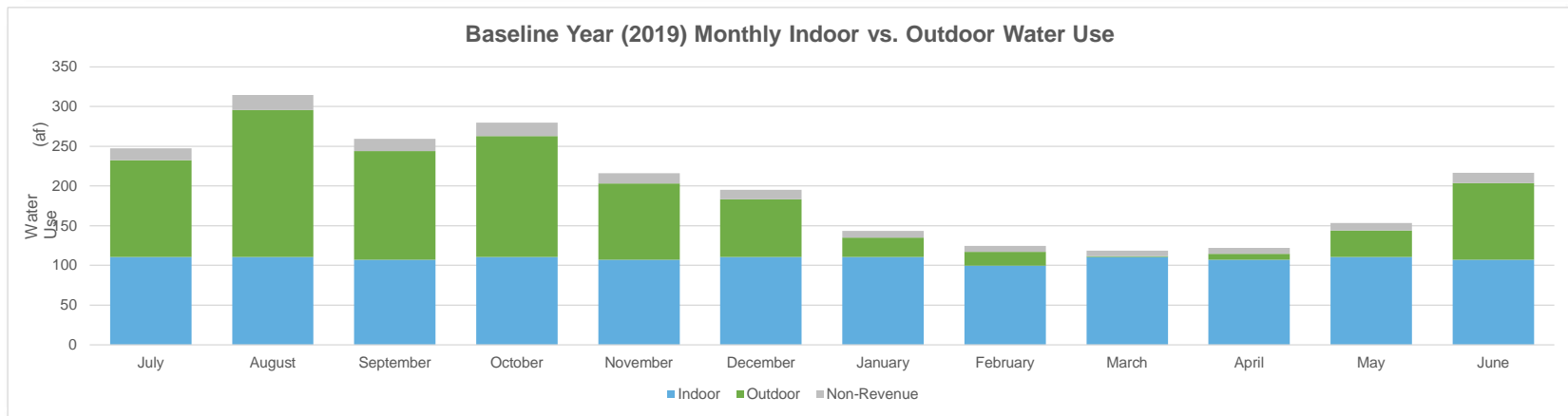
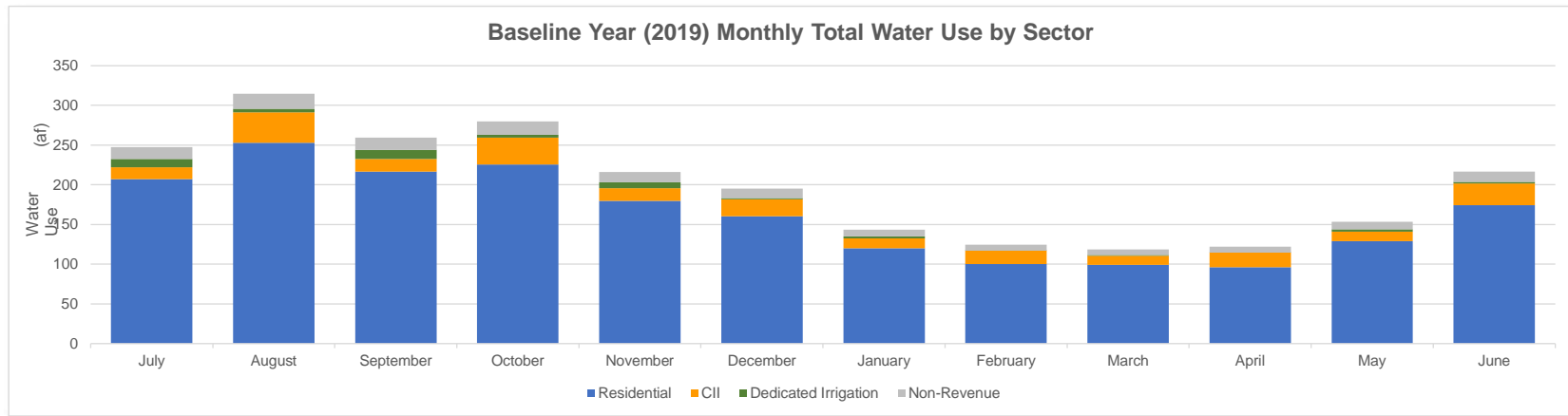
| Input Baseline Year (2019) Production and Water Use | | | | | | | |
|---|-----------------------|----------------------------|--------------------|-------------------------------------|----------------------------|--------------|----------------------------|
| Units: <input type="text" value="(af)"/> | | | | | | | |
| <i>Enter 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.</i> | | | | | | | |
| Date | Total Production (af) | Residential Water Use (af) | CII Water Use (af) | Dedicated Irrigation Water Use (af) | Non-Revenue Water Use (af) | Total R-GPCD | Comments |
| July | 247 | 207 | 15 | 10 | 15 | 89 | NRW is assumed to be 7.3%. |
| August | 315 | 253 | 38 | 4 | 19 | 109 | values are in Fiscal Year. |
| September | 260 | 217 | 16 | 11 | 16 | 96 | |
| October | 280 | 226 | 34 | 3 | 17 | 97 | |
| November | 216 | 180 | 16 | 8 | 13 | 80 | |
| December | 195 | 160 | 21 | 2 | 12 | 69 | |
| January | 143 | 120 | 12 | 2 | 9 | 52 | |
| February | 125 | 100 | 17 | 0 | 8 | 48 | |
| March | 119 | 99 | 11 | 1 | 7 | 43 | |
| April | 122 | 96 | 18 | 0 | 7 | 43 | |
| May | 153 | 129 | 12 | 3 | 9 | 56 | |
| June | 217 | 174 | 27 | 2 | 13 | 78 | |

3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District

| Baseline Year (2019) Annual Water Use Summary | | | | | | |
|--|-----------------------|----------------|-----|----------------------|-------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed. | | | | | | |
| Water Use | Total Production (af) | Water Use (af) | | | | Comments |
| | | Residential | CII | Dedicated Irrigation | Non-Revenue | |
| Total | 2,392 | 1,962 | 238 | 47 | 145 | |
| Total Indoor | 1,301 | 1,169 | 132 | -- | -- | |
| Total Outdoor | 946 | 793 | 106 | 47 | -- | |
| Total Non-Revenue | 145 | -- | -- | -- | 145 | |
| Total Indoor % | 54% | 60% | 56% | 0% | -- | |
| Total Outdoor % | 40% | 40% | 44% | 100% | -- | |
| Total Non-Revenue % | 6% | -- | -- | -- | 100% | |

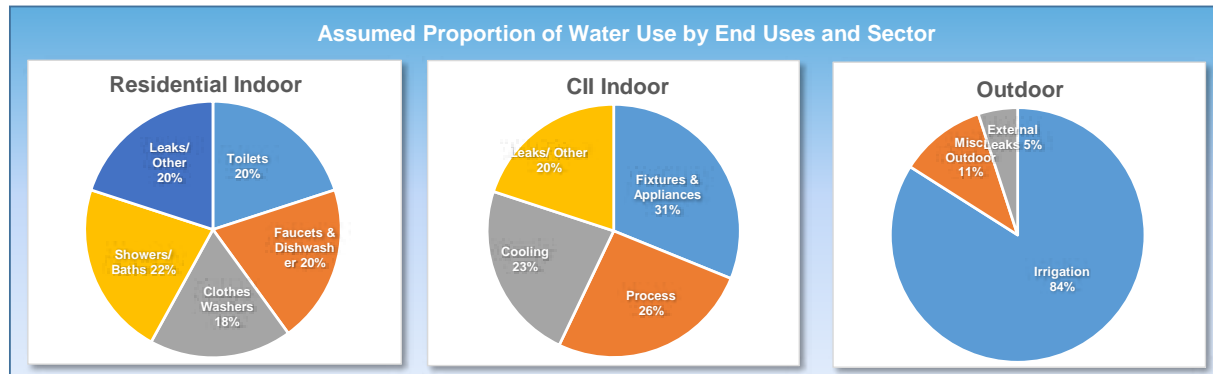


3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District



4 - Drought Response Actions - Stage 1 Valley of the Moon Water District

| Maximum Savings Potential | | |
|--|------------|--|
| <i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i> | | |
| Minimum Residential Indoor GPCD | 25 | R-GPCD |
| Maximum Residential Outdoor Savings | 100% | of Baseline Residential Outdoor Water Use |
| Maximum CII Indoor Savings | 30% | of Baseline CII Indoor Water Use |
| Maximum CII Outdoor Savings | 100% | of Baseline CII Outdoor Water Use |
| Maximum Dedicated Irrigation Account Savings | 100% | of Baseline Dedicated Irrigation Water Use |
| Maximum Non-Revenue Water Savings | 50% | of Baseline Non-Revenue Water Use |
| Resulting Total Maximum Annual Savings Potential | 65% | of Total Baseline Production |



4 - Drought Response Actions - Stage 1 Valley of the Moon Water District

| Drought Response Actions | | | | | | |
|---|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| <small>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</small> | | | | | | |
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Possible Mandatory Prohibitions | All Outdoor | <input checked="" type="checkbox"/> | 14% | 75% | -- | -- |
| Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems | Irrigation | <input checked="" type="checkbox"/> | | | -- | -- |
| Require Shut-Off Nozzles on Hoses for Vehicle Washing | Misc. Outdoor | <input type="checkbox"/> | 17% | 50% | See Appendix D of the DRP | -- |
| Prohibit Use of Potable Water to Wash Sidewalks and Driveways | Misc. Outdoor | <input type="checkbox"/> | 17% | 50% | | -- |
| Prohibit the Use of Potable Water for Street Washing | Misc. Outdoor | <input checked="" type="checkbox"/> | 17% | 50% | | -- |
| Prohibit Irrigation with Potable Water in a Manner that causes Runoff | Irrigation | <input type="checkbox"/> | 3% | 50% | DeOreo et al, 2011 | -- |
| Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall | Irrigation | <input type="checkbox"/> | | | -- | -- |
| Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians | Irrigation | <input type="checkbox"/> | | | -- | -- |
| Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water | Misc. Outdoor | <input type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Provide Linen Service Opt Out Options | Fixtures & Appliances | <input type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |
| Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments | Fixtures & Appliances | <input type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |

4 - Drought Response Actions - Stage 1 Valley of the Moon Water District

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

4 - Drought Response Actions - Stage 1 Valley of the Moon Water District

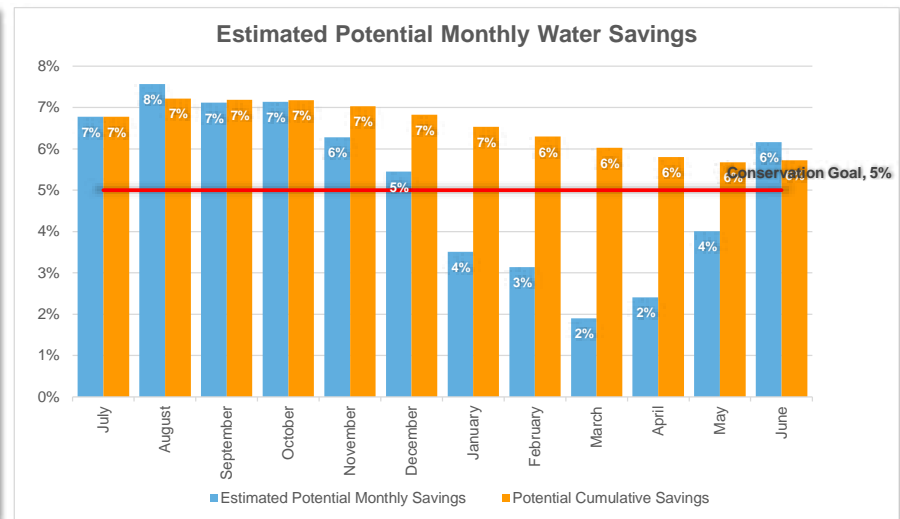
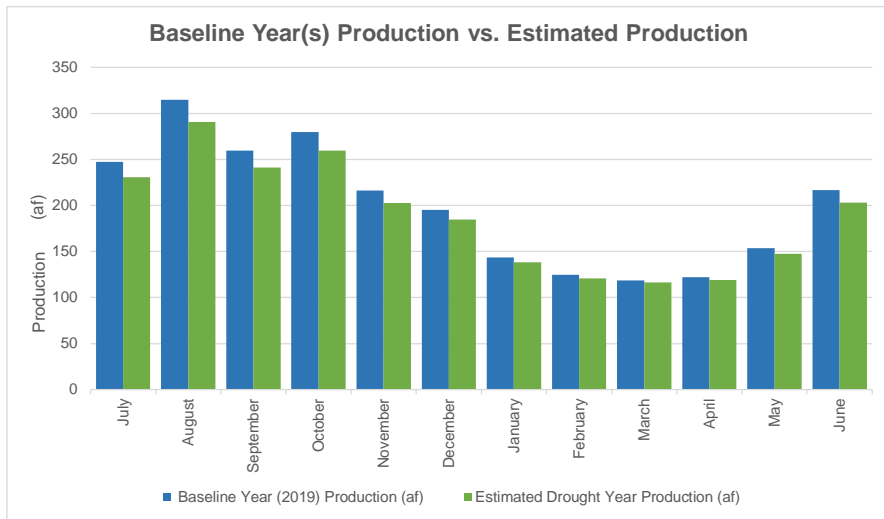
| Drought Response Actions | | | | | | |
|--|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings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

4 - Drought Response Actions - Stage 1 Valley of the Moon Water District

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

5 - Estimated Water Savings - Stage 1 Valley of the Moon Water District

| Estimated Monthly Water Use and Savings Summary | | | | | | |
|--|--------------------------------------|--|-------------------------------------|------------------------------|-------------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| <small>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.</small> | | | | | | |
| Month | Baseline Year (2019) Production (af) | Estimated Drought Year Production (af) | Estimated Potential Monthly Savings | Potential Cumulative Savings | Conservation Goal | Comments |
| July | 247 | 231 | 7% | 7% | 5% | |
| August | 315 | 291 | 8% | 7% | 5% | |
| September | 260 | 241 | 7% | 7% | 5% | |
| October | 280 | 260 | 7% | 7% | 5% | |
| November | 216 | 203 | 6% | 7% | 5% | |
| December | 195 | 184 | 5% | 7% | 5% | |
| January | 143 | 138 | 4% | 7% | 5% | |
| February | 125 | 121 | 3% | 6% | 5% | |
| March | 119 | 116 | 2% | 6% | 5% | |
| April | 122 | 119 | 2% | 6% | 5% | |
| May | 153 | 147 | 4% | 6% | 5% | |
| June | 217 | 203 | 6% | 6% | 5% | |





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

Valley of the Moon Water District

| Enter Agency Information | |
|--|-----------------------------------|
| Agency Name | Valley of the Moon Water District |
| Total Population Served | 24,414 |
| Conservation Goal (%) | 15% |
| Drought Stage | Stage 2 |
| Number of Residential Accounts | 6,679 |
| Number of Commercial, Industrial, and Institutional (CII) Accounts | 206 |
| Number of Dedicated Irrigation Accounts | 35 |
| Baseline Year(s) | 2019 |
| Percentage of Residential Indoor Use During Minimum Month (%) | 100% |
| Percentage of CII Indoor Use During Minimum Month (%) | 100% |
| Comments | |

FY

| Navigation | |
|--|---|
| USER'S GUIDE | Download and read the guide before using this Tool |
| 1 - HOME | Enter agency information |
| 2 - INPUT BASELINE YEAR WATER USE | Enter Baseline Year production and use |
| 3 - BASELINE YEAR WATER USE | Review and confirm entered information |
| 4 - DROUGHT RESPONSE ACTIONS | Select Drought Response Actions and input estimated water savings and implementation rates. |
| 5 - ESTIMATED WATER SAVINGS | Review estimated water production and compare estimated savings to conservation target. |
| 6 - DROUGHT RESPONSE TRACKING | Track production and water savings against the conservation target. |



Drought Response Tool

Home

Input Baseline
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Drought
Response
Tracking

1 - Home

Valley of the Moon Water District

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

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2 - Input Baseline Year (2019) Water Use Valley of the Moon Water District

Input Baseline Year (2019) Production and Water Use

Units:

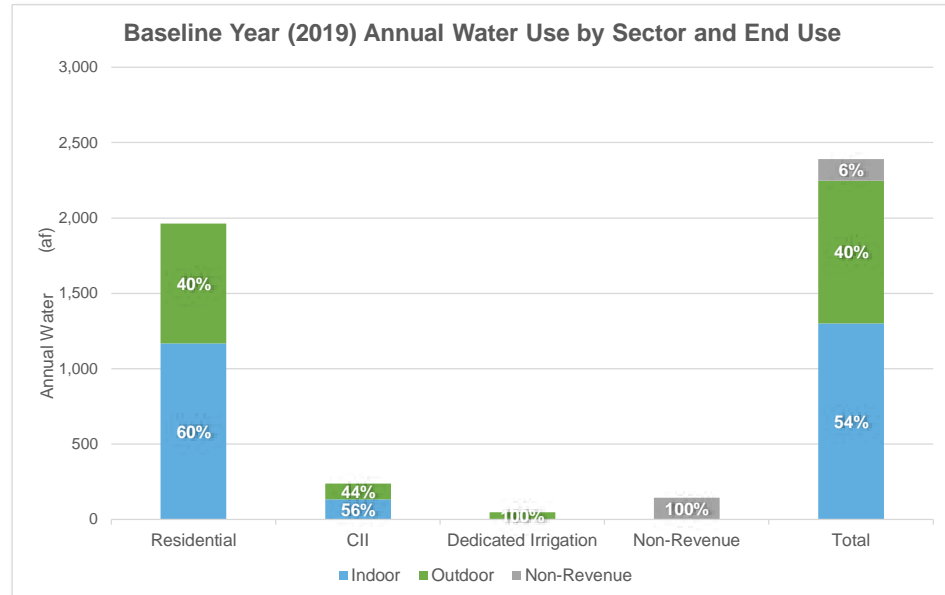
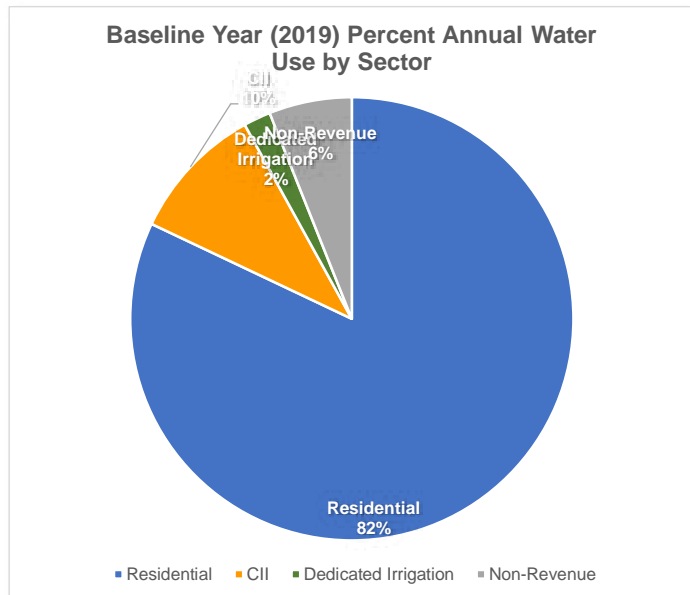


Select the units to input monthly production and use data. Enter the total monthly potable water production for the Baseline Year. Next, enter monthly water use data by sector for the Baseline Year. If you bill on a bi-monthly basis, divide your billing data between the months that the billing cycle 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.

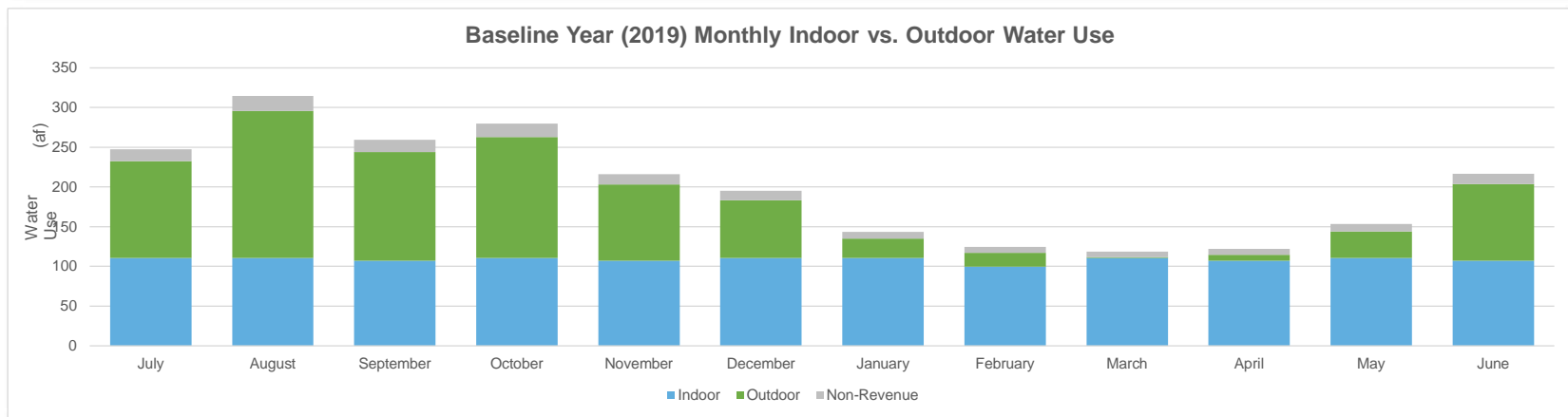
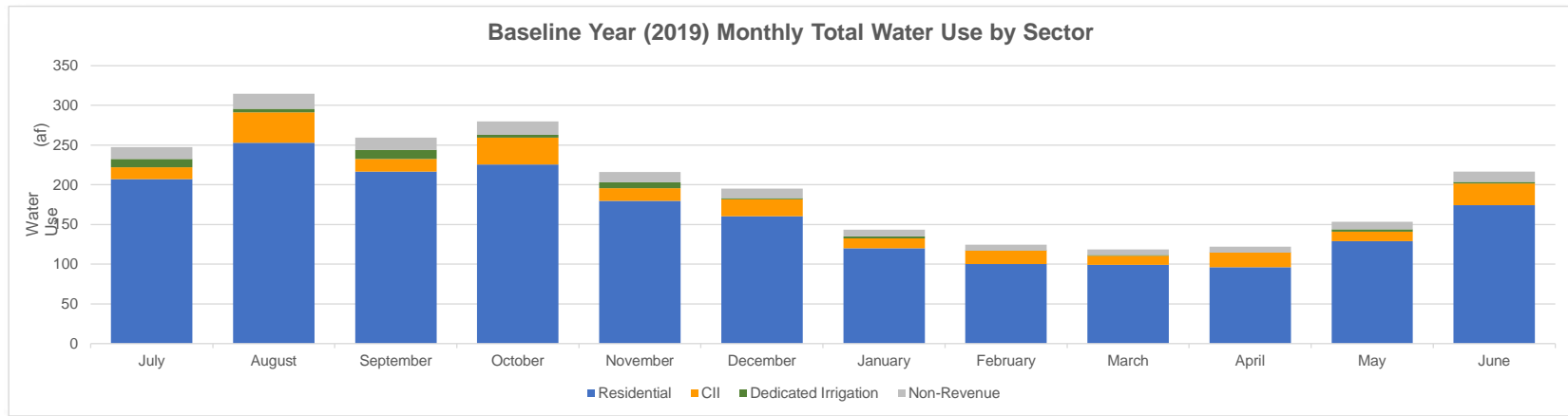
| Date | Total Production (af) | Residential Water Use (af) | CII Water Use (af) | Dedicated Irrigation Water Use (af) | Non-Revenue Water Use (af) | Total R-GPCD | Comments |
|-----------|-----------------------|----------------------------|--------------------|-------------------------------------|----------------------------|--------------|----------------------------|
| July | 247 | 207 | 15 | 10 | 15 | 89 | NRW is assumed to be 7.3%. |
| August | 315 | 253 | 38 | 4 | 19 | 109 | values are in Fiscal Year. |
| September | 260 | 217 | 16 | 11 | 16 | 96 | |
| October | 280 | 226 | 34 | 3 | 17 | 97 | |
| November | 216 | 180 | 16 | 8 | 13 | 80 | |
| December | 195 | 160 | 21 | 2 | 12 | 69 | |
| January | 143 | 120 | 12 | 2 | 9 | 52 | |
| February | 125 | 100 | 17 | 0 | 8 | 48 | |
| March | 119 | 99 | 11 | 1 | 7 | 43 | |
| April | 122 | 96 | 18 | 0 | 7 | 43 | |
| May | 153 | 129 | 12 | 3 | 9 | 56 | |
| June | 217 | 174 | 27 | 2 | 13 | 78 | |

3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District

| Baseline Year (2019) Annual Water Use Summary | | | | | | |
|--|-----------------------|----------------|-----|----------------------|-------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed. | | | | | | |
| Water Use | Total Production (af) | Water Use (af) | | | | Comments |
| | | Residential | CII | Dedicated Irrigation | Non-Revenue | |
| Total | 2,392 | 1,962 | 238 | 47 | 145 | |
| Total Indoor | 1,301 | 1,169 | 132 | -- | -- | |
| Total Outdoor | 946 | 793 | 106 | 47 | -- | |
| Total Non-Revenue | 145 | -- | -- | -- | 145 | |
| Total Indoor % | 54% | 60% | 56% | 0% | -- | |
| Total Outdoor % | 40% | 40% | 44% | 100% | -- | |
| Total Non-Revenue % | 6% | -- | -- | -- | 100% | |

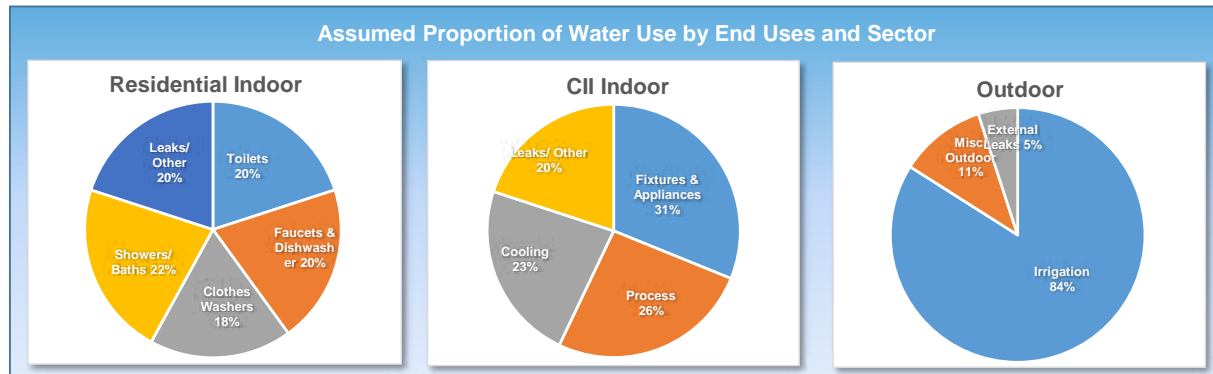


3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District



4 - Drought Response Actions - Stage 2 Valley of the Moon Water District

| Maximum Savings Potential | | |
|--|------------|--|
| <i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i> | | |
| Minimum Residential Indoor GPCD | 25 | R-GPCD |
| Maximum Residential Outdoor Savings | 100% | of Baseline Residential Outdoor Water Use |
| Maximum CII Indoor Savings | 30% | of Baseline CII Indoor Water Use |
| Maximum CII Outdoor Savings | 100% | of Baseline CII Outdoor Water Use |
| Maximum Dedicated Irrigation Account Savings | 100% | of Baseline Dedicated Irrigation Water Use |
| Maximum Non-Revenue Water Savings | 50% | of Baseline Non-Revenue Water Use |
| Resulting Total Maximum Annual Savings Potential | 65% | of Total Baseline Production |



4 - Drought Response Actions - Stage 2 Valley of the Moon Water District

| Drought Response Actions | | | | | | |
|---|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| <small>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</small> | | | | | | |
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Possible Mandatory Prohibitions | All Outdoor | <input checked="" type="checkbox"/> | 14% | 50% | -- | -- |
| Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems | Irrigation | <input checked="" type="checkbox"/> | | | -- | -- |
| Require Shut-Off Nozzles on Hoses for Vehicle Washing | Misc. Outdoor | <input type="checkbox"/> | 17% | 50% | See Appendix D of the DRP | -- |
| Prohibit Use of Potable Water to Wash Sidewalks and Driveways | Misc. Outdoor | <input type="checkbox"/> | 17% | 50% | | -- |
| Prohibit the Use of Potable Water for Street Washing | Misc. Outdoor | <input checked="" type="checkbox"/> | 17% | 50% | | -- |
| Prohibit Irrigation with Potable Water in a Manner that causes Runoff | Irrigation | <input type="checkbox"/> | 3% | 50% | DeOreo et al, 2011 | -- |
| Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall | Irrigation | <input type="checkbox"/> | | | -- | -- |
| Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians | Irrigation | <input type="checkbox"/> | | | -- | -- |
| Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water | Misc. Outdoor | <input type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Provide Linen Service Opt Out Options | Fixtures & Appliances | <input type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |
| Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments | Fixtures & Appliances | <input type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |

4 - Drought Response Actions - Stage 2 Valley of the Moon Water District

| Drought Response Actions | | | | | | |
|--|------------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Agency Drought Actions / Restrictions | | | | | | |
| ► Agency Actions | | | | | | |
| Media Campaign, Newspaper Articles, Website | All | <input checked="" type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |
| Promote Water Conservation / Rebate Programs | All | <input checked="" type="checkbox"/> | | 50% | -- | -- |
| Water Efficiency Workshops, Public Events | All | <input checked="" type="checkbox"/> | 0.5% | 25% | EBMUD, 2011 | -- |
| Water Bill Inserts | All | <input checked="" type="checkbox"/> | 0.5% | 100% | EBMUD, 2011 | -- |
| Promote / Expand Use of Recycled Water | Irrigation | <input type="checkbox"/> | 100% | | -- | -- |
| Home or Mobile Water Use Reports | All | <input checked="" type="checkbox"/> | 5% | 10% | WaterSmart Software, 2015 | -- |
| Decrease Frequency and Length of Line Flushing | Non Revenue Water | <input checked="" type="checkbox"/> | 25% | 50% | See Appendix D of the DRP | Reduced flushing by 50%. |
| Audit and Reduce System Water Loss | Non Revenue Water | <input checked="" type="checkbox"/> | 45% | 50% | DWR, 2015 | Target 50% of leakage. |
| Implement Drought Rate Structure / Water Budgets | All | <input checked="" type="checkbox"/> | 5% | 100% | CUWCC, 2015 | -- |
| Establish Retrofit on Resale Ordinance | All Residential Indoor | <input type="checkbox"/> | 21% | 6% | SFPUC, 2004 | First Tuesday, 2015 |
| Require Net Zero Demand Increase on New Connections | All | <input type="checkbox"/> | | | -- | -- |
| Moratorium on New Connections | All | <input type="checkbox"/> | | | -- | -- |
| Move to Monthly Metering / Billing | All | <input type="checkbox"/> | 5% | 10% | See Appendix D of the DRP | -- |
| Increase Water Waste Patrols / Enforcement | All | <input type="checkbox"/> | | | -- | -- |
| Establish Drought Hotline | All | <input type="checkbox"/> | | | -- | -- |
| Reduce Distribution System Pressures | Non Revenue Water | <input checked="" type="checkbox"/> | 4.5% | 100% | CUWCC, 2010; DWR, 2015 | -- |
| ► Dedicated Irrigation | | | | | | |
| Conduct Irrigation Account Surveys | Irrigation | <input checked="" type="checkbox"/> | 30% | 10% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 3 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input checked="" type="checkbox"/> | 17% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 50% | | |
| Prohibit use of Potable Water for Irrigation | Irrigation | <input type="checkbox"/> | 100% | 50% | | |
| Require Repair of all Leaks within 24 hours | External Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 25% Reduction | Irrigation | <input type="checkbox"/> | 25% | 50% | -- | -- |
| Establish Water Budget - 50% Reduction | Irrigation | <input type="checkbox"/> | 50% | 50% | -- | -- |
| Establish Water Budget - 75% Reduction | Irrigation | <input type="checkbox"/> | 75% | 50% | -- | -- |

4 - Drought Response Actions - Stage 2 Valley of the Moon Water District

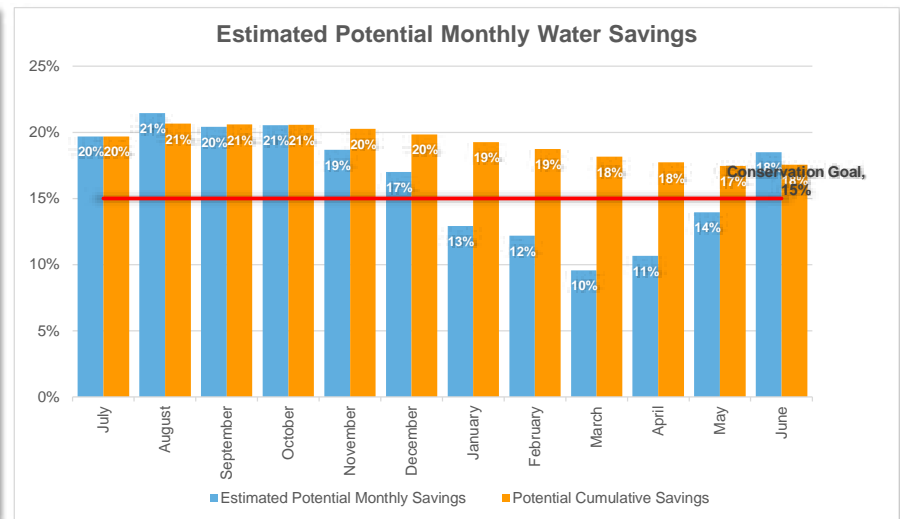
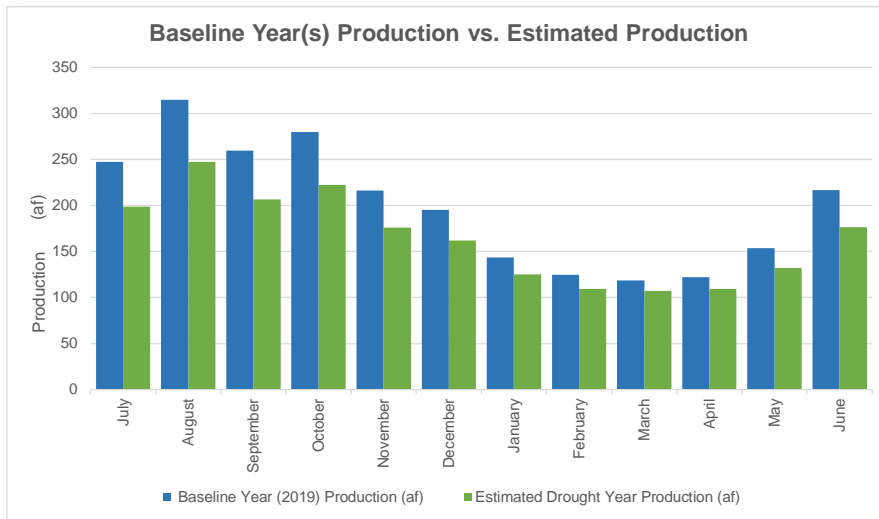
| Drought Response Actions | | | | | | |
|--|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Agency Drought Actions / Restrictions | | | | | | |
| ► Residential | | | | | | |
| Conduct Water Use Surveys Targeting High Water Users | All Residential Uses | <input type="checkbox"/> | 10% | 10% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 3 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input checked="" type="checkbox"/> | 17% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 50% | | |
| Prohibit use of Potable Water for Irrigation | Irrigation | <input type="checkbox"/> | 100% | 50% | | |
| Prohibit Vehicle Washing Except with Recycled Water | Misc. Outdoor | <input checked="" type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Require Repair of all Leaks within 24 hours | Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Require Pool Covers | Misc. Outdoor | <input type="checkbox"/> | 28% | 25% | Maddaus & Mayer, 2001 | -- |
| Prohibit Filling of Pools | Misc. Outdoor | <input type="checkbox"/> | 55% | 25% | DeOreo et al., 2011 | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 10% Reduction | All Residential Uses | <input type="checkbox"/> | 10% | 50% | -- | -- |
| Establish Water Budget - 20% Reduction | All Residential Uses | <input type="checkbox"/> | 20% | 50% | -- | -- |
| ► CII | | | | | | |
| Conduct CII Surveys Targeting High Water Users | All CII uses | <input type="checkbox"/> | 10% | 10% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 3 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input checked="" type="checkbox"/> | 17% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 50% | | |
| Prohibit Use of Potable Water for Construction and Dust Control | Misc. Outdoor | <input checked="" type="checkbox"/> | | 100% | | |
| Prohibit Single-Pass Cooling Systems | Cooling | <input checked="" type="checkbox"/> | 80% | 1% | Vickers, 2001 | -- |
| Require Repair of all Leaks within 24 hours | Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Prohibit Vehicle Washing Except with Recycled Water | Misc. Outdoor | <input checked="" type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Require Water-Efficient Pre-Rinse Spray Valves | Fixtures & Appliances | <input type="checkbox"/> | 0.8% | 50% | EPA, 2015; Pacific Institute, 2003 | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 10% Reduction | All CII uses | <input type="checkbox"/> | 10% | 50% | -- | -- |
| Establish Water Budget - 20% Reduction | All CII uses | <input type="checkbox"/> | 20% | 50% | -- | -- |
| Establish Water Budget - 30% Reduction | All CII uses | <input type="checkbox"/> | 30% | 50% | -- | -- |

4 - Drought Response Actions - Stage 2
Valley of the Moon Water District

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

5 - Estimated Water Savings - Stage 2 Valley of the Moon Water District

| Estimated Monthly Water Use and Savings Summary | | | | | | |
|--|--------------------------------------|--|-------------------------------------|------------------------------|-------------------|----------|
| Units: | (af) | | | | | |
| <small>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.</small> | | | | | | |
| Month | Baseline Year (2019) Production (af) | Estimated Drought Year Production (af) | Estimated Potential Monthly Savings | Potential Cumulative Savings | Conservation Goal | Comments |
| July | 247 | 199 | 20% | 20% | 15% | |
| August | 315 | 247 | 21% | 21% | 15% | |
| September | 260 | 207 | 20% | 21% | 15% | |
| October | 280 | 222 | 21% | 21% | 15% | |
| November | 216 | 176 | 19% | 20% | 15% | |
| December | 195 | 162 | 17% | 20% | 15% | |
| January | 143 | 125 | 13% | 19% | 15% | |
| February | 125 | 110 | 12% | 19% | 15% | |
| March | 119 | 107 | 10% | 18% | 15% | |
| April | 122 | 109 | 11% | 18% | 15% | |
| May | 153 | 132 | 14% | 17% | 15% | |
| June | 217 | 177 | 18% | 18% | 15% | |



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

1 - Home

Valley of the Moon Water District

| Enter Agency Information | |
|--|-----------------------------------|
| Agency Name | Valley of the Moon Water District |
| Total Population Served | 24,414 |
| Conservation Goal (%) | 25% |
| Drought Stage | Stage 3 |
| Number of Residential Accounts | 6,679 |
| Number of Commercial, Industrial, and Institutional (CII) Accounts | 206 |
| Number of Dedicated Irrigation Accounts | 35 |
| Baseline Year(s) | 2019 |
| Percentage of Residential Indoor Use During Minimum Month (%) | 100% |
| Percentage of CII Indoor Use During Minimum Month (%) | 100% |
| Comments | |

FY

| Navigation | |
|--|---|
| USER'S GUIDE | Download and read the guide before using this Tool |
| 1 - HOME | Enter agency information |
| 2 - INPUT BASELINE YEAR WATER USE | Enter Baseline Year production and use |
| 3 - BASELINE YEAR WATER USE | Review and confirm entered information |
| 4 - DROUGHT RESPONSE ACTIONS | Select Drought Response Actions and input estimated water savings and implementation rates. |
| 5 - ESTIMATED WATER SAVINGS | Review estimated water production and compare estimated savings to conservation target. |
| 6 - DROUGHT RESPONSE TRACKING | Track production and water savings against the conservation target. |



Drought Response Tool

Home

Input Baseline
Year Water
Use

Baseline Year
Water Use
Profile

Drought
Response
Actions

Estimated
Water
Savings

Drought
Response
Tracking

1 - Home

Valley of the Moon Water District

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

Anona Dutton, P.G., C.Hg.

adutton@ekiconsult.com

(650) 292-9100



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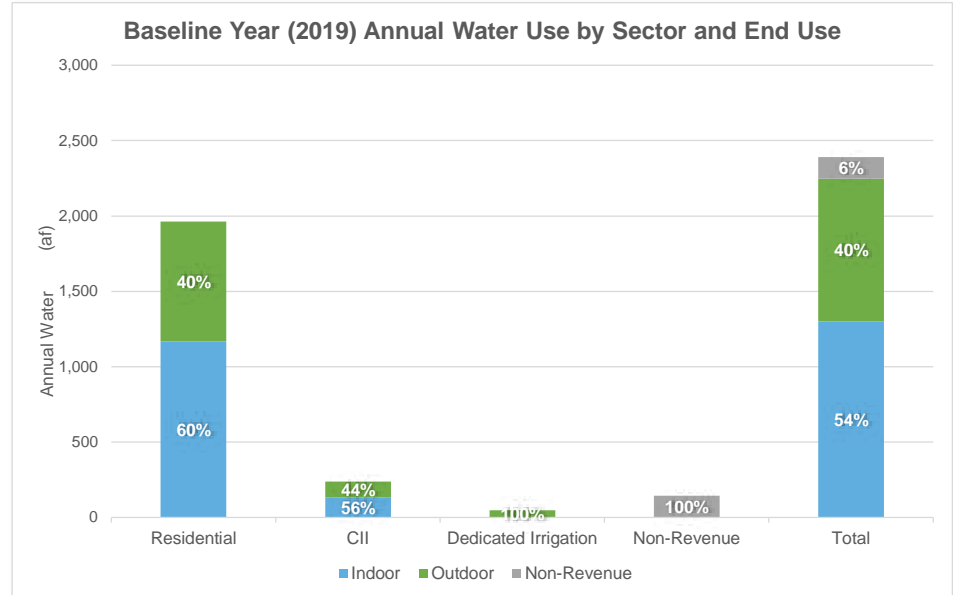
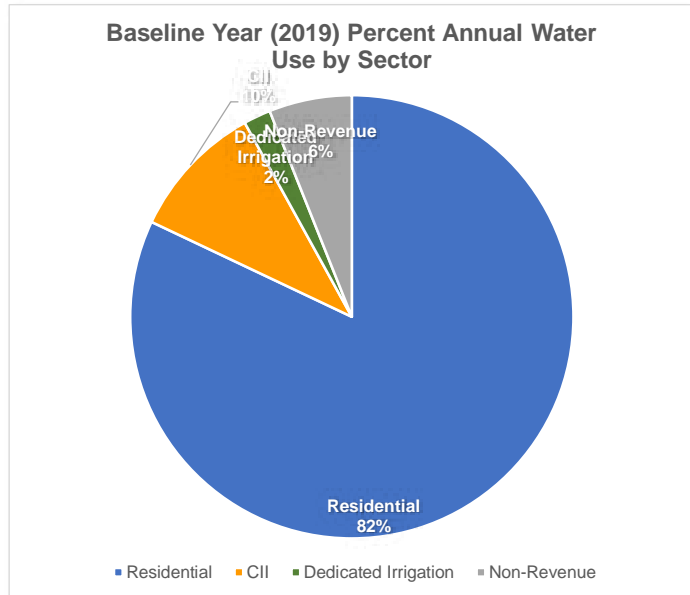
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2 - Input Baseline Year (2019) Water Use Valley of the Moon Water District

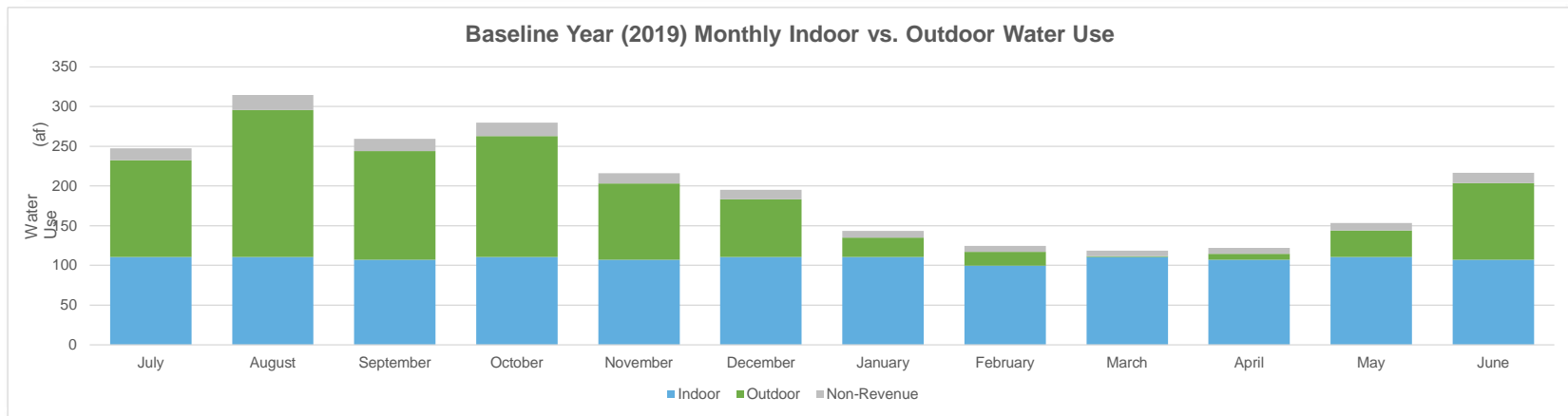
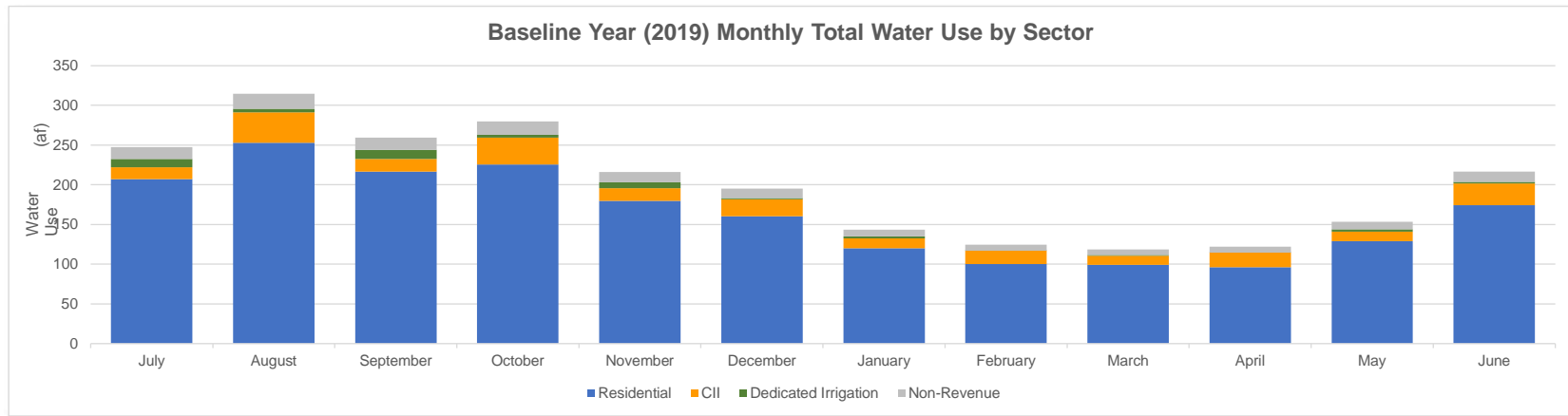
| Input Baseline Year (2019) Production and Water Use | | | | | | | |
|--|-----------------------|----------------------------|--------------------|-------------------------------------|----------------------------|--------------|----------------------------|
| Units: <input type="text" value="(af)"/> | | | | | | | |
| <p><i>Enter 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.</i></p> | | | | | | | |
| Date | Total Production (af) | Residential Water Use (af) | CII Water Use (af) | Dedicated Irrigation Water Use (af) | Non-Revenue Water Use (af) | Total R-GPCD | Comments |
| July | 247 | 207 | 15 | 10 | 15 | 89 | NRW is assumed to be 7.3%. |
| August | 315 | 253 | 38 | 4 | 19 | 109 | values are in Fiscal Year. |
| September | 260 | 217 | 16 | 11 | 16 | 96 | |
| October | 280 | 226 | 34 | 3 | 17 | 97 | |
| November | 216 | 180 | 16 | 8 | 13 | 80 | |
| December | 195 | 160 | 21 | 2 | 12 | 69 | |
| January | 143 | 120 | 12 | 2 | 9 | 52 | |
| February | 125 | 100 | 17 | 0 | 8 | 48 | |
| March | 119 | 99 | 11 | 1 | 7 | 43 | |
| April | 122 | 96 | 18 | 0 | 7 | 43 | |
| May | 153 | 129 | 12 | 3 | 9 | 56 | |
| June | 217 | 174 | 27 | 2 | 13 | 78 | |

3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District

| Baseline Year (2019) Annual Water Use Summary | | | | | | |
|--|-----------------------|----------------|-----|----------------------|-------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed. | | | | | | |
| Water Use | Total Production (af) | Water Use (af) | | | | Comments |
| | | Residential | CII | Dedicated Irrigation | Non-Revenue | |
| Total | 2,392 | 1,962 | 238 | 47 | 145 | |
| Total Indoor | 1,301 | 1,169 | 132 | -- | -- | |
| Total Outdoor | 946 | 793 | 106 | 47 | -- | |
| Total Non-Revenue | 145 | -- | -- | -- | 145 | |
| Total Indoor % | 54% | 60% | 56% | 0% | -- | |
| Total Outdoor % | 40% | 40% | 44% | 100% | -- | |
| Total Non-Revenue % | 6% | -- | -- | -- | 100% | |

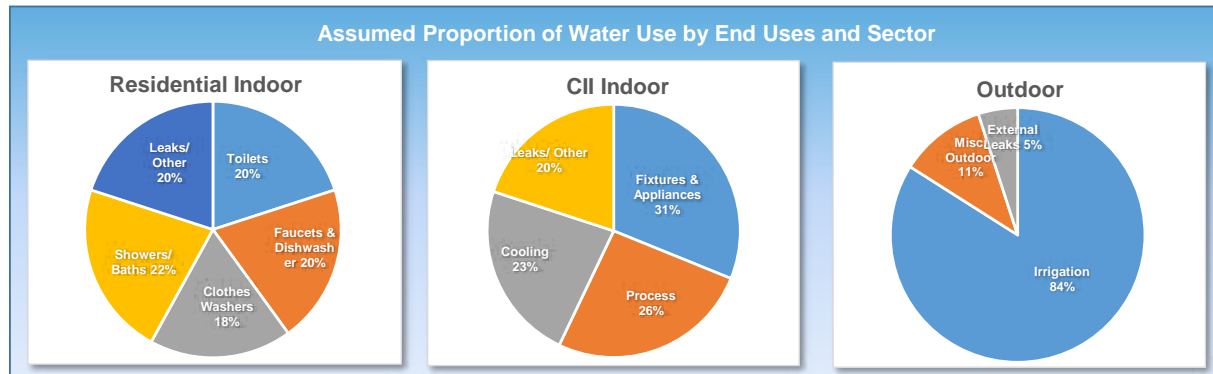


3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District



4 - Drought Response Actions - Stage 3 Valley of the Moon Water District

| Maximum Savings Potential | | |
|--|------------|--|
| <i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i> | | |
| Minimum Residential Indoor GPCD | 25 | R-GPCD |
| Maximum Residential Outdoor Savings | 100% | of Baseline Residential Outdoor Water Use |
| Maximum CII Indoor Savings | 30% | of Baseline CII Indoor Water Use |
| Maximum CII Outdoor Savings | 100% | of Baseline CII Outdoor Water Use |
| Maximum Dedicated Irrigation Account Savings | 100% | of Baseline Dedicated Irrigation Water Use |
| Maximum Non-Revenue Water Savings | 50% | of Baseline Non-Revenue Water Use |
| Resulting Total Maximum Annual Savings Potential | 65% | of Total Baseline Production |



4 - Drought Response Actions - Stage 3 Valley of the Moon Water District

| Drought Response Actions | | | | | | |
|---|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| <small>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</small> | | | | | | |
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Possible Mandatory Prohibitions | All Outdoor | <input checked="" type="checkbox"/> | 14% | 75% | -- | -- |
| Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems | Irrigation | <input checked="" type="checkbox"/> | | | -- | -- |
| Require Shut-Off Nozzles on Hoses for Vehicle Washing | Misc. Outdoor | <input type="checkbox"/> | 17% | 50% | See Appendix D of the DRP | -- |
| Prohibit Use of Potable Water to Wash Sidewalks and Driveways | Misc. Outdoor | <input type="checkbox"/> | 17% | 50% | | -- |
| Prohibit the Use of Potable Water for Street Washing | Misc. Outdoor | <input checked="" type="checkbox"/> | 17% | 50% | | -- |
| Prohibit Irrigation with Potable Water in a Manner that causes Runoff | Irrigation | <input type="checkbox"/> | 3% | 50% | DeOreo et al, 2011 | -- |
| Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall | Irrigation | <input type="checkbox"/> | | | -- | -- |
| Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians | Irrigation | <input type="checkbox"/> | | | -- | -- |
| Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water | Misc. Outdoor | <input type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Provide Linen Service Opt Out Options | Fixtures & Appliances | <input type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |
| Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments | Fixtures & Appliances | <input type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |

4 - Drought Response Actions - Stage 3 Valley of the Moon Water District

| Drought Response Actions | | | | | | |
|--|------------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Agency Drought Actions / Restrictions | | | | | | |
| ► Agency Actions | | | | | | |
| Media Campaign, Newspaper Articles, Website | All | <input checked="" type="checkbox"/> | 1.0% | 75% | EBMUD, 2011 | -- |
| Promote Water Conservation / Rebate Programs | All | <input checked="" type="checkbox"/> | | 50% | -- | -- |
| Water Efficiency Workshops, Public Events | All | <input checked="" type="checkbox"/> | 1.0% | 75% | EBMUD, 2011 | -- |
| Water Bill Inserts | All | <input checked="" type="checkbox"/> | 1.0% | 100% | EBMUD, 2011 | -- |
| Promote / Expand Use of Recycled Water | Irrigation | <input type="checkbox"/> | 100% | | -- | -- |
| Home or Mobile Water Use Reports | All | <input type="checkbox"/> | 5% | 10% | WaterSmart Software, 2015 | -- |
| Decrease Frequency and Length of Line Flushing | Non Revenue Water | <input checked="" type="checkbox"/> | 25% | 50% | See Appendix D of the DRP | Reduced flushing by 50%. |
| Audit and Reduce System Water Loss | Non Revenue Water | <input checked="" type="checkbox"/> | 45% | 50% | DWR, 2015 | Target 50% of leakage. |
| Implement Drought Rate Structure / Water Budgets | All | <input checked="" type="checkbox"/> | 5% | 100% | CUWCC, 2015 | -- |
| Establish Retrofit on Resale Ordinance | All Residential Indoor | <input type="checkbox"/> | 21% | 6% | SFPUC, 2004 | First Tuesday, 2015 |
| Require Net Zero Demand Increase on New Connections | All | <input type="checkbox"/> | | | -- | -- |
| Moratorium on New Connections | All | <input type="checkbox"/> | | | -- | -- |
| Move to Monthly Metering / Billing | All | <input type="checkbox"/> | 5% | 10% | See Appendix D of the DRP | -- |
| Increase Water Waste Patrols / Enforcement | All | <input type="checkbox"/> | | | -- | -- |
| Establish Drought Hotline | All | <input type="checkbox"/> | | | -- | -- |
| Reduce Distribution System Pressures | Non Revenue Water | <input checked="" type="checkbox"/> | 4.5% | 100% | CUWCC, 2010; DWR, 2015 | -- |
| ► Dedicated Irrigation | | | | | | |
| Conduct Irrigation Account Surveys | Irrigation | <input checked="" type="checkbox"/> | 30% | 10% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input checked="" type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 50% | | |
| Prohibit use of Potable Water for Irrigation | Irrigation | <input type="checkbox"/> | 100% | 50% | | |
| Require Repair of all Leaks within 24 hours | External Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 25% Reduction | Irrigation | <input type="checkbox"/> | 25% | 50% | -- | -- |
| Establish Water Budget - 50% Reduction | Irrigation | <input type="checkbox"/> | 50% | 50% | -- | -- |
| Establish Water Budget - 75% Reduction | Irrigation | <input type="checkbox"/> | 75% | 50% | -- | -- |

4 - Drought Response Actions - Stage 3 Valley of the Moon Water District

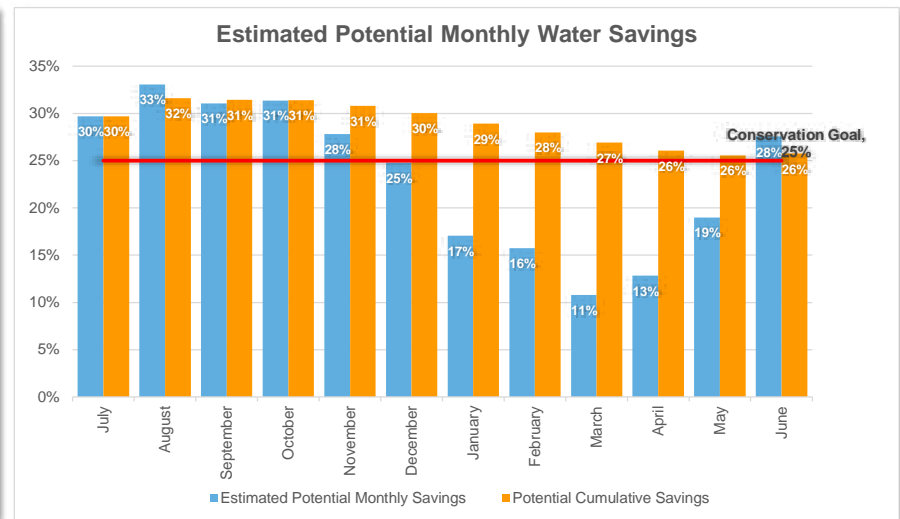
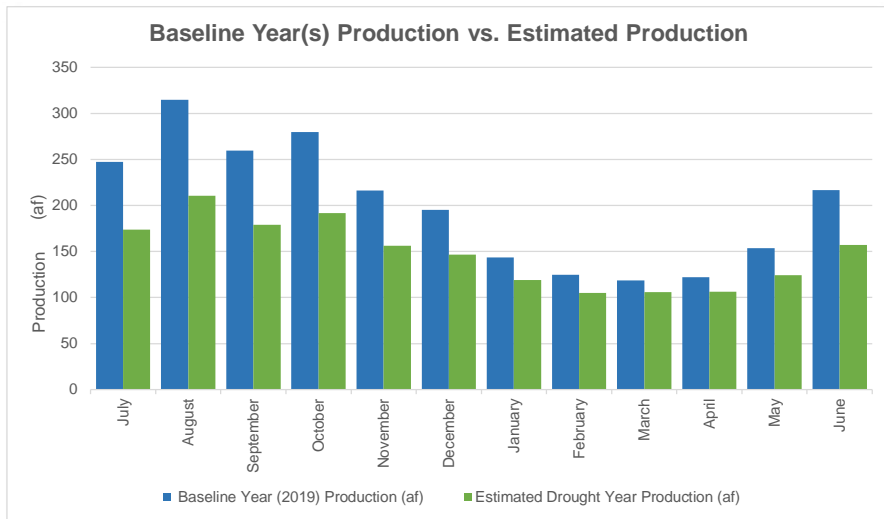
| Drought Response Actions | | | | | | |
|--|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Agency Drought Actions / Restrictions | | | | | | |
| ► Residential | | | | | | |
| Conduct Water Use Surveys Targeting High Water Users | All Residential Uses | <input type="checkbox"/> | 10% | 10% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input checked="" type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 50% | | |
| Prohibit use of Potable Water for Irrigation | Irrigation | <input type="checkbox"/> | 100% | 50% | | |
| Prohibit Vehicle Washing Except with Recycled Water | Misc. Outdoor | <input checked="" type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Require Repair of all Leaks within 24 hours | Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Require Pool Covers | Misc. Outdoor | <input checked="" type="checkbox"/> | 28% | 25% | Maddaus & Mayer, 2001 | -- |
| Prohibit Filling of Pools | Misc. Outdoor | <input type="checkbox"/> | 55% | 25% | DeOreo et al., 2011 | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 10% Reduction | All Residential Uses | <input type="checkbox"/> | 10% | 50% | -- | -- |
| Establish Water Budget - 20% Reduction | All Residential Uses | <input type="checkbox"/> | 20% | 50% | -- | -- |
| ► CII | | | | | | |
| Conduct CII Surveys Targeting High Water Users | All CII uses | <input type="checkbox"/> | 10% | 10% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input checked="" type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 50% | | |
| Prohibit Use of Potable Water for Construction and Dust Control | Misc. Outdoor | <input checked="" type="checkbox"/> | | 100% | -- | -- |
| Prohibit Single-Pass Cooling Systems | Cooling | <input checked="" type="checkbox"/> | 80% | 1% | Vickers, 2001 | -- |
| Require Repair of all Leaks within 24 hours | Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Prohibit Vehicle Washing Except with Recycled Water | Misc. Outdoor | <input checked="" type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Require Water-Efficient Pre-Rinse Spray Valves | Fixtures & Appliances | <input type="checkbox"/> | 0.8% | 50% | EPA, 2015; Pacific Institute, 2003 | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 10% Reduction | All CII uses | <input type="checkbox"/> | 10% | 50% | -- | -- |
| Establish Water Budget - 20% Reduction | All CII uses | <input type="checkbox"/> | 20% | 50% | -- | -- |
| Establish Water Budget - 30% Reduction | All CII uses | <input type="checkbox"/> | 30% | 50% | -- | -- |

4 - Drought Response Actions - Stage 3 Valley of the Moon Water District

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

5 - Estimated Water Savings - Stage 3
Valley of the Moon Water District

| Estimated Monthly Water Use and Savings Summary | | | | | | |
|--|--------------------------------------|--|-------------------------------------|------------------------------|-------------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| <i>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.</i> | | | | | | |
| Month | Baseline Year (2019) Production (af) | Estimated Drought Year Production (af) | Estimated Potential Monthly Savings | Potential Cumulative Savings | Conservation Goal | Comments |
| July | 247 | 174 | 30% | 30% | 25% | |
| August | 315 | 211 | 33% | 32% | 25% | |
| September | 260 | 179 | 31% | 31% | 25% | |
| October | 280 | 192 | 31% | 31% | 25% | |
| November | 216 | 156 | 28% | 31% | 25% | |
| December | 195 | 147 | 25% | 30% | 25% | |
| January | 143 | 119 | 17% | 29% | 25% | |
| February | 125 | 105 | 16% | 28% | 25% | |
| March | 119 | 106 | 11% | 27% | 25% | |
| April | 122 | 106 | 13% | 26% | 25% | |
| May | 153 | 124 | 19% | 26% | 25% | |
| June | 217 | 157 | 28% | 26% | 25% | |



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

1 - Home

Valley of the Moon Water District

| Enter Agency Information | |
|--|-----------------------------------|
| Agency Name | Valley of the Moon Water District |
| Total Population Served | 24,414 |
| Conservation Goal (%) | 35% |
| Drought Stage | Stage 4 |
| Number of Residential Accounts | 6,679 |
| Number of Commercial, Industrial, and Institutional (CII) Accounts | 206 |
| Number of Dedicated Irrigation Accounts | 35 |
| Baseline Year(s) | 2019 |
| Percentage of Residential Indoor Use During Minimum Month (%) | 100% |
| Percentage of CII Indoor Use During Minimum Month (%) | 100% |
| Comments | |

FY

| Navigation | |
|--|---|
| USER'S GUIDE | Download and read the guide before using this Tool |
| 1 - HOME | Enter agency information |
| 2 - INPUT BASELINE YEAR WATER USE | Enter Baseline Year production and use |
| 3 - BASELINE YEAR WATER USE | Review and confirm entered information |
| 4 - DROUGHT RESPONSE ACTIONS | Select Drought Response Actions and input estimated water savings and implementation rates. |
| 5 - ESTIMATED WATER SAVINGS | Review estimated water production and compare estimated savings to conservation target. |
| 6 - DROUGHT RESPONSE TRACKING | Track production and water savings against the conservation target. |



Drought Response Tool

Home

Input Baseline
Year Water
Use

Baseline Year
Water Use
Profile

Drought
Response
Actions

Estimated
Water
Savings

Drought
Response
Tracking

1 - Home

Valley of the Moon Water District

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

Anona Dutton, P.G., C.Hg.

adutton@ekiconsult.com

(650) 292-9100



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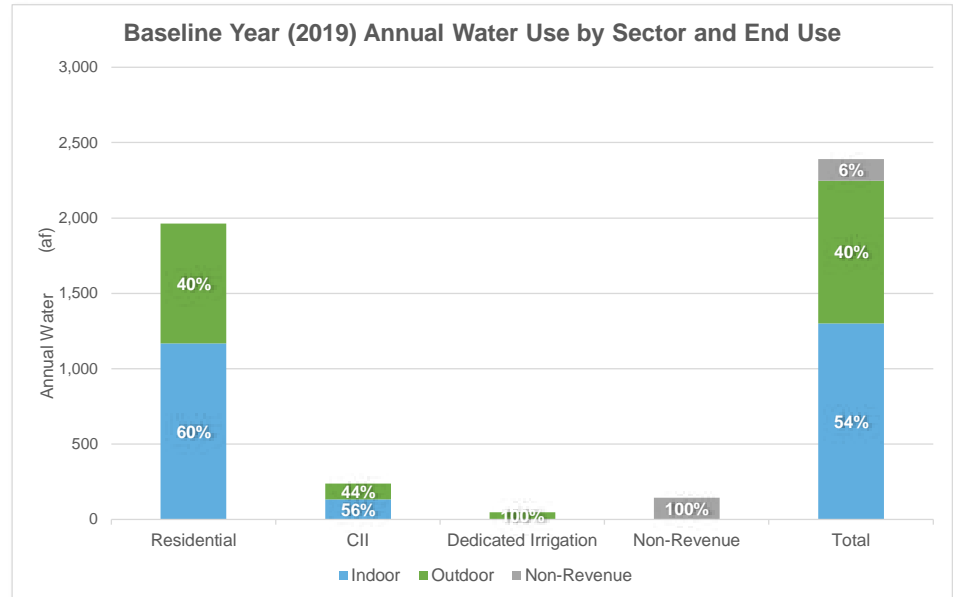
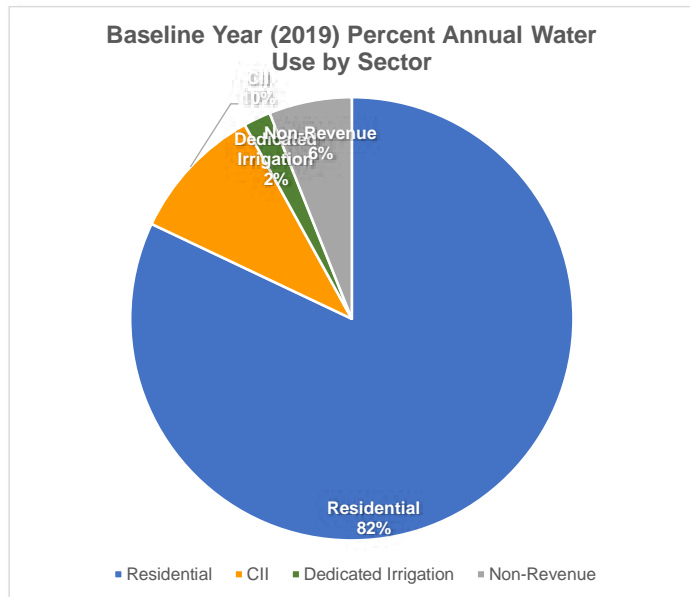
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2 - Input Baseline Year (2019) Water Use Valley of the Moon Water District

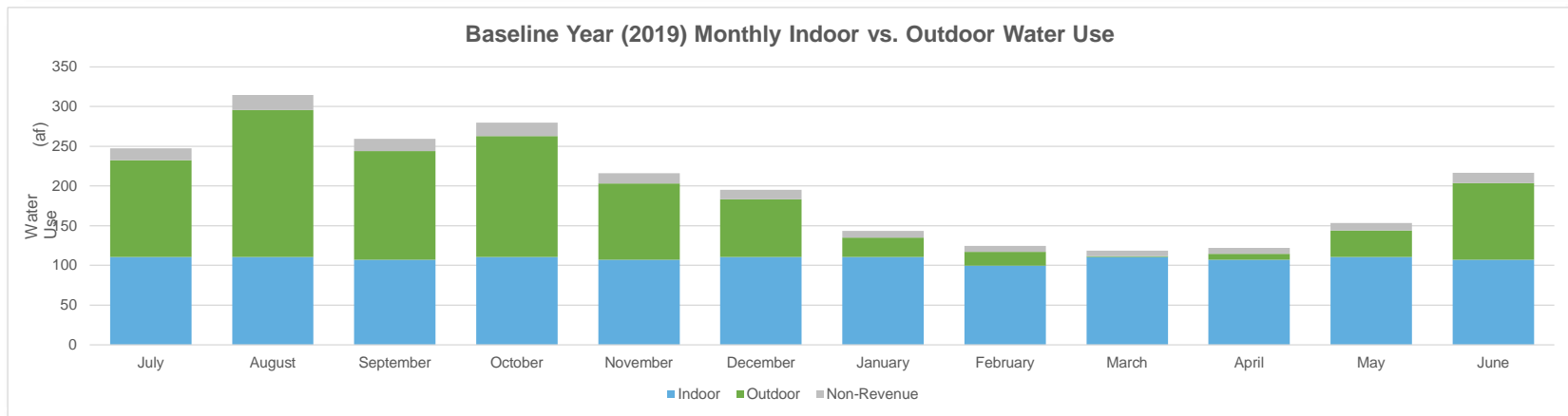
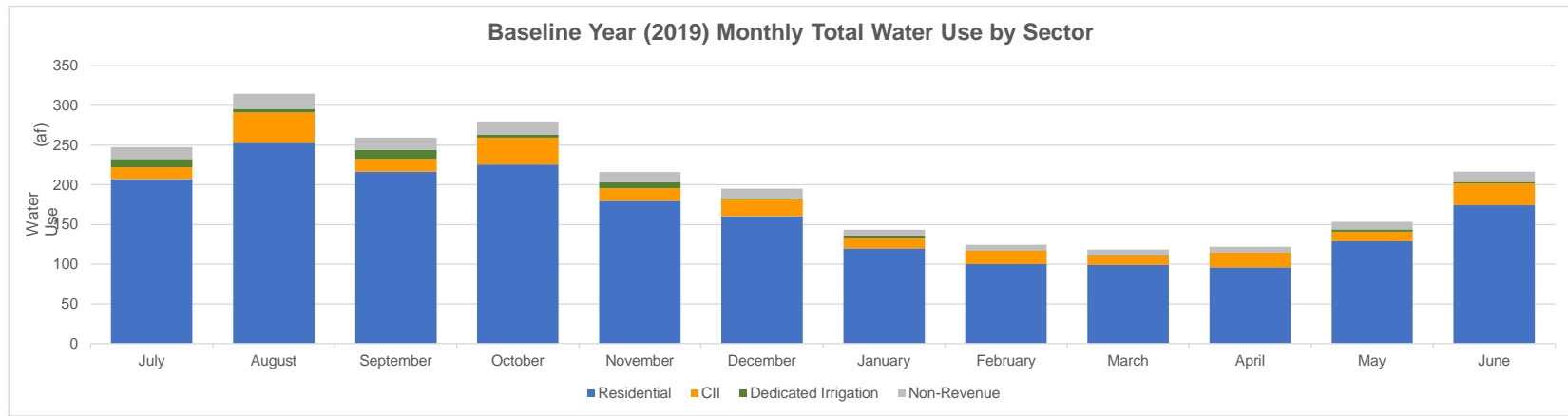
| Input Baseline Year (2019) Production and Water Use | | | | | | | |
|---|-----------------------|----------------------------|--------------------|-------------------------------------|----------------------------|--------------|--|
| Units: <input type="text" value="(af)"/> | | | | | | | |
| <i>Enter 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.</i> | | | | | | | |
| Date | Total Production (af) | Residential Water Use (af) | CII Water Use (af) | Dedicated Irrigation Water Use (af) | Non-Revenue Water Use (af) | Total R-GPCD | Comments |
| July | 247 | 207 | 15 | 10 | 15 | 89 | NRW is assumed to be 7.3%. values are in Fiscal Year. |
| August | 315 | 253 | 38 | 4 | 19 | 109 | |
| September | 260 | 217 | 16 | 11 | 16 | 96 | |
| October | 280 | 226 | 34 | 3 | 17 | 97 | |
| November | 216 | 180 | 16 | 8 | 13 | 80 | |
| December | 195 | 160 | 21 | 2 | 12 | 69 | |
| January | 143 | 120 | 12 | 2 | 9 | 52 | |
| February | 125 | 100 | 17 | 0 | 8 | 48 | |
| March | 119 | 99 | 11 | 1 | 7 | 43 | |
| April | 122 | 96 | 18 | 0 | 7 | 43 | |
| May | 153 | 129 | 12 | 3 | 9 | 56 | |
| June | 217 | 174 | 27 | 2 | 13 | 78 | |

3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District

| Baseline Year (2019) Annual Water Use Summary | | | | | | |
|--|-----------------------|----------------|-----|----------------------|-------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed. | | | | | | |
| Water Use | Total Production (af) | Water Use (af) | | | | Comments |
| | | Residential | CII | Dedicated Irrigation | Non-Revenue | |
| Total | 2,392 | 1,962 | 238 | 47 | 145 | |
| Total Indoor | 1,301 | 1,169 | 132 | -- | -- | |
| Total Outdoor | 946 | 793 | 106 | 47 | -- | |
| Total Non-Revenue | 145 | -- | -- | -- | 145 | |
| Total Indoor % | 54% | 60% | 56% | 0% | -- | |
| Total Outdoor % | 40% | 40% | 44% | 100% | -- | |
| Total Non-Revenue % | 6% | -- | -- | -- | 100% | |

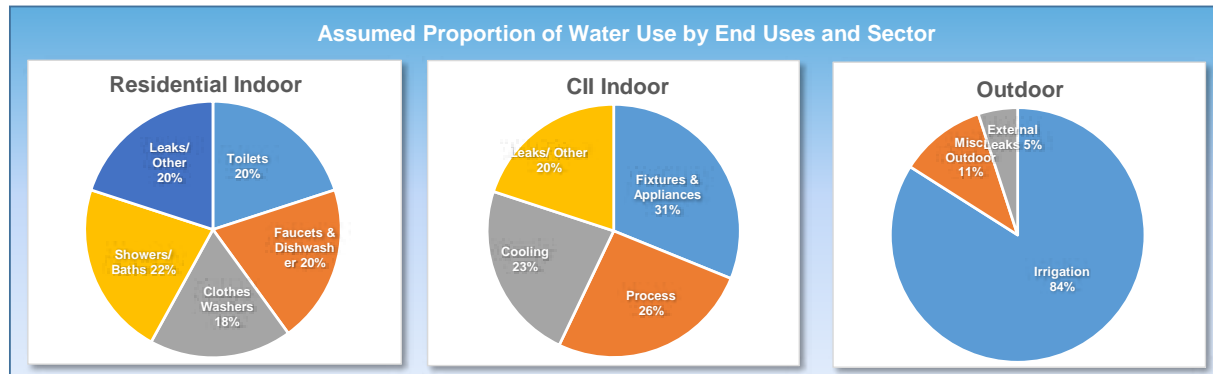


3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District



4 - Drought Response Actions - Stage 4 Valley of the Moon Water District

| Maximum Savings Potential | | |
|--|------------|--|
| <i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i> | | |
| Minimum Residential Indoor GPCD | 25 | R-GPCD |
| Maximum Residential Outdoor Savings | 100% | of Baseline Residential Outdoor Water Use |
| Maximum CII Indoor Savings | 30% | of Baseline CII Indoor Water Use |
| Maximum CII Outdoor Savings | 100% | of Baseline CII Outdoor Water Use |
| Maximum Dedicated Irrigation Account Savings | 100% | of Baseline Dedicated Irrigation Water Use |
| Maximum Non-Revenue Water Savings | 50% | of Baseline Non-Revenue Water Use |
| Resulting Total Maximum Annual Savings Potential | 65% | of Total Baseline Production |



4 - Drought Response Actions - Stage 4 Valley of the Moon Water District

| Drought Response Actions | | | | | | |
|---|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| <small>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</small> | | | | | | |
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Possible Mandatory Prohibitions | All Outdoor | <input checked="" type="checkbox"/> | 14% | 75% | -- | -- |
| Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems | Irrigation | <input checked="" type="checkbox"/> | | | -- | -- |
| Require Shut-Off Nozzles on Hoses for Vehicle Washing | Misc. Outdoor | <input type="checkbox"/> | 17% | 50% | See Appendix D of the DRP | -- |
| Prohibit Use of Potable Water to Wash Sidewalks and Driveways | Misc. Outdoor | <input type="checkbox"/> | 17% | 50% | | -- |
| Prohibit the Use of Potable Water for Street Washing | Misc. Outdoor | <input checked="" type="checkbox"/> | 17% | 50% | | -- |
| Prohibit Irrigation with Potable Water in a Manner that causes Runoff | Irrigation | <input type="checkbox"/> | 3% | 50% | DeOreo et al, 2011 | -- |
| Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall | Irrigation | <input type="checkbox"/> | | | -- | -- |
| Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians | Irrigation | <input type="checkbox"/> | | | -- | -- |
| Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water | Misc. Outdoor | <input type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Provide Linen Service Opt Out Options | Fixtures & Appliances | <input type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |
| Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments | Fixtures & Appliances | <input type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |

4 - Drought Response Actions - Stage 4 Valley of the Moon Water District

| Drought Response Actions | | | | | | |
|--|------------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Agency Drought Actions / Restrictions | | | | | | |
| ► Agency Actions | | | | | | |
| Media Campaign, Newspaper Articles, Website | All | <input checked="" type="checkbox"/> | 1.5% | 75% | EBMUD, 2011 | -- |
| Promote Water Conservation / Rebate Programs | All | <input checked="" type="checkbox"/> | | 75% | -- | -- |
| Water Efficiency Workshops, Public Events | All | <input checked="" type="checkbox"/> | 1.5% | 75% | EBMUD, 2011 | -- |
| Water Bill Inserts | All | <input checked="" type="checkbox"/> | 1.5% | 100% | EBMUD, 2011 | -- |
| Promote / Expand Use of Recycled Water | Irrigation | <input type="checkbox"/> | 100% | | -- | -- |
| Home or Mobile Water Use Reports | All | <input type="checkbox"/> | 5% | 10% | WaterSmart Software, 2015 | -- |
| Decrease Frequency and Length of Line Flushing | Non Revenue Water | <input checked="" type="checkbox"/> | 25% | 50% | See Appendix D of the DRP | Reduced flushing by 50%. |
| Audit and Reduce System Water Loss | Non Revenue Water | <input checked="" type="checkbox"/> | 45% | 50% | DWR, 2015 | Target 50% of leakage. |
| Implement Drought Rate Structure / Water Budgets | All | <input checked="" type="checkbox"/> | 5% | 100% | CUWCC, 2015 | -- |
| Establish Retrofit on Resale Ordinance | All Residential Indoor | <input type="checkbox"/> | 21% | 6% | SFPUC, 2004 | First Tuesday, 2015 |
| Require Net Zero Demand Increase on New Connections | All | <input type="checkbox"/> | | | -- | -- |
| Moratorium on New Connections | All | <input type="checkbox"/> | | | -- | -- |
| Move to Monthly Metering / Billing | All | <input type="checkbox"/> | 5% | 10% | See Appendix D of the DRP | -- |
| Increase Water Waste Patrols / Enforcement | All | <input type="checkbox"/> | | | -- | -- |
| Establish Drought Hotline | All | <input type="checkbox"/> | | | -- | -- |
| Reduce Distribution System Pressures | Non Revenue Water | <input checked="" type="checkbox"/> | 4.5% | 100% | CUWCC, 2010; DWR, 2015 | -- |
| ► Dedicated Irrigation | | | | | | |
| Conduct Irrigation Account Surveys | Irrigation | <input checked="" type="checkbox"/> | 30% | 20% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input checked="" type="checkbox"/> | 79% | 75% | | |
| Prohibit use of Potable Water for Irrigation | Irrigation | <input type="checkbox"/> | 100% | 50% | | |
| Require Repair of all Leaks within 24 hours | External Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 25% Reduction | Irrigation | <input type="checkbox"/> | 25% | 75% | -- | -- |
| Establish Water Budget - 50% Reduction | Irrigation | <input type="checkbox"/> | 50% | 50% | -- | -- |
| Establish Water Budget - 75% Reduction | Irrigation | <input type="checkbox"/> | 75% | 50% | -- | -- |

4 - Drought Response Actions - Stage 4
Valley of the Moon Water District

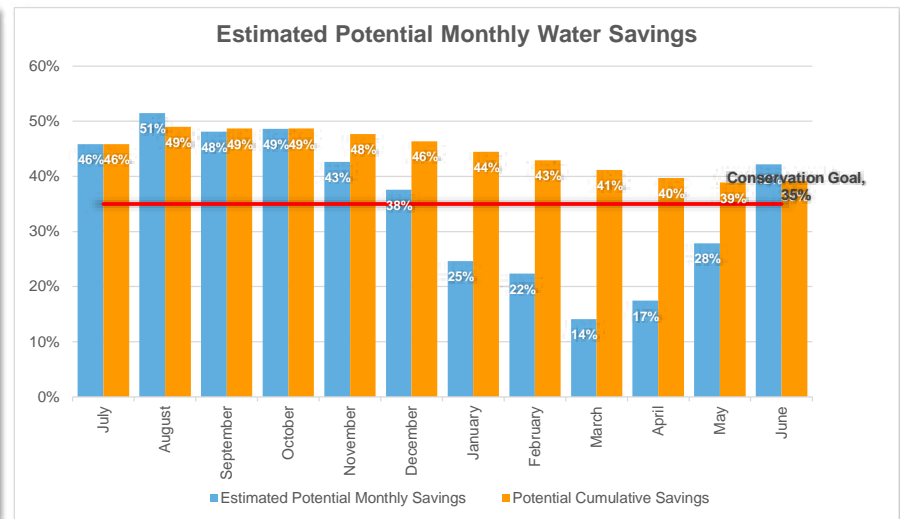
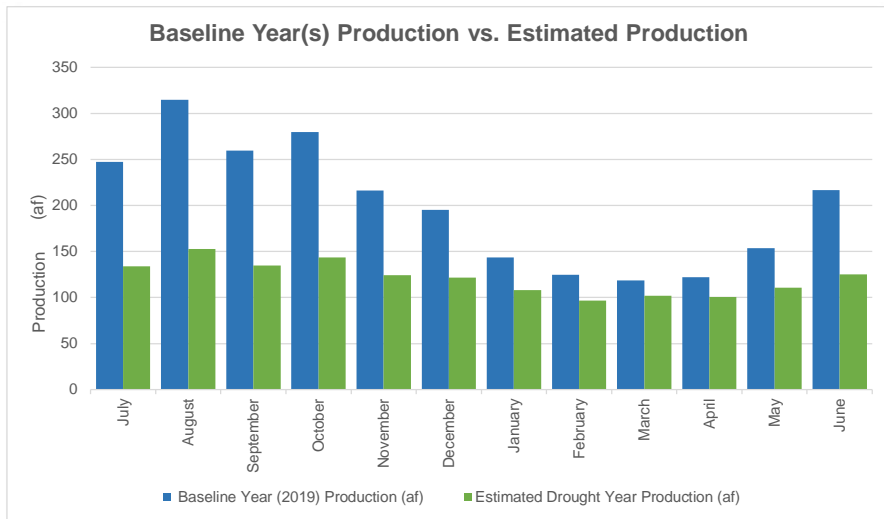
| Drought Response Actions | | | | | | |
|--|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Agency Drought Actions / Restrictions | | | | | | |
| ► Residential | | | | | | |
| Conduct Water Use Surveys Targeting High Water Users | All Residential Uses | <input checked="" type="checkbox"/> | 10% | 20% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input checked="" type="checkbox"/> | 79% | 75% | | |
| Prohibit use of Potable Water for Irrigation | Irrigation | <input type="checkbox"/> | 100% | 50% | | |
| Prohibit Vehicle Washing Except with Recycled Water | Misc. Outdoor | <input checked="" type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Require Repair of all Leaks within 24 hours | Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Require Pool Covers | Misc. Outdoor | <input checked="" type="checkbox"/> | 28% | 25% | Maddaus & Mayer, 2001 | -- |
| Prohibit Filling of Pools | Misc. Outdoor | <input checked="" type="checkbox"/> | 55% | 25% | DeOreo et al., 2011 | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 10% Reduction | All Residential Uses | <input type="checkbox"/> | 10% | 75% | -- | -- |
| Establish Water Budget - 20% Reduction | All Residential Uses | <input type="checkbox"/> | 20% | 50% | -- | -- |
| ► CII | | | | | | |
| Conduct CII Surveys Targeting High Water Users | All CII uses | <input checked="" type="checkbox"/> | 10% | 20% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input checked="" type="checkbox"/> | 79% | 75% | | |
| Prohibit Use of Potable Water for Construction and Dust Control | Misc. Outdoor | <input checked="" type="checkbox"/> | | 100% | | |
| Prohibit Single-Pass Cooling Systems | Cooling | <input checked="" type="checkbox"/> | 80% | 1% | Vickers, 2001 | -- |
| Require Repair of all Leaks within 24 hours | Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Prohibit Vehicle Washing Except with Recycled Water | Misc. Outdoor | <input checked="" type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Require Water-Efficient Pre-Rinse Spray Valves | Fixtures & Appliances | <input checked="" type="checkbox"/> | 0.8% | 50% | EPA, 2015; Pacific Institute, 2003 | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 10% Reduction | All CII uses | <input type="checkbox"/> | 10% | 75% | -- | -- |
| Establish Water Budget - 20% Reduction | All CII uses | <input type="checkbox"/> | 20% | 50% | -- | -- |
| Establish Water Budget - 30% Reduction | All CII uses | <input type="checkbox"/> | 30% | 50% | -- | -- |

4 - Drought Response Actions - Stage 4 Valley of the Moon Water District

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

5 - Estimated Water Savings - Stage 4
Valley of the Moon Water District

| Estimated Monthly Water Use and Savings Summary | | | | | | |
|--|--------------------------------------|--|-------------------------------------|------------------------------|-------------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| <small>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.</small> | | | | | | |
| Month | Baseline Year (2019) Production (af) | Estimated Drought Year Production (af) | Estimated Potential Monthly Savings | Potential Cumulative Savings | Conservation Goal | Comments |
| July | 247 | 134 | 46% | 46% | 35% | |
| August | 315 | 153 | 51% | 49% | 35% | |
| September | 260 | 135 | 48% | 49% | 35% | |
| October | 280 | 144 | 49% | 49% | 35% | |
| November | 216 | 124 | 43% | 48% | 35% | |
| December | 195 | 122 | 38% | 46% | 35% | |
| January | 143 | 108 | 25% | 44% | 35% | |
| February | 125 | 97 | 22% | 43% | 35% | |
| March | 119 | 102 | 14% | 41% | 35% | |
| April | 122 | 101 | 17% | 40% | 35% | |
| May | 153 | 111 | 28% | 39% | 35% | |
| June | 217 | 125 | 42% | 39% | 35% | |



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

1 - Home

Valley of the Moon Water District

| Enter Agency Information | |
|--|-----------------------------------|
| Agency Name | Valley of the Moon Water District |
| Total Population Served | 24,414 |
| Conservation Goal (%) | 45% |
| Drought Stage | Stage 5 |
| Number of Residential Accounts | 6,679 |
| Number of Commercial, Industrial, and Institutional (CII) Accounts | 206 |
| Number of Dedicated Irrigation Accounts | 35 |
| Baseline Year(s) | 2019 |
| Percentage of Residential Indoor Use During Minimum Month (%) | 100% |
| Percentage of CII Indoor Use During Minimum Month (%) | 100% |
| Comments | |

FY

| Navigation | |
|--|---|
| USER'S GUIDE | Download and read the guide before using this Tool |
| 1 - HOME | Enter agency information |
| 2 - INPUT BASELINE YEAR WATER USE | Enter Baseline Year production and use |
| 3 - BASELINE YEAR WATER USE | Review and confirm entered information |
| 4 - DROUGHT RESPONSE ACTIONS | Select Drought Response Actions and input estimated water savings and implementation rates. |
| 5 - ESTIMATED WATER SAVINGS | Review estimated water production and compare estimated savings to conservation target. |
| 6 - DROUGHT RESPONSE TRACKING | Track production and water savings against the conservation target. |



Drought Response Tool

Home

Input Baseline
Year Water
Use

Baseline Year
Water Use
Profile

Drought
Response
Actions

Estimated
Water
Savings

Drought
Response
Tracking

1 - Home

Valley of the Moon Water District

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

Anona Dutton, P.G., C.Hg.

adutton@ekiconsult.com

(650) 292-9100



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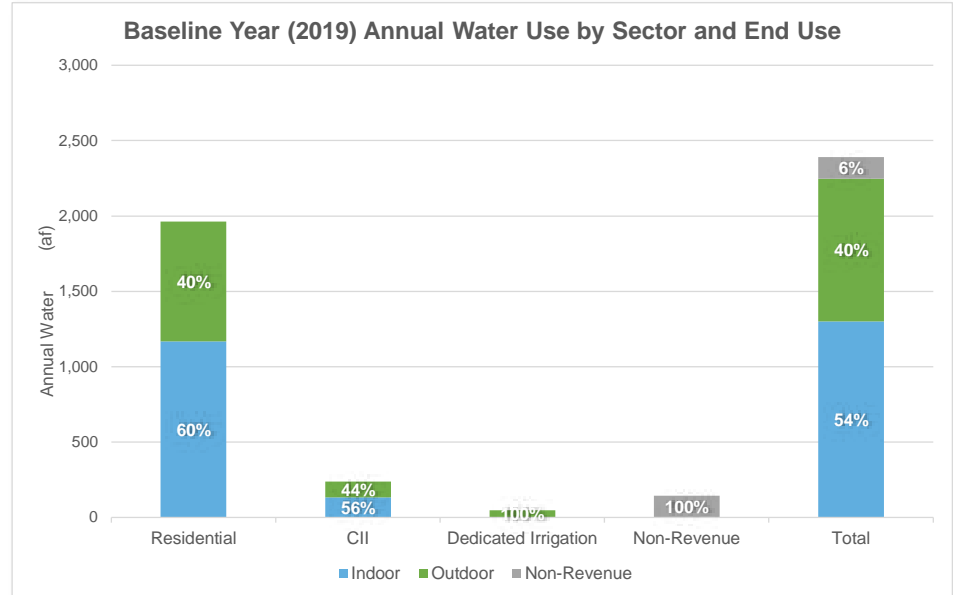
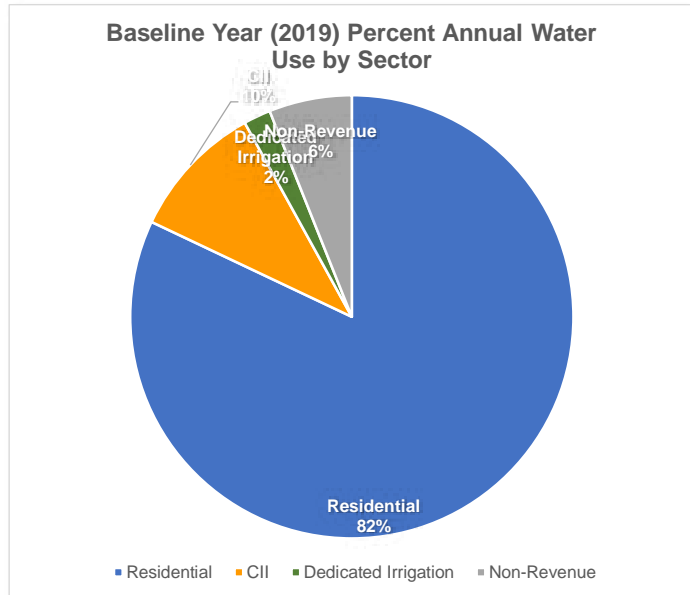
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2 - Input Baseline Year (2019) Water Use Valley of the Moon Water District

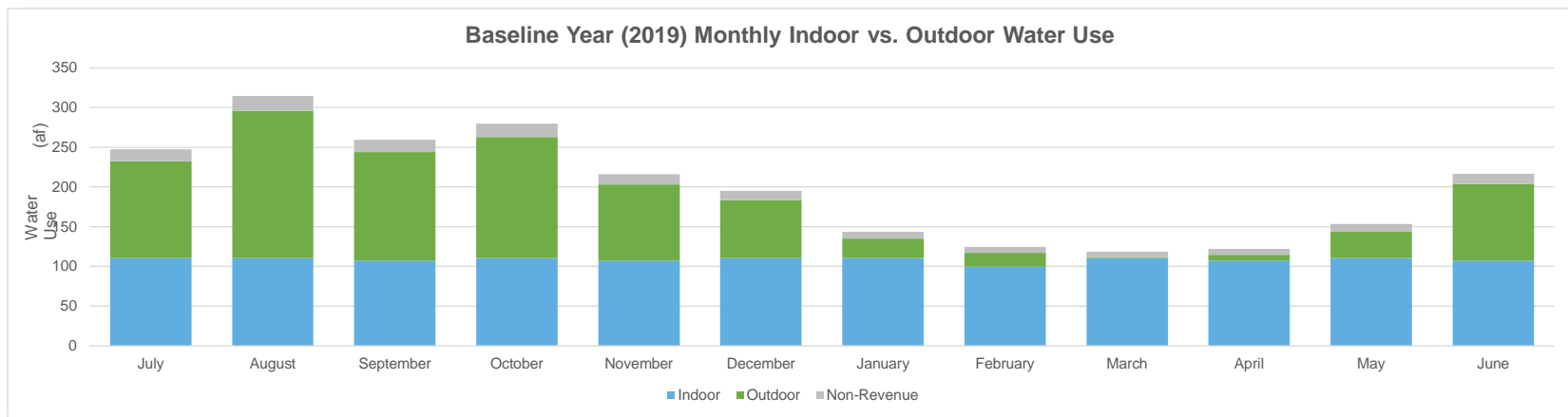
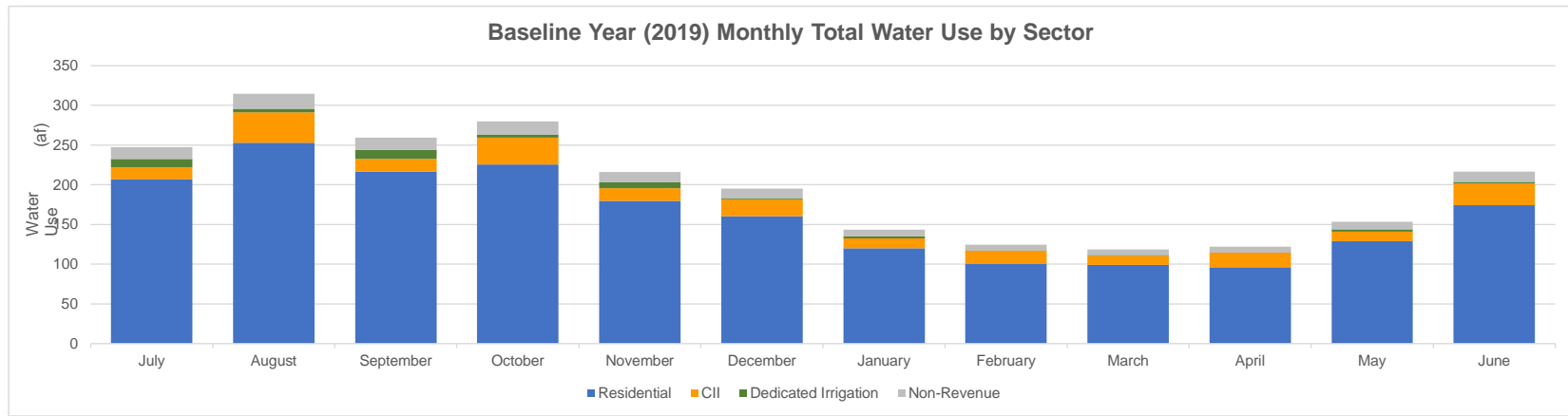
| Input Baseline Year (2019) Production and Water Use | | | | | | | |
|---|-----------------------|----------------------------|--------------------|-------------------------------------|----------------------------|--------------|--|
| Units: <input type="text" value="(af)"/> | | | | | | | |
| <i>Enter 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.</i> | | | | | | | |
| Date | Total Production (af) | Residential Water Use (af) | CII Water Use (af) | Dedicated Irrigation Water Use (af) | Non-Revenue Water Use (af) | Total R-GPCD | Comments |
| July | 247 | 207 | 15 | 10 | 15 | 89 | NRW is assumed to be 7.3%. values are in Fiscal Year. |
| August | 315 | 253 | 38 | 4 | 19 | 109 | |
| September | 260 | 217 | 16 | 11 | 16 | 96 | |
| October | 280 | 226 | 34 | 3 | 17 | 97 | |
| November | 216 | 180 | 16 | 8 | 13 | 80 | |
| December | 195 | 160 | 21 | 2 | 12 | 69 | |
| January | 143 | 120 | 12 | 2 | 9 | 52 | |
| February | 125 | 100 | 17 | 0 | 8 | 48 | |
| March | 119 | 99 | 11 | 1 | 7 | 43 | |
| April | 122 | 96 | 18 | 0 | 7 | 43 | |
| May | 153 | 129 | 12 | 3 | 9 | 56 | |
| June | 217 | 174 | 27 | 2 | 13 | 78 | |

3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District

| Baseline Year (2019) Annual Water Use Summary | | | | | | |
|--|-----------------------|----------------|-----|----------------------|-------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed. | | | | | | |
| Water Use | Total Production (af) | Water Use (af) | | | | Comments |
| | | Residential | CII | Dedicated Irrigation | Non-Revenue | |
| Total | 2,392 | 1,962 | 238 | 47 | 145 | |
| Total Indoor | 1,301 | 1,169 | 132 | -- | -- | |
| Total Outdoor | 946 | 793 | 106 | 47 | -- | |
| Total Non-Revenue | 145 | -- | -- | -- | 145 | |
| Total Indoor % | 54% | 60% | 56% | 0% | -- | |
| Total Outdoor % | 40% | 40% | 44% | 100% | -- | |
| Total Non-Revenue % | 6% | -- | -- | -- | 100% | |

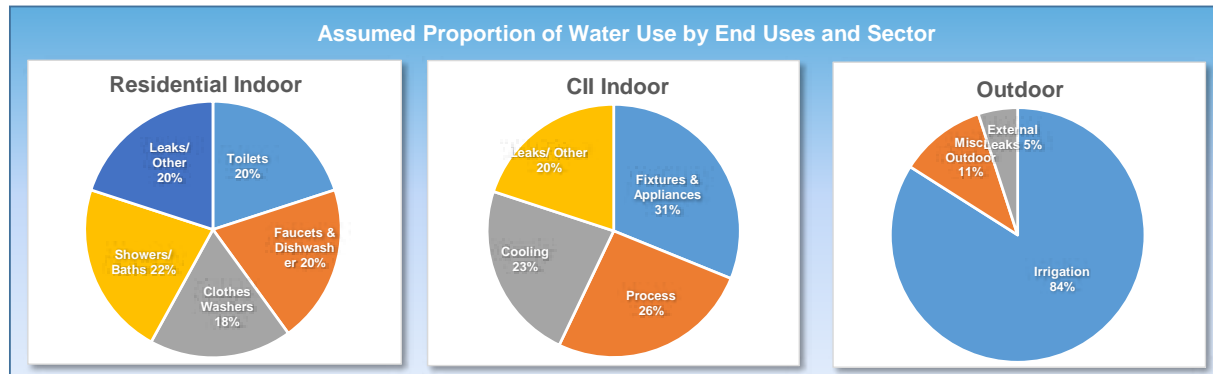


3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District



4 - Drought Response Actions - Stage 5 Valley of the Moon Water District

| Maximum Savings Potential | | |
|--|------------|--|
| <i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i> | | |
| Minimum Residential Indoor GPCD | 25 | R-GPCD |
| Maximum Residential Outdoor Savings | 100% | of Baseline Residential Outdoor Water Use |
| Maximum CII Indoor Savings | 30% | of Baseline CII Indoor Water Use |
| Maximum CII Outdoor Savings | 100% | of Baseline CII Outdoor Water Use |
| Maximum Dedicated Irrigation Account Savings | 100% | of Baseline Dedicated Irrigation Water Use |
| Maximum Non-Revenue Water Savings | 50% | of Baseline Non-Revenue Water Use |
| Resulting Total Maximum Annual Savings Potential | 65% | of Total Baseline Production |



4 - Drought Response Actions - Stage 5 Valley of the Moon Water District

Drought Response Actions

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

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

4 - Drought Response Actions - Stage 5 Valley of the Moon Water District

| Drought Response Actions | | | | | | |
|--|------------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Agency Drought Actions / Restrictions | | | | | | |
| ► Agency Actions | | | | | | |
| Media Campaign, Newspaper Articles, Website | All | <input checked="" type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |
| Promote Water Conservation / Rebate Programs | All | <input checked="" type="checkbox"/> | | 50% | -- | -- |
| Water Efficiency Workshops, Public Events | All | <input checked="" type="checkbox"/> | 0.5% | 25% | EBMUD, 2011 | -- |
| Water Bill Inserts | All | <input checked="" type="checkbox"/> | 0.5% | 100% | EBMUD, 2011 | -- |
| Promote / Expand Use of Recycled Water | Irrigation | <input type="checkbox"/> | 100% | | -- | -- |
| Home or Mobile Water Use Reports | All | <input type="checkbox"/> | 5% | 10% | WaterSmart Software, 2015 | -- |
| Decrease Frequency and Length of Line Flushing | Non Revenue Water | <input checked="" type="checkbox"/> | 25% | 50% | See Appendix D of the DRP | Reduced flushing by 50%. |
| Audit and Reduce System Water Loss | Non Revenue Water | <input checked="" type="checkbox"/> | 45% | 50% | DWR, 2015 | Target 50% of leakage. |
| Implement Drought Rate Structure / Water Budgets | All | <input checked="" type="checkbox"/> | 5% | 100% | CUWCC, 2015 | -- |
| Establish Retrofit on Resale Ordinance | All Residential Indoor | <input type="checkbox"/> | 21% | 6% | SFPUC, 2004 | First Tuesday, 2015 |
| Require Net Zero Demand Increase on New Connections | All | <input type="checkbox"/> | | | -- | -- |
| Moratorium on New Connections | All | <input type="checkbox"/> | | | -- | -- |
| Move to Monthly Metering / Billing | All | <input type="checkbox"/> | 5% | 10% | See Appendix D of the DRP | -- |
| Increase Water Waste Patrols / Enforcement | All | <input type="checkbox"/> | | | -- | -- |
| Establish Drought Hotline | All | <input type="checkbox"/> | | | -- | -- |
| Reduce Distribution System Pressures | Non Revenue Water | <input checked="" type="checkbox"/> | 4.5% | 100% | CUWCC, 2010; DWR, 2015 | -- |
| ► Dedicated Irrigation | | | | | | |
| Conduct Irrigation Account Surveys | Irrigation | <input checked="" type="checkbox"/> | 30% | 20% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 80% | | |
| Prohibit use of Potable Water for Irrigation | Irrigation | <input checked="" type="checkbox"/> | 100% | 85% | | |
| Require Repair of all Leaks within 24 hours | External Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 25% Reduction | Irrigation | <input type="checkbox"/> | 25% | 75% | -- | -- |
| Establish Water Budget - 50% Reduction | Irrigation | <input type="checkbox"/> | 50% | 50% | -- | -- |
| Establish Water Budget - 75% Reduction | Irrigation | <input type="checkbox"/> | 75% | 50% | -- | -- |

4 - Drought Response Actions - Stage 5 Valley of the Moon Water District

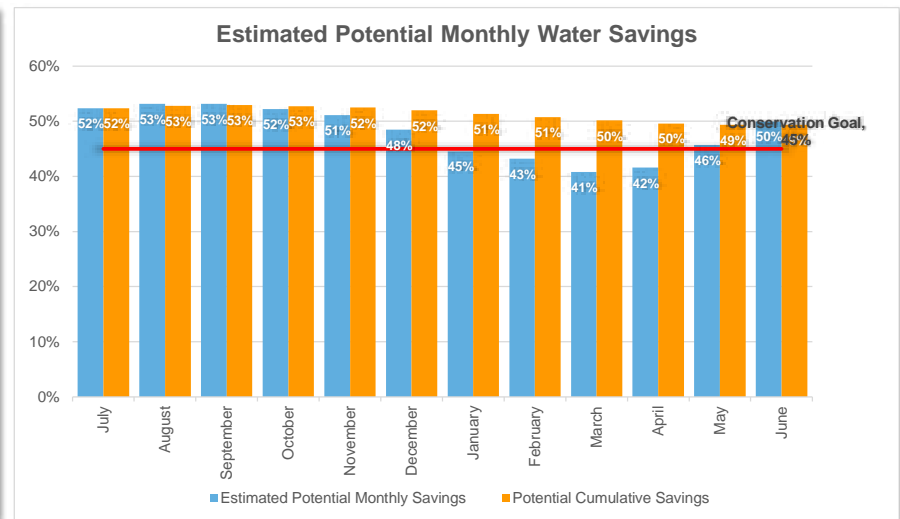
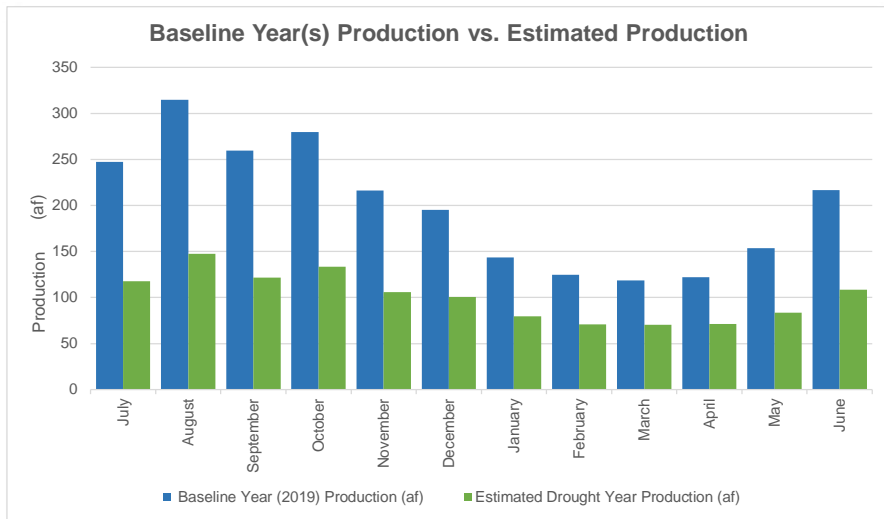
| Drought Response Actions | | | | | | |
|--|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Agency Drought Actions / Restrictions | | | | | | |
| ► Residential | | | | | | |
| Conduct Water Use Surveys Targeting High Water Users | All Residential Uses | <input checked="" type="checkbox"/> | 10% | 20% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 80% | | |
| Prohibit use of Potable Water for Irrigation | Irrigation | <input type="checkbox"/> | 100% | 85% | | |
| Prohibit Vehicle Washing Except with Recycled Water | Misc. Outdoor | <input checked="" type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Require Repair of all Leaks within 24 hours | Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Require Pool Covers | Misc. Outdoor | <input checked="" type="checkbox"/> | 28% | 25% | Maddaus & Mayer, 2001 | -- |
| Prohibit Filling of Pools | Misc. Outdoor | <input checked="" type="checkbox"/> | 55% | 25% | DeOreo et al., 2011 | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 20% Reduction | All Residential Uses | <input type="checkbox"/> | 20% | 75% | -- | -- |
| Establish Water Budget - 30% Reduction | All Residential Uses | <input checked="" type="checkbox"/> | 45% | 85% | -- | -- |
| ► CII | | | | | | |
| Conduct CII Surveys Targeting High Water Users | All CII uses | <input checked="" type="checkbox"/> | 10% | 20% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 80% | | |
| Prohibit Use of Potable Water for Construction and Dust Control | Misc. Outdoor | <input checked="" type="checkbox"/> | | 100% | | |
| Prohibit Single-Pass Cooling Systems | Cooling | <input checked="" type="checkbox"/> | 80% | 1% | Vickers, 2001 | -- |
| Require Repair of all Leaks within 24 hours | Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Prohibit Vehicle Washing Except with Recycled Water | Misc. Outdoor | <input checked="" type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Require Water-Efficient Pre-Rinse Spray Valves | Fixtures & Appliances | <input checked="" type="checkbox"/> | 0.8% | 50% | EPA, 2015; Pacific Institute, 2003 | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 10% Reduction | All CII uses | <input type="checkbox"/> | 10% | 75% | -- | -- |
| Establish Water Budget - 20% Reduction | All CII uses | <input type="checkbox"/> | 20% | 75% | -- | -- |
| Establish Water Budget - 30% Reduction | All CII uses | <input checked="" type="checkbox"/> | 45% | 85% | -- | -- |

4 - Drought Response Actions - Stage 5 Valley of the Moon Water District

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

5 - Estimated Water Savings - Stage 5
Valley of the Moon Water District

| Estimated Monthly Water Use and Savings Summary | | | | | | |
|--|--------------------------------------|--|-------------------------------------|------------------------------|-------------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| <small>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.</small> | | | | | | |
| Month | Baseline Year (2019) Production (af) | Estimated Drought Year Production (af) | Estimated Potential Monthly Savings | Potential Cumulative Savings | Conservation Goal | Comments |
| July | 247 | 118 | 52% | 52% | 45% | |
| August | 315 | 147 | 53% | 53% | 45% | |
| September | 260 | 122 | 53% | 53% | 45% | |
| October | 280 | 134 | 52% | 53% | 45% | |
| November | 216 | 106 | 51% | 52% | 45% | |
| December | 195 | 101 | 48% | 52% | 45% | |
| January | 143 | 80 | 45% | 51% | 45% | |
| February | 125 | 71 | 43% | 51% | 45% | |
| March | 119 | 70 | 41% | 50% | 45% | |
| April | 122 | 71 | 42% | 50% | 45% | |
| May | 153 | 83 | 46% | 49% | 45% | |
| June | 217 | 108 | 50% | 49% | 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

Valley of the Moon Water District

| Enter Agency Information | |
|--|-----------------------------------|
| Agency Name | Valley of the Moon Water District |
| Total Population Served | 24,414 |
| Conservation Goal (%) | 55% |
| Drought Stage | Stage 6 |
| Number of Residential Accounts | 6,679 |
| Number of Commercial, Industrial, and Institutional (CII) Accounts | 206 |
| Number of Dedicated Irrigation Accounts | 35 |
| Baseline Year(s) | 2019 |
| Percentage of Residential Indoor Use During Minimum Month (%) | 100% |
| Percentage of CII Indoor Use During Minimum Month (%) | 100% |
| Comments | |

FY

| Navigation | |
|--|---|
| USER'S GUIDE | Download and read the guide before using this Tool |
| 1 - HOME | Enter agency information |
| 2 - INPUT BASELINE YEAR WATER USE | Enter Baseline Year production and use |
| 3 - BASELINE YEAR WATER USE | Review and confirm entered information |
| 4 - DROUGHT RESPONSE ACTIONS | Select Drought Response Actions and input estimated water savings and implementation rates. |
| 5 - ESTIMATED WATER SAVINGS | Review estimated water production and compare estimated savings to conservation target. |
| 6 - DROUGHT RESPONSE TRACKING | Track production and water savings against the conservation target. |



Drought Response Tool

Home

Input Baseline
Year Water
Use

Baseline Year
Water Use
Profile

Drought
Response
Actions

Estimated
Water
Savings

Drought
Response
Tracking

1 - Home

Valley of the Moon Water District

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

Anona Dutton, P.G., C.Hg.

adutton@ekiconsult.com

(650) 292-9100



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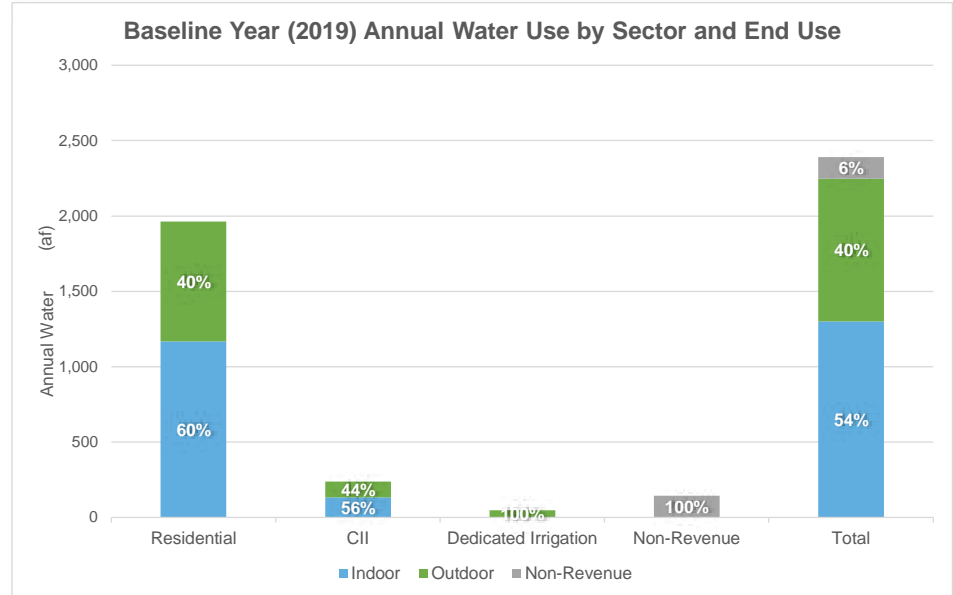
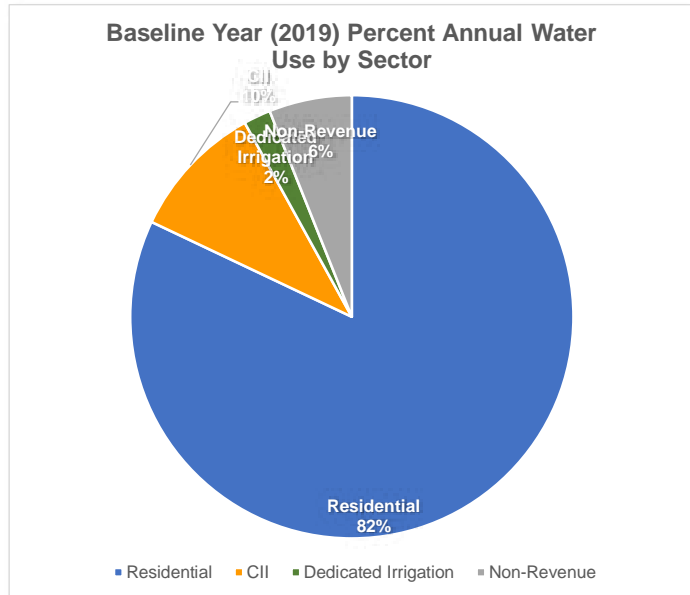
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2 - Input Baseline Year (2019) Water Use Valley of the Moon Water District

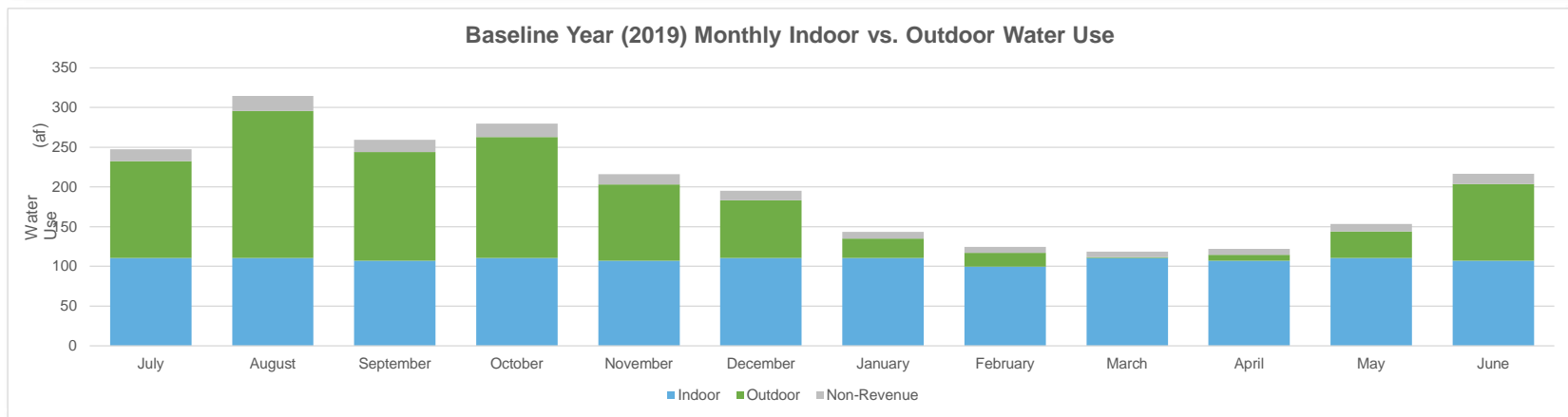
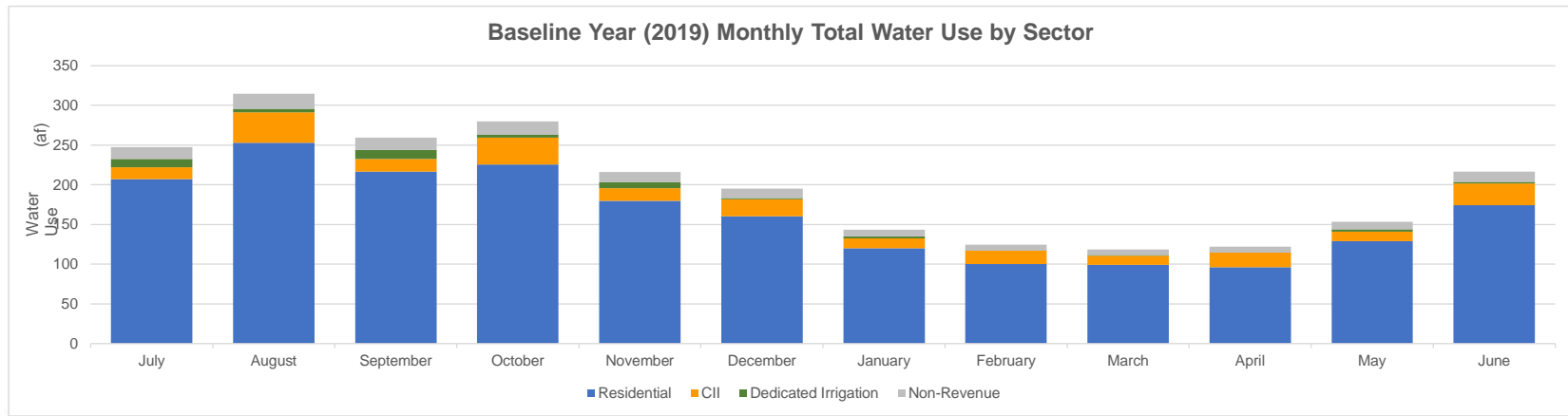
| Input Baseline Year (2019) Production and Water Use | | | | | | | |
|--|-----------------------|----------------------------|--------------------|-------------------------------------|----------------------------|--------------|--|
| Units: <input type="text" value="(af)"/> | | | | | | | |
| <p><i>Enter 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.</i></p> | | | | | | | |
| Date | Total Production (af) | Residential Water Use (af) | CII Water Use (af) | Dedicated Irrigation Water Use (af) | Non-Revenue Water Use (af) | Total R-GPCD | Comments |
| July | 247 | 207 | 15 | 10 | 15 | 89 | NRW is assumed to be 7.3%. values are in Fiscal Year. |
| August | 315 | 253 | 38 | 4 | 19 | 109 | |
| September | 260 | 217 | 16 | 11 | 16 | 96 | |
| October | 280 | 226 | 34 | 3 | 17 | 97 | |
| November | 216 | 180 | 16 | 8 | 13 | 80 | |
| December | 195 | 160 | 21 | 2 | 12 | 69 | |
| January | 143 | 120 | 12 | 2 | 9 | 52 | |
| February | 125 | 100 | 17 | 0 | 8 | 48 | |
| March | 119 | 99 | 11 | 1 | 7 | 43 | |
| April | 122 | 96 | 18 | 0 | 7 | 43 | |
| May | 153 | 129 | 12 | 3 | 9 | 56 | |
| June | 217 | 174 | 27 | 2 | 13 | 78 | |

3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District

| Baseline Year (2019) Annual Water Use Summary | | | | | | |
|--|-----------------------|----------------|-----|----------------------|-------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed. | | | | | | |
| Water Use | Total Production (af) | Water Use (af) | | | | Comments |
| | | Residential | CII | Dedicated Irrigation | Non-Revenue | |
| Total | 2,392 | 1,962 | 238 | 47 | 145 | |
| Total Indoor | 1,301 | 1,169 | 132 | -- | -- | |
| Total Outdoor | 946 | 793 | 106 | 47 | -- | |
| Total Non-Revenue | 145 | -- | -- | -- | 145 | |
| Total Indoor % | 54% | 60% | 56% | 0% | -- | |
| Total Outdoor % | 40% | 40% | 44% | 100% | -- | |
| Total Non-Revenue % | 6% | -- | -- | -- | 100% | |

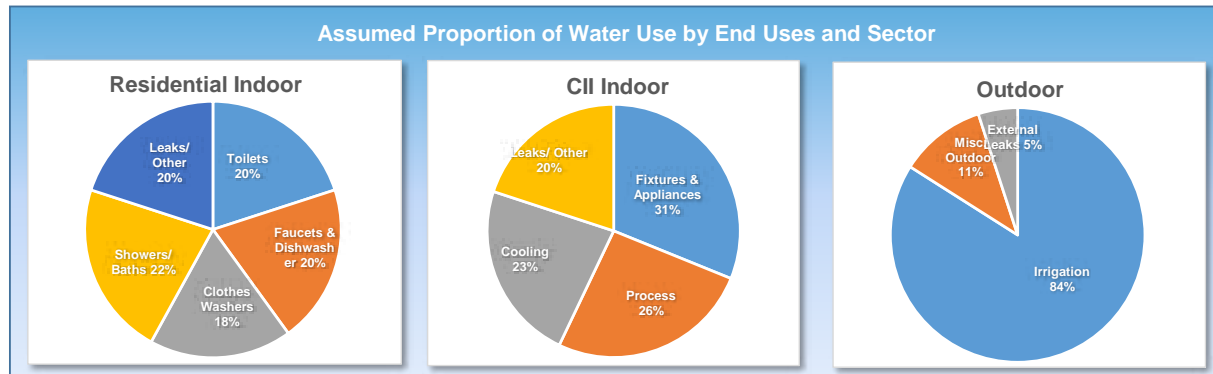


3 - Baseline Year (2019) Water Use Profile
Valley of the Moon Water District



4 - Drought Response Actions - Stage 6 Valley of the Moon Water District

| Maximum Savings Potential | | |
|--|------------|--|
| <i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i> | | |
| Minimum Residential Indoor GPCD | 25 | R-GPCD |
| Maximum Residential Outdoor Savings | 100% | of Baseline Residential Outdoor Water Use |
| Maximum CII Indoor Savings | 30% | of Baseline CII Indoor Water Use |
| Maximum CII Outdoor Savings | 100% | of Baseline CII Outdoor Water Use |
| Maximum Dedicated Irrigation Account Savings | 100% | of Baseline Dedicated Irrigation Water Use |
| Maximum Non-Revenue Water Savings | 50% | of Baseline Non-Revenue Water Use |
| Resulting Total Maximum Annual Savings Potential | 65% | of Total Baseline Production |



4 - Drought Response Actions - Stage 6 Valley of the Moon Water District

| Drought Response Actions | | | | | | |
|---|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| <small>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</small> | | | | | | |
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Possible Mandatory Prohibitions | All Outdoor | <input checked="" type="checkbox"/> | 14% | 75% | -- | -- |
| Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems | Irrigation | <input checked="" type="checkbox"/> | | | -- | -- |
| Require Shut-Off Nozzles on Hoses for Vehicle Washing | Misc. Outdoor | <input type="checkbox"/> | 17% | 50% | See Appendix D of the DRP | -- |
| Prohibit Use of Potable Water to Wash Sidewalks and Driveways | Misc. Outdoor | <input type="checkbox"/> | 17% | 50% | | -- |
| Prohibit the Use of Potable Water for Street Washing | Misc. Outdoor | <input checked="" type="checkbox"/> | 17% | 50% | | -- |
| Prohibit Irrigation with Potable Water in a Manner that causes Runoff | Irrigation | <input type="checkbox"/> | 3% | 50% | DeOreo et al, 2011 | -- |
| Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall | Irrigation | <input type="checkbox"/> | | | -- | -- |
| Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians | Irrigation | <input type="checkbox"/> | | | -- | -- |
| Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water | Misc. Outdoor | <input type="checkbox"/> | 50% | 50% | EBMUD, 2008 | -- |
| Provide Linen Service Opt Out Options | Fixtures & Appliances | <input type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |
| Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments | Fixtures & Appliances | <input type="checkbox"/> | 0.5% | 50% | EBMUD, 2011 | -- |

4 - Drought Response Actions - Stage 6 Valley of the Moon Water District

| Drought Response Actions | | | | | | |
|--|------------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Agency Drought Actions / Restrictions | | | | | | |
| ► Agency Actions | | | | | | |
| Media Campaign, Newspaper Articles, Website | All | <input checked="" type="checkbox"/> | 2.5% | 90% | EBMUD, 2011 | -- |
| Promote Water Conservation / Rebate Programs | All | <input checked="" type="checkbox"/> | | 50% | -- | -- |
| Water Efficiency Workshops, Public Events | All | <input checked="" type="checkbox"/> | 2.5% | 90% | EBMUD, 2011 | -- |
| Water Bill Inserts | All | <input checked="" type="checkbox"/> | 2.5% | 100% | EBMUD, 2011 | -- |
| Promote / Expand Use of Recycled Water | Irrigation | <input type="checkbox"/> | 100% | | -- | -- |
| Home or Mobile Water Use Reports | All | <input type="checkbox"/> | 5% | 10% | WaterSmart Software, 2015 | -- |
| Decrease Frequency and Length of Line Flushing | Non Revenue Water | <input checked="" type="checkbox"/> | 25% | 50% | See Appendix D of the DRP | Reduced flushing by 50%. |
| Audit and Reduce System Water Loss | Non Revenue Water | <input checked="" type="checkbox"/> | 45% | 50% | DWR, 2015 | Target 50% of leakage. |
| Implement Drought Rate Structure / Water Budgets | All | <input checked="" type="checkbox"/> | 5% | 100% | CUWCC, 2015 | -- |
| Establish Retrofit on Resale Ordinance | All Residential Indoor | <input type="checkbox"/> | 21% | 6% | SFPUC, 2004 | First Tuesday, 2015 |
| Require Net Zero Demand Increase on New Connections | All | <input checked="" type="checkbox"/> | | | -- | -- |
| Moratorium on New Connections | All | <input type="checkbox"/> | | | -- | -- |
| Move to Monthly Metering / Billing | All | <input type="checkbox"/> | 5% | 10% | See Appendix D of the DRP | -- |
| Increase Water Waste Patrols / Enforcement | All | <input type="checkbox"/> | | | -- | -- |
| Establish Drought Hotline | All | <input type="checkbox"/> | | | -- | -- |
| Reduce Distribution System Pressures | Non Revenue Water | <input checked="" type="checkbox"/> | 4.5% | 100% | CUWCC, 2010; DWR, 2015 | -- |
| ► Dedicated Irrigation | | | | | | |
| Conduct Irrigation Account Surveys | Irrigation | <input checked="" type="checkbox"/> | 30% | 20% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 80% | | |
| Prohibit use of Potable Water for Irrigation | Irrigation | <input checked="" type="checkbox"/> | 100% | 90% | | |
| Require Repair of all Leaks within 24 hours | External Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 25% Reduction | Irrigation | <input type="checkbox"/> | 25% | 75% | -- | -- |
| Establish Water Budget - 50% Reduction | Irrigation | <input type="checkbox"/> | 50% | 50% | -- | -- |
| Establish Water Budget - 75% Reduction | Irrigation | <input type="checkbox"/> | 75% | 90% | -- | -- |

4 - Drought Response Actions - Stage 6 Valley of the Moon Water District

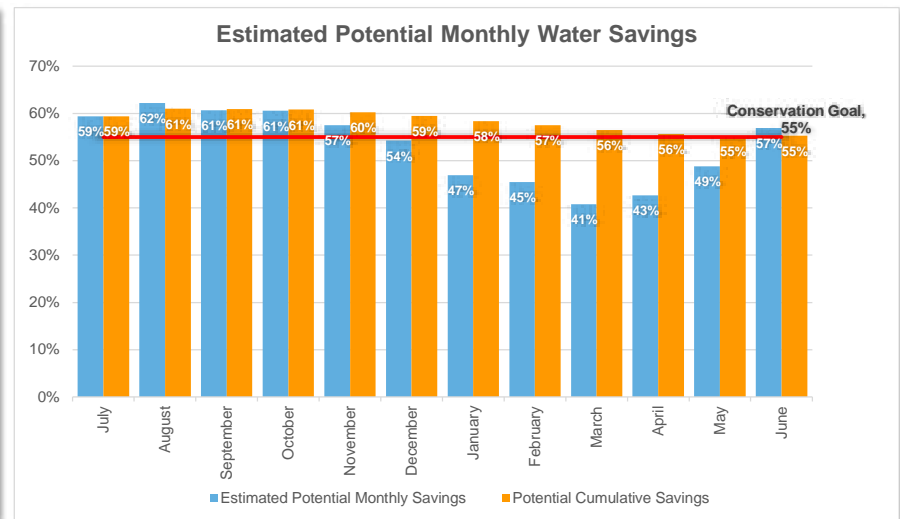
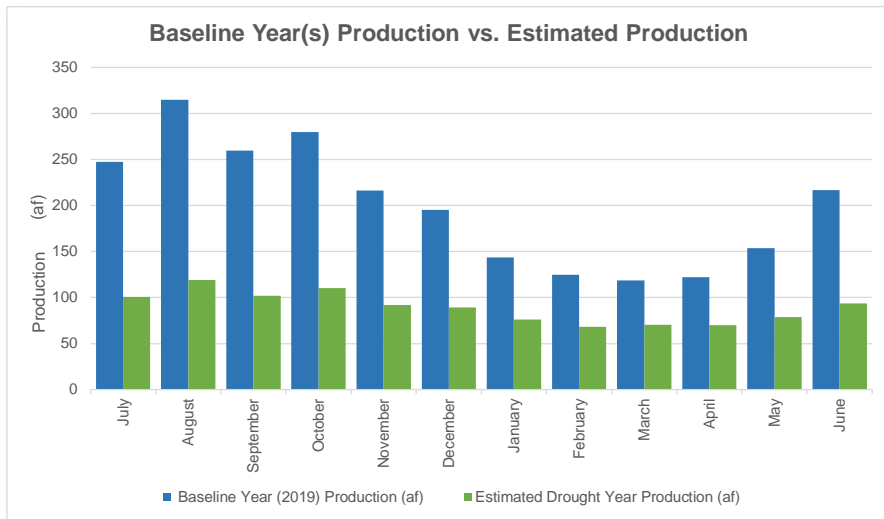
| Drought Response Actions | | | | | | |
|--|-----------------------|-------------------------------------|---------------------|---------------------|------------------------------------|---------------------------------------|
| Action Description | End Use(s) | Implement Program | End Use Savings (%) | Implementation Rate | Source of Default Savings Estimate | Source of Default Implementation Rate |
| ► Agency Drought Actions / Restrictions | | | | | | |
| ► Residential | | | | | | |
| Conduct Water Use Surveys Targeting High Water Users | All Residential Uses | <input checked="" type="checkbox"/> | 10% | 20% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 79% | 80% | | |
| Prohibit use of Potable Water for Irrigation | Irrigation | <input type="checkbox"/> | 100% | 85% | | |
| Prohibit Vehicle Washing Except with Recycled Water | Misc. Outdoor | <input checked="" type="checkbox"/> | 50% | 75% | EBMUD, 2008 | -- |
| Require Repair of all Leaks within 24 hours | Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Require Pool Covers | Misc. Outdoor | <input checked="" type="checkbox"/> | 28% | 50% | Maddaus & Mayer, 2001 | -- |
| Prohibit Filling of Pools | Misc. Outdoor | <input checked="" type="checkbox"/> | 55% | 50% | DeOreo et al., 2011 | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 10% Reduction | All Residential Uses | <input type="checkbox"/> | 10% | 75% | -- | -- |
| Establish Water Budget - 55% Reduction | All Residential Uses | <input checked="" type="checkbox"/> | 55% | 90% | -- | -- |
| ► CII | | | | | | |
| Conduct CII Surveys Targeting High Water Users | All CII uses | <input checked="" type="checkbox"/> | 10% | 20% | EBMUD, 2011 | -- |
| Limit Irrigation Days, Time and Duration (Select One) | | | | | | |
| Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 8PM and 6AM | Irrigation | <input type="checkbox"/> | 38% | 80% | UC IPM, 2014 | -- |
| Limit Irrigation to 0 Day/Week, 10 Minutes/Day, Between 9PM and 6AM | Irrigation | <input type="checkbox"/> | 100% | 85% | | |
| Prohibit Use of Potable Water for Construction and Dust Control | Misc. Outdoor | <input checked="" type="checkbox"/> | | 100% | -- | -- |
| Prohibit Single-Pass Cooling Systems | Cooling | <input checked="" type="checkbox"/> | 80% | 1% | Vickers, 2001 | -- |
| Require Repair of all Leaks within 24 hours | Leaks | <input checked="" type="checkbox"/> | 100% | 5% | -- | -- |
| Prohibit Vehicle Washing Except with Recycled Water | Misc. Outdoor | <input checked="" type="checkbox"/> | 50% | 75% | EBMUD, 2008 | -- |
| Require Water-Efficient Pre-Rinse Spray Valves | Fixtures & Appliances | <input type="checkbox"/> | 0.8% | 50% | EPA, 2015; Pacific Institute, 2003 | -- |
| Customer Water Budgets | | | | | | |
| Establish Water Budget - 10% Reduction | All CII uses | <input type="checkbox"/> | 10% | 75% | -- | -- |
| Establish Water Budget - 20% Reduction | All CII uses | <input type="checkbox"/> | 20% | 80% | -- | -- |
| Establish Water Budget - 55% Reduction | All CII uses | <input checked="" type="checkbox"/> | 55% | 90% | -- | -- |

4 - Drought Response Actions - Stage 6
Valley of the Moon Water District

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

5 - Estimated Water Savings - Stage 6 Valley of the Moon Water District

| Estimated Monthly Water Use and Savings Summary | | | | | | |
|--|--------------------------------------|--|-------------------------------------|------------------------------|-------------------|----------|
| Units: <input type="text" value="(af)"/> | | | | | | |
| <small>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.</small> | | | | | | |
| Month | Baseline Year (2019) Production (af) | Estimated Drought Year Production (af) | Estimated Potential Monthly Savings | Potential Cumulative Savings | Conservation Goal | Comments |
| July | 247 | 101 | 59% | 59% | 55% | |
| August | 315 | 119 | 62% | 61% | 55% | |
| September | 260 | 102 | 61% | 61% | 55% | |
| October | 280 | 110 | 61% | 61% | 55% | |
| November | 216 | 92 | 57% | 60% | 55% | |
| December | 195 | 89 | 54% | 59% | 55% | |
| January | 143 | 76 | 47% | 58% | 55% | |
| February | 125 | 68 | 45% | 57% | 55% | |
| March | 119 | 70 | 41% | 56% | 55% | |
| April | 122 | 70 | 43% | 56% | 55% | |
| May | 153 | 79 | 49% | 55% | 55% | |
| June | 217 | 93 | 57% | 55% | 55% | |



Attachment 3: Water Shortage Contingency Plan Resolution

RESOLUTION NO. 260603

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE VALLEY OF THE MOON WATER DISTRICT
ADOPTING THE 2025 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY
PLAN AND AUTHORIZING SUBMITTAL OF THE ADOPTED PLANS TO THE CALIFORNIA DEPARTMENT OF
WATER RESOURCES**

WHEREAS, the Urban Water Management Planning Act, California Water Code Section 10610 et seq., requires that every urban water supplier directly or indirectly supplying water for municipal purposes to more than 3,000 customers prepare an Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP), the primary objective of which is to plan for the conservation and efficient use of water while balancing supply and demand; and

WHEREAS, the District staff, with the assistance of consultants [K1 Environment & Water, Inc.], has prepared the 2025 UWMP and WSCP for the District to meet the requirements of the Urban Water Management Planning Act, in accordance with guidelines developed by the California Department of Water Resources; and

WHEREAS, District staff and consultants who prepare the 2025 UWMP and WSCP have the training, experience, and expertise necessary to prepare a plan meeting the requirements of the Urban Water Management Planning Act; and

WHEREAS, the 2025 UWMP and WSCP must be adopted after public review and a public hearing by the District's Board of Directors and must be filed with the Department of Water Resources; and

WHEREAS, in accordance with California Water Code section 10642, the District made the draft 2025 Urban Water Management Plan and Water Shortage Contingency Plan available for public review commencing on May 22, 2026; and

WHEREAS, the District, on June 17th, 2026, held a duly noticed public hearing before this Board and received comments; and

WHEREAS, District staff, consultants, and the Board have reviewed and considered the comments made on the 2025 UWMP and WSCP, and the Board has reviewed and considered the final 2025 UWMP and WSCP, the District's staff reports, and the presentations by District staff and consultants; and

WHEREAS, the 2025 UWMP and WSCP were prepared in accordance with, and meet the requirements of, the Urban Water Management Planning Act, and the facts, assumptions, and analyses in the 2025 UWMP are reasonable and supported by the substantial evidence,

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Valley of the Moon Water District hereby finds, determines, and declares as follows:

- 1. The 2025 UWMP and WSCP are hereby approved and adopted.**
- 2. The General Manager is authorized and directed to submit the adopted 2025 Urban Water Management Plan and Water Shortage Contingency Plan to the California Department of**

Water Resources, the California State Library, and other entities as required by California Water Code section 10644 within the time required by law.

3. The General Manager is further authorized to make non-substantive revisions, formatting corrections, or minor edits to the 2025 Urban Water Management Plan and Water Shortage Contingency Plan prior to final submission, provided such revisions do not materially alter the policies or findings adopted by this Resolution.

THIS RESOLUTION IS PASSED AND ADOPTED THIS 17th DAY OF JUNE, 2026, by the following votes:

| | | |
|----------------------|------------|---|
| Director Caniglia | <u>Aye</u> | |
| Director Bryant | <u>Aye</u> | By <u>[Signature]</u> Vice President |
| Director Foreman | <u>Aye</u> | |
| Director Yudin-Cowan | <u>Aye</u> | By <u>[Signature]</u> Secretary |
| Director Williams | <u>Aye</u> | |

AYES 5 NOES 0 ABSENT 0 ABSTAIN 0

I HEREBY CERTIFY that the foregoing Resolution was duly adopted at a regular meeting of the Board of Directors of Valley of the Moon Water District, held on the 17th day of June, 2026, of which meeting all Directors were duly notified and at which meeting a quorum was present at all times and acting.

By [Signature]
Secretary

Appendix F: Resolution to Adopt UWMP and WSCP

RESOLUTION NO. 260603

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE VALLEY OF THE MOON WATER DISTRICT
ADOPTING THE 2025 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY
PLAN AND AUTHORIZING SUBMITTAL OF THE ADOPTED PLANS TO THE CALIFORNIA DEPARTMENT OF
WATER RESOURCES**

WHEREAS, the Urban Water Management Planning Act, California Water Code Section 10610 et seq., requires that every urban water supplier directly or indirectly supplying water for municipal purposes to more than 3,000 customers prepare an Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP), the primary objective of which is to plan for the conservation and efficient use of water while balancing supply and demand; and

WHEREAS, the District staff, with the assistance of consultants [K1 Environment & Water, Inc.], has prepared the 2025 UWMP and WSCP for the District to meet the requirements of the Urban Water Management Planning Act, in accordance with guidelines developed by the California Department of Water Resources; and

WHEREAS, District staff and consultants who prepare the 2025 UWMP and WSCP have the training, experience, and expertise necessary to prepare a plan meeting the requirements of the Urban Water Management Planning Act; and

WHEREAS, the 2025 UWMP and WSCP must be adopted after public review and a public hearing by the District's Board of Directors and must be filed with the Department of Water Resources; and

WHEREAS, in accordance with California Water Code section 10642, the District made the draft 2025 Urban Water Management Plan and Water Shortage Contingency Plan available for public review commencing on May 22, 2026; and

WHEREAS, the District, on June 17th, 2026, held a duly noticed public hearing before this Board and received comments; and

WHEREAS, District staff, consultants, and the Board have reviewed and considered the comments made on the 2025 UWMP and WSCP, and the Board has reviewed and considered the final 2025 UWMP and WSCP, the District's staff reports, and the presentations by District staff and consultants; and

WHEREAS, the 2025 UWMP and WSCP were prepared in accordance with, and meet the requirements of, the Urban Water Management Planning Act, and the facts, assumptions, and analyses in the 2025 UWMP are reasonable and supported by the substantial evidence,

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Valley of the Moon Water District hereby finds, determines, and declares as follows:

- 1. The 2025 UWMP and WSCP are hereby approved and adopted.**
- 2. The General Manager is authorized and directed to submit the adopted 2025 Urban Water Management Plan and Water Shortage Contingency Plan to the California Department of**

Water Resources, the California State Library, and other entities as required by California Water Code section 10644 within the time required by law.

3. The General Manager is further authorized to make non-substantive revisions, formatting corrections, or minor edits to the 2025 Urban Water Management Plan and Water Shortage Contingency Plan prior to final submission, provided such revisions do not materially alter the policies or findings adopted by this Resolution.

THIS RESOLUTION IS PASSED AND ADOPTED THIS 17th DAY OF JUNE, 2026, by the following votes:

| | | |
|----------------------|------------|---|
| Director Caniglia | <u>Aye</u> | |
| Director Bryant | <u>Aye</u> | By <u>[Signature]</u> Vice President |
| Director Foreman | <u>Aye</u> | |
| Director Yudin-Cowan | <u>Aye</u> | By <u>[Signature]</u> Secretary |
| Director Williams | <u>Aye</u> | |

AYES 5 NOES 0 ABSENT 0 ABSTAIN 0

I HEREBY CERTIFY that the foregoing Resolution was duly adopted at a regular meeting of the Board of Directors of Valley of the Moon Water District, held on the 17th day of June, 2026, of which meeting all Directors were duly notified and at which meeting a quorum was present at all times and acting.

By [Signature]
Secretary

Appendix G: Water Waste Ordinance

ORDINANCE NO. 1010

**AN ORDINANCE OF THE VALLEY OF THE MOON WATER DISTRICT
PROHIBITING WATER WASTE; AND REPEALING ORDINANCE NO. 1007**

Whereas, it is necessary to add additional water waste prohibitions as mandated in the Governor’s Executive Order B-37-16, the State Water Resources Control Board Resolution No. 2016-0029 and California Code of Regulations, Title 23, Section 864;

Whereas, the Valley of the Moon Water District is a County Water District formed pursuant to California Water Code section 30000 et seq.; and

Whereas, California Water Code section 31026 provides that County Water Districts may prohibit the wasting of water during times of existing or threatened water shortage and may restrict uses as may be determined to be necessary and may prohibit use of water during such periods for specific uses.

SECTION 1. The Valley of the Moon Water District hereby does ordain as follows:

The Regulations of the Valley of the Moon Water District hereby amended by repealing and replacing Section 12 to read as follows:

Section 12 - Water Waste Prohibitions

A. Purpose. The purpose of this Section is to promote water conservation and the efficient use of potable water furnished by the Valley of the Moon Water District by eliminating intentional or unintentional water waste when a reasonable alternative solution is available, and by prohibiting use of equipment which is wasteful.

B. Nonessential Uses. No customer of the Valley of the Moon Water District shall use or permit the use of potable water from the Valley of the Moon Water District for residential, commercial, institutional, industrial, agricultural, or other purpose for the following nonessential uses:

1. Irrigating ornamental turf with potable water on public street medians;
2. The washing of sidewalks, walkways, driveways, parking lots and other hard-surfaced areas by direct hosing, except as may be necessary to properly dispose of flammable or other dangerous liquids or substances, wash away spills that present a trip and fall hazard, or to prevent or eliminate materials dangerous to the public health and safety;
3. The escape of water through breaks or leaks within the customer’s plumbing or private distribution system for any substantial period of time within which such break or leak should reasonably have been discovered and corrected. It shall be presumed that a period of seventy-two (72) hours after the customer discovers such a break or leak or receives notice from the Valley of the Moon Water District, is a reasonable time

within which to correct such break or leak or, at a minimum, to stop the flow of water from such break or leak;

4. Irrigation in a manner or to an extent which allows excessive run off of water or unreasonable over-spray of the areas being watered. Every customer is deemed to have his water system under control at all times, to know the manner and extent of his water use and any run off, and to employ available alternatives to apply irrigation water in a reasonably efficient manner;
5. Washing cars, boats, trailers or other vehicles and machinery directly with a hose not equipped with a shutoff nozzle;
6. Water for non-recycling decorative water fountains;
7. Water for single pass evaporative cooling systems for air conditioning in all connections installed after June 6, 2000 unless required for health or safety reasons;
8. Water for new non-recirculating conveyor car wash systems;
9. Water for new non-recirculating industrial clothes wash systems;
10. Irrigating outdoors during and within 48 hours following (1/4") one quarter inch rainfall;
11. Restaurants serving water automatically; and
12. Hotels and motels not offering and promoting an opt-out program for towel and linen service.

C. Exempt Water Uses. All water use associated with the operation and maintenance of fire suppression equipment or employed by the Valley of the Moon Water District for water quality flushing and sanitation purposes shall be exempt from the provisions of this section. Use of water supplied by a private well or from a reclaimed wastewater, gray water or rainwater utilization system is also exempt.

D. Variances. Any customer of the Valley of the Moon Water District may make written application for a variance. Said application shall describe in detail why applicant believes a variance is justified.

1. The General Manager of the District may grant variances for use of water otherwise prohibited by this section upon finding and determining that failure to do so would cause an emergency condition affecting the health, sanitation, fire protection or safety of the applicant or public; or, cause an unnecessary and undue hardship on applicant or public, including but not limited to, adverse economic impacts, such as loss of production or jobs.

2. The decision of the General Manager of the District may be appealed to the Board of Directors by submitting a written appeal to the District within fifteen (15) calendar days of the date of the decision. Upon granting any appeal, the Board of Directors may impose any conditions it determines to be just and proper. Variances granted by the Board of Directors shall be prepared in writing and the Board of Directors may require the variance be recorded at applicant's expense.

E. Enforcement and Fees. Depending on the extent of the water waste the District may, after written notification to customer and a reasonable time to correct the violation as solely determined by the District, take some or all of the following actions. Penalties, fees and charges noted below shall be established by resolution of the District. The penalties listed in Sections E3, E4 and E5 below will be applied only in acute emergencies as determined and publicly announced by the General Manager, or after the Board has declared a Stage 2 or equivalent water shortage condition.

1. Written notice to the customer of the water waste violation including a specified period of time to correct the violation.
2. Personal contact with the customer at the address of the water service. If personal contact is unsuccessful, written notice of the violation including a date that the violation is to be corrected may be left on the premises, with a copy of the notice sent by certified mail to the customer.
3. The District may install a flow-restricting device on the service line.
4. The District may levy a water waste fee to the customer.

| District Action | Administrative Fee |
|---|---------------------------|
| Hang door tag notifying customer of water waste issue | No Fee |
| Issue 1 st letter to customer notifying them of water waste issue (14 days to comply) | No Fee |
| Courtesy call to customer to discuss resolution of water waste issue | No fee |
| Issue 2 nd letter and/or hang 2 nd door tag for same water waste issue (7 days to comply) | \$25 |
| Issue 3 rd letter and/or hang 3 rd door tag for same water waste issue (7 days to comply) | \$50 |
| Install flow restrictor if domestic water or turn off if dedicated irrigation meter | \$125 |
| Continued water waste with a flow restrictor in place | \$250 |

5. The District may cause termination of water service and the charge for same shall be billed to the customer. Except in cases of extreme emergency as solely determined by the General Manager of the District, service shall not be reinstated until verified by the District that the violation has been corrected and all charges and fees have been paid.

SECTION II. SEVERABILITY

If any section, subsection, sentence, clause, phrase, or word of this ordinance is for any reason held to be invalid, the validity of the remaining portion of this ordinance shall not be affected.

SECTION III. FINDINGS

A. This Ordinance is enacted in accordance with California Water Code section 375, *et seq.* and for the purpose of insuring that all water furnished by the District is put to reasonable beneficial use, to prevent the waste of water, and to promote efficient use and conservation of water.

B. The District determines that this ordinance is a Class 7 categorical exemption under section 15307 of the California Environmental Quality Act, which exempts actions by regulatory agencies for protection of natural resources.

SECTION IV. EFFECTIVE DATE

This ordinance shall become effective upon its adoption.

SECTION V. PUBLICATION

Within fifteen (15) days after its adoption, this resolution shall be published pursuant to Section 31027 of the California Water Code.

On the Motion of Director Heneveld and second by Director Kenny, the Ordinance was PASSED, APPROVED AND ADOPTED this 2nd day of August, 2016, by vote as follows:

| | | | |
|------------------------|--------------------|-------------------|--------------------|
| President Foreman | <u> Aye </u> | Director Heneveld | <u> Aye </u> |
| Vice President Prushko | <u> Aye </u> | Director Kenny | <u> Aye </u> |
| Director Adams | <u> Aye </u> | | |

AYES: 5 NOES: 0 ABSTAIN: 0 ABSENT 0

BY: _____
Jon Foreman, President of the Board

I HEREBY CERTIFY that the foregoing Resolution was duly adopted at a regular meeting of the Board of Directors of the Valley of the Moon Water District, held on the 2nd day of August, 2016, of which meeting all Directors were duly notified and at which meeting a quorum was present at all times and acting.

Approved: _____

Attorney

By: _____

Chris Petlock, Deputy Board Secretary