



2025 Urban Water Management Plan

Public Draft

MAY 2026

CALLEGUAS MUNICIPAL WATER DISTRICT





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Prepared by Water Systems Consulting, Inc



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ACRONYMS & ABBREVIATIONS

50LOC	50 percent Level of Concern
AF	Acre-feet
AFY	Acre-feet per year
AG	Agriculture
ASR	Aquifer Storage and Recovery
AVEK	Antelope Valley East Kern
AWPF	Advanced Water Purification Facility
AWWA	American Water Works Association
BMP	Best Management Practice
CAL-AM	California American Water Company
CAL WATER	California Water Service Company
CALLEGUAS	Calleguas Municipal Water District
CAMROSA	Camrosa Water District
CCDP	Conejo Creek Diversion Project
CCOP	Metropolitan’s Cyclic Cost Offset Program
CFS	Cubic feet per second
CII	Commercial, industrial, and institutional
CRA	Colorado River Aqueduct
CRPD	Conejo Recreation and Park District
CURB	City Urban Restriction Boundary
CWC	California Water Code
CWS	Community water system
DAC	Disadvantaged Community
DCP	Delta Conveyance Project
DCR	Delivery Capability Report
DELTA	Sacramento / San Joaquin Delta
DMMS	Demand management measures

DOF	California Department of Finance
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
EOY	End of year
EWSP	Emergency Water Supply Plan
FCGMA	Fox Canyon Groundwater Management Agency
FT MSL	Feet above mean sea level
GSA	Groundwater Sustainability Agency
GSP	Groundwater sustainability plan
GSWC	Golden State Water Company
GUIDEBOOK	Urban Water Management Plan Guidebook 2025
IPR	Integrated Resources Planning
IRP	Integrated Resources Plan
IRWMP	Integrated Regional Water Management Plan
IWOP	Imported Water Outage Protocol
JOINT VENTURE	Las Virgenes – Triunfo Joint Venture
KWH	Kilowatt-hour
LEGISLATURE	State of California Legislature
LOC	Level of Concern
LPV JUDGMENT	Las Posas Valley Water Rights Coalition v. FCGMA
LRP	Local Resources Program
LVMWD	Las Virgenes Municipal Water District
MCLS	Maximum Contaminant Levels
METROPOLITAN	Metropolitan Water District of Southern California
MG	Million gallons
MGD	Million gallons per day
MG/L	Milligrams per liter
MHI	Median Household Income
MWQI	Municipal Water Quality Investigations Program
PHWA	Port Hueneme Water Agency
RES	Residential

RTP/SCS	Connect SoCal Regional Transportation Plan / Sustainable Communities Strategy
SBX7-7	Senate Bill 7
SCAG	Southern California Association of Governments
SDAC	Severely Disadvantaged Community
SGMA	Sustainable Groundwater Management Act
SIMI VALLEY	Ventura County Waterworks District No. 8 / City of Simi Valley
SMP	Salinity Management Pipeline
SOAR	Save Open Space & Agricultural Resources
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAF	Thousand acre-feet
TAZ	Transportation Analysis Zone
TDS	Total dissolved solids
TWSD	Triunfo Water and Sanitation District
UWCD	United Water Conservation District
UWMP	Urban Water Management Plan
UWMP ACT	Urban Water Management Planning Act
VCWWD	Ventura County Waterworks District
WCVC	Watersheds Coalition of Ventura County
WFP	Water Filtration Plant
WRA	Water Reliability Assessment
WRIST	Water Resources Implementation Strategy
WSAP	Metropolitan's Water Supply Allocation Plan
WSAS	Water Supply Alternatives Study
WSCP	Water Shortage Contingency Plan
WSDM PLAN	Metropolitan's Water Surplus and Drought Management Plan
WUE	Water Use Efficiency
WWTP	Wastewater Treatment Plant

Executive Summary and Lay Description

Purpose of the Urban Water Management Plan

This 2025 Urban Water Management Plan (UWMP) describes how Calleguas Municipal Water District (Calleguas) will continue to provide a reliable water supply to its service area over the next 25 years, through 2050. The UWMP is prepared every five years in accordance with the California Urban Water Management Planning Act and serves as a long-range planning document that evaluates water demands, available supplies, drought preparedness, and strategies to ensure water reliability under a wide range of future conditions.

As a wholesale water supplier, Calleguas provides imported potable water to 19 cities, local water agencies, county waterworks districts, investor-owned utilities, and mutual water companies (collectively referred to as purveyors), which in turn serve residents, businesses, and agriculture throughout southeastern Ventura County. This UWMP focuses on how Calleguas supports its purveyors by planning for future water needs, investing in infrastructure, coordinating regionally, and preparing for droughts and emergencies.

Calleguas Service Area

Calleguas was formed in 1953 to address declining groundwater supplies and water quality challenges in Ventura County. Today, Calleguas serves approximately 616,000 people—about three-quarters of the County’s population—across a service area of roughly 366 square miles. Calleguas distributes imported water on a wholesale basis through approximately 130 miles of large-diameter pipelines and maintains key storage and conveyance facilities, including Lake Bard and the Las Posas Aquifer Storage and Recovery (ASR) Project.

Calleguas does not provide retail water service directly to customers. Instead, it works closely with its purveyors, Metropolitan Water District of Southern California (Metropolitan), and regional partners to ensure that sufficient water supplies are available to meet local needs now and in the future.

Regional Coordination and Future Planning

Calleguas works closely with its purveyors, Metropolitan, groundwater management agencies, and regional partners to align water planning efforts across Ventura County. This coordination is essential given the interconnected nature of imported water supplies, groundwater basins, recycled water systems, and shared infrastructure.

Calleguas led recent regional planning efforts, including the Water Supply Alternatives Study and the Water Resources Implementation Strategy, and has evaluated a wide range of potential projects to improve resilience to droughts and imported water outages. These studies provide a roadmap for future investments that can strengthen long-term water reliability.

Water Demands and Use Trends

Water use patterns within the Calleguas service area have changed significantly over the past two decades. Imported water deliveries peaked in 2007 and have generally declined since then, driven by long-term conservation, investments in local water supplies, and changes in customer water use behavior.

In 2025, Calleguas delivered approximately 72,700 acre-feet of potable water to its purveyors. Overall water demands are projected to remain relatively stable through 2050. While modest population changes are expected, these are largely offset by continued improvements in water use efficiency, permanent conservation measures, and increased reliance on local water supplies such as groundwater, recycled water, and desalted brackish groundwater developed by purveyors.

As a wholesale supplier, Calleguas is not subject to retail per-capita water use targets. However, it actively supports regional conservation programs, public outreach, and incentive programs that help its purveyors meet state water efficiency requirements.

Water Supply Portfolio

Calleguas's primary water supply is imported water purchased from Metropolitan, which is delivered through the State Water Project (SWP) and, during certain conditions, the Colorado River Aqueduct. Under normal operating conditions, Calleguas is fully dependent on the SWP for its imported supply.

To enhance water reliability and reduce vulnerability to supply interruptions, Calleguas has invested in local and regional infrastructure that provides storage, operational flexibility, and emergency supplies. Key elements of this diversified portfolio include:

- **Lake Bard:** A central surface storage reservoir with a total capacity of approximately 10,500 acre-feet, which is kept full to provide short-term supply during imported water outages.
- **Las Posas ASR Project:** A groundwater storage and recovery system that allows Calleguas to store imported water underground during wet periods and recover it during droughts or outages. Calleguas currently maintains approximately 20,000 acre-feet of stored water in the Las Posas Basin for emergency and drought use.
- **Regional Interconnections:** Existing and planned interconnections with neighboring water agencies that allow for water exchanges during supply interruptions.
- **Support for Local Supplies:** Infrastructure such as the Salinity Management Pipeline (SMP), which enables purveyors to develop recycled water and brackish groundwater desalter projects that reduce reliance on imported water.

While Calleguas itself does not produce groundwater or recycled water for potable use, many of its purveyors rely on these sources, and Calleguas plays a key role in enabling and coordinating their development.

Water Supply Reliability

Southern California's water supplies face increasing challenges due to climate change, including more frequent and severe droughts, reduced snowpack, higher temperatures, and greater variability in imported water availability. In addition, seismic risks and regulatory constraints affecting the Sacramento–San Joaquin Delta pose ongoing risks to the reliability of the State Water Project.

This UWMP evaluates water supply reliability under multiple scenarios, including normal conditions, a single-dry year, and five consecutive dry years. These analyses show that Calleguas can meet projected demands through 2050 by combining imported water supplies, groundwater storage from the Las Posas ASR Project, and drought response actions implemented through its Water Shortage Contingency Plan (WSCP).

Calleguas projects sufficient supplies to meet expected demands in a normal, single-dry, and the first four years of a five-year consecutive drought. In year five, demand reductions of 15% using Calleguas's WSCP actions, are anticipated. Past droughts have demonstrated that significant reductions in water use are achievable when necessary, and Calleguas expects similar responses would be effective in future drought conditions.

Water Shortage Contingency Planning

Calleguas has prepared a standalone WSCP, which is included as Appendix H to this UWMP. The WSCP outlines how Calleguas will respond to water shortages caused by drought, infrastructure failures, regulatory actions, or other emergencies.

The WSCP establishes defined water shortage stages, corresponding response actions, and communication protocols to ensure clarity and coordination with purveyors, local agencies, and the public. While many demand reduction measures are implemented by purveyors, Calleguas plays a critical role in coordinating regional responses and ensuring consistent messaging and planning.

Key Takeaways

The 2025 UWMP key takeaways include:

- Calleguas serves as the primary wholesale imported water supplier for southern Ventura County and plays a central role in regional water reliability.
- Overall water demands are projected to remain stable through 2050 due to conservation, efficiency improvements, and increased use of local supplies.
- Imported water from Metropolitan remains Calleguas's primary supply. Local storage, groundwater banking, and regional coordination significantly improve the region's supply reliability and resilience.

- Calleguas has sufficient supplies and shortage response strategies to meet demands under normal, single dry year, and multiple-dry year conditions. Calleguas projects that conservation may only be needed during the fifth year of a multiple year drought.
- Continued investment in infrastructure, local supplies, and regional partnerships will be critical to adapting to climate change and future uncertainties.

This UWMP provides a transparent, long-term planning framework that demonstrates Calleguas’s commitment to reliable, resilient, and responsible water management for the communities it serves.

1 Introduction

This section provides a brief overview of Calleguas Municipal Water District and the purpose of this 2025 Urban Water Management Plan (UWMP). It also describes how the UWMP is organized and its relationship with local and regional planning efforts in which Calleguas is involved.

IN THIS SECTION

- History and Background
- California Water Code
- UWMP Organization
- UWMPs in Relation to Other Efforts
- Funding Eligibility

1.1 History and Background

In the early 1900s, agriculture dominated southeastern Ventura County. By the mid-1900s, communities developed among the agricultural areas and experienced accelerating population growth. In the 1940s and 1950s, dwindling groundwater supplies coupled with deteriorating water quality threatened the economic livelihood of the area. To address this challenge, in 1953, the public voted to form Calleguas Municipal Water District (Calleguas) for the purpose of providing a safe, reliable supplemental water supply. In 1960, Calleguas became a member agency of the Metropolitan Water District of Southern California (Metropolitan), which provides wholesale water from the Colorado River via the Colorado River Aqueduct (CRA) and from northern California via the State Water Project (SWP).

Today, the mission of Calleguas is to provide its service area with a reliable supplemental supply of regional and locally developed water in an environmentally and economically responsible manner. Calleguas distributes high quality drinking water on a wholesale basis to 19 cities, local water agencies, county waterworks districts, investor-owned utilities, and mutual water companies (known collectively as purveyors), who, in turn, deliver water to residents, businesses, and agricultural customers within the service area. Approximately 75% of the population of Ventura County is wholly or partially served by Calleguas.

In 2023, Calleguas adopted a new strategic plan that envisions “A New Model for Resilience.” This plan looks to local and regional supplies and new types of transformative partnerships with Calleguas’s purveyors and regional partners to ensure water resilience and financial stability. Calleguas’s strategic priorities are to deliver reliable service, improve resilience, and provide regional leadership in Ventura County.

1.2 California Water Code

In 1983, the State of California Legislature (Legislature) enacted the Urban Water Management Planning Act (UWMP Act). The law required an urban water supplier providing water for municipal purposes to more than 3,000 customers or serving more than 3,000 acre-feet per year (AFY) to adopt a UWMP every five years. This UWMP must demonstrate water supply reliability under both normal and drought conditions. The UWMP Act applies to wholesale and retail water suppliers.

Since the original UWMP Act was passed, it has undergone significant expansion. Prolonged droughts, groundwater overdraft, regulatory revisions, and changing climatic conditions affect the reliability of each water supplier as well as statewide water reliability overseen by California Department of Water Resources (DWR), the State Water Resources Control Board (SWRCB), and Legislature. Accordingly, the UWMP Act has grown to address changing conditions. The current requirements are found in Sections 10610-10656 and 10608 of the California Water Code (CWC).

DWR provides guidance for urban water suppliers by preparing an Urban Water Management Plan Guidebook 2025 (Guidebook) (DWR, 2026), conducting workshops, developing tools, and

providing program staff to help water suppliers prepare comprehensive and useful water management plans, implement water conservation programs, and understand the requirements of the CWC. Suppliers prepare their own UWMPs and submit them to DWR. DWR then reviews the plans to make sure they have addressed the requirements; they submit a report to the Legislature summarizing the status of the plans for each five-year cycle. The Guidebook, finalized in January 2026, was used to complete this 2025 UWMP.

To ensure compliance of this plan with the UWMP Act requirements, a UWMP checklist is provided in Appendix A. In addition, as required by the CWC, standardized tables for the reporting and submittal of UWMP data have been prepared and are included in Appendix B. The final DWR tables are uploaded to DWR. A selection of these tables is also provided in the body of this plan to present supporting data.

The purpose of this UWMP is for Calleguas to evaluate long-term resource planning and establish management measures to ensure adequate water supplies are available to meet existing and future demands. The UWMP provides a framework to help water suppliers maintain efficient use of urban water supplies, promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a response mechanism during drought conditions or other water supply shortages.

The UWMP is a valuable planning tool used for multiple purposes, including:

- Providing a standardized methodology for water utilities to assess their water resource needs and availability.
- Serving as a resource to the community and other interested parties regarding water supply and demand, conservation, and other water-related information.
- Providing a key source of information for cities and counties when considering approval of proposed new developments and preparing regional long-range planning documents, such as city and county General Plans.
- Informing other regional and Statewide water planning efforts, such as Integrated Regional Water Management Plans and the California Water Plan.

CWC 10632 also includes requirements for suppliers to prepare a Water Shortage Contingency Plan (WSCP). The WSCP documents a supplier's plans to manage and mitigate an actual water shortage condition should one occur because of drought or other impacts on water supplies. The WSCP is a standalone document that can be updated independently of the UWMP but is referenced and attached to the 2025 UWMP. The WSCP is provided in Appendix H.

1.3 UWMP Organization

The 2025 UWMP is organized as follows:

Section 1 – Introduction

This section provides background information on the UWMP process, new regulatory requirements, and an overview of the information covered throughout the remaining sections.

Section 2 – Plan Preparation

This section provides information on the processes used to develop the UWMP, including coordination and outreach efforts taken to prepare Calleguas’s 2025 UWMP.

Section 3 – System Description

This section describes the Calleguas water system, service area, population demographics, local climate, and land uses.

Section 4 – System Water Use

This section describes and quantifies the current and projected water uses through 2050 within the water service area.

Section 5 – SBx7-7

This section describes California’s 2020 Conservation Target Compliance for Senate Bill 7 (SBx7-7).

Section 6 – System Supplies

This section describes and quantifies the current and projected potable and non-potable water supplies.

Section 7 – Water Supply Reliability

This section describes the water service reliability through 2050 under conditions associated with a normal water year, single dry-year, and droughts lasting at least five consecutive years. Additionally, it includes the Drought Risk Assessment for the next five years.

Section 8 – Water Shortage Contingency Plan

This section includes an overview of the standalone WSCP, which describes intended actions by Calleguas during water shortage conditions. The complete WSCP is included as Appendix H.

Section 9 – Demand Management Measures

This section describes Calleguas’s efforts to promote conservation and reduce water demand, including discussions of specific demand management measures.

Section 10 – Plan Adoption, Submittal, and Implementation

This section describes the completed steps taken to make the UWMP publicly available as well as adopt and submit the UWMP in accordance with the CWC.

1.4 UWMPs in Relation to Other Efforts

This UWMP characterizes water use, estimates future demands and supply sources, and evaluates supply reliability for normal, single-dry, and five consecutive dry years. The UWMP also requires a standalone WSCP, which is provided in Appendix H.

In addition to the 2025 UWMP, Calleguas is involved in several internal and external planning efforts. Calleguas collaborates with a variety of stakeholders to achieve consistency between various planning documents locally and regionally.

Documents that were leveraged in preparation of this UWMP are:

- Calleguas Municipal Water District 2020 UWMP (Calleguas Municipal Water District, 2021)
- Calleguas Municipal Water District 2022 Water Supply Alternatives Study (Kennedy Jenks, 2022)
- Calleguas Municipal Water District 2025 Water Resources Implementation Strategy (WSC, Dopudja and Wells, 2025)
- Metropolitan Water District of Southern California 2020 Integrated Resource Plan (Metropolitan Water District of Southern California, 2022)
- Metropolitan Water District of Southern California Draft 2025 UWMP (Metropolitan Water District of Southern California, 2025)

1.5 UWMPs and Grant or Loan Eligibility

For a water supplier to be eligible for a grant or loan administered by DWR, the supplier must have a current UWMP on file that meets the requirements set forth by the CWC. A current UWMP must also be maintained by the supplier throughout the term of any grants or loans received. Calleguas has prepared the 2025 UWMP under guidance from DWR's 2025 UWMP Guidebook.

1.6 Consistency with the Delta Plan

Under the Sacramento-San Joaquin Delta (Delta) Reform Act of 2009, before State and local public agencies propose a covered action in the Delta, they must prepare a written certification of consistency with detailed findings regarding whether the covered action is consistent with applicable Delta Plan policies and they must submit that certification to the Delta Stewardship Council. Anyone may appeal a certification of consistency, and if the Delta Stewardship Council grants the appeal, the covered action may not be implemented until the agency proposing the covered action submits a revised certification of consistency and no appeal is filed. However, the Delta Stewardship Council may deny the subsequent appeal.

An urban water supplier that anticipates participating in or receiving water from a proposed covered action, such as a multiyear water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta, should provide specific information in its 2015, 2020, and 2025 UWMPs. This information can then be used in the covered action process to demonstrate consistency with Delta Plan Policy WR P1 — Reduce Reliance on the Delta through Improved Regional Water Self-Reliance.

SB X7-1, which was signed in 2009, reformed Delta policy and governance. This included requiring development, adoption, and implementation of a "Delta Plan" and establishing a statewide policy to reduce reliance on the Delta in meeting California's future water supply

needs. SB X7-1 focused on a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency.

The California DWR does not review this analysis as part of the UWMP approval process; therefore, this information has been prepared as a stand-alone document and is attached as Appendix C. The analysis and documentation provided in Appendix C include the elements described in Delta Plan Policy WR P1 Section (c)(1) that need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action.

2 Plan Preparation

This section provides information on the processes used to develop the UWMP, including efforts in coordination and outreach. This section details the importance of plan preparation, the merits of wholesale and retail coordination in development of the UWMP, and specific guidance for preparing the document.

IN THIS SECTION

- Basis for Preparing a Plan
- Regional Planning
- Coordination and Outreach

2.1 Basis for Preparing a Plan

As mentioned in Section 1, the CWC requires suppliers with 3,000 or more service connections, or those supplying 3,000 AFY or more, to prepare an UWMP. Suppliers are required to update UWMPs 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. The Calleguas 2025 UWMP must be submitted to DWR by July 1, 2026.

Calleguas is preparing an individual UWMP and is not a member of a Regional Alliance. In 2025, Calleguas served approximately 615,900 people in its service area and supplied approximately 72,740 AFY of potable water on a wholesale basis to its 19 purveyors. Calleguas purchases all its water from Metropolitan. Calleguas has included all mandatory 2025 data in the development of this UWMP.

Throughout this UWMP, water volume is represented in units of acre-feet (AF) unless otherwise noted. Calleguas is a wholesale agency and the data presented in this UWMP is on a calendar year basis.

2.2 Coordination and Outreach

Calleguas coordinated with multiple neighboring and stakeholder agencies to prepare the 2025 UWMP, presented in Table 2-1. The coordinated efforts were conducted to 1) inform these agencies of Calleguas's efforts and activities; 2) gather high quality data for use in developing this UWMP; and 3) coordinate planning activities with other related regional plans and initiatives. Calleguas also provided the purveyors quantification of Calleguas's existing and planned sources of water available during various water year types to support the purveyor's development of their UWMPs.

Calleguas coordinates regularly with their wholesale supplier, Metropolitan, to inform water demand needs, supply availability, and water supply planning efforts. Calleguas coordinated with Metropolitan during preparation of the 2025 UWMP, including providing projected water demands to Metropolitan and receiving projected water supply availability.

Calleguas also maintains regular coordination with their purveyors through as-needed, informal coordination and through monthly meetings hosted by Calleguas. The monthly purveyor meetings focus on operational and coordination issues specific to the retail water purveyors that Calleguas serves. The meetings provide a platform for discussing topics such as water supply planning, infrastructure projects, rates, workforce development, Metropolitan issues, and other collaborative efforts. Calleguas is also leading multiple water supply projects in the region, and works collaboratively with its purveyors on local projects to promote "A New Model for Resilience," driving its strategic plan forward. Future water supply projects are discussed in Section 6.10.

CWC Section 10621 requires that suppliers notify cities and counties to which they serve water that the UWMP and WSCP are being updated and reviewed. The CWC specifies that this must be done at least 60 days prior to the public hearing. To fulfill this requirement, Calleguas sent

letters of notification of preparation of the 2025 UWMP and 2025 WSCP to all cities and counties in the service area, purveyors, Metropolitan, and other stakeholders on February 12, 2026, more than 60 days prior to the public hearing. Calleguas also provided notice of the public draft available for review and information on the public hearing to stakeholders as indicated in Table 2-1. The notices are included in Appendix D.

Table 2-1. 2025 UWMP Coordination

Organization/Agency Name	60-Day Notice	Coordination for Supply/Demand Projections	Notice of Public Draft and Public Hearing
Berylwood Heights Mutual Water Company	X	X	X
Brandeis Mutual Water Company	X	X	X
Butler Ranch Mutual Water Company	X	X	X
California American Water Company	X	X	X
California Department of Water Resources	X	X	X
California Water Service Company	X	X	X
Camrosa Water District	X	X	X
City of Camarillo	X	X	X
City of Moorpark	X	X	X
City of Oxnard	X	X	X
City of Simi Valley	X	X	X
City of Port Hueneme	X	X	X
City of Thousand Oaks	X	X	X
Crestview Mutual Water Company	X	X	X
Farm Bureau of Ventura County			X
Fox Canyon Groundwater Management Agency			X
Golden State Water Company	X	X	X
Ventura Local Agency Formation Commission (LAFCo)			X
Metropolitan Water District of Southern California	X	X	X
Pleasant Valley Mutual Water Company	X	X	X
Port Hueneme Water Agency	X	X	X
Solano Verde Mutual Water Company	X	X	X

Organization/Agency Name	60-Day Notice	Coordination for Supply/Demand Projections	Notice of Public Draft and Public Hearing
Southern California Association of Governments			X
Triunfo Water and Sanitation District (formerly Oak Park Water Service)	X	X	X
United Water Conservation District			X
County of Ventura, County Executive Office	X		X
VCWWD No. 1	X	X	X
VCWWD No. 8	X	X	X
VCWWD No. 19	X	X	X
VCWWD No. 38 (formerly Lake Sherwood CSD)	X	X	X
Zone Mutual Water Company	X	X	X

3 System Description

This section describes Calleguas’s water system, service area, population demographics, local climate, and land uses.

IN THIS SECTION

- General Description
- Service Area Boundary Map
- Service Area Climate, Demographics, and Socioeconomics
- Land Uses

3.1 Service Area Description

Calleguas is an independent special district that was formed by the voters of southern Ventura County in 1953 for the purpose of providing a safe, reliable water supply. Named for the watershed in which it is located, Calleguas is a public agency established under the Municipal Water District Act of 1911. It is governed by a five-member Board of Directors elected by voters to represent each of the five geographic divisions within its service area.

In 1960, Calleguas became a member agency of Metropolitan, which provides wholesale water from the Colorado River via the CRA and from northern California via the SWP. Metropolitan is comprised of 26 member agencies; Calleguas is the sixth largest member agency in terms of annual imported water deliveries (based on 2023 and 2024 deliveries) and the only one to serve Ventura County.

Approximately three-quarters of Ventura County residents (roughly 615,000) rely on Calleguas for all or part of their water. Calleguas distributes high-quality drinking water on a wholesale basis to 19 purveyors throughout southeast Ventura County. These purveyors receive water through about 130 miles of large-diameter pipeline operated and maintained by Calleguas. In turn, purveyors deliver water to area residents, businesses, and agricultural customers. A small portion of the water delivered by Calleguas (approximately 5%) is used for agricultural purposes.

Calleguas's purveyors and communities served include:

- **Berylwood Heights Mutual Water Company.** A private agricultural water supplier in an unincorporated area west of Moorpark. It is supplied by groundwater; potable water from Calleguas is a backup supply and is rarely used.
- **Brandeis Mutual Water Company.** A private, domestic water system serving the campus of American Jewish University, which is located on the southeast edge of Simi Valley. Its entire supply is potable water from Calleguas.
- **Butler Ranch Mutual Water Company.** A private water supplier in an unincorporated area west of Simi Valley. To date, the property has not been developed and has not used Calleguas water.
- **California-American Water Company (Cal-Am).** An investor-owned, domestic water supplier serving western Thousand Oaks, including the community of Newbury Park and an unincorporated area north of Camarillo. Its entire supply is potable water from Calleguas.
- **California Water Service Company (Cal Water).** An investor-owned, domestic water supplier serving eastern areas of the City of Thousand Oaks and a portion of the City of Westlake Village. It is supplied recycled water from Triunfo Water and Sanitation District and potable water from Calleguas.

- **Camrosa Water District (Camrosa).** A public, domestic, and agricultural water supplier serving eastern Camarillo and the unincorporated Santa Rosa Valley. It is supplied by groundwater, non-potable water, recycled water, and Calleguas potable water.
- **City of Camarillo.** A municipal, domestic water supplier serving portions of the City of Camarillo west of Calleguas Creek. The City of Camarillo uses groundwater, recycled water, and potable water supplied from Calleguas.
- **City of Oxnard.** A municipal, domestic water supplier serving the City of Oxnard. The City of Oxnard uses groundwater, recycled water, and potable water supplied from Calleguas.
- **City of Thousand Oaks.** A municipal, domestic water supplier serving the central part of the City of Thousand Oaks. Its entire supply is potable water from Calleguas.
- **Crestview Mutual Water Company.** A private, domestic water supplier serving the western part of the City of Camarillo. Crestview Mutual Water Company uses groundwater and potable water supplied from Calleguas.
- **Golden State Water Company (GSWC).** An investor-owned, domestic water supplier serving portions of the City of Simi Valley. GSWC uses groundwater and potable water supplied from Calleguas.
- **Triunfo Water and Sanitation District (TWSD).** A public, domestic water supplier serving the unincorporated community of Oak Park. TWSD uses recycled water and potable water supplied from Calleguas.
- **Pleasant Valley Mutual Water Company.** A private, domestic water supplier serving an unincorporated area north of Camarillo. Pleasant Valley Mutual Water Company uses groundwater and potable water supplied from Calleguas.
- **Solano Verde Mutual Water Company.** A private, domestic and agricultural water supplier in the northwestern portion of the Las Posas Valley. Its entire supply is potable water from Calleguas.
- **Ventura County Waterworks District No. 1 (VCWWD No. 1).** A public, domestic and agricultural water supplier serving the City of Moorpark and surrounding unincorporated areas. VCWWD No. 1 uses groundwater, recycled water, and potable water from Calleguas.
- **Ventura County Waterworks District No. 8 / City of Simi Valley (Simi Valley).** A public, domestic water supplier serving a majority of the City of Simi Valley and nearby unincorporated areas. Simi Valley uses recycled water, a small amount of groundwater, and potable water supplied from Calleguas.
- **Ventura County Waterworks District No. 19 (VCWWD No. 19).** A public, domestic and agricultural water supplier serving the unincorporated area around Somis. VCWWD No. 19 uses groundwater and potable water from Calleguas.

- **Ventura County Waterworks District No. 38 (VCWWD No. 38)**. A public, domestic water supplier serving the unincorporated areas surrounding Lake Sherwood, south of the City of Thousand Oaks. VCWWD No. 38 uses recycled water from TWSD and potable water from Calleguas.
- **Zone Mutual Water Company**. A private, agricultural water supplier serving the unincorporated area around Somis. Zone Mutual Water Company primarily uses groundwater and uses potable water from Calleguas used in limited quantities for salt-management purposes.

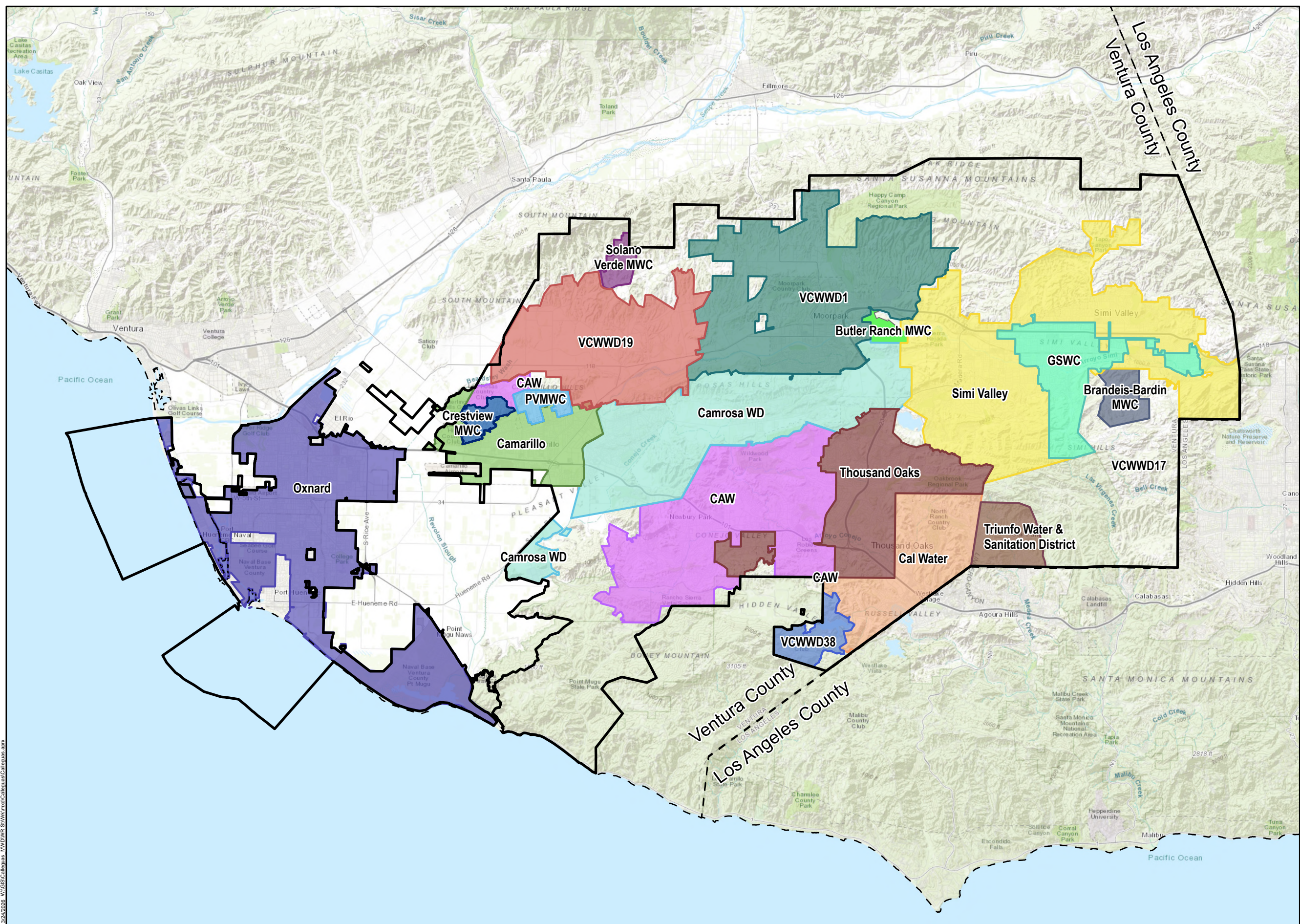
The following communities are indirectly served by Calleguas through the City of Oxnard:

- **Channel Islands Beach Community Services District**. A public, domestic water supplier serving the unincorporated communities of Hollywood by the Sea and Silver Strand. It uses groundwater supplied by the Port Hueneme Water Agency (PHWA) and potable water from Calleguas.
- **City of Port Hueneme**. A municipal, domestic water supplier serving the City of Port Hueneme. It uses groundwater supplied by PHWA and potable water from Calleguas.
- **Naval Base Ventura County**. The Navy operates its own water systems at Point Mugu and Port Hueneme. It is supplied by PHWA with groundwater and potable water from Calleguas.

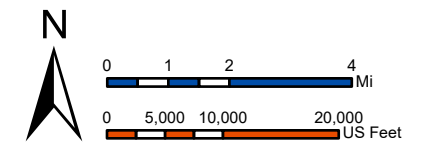
The following community is indirectly served by Calleguas through the City of Simi Valley:

- **Ventura County Waterworks District No. 17 (VCWWD No.17)**. A public, domestic water system serving an unincorporated area in Bell Canyon. Its entire supply is potable water from Calleguas.

Figure 3-1 shows the Calleguas service area and the purveyors. Calleguas's service area encompasses approximately 366 square miles. Land use in the area is primarily residential, commercial, industrial, and agricultural. Although a large portion of the water used in Ventura County is for agricultural purposes, these demands are generally served by other agencies or private entities using untreated surface water, recycled wastewater, and groundwater from various basins underlying the area.



- Legend**
- Calleguas Municipal Water District Service Area
 - County Boundary
 - Retail Water Purveyors**
 - Brandeis-Bardin Mutual Water Company
 - Butler Ranch Mutual Water Company
 - California American Water Company
 - California Water Service Company
 - Camrosa Water District
 - City of Camarillo
 - City of Oxnard
 - City of Simi Valley
 - City of Thousand Oaks
 - Crestview Mutual Water Company
 - Golden State Water Company
 - Pleasant Valley Mutual Water Company
 - Solano Verde Mutual Water Company
 - Ventura County Waterworks District No. 1
 - Ventura County Waterworks District No. 19
 - Ventura County Waterworks District No. 38
 - Triunfo Water & Sanitation District



References:
 1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Projection: Lambert Conformal Conic
 Datum: North American 1983

Notes:
 Overlying agricultural purveyors and sub-agencies of purveyors are not illustrated.

3.2 Distribution System Facilities

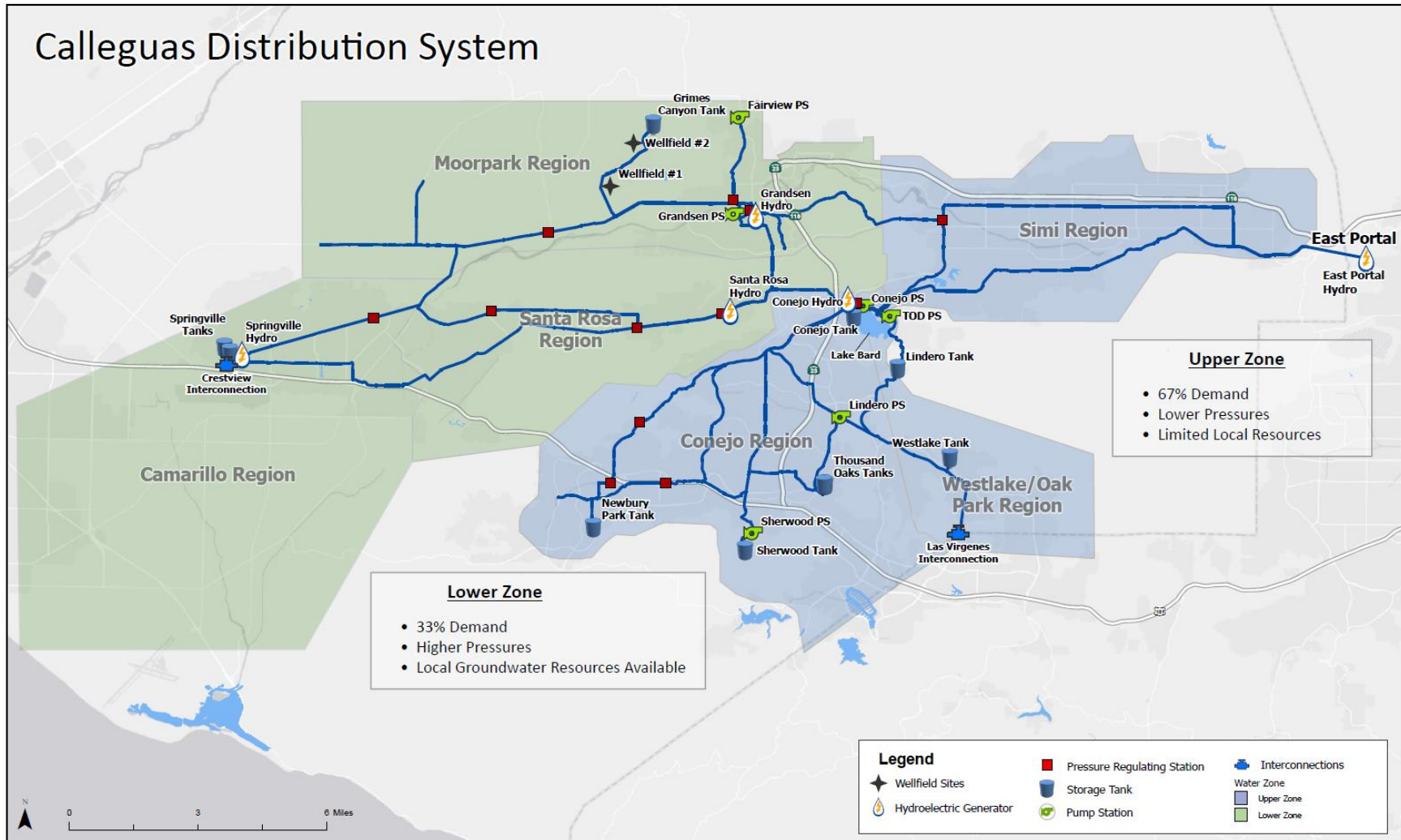
The Calleguas distribution system includes transmission pipelines, purveyor turnouts, flow and pressure regulating facilities, hydroelectric generating stations, pump stations, and reservoirs. The following description of the Calleguas distribution system is summarized from the 2017 Potable Water Master Plan Update (Kennedy Jenks, 2017).

3.2.1 Service Regions

Calleguas provides potable, imported water to its purveyors across southeastern Ventura County. They are located within the following six service regions: Simi Valley, Conejo Valley, Westlake/Oak Park, Moorpark, Santa Rosa Valley, and Camarillo, show in Figure 3-2. The service area is divided into 12 pressure zones with each zone's hydraulic grade regulated by one or more facilities.

Supply from Metropolitan enters the Calleguas system at the East Portal in Chatsworth, passes through the Santa Susana Tunnel, and enters the Calleguas Conduits (North Branch and South Branch) in Simi Valley. From there, the water is either pumped into the Westlake/Oak Park Region and Conejo Valley or pressure/flow regulated to the Santa Rosa Valley, Moorpark, and Camarillo Regions. The Simi Valley, Conejo Valley, and Westlake/Oak Park Regions are referred to as the Upper Zone (shown in blue in Figure 3-2) and the Moorpark, Santa Rosa, and Camarillo Regions are referred to as the Lower Zone (shown in green in Figure 3-2). The Upper Zone serves purveyors that have limited to no local supplies and must rely on imported water from Calleguas for most or all of their water supply. The Lower Zone has local groundwater supplies and uses imported water from Calleguas to meet remaining potable demands and blend with groundwater for water quality purposes.

Figure 3-2. Calleguas Service Regions and Major Facilities



3.2.2 Facilities

Pipelines and Turnouts. Calleguas operates a potable water distribution system consisting of about 130 miles of major transmission pipelines ranging from 14 to 78 inches in diameter. This system currently supplies 91 turnouts. The turnouts are all automated to accurately monitor and document flow deliveries to purveyors.

Regulating and Hydroelectric Generating Stations. The Calleguas service area ranges in elevation from approximately 1,200 feet above mean sea level (ft msl) near the East Portal to about 300 ft msl at the system's western terminus. Due to this range in elevation, Calleguas operates 20 pressure regulating stations and five hydroelectric generating stations. The hydroelectric generating stations are the Conejo, East Portal, Springville, Santa Rosa, and Grandsen stations.

Pump Stations. Calleguas owns and operates six potable water pump stations:

- Conejo Pump Station
- Fairview Pump Station
- Lake Sherwood Pump Station
- Lindero Pump Station
- TOD Pump Station (Formally known as Lindero Pump Station No. 2.)
- Grandsen Pump Station

Conejo Pump Station is only operated when Lake Bard supplies the system and water must be boosted to the Upper Zone. Grandsen Pump Station only operates when the Las Posas ASR Project supplies the system.

Enclosed Reservoirs. Calleguas has twelve enclosed potable water storage reservoirs totaling approximately 59 million gallons (MG), which includes two 4-MG clearwells at the Lake Bard Water Filtration Plant (WFP). The reservoirs provide operational storage for the system to help meet peak hourly demands.

Lake Bard and Lake Bard Water Filtration Plant. Lake Bard is in the center of the Calleguas service area and is owned and operated by Calleguas. It is an earthen, open-surface reservoir with a total storage capacity of 10,500 AF. Water stored in Lake Bard is treated at the Lake Bard WFP, which has a treatment capacity of 65 million gallons per day (mgd). Currently, water from Lake Bard is supplied to the Lake Bard WFP through gravity alone, and only 7,500 AF of water stored in Lake Bard can be moved to the WFP to be treated and delivered as potable water. The remaining 3,000 AF is available as an emergency non-potable supply. However, Calleguas is currently in design of a pump station that will allow nearly the entire volume stored in Lake Bard to be treated and delivered as potable water. Water from the Lake Bard WFP can be delivered anywhere in the Calleguas service area.

Las Posas Aquifer Storage and Recovery Project (Las Posas ASR Project). The Las Posas ASR Project is located west of Moorpark and is owned and operated by Calleguas. It consists of 18 dual-purpose wells which can inject imported water into the East Las Posas groundwater

basin for storage when excess supplies are available; and it can extract the stored water in times of emergency or during scheduled events when transmission pipes or system facilities are taken offline for maintenance. The Grandsen Pump Station enables Las Posas ASR Project water to be delivered anywhere in the Calleguas service area. Calleguas has built up over 20,000 AF of storage in the Las Posas ASR Project and now maintains this storage volume. Calleguas expects it can produce up to 5,000 AFY during a water supply shortage event from the Las Posas ASR Project.

The Las Posas ASR Project produces higher quality water if imported water is injected immediately prior to extraction, which is the practice before a planned, short-term outage of imported supplies. This is done because the native groundwater in the aquifer has higher amounts of salt and other constituents than the treated imported water Calleguas delivers. Injecting immediately before extraction ensures that the high-quality imported water is retrieved, as it has not yet had time to mix with native groundwater. However, if the outage is not planned or during a severe water supply shortage the ASR Project may be used to supplement supply without imported water injected prior to extraction. In this event, imported water stored in the ASR Project would be mixed with native groundwater, so it may contain concentrations of manganese and iron that result in visible color. While this does not pose a health risk, it does represent a potential aesthetic issue, primarily for purveyors near the wellfields where Calleguas extracts the stored imported water (mainly VCWWD No.1). Under most operational conditions, once ASR Project water enters the Calleguas system, it blends with water from other sources and any manganese and iron present would be diluted to the point that it would be indistinguishable from typical Calleguas water deliveries, so most of the service area would be unaffected.

Non-Potable Water Systems. Calleguas operates the Salinity Management Pipeline (SMP), which collects salty water generated by groundwater desalting facilities and excess recycled water and conveys that water for safe discharge to the ocean, where natural salt levels are higher. The SMP facilitates the development of local water supply projects to maximize the use of available water supplies. Local recycled water systems and the SMP play an important role in reducing Calleguas's potable water demands. Additionally, Calleguas operates a small non-potable water system in Simi Valley, which includes facilities to deliver recycled water primarily for irrigation purposes.

3.3 Service Area Climate

Like many regions in coastal southern California, the climate in Ventura County varies based on proximity to the ocean. Areas closest to the coast experience mild summers and winters, while inland areas experience warmer summers and mild winters. In the summer, high temperatures average in the high-70s degrees Fahrenheit (°F), and winter low temperatures average in the mid-40s °F. Typically, the Calleguas service area receives an average of about 15 inches of precipitation annually, with the majority of this rainfall occurring during the winter months. Table 3-1 presents monthly average climatic data for the Calleguas service area.

Table 3-1. Average Monthly Climate Data

Month	Average Precipitation (inches)	Average ETo (inches)	Temperature (°F)	
			Average High	Average Low
January	2.69	2.90	67.2	46.2
February	2.73	3.12	68.0	45.6
March	2.58	4.15	69.0	46.3
April	0.83	5.13	72.8	48.2
May	0.57	5.53	73.9	50.9
June	0.41	6.13	79.8	55.4
July	0.46	6.75	84.9	58.6
August	0.69	6.54	86.4	59.0
September	0.50	5.03	84.8	57.8
October	0.71	4.23	80.5	54.2
November	1.16	3.25	73.4	49.3
December	2.86	2.55	66.7	45.8
Annual Average:	16.20	55.30	75.6	51.4

Source: California Irrigation Management Information System (CIMIS). Data shown is the average of the Camarillo 152 station from January 2000 through July 2025, the Moorpark 217 station from July 2014 through July 2025, and the Chatsworth 215 station from September 2011 through February 2026. (California Department of Water Resources, 2025)

3.4 Service Area Population

Calleguas serves a large and diverse portion of Ventura County, including multiple cities and a portion of the unincorporated Ventura County population. The service area current and projected population is derived from a combination of sources including the 2020 U.S. Census (U.S. Census Bureau, 2020), the California Department of Finance (DOF) E-1 Population and Housing Estimates (California Department of Finance, Demographic Research Unit, 2025), and Southern California Association of Governments (SCAG) Connect SoCal 2024 Demographics & Growth Forecast Technical Report (RTP/SCS) (Southern California Association of Governments, 2024) growth projections, described below.

3.4.1 2025 Population

First, the 2025 population in the Calleguas service area was estimated using California’s DOF E-1 Population and Housing Estimates and the 2020 U.S. Census. The census includes a direct count of the U.S. population every 10 years. For cities and unincorporated areas, the DOF applies the Housing Unit Method to estimate annual population between census years, which involves:

- Estimating housing units by accounting for new construction, annexations, demolitions, and conversions.
- Applying vacancy rates derived from the 2020 Census and adjusted using recent American Community Survey data to estimate occupied units.
- Multiplying occupied housing units by persons-per-household ratios (adjusted from 2020 Census data) to derive household population.
- Adding group quarters population, which is annually updated using data from state, federal, and local agencies.

The 2020 Census and 2025 DOF population estimates for Ventura County are presented in Table 3-2 below. The population from these sources show an overall decline in population in the County from 2020 to 2025.

Table 3-2. Ventura County 2020 and 2025 Population

County/City	Total Population		Percent Change
	2020 Census ¹	2025 DOF ²	
Ventura County	843,843	829,005	-1.8%
Camarillo	70,721	68,927	-2.5%
Moorpark	36,247	34,754	-4.1%
Oxnard	201,908	198,733	-1.6%
Port Hueneme	21,940	20,838	-5.0%
Simi Valley	126,347	124,815	-1.2%
Thousand Oaks	126,814	122,468	-3.4%
San Buenaventura	110,632	108,985	-1.5%
Fillmore	16,503	17,035	3.2%
Ojai	7,636	7,559	-1.0%
Santa Paula	30,780	31,658	2.9%
Balance of Unincorporated County	94,315	93,233	-1.1%

Note: Rows highlighted orange include cities within the Calleguas service area. Calleguas also serves a portion of unincorporated county areas.

Sources:

1. 2020 U.S. Census (U.S. Census Bureau, 2020)
2. 2025 DOF E-1 Population and Housing Estimates (California Department of Finance, Demographic Research Unit, 2025)

The proportion of population served by Calleguas in unincorporated Ventura County, shown in Table 3-3, was estimated using a spatial analysis of 2020 U.S. Census block-level data intersected with the Calleguas service area. The 2020 population within the Calleguas service area using the spatial analysis was calculated as 629,875, and the unincorporated population was estimated by subtracting out the incorporated cities served by Calleguas, shown in orange in Table 3-2. Based on this analysis, Calleguas is estimated to serve approximately 49% of the total unincorporated population in Ventura County, shown in Table 3-3.

Table 3-3. 2020 Census Unincorporated Populations

Calleguas 2020 Population¹	629,875
Calleguas 2020 Population – Incorporated Cities	583,977
Calleguas 2020 Population – Unincorporated	45,898
Ventura County Total Unincorporated Population	94,315
Percentage of Unincorporated Population served by Calleguas	49%

Note:

1. Calculated using a spatial analysis of the Calleguas service area and 2020 U.S. Census block data (U.S. Census Bureau, 2020)
2. The 2025 Ventura County DOF population estimates were then used to calculate the Calleguas service area 2025 population, shown in Table 3-4.

Table 3-4. 2025 Calleguas Service Area Population

2025 Incorporated City Population¹	570,535
2025 Unincorporated Population²	45,371
2025 Calleguas Population	615,906

Note:

1. 2025 DOF E-1 Population and Housing Estimates (California Department of Finance, Demographic Research Unit, 2025)
2. Calculated as 49% of the unincorporated Ventura County population from the DOF E-1 Population and Housing Estimates

3.4.2 Population Projections

Population projections for the Calleguas service area through 2050 were developed using SCAG 2024 RTP/SCS population growth rates. SCAG population growth rates for the Calleguas service area were calculated using a spatial analysis intersecting the Calleguas service area boundary with SCAG’s Transportation Analysis Zone (TAZ) shapefiles.

For each intersecting TAZ, which contains forecasted data on population, housing, and employment, the proportion of its area falling within the Calleguas boundary was calculated and used to proportionally allocate the population projections. The resulting weighted values were aggregated to estimate SCAG projected total population within the Calleguas service area. This data was used to calculate the population growth rates for the intervals 2019 to 2035 and 2035 to 2050, presented below in Table 3-5. As shown, the population growth rates are relatively flat, and the updated SCAG forecast for Ventura County reflects reduced population growth expectations compared to previous SCAG population projections driven by recent population contraction, declining migration inflows, and broader regional demographic shifts (Southern California Association of Governments, 2024).

Table 3-5. SCAG Population Projection and Annual Growth Rates for the Calleguas Service Area

	2019	2035	2050
Calleguas Population	634,162	645,228	640,833
Annual Growth Rate	2019 - 2035: 0.11%		2035 - 2050: -0.05%

Table 3-6 presents the Calleguas service area population projected through 2050 by applying the SCAG projected growth rates in Table 3-5 to the 2025 population in Table 3-4.

Table 3-6. Calleguas Service Area Current and Projected Population

Population	2025	2030	2035	2040	2045	2050
TOTAL:	615,900	619,300	622,700	621,200	619,800	618,400

Note: Population estimates rounded to the nearest hundred.

3.5 Service Area Demographics and Socioeconomics

While the Calleguas service area encompasses many of the cities in Ventura County, the service area is predominately suburban with a majority of water demand utilized for residential uses. A concentration of large commercial, industrial, and institutional (CII) water users can be found in the greater Conejo Valley area and within the City of Oxnard. Imported water does support a small portion of agriculture in the Calleguas service area, with agricultural water users primarily located in the Las Posas Valley Basin, Pleasant Valley Basin, and the Oxnard Subbasin areas (see Figure 6-3).

Over time, Calleguas expanded its service area to the west through annexation of small communities and traditionally agricultural areas. A significant portion of agricultural lands and open spaces adjacent to Calleguas’s western boundary fall under the Ventura County Save Open Space & Agricultural Resources (SOAR) initiatives. SOAR requires a majority vote of the people to rezone unincorporated open space, agricultural, or rural land for development. In 2016, voters approved renewal of SOAR to 2050. It is anticipated that many of these areas will remain outside the Calleguas service area for the foreseeable future.

As of September 2025, the level of unemployment for the labor force residing in the Calleguas service area is estimated at about 5% and is similar to the overall Ventura County estimates of a 5.1% unemployment rate. Employment data for Calleguas and related areas can be found in Table 3-7.

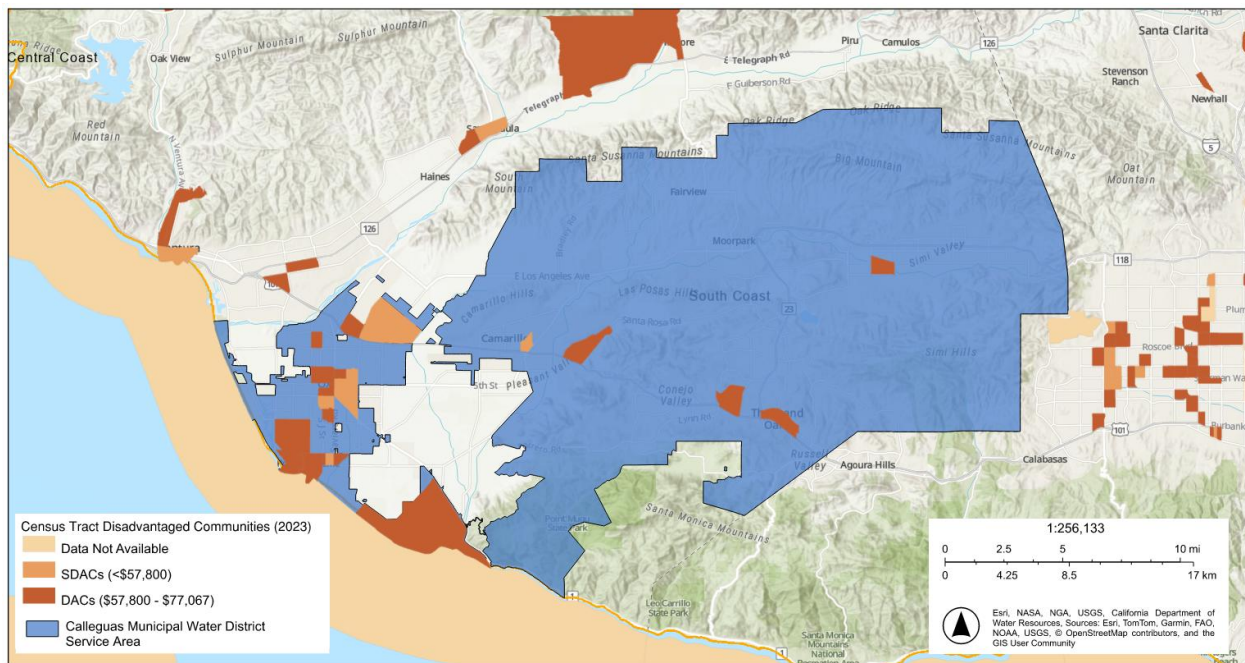
Table 3-7. Unemployment Rate: Calleguas and Related Areas (September 2025)

Area	Rate	Unemployment	Employment	Labor Force
Calleguas Service Area	5.0%	15,728	300,421	316,149
Ventura County	5.1%	21,894	403,640	425,534
California	5.6%	1,113,040	18,870,422	19,983,462
Camarillo (City)	4.5%	1,514	32,190	33,704
Moorpark (City)	4.4%	822	18,066	18,888
Oxnard (City)	6.2%	6,230	94,603	100,833
Ventura (City)	4.6%	2,666	55,042	57,708
Santa Paula (City)	6.6%	1,037	14,673	15,710
Simi Valley (City)	4.6%	3,166	65,399	68,565
Thousand Oaks (City)	4.6%	2,960	60,762	63,722

Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau (VC Star, 2026)

DWR provides a mapping tool that displays Median Household Income (MHI) in determining areas that may qualify as a Disadvantaged Community (DAC) or Severely Disadvantaged Community (SDAC). Figure 3-3 identifies the DACs and SDACs in and around the Calleguas service area.

Figure 3-3. Disadvantaged Communities in the Calleguas Service Area



Source: DWR Disadvantaged Community and Economically Distressed Area Mapping Tool, data based on American Community Survey Disadvantaged Communities Census Tracts 2019-2023 (DWR, 2026)

As shown in Figure 3-3, a concentration of DACs can be found in the western portion of the Calleguas service area, which is within and adjacent to the City of Oxnard. A portion of these DACs lie outside the Calleguas service area and rely on water service from a small community water system or other means of local supply production. As an example, there are multiple mutual water companies that provide service to small areas within the incorporated area of Oxnard. Occasionally, some of these small systems suffer crises of well failures or other supply disruptions that necessitate emergency water service from the City of Oxnard. Calleguas continues to monitor and investigate options that could bring long-term drinking water solutions to these areas.

3.6 Land Uses and Development Standards within the Service Area

Water resources in Ventura County include imported water, groundwater, recycled water, and surface water. Within the Calleguas service area, cities and unincorporated county areas have varying degrees of access to and reliance on the different water sources. City and county General Plans provide frameworks to manage water, recognizing that land use decisions affect water demand now and into the future and affect water quality and availability.

Calleguas directly serves imported water to the cities of Simi Valley, Moorpark, Thousand Oaks, Camarillo, and Oxnard, and unincorporated areas of Ventura County. Relevant planning and land use documents for each local jurisdiction were reviewed to evaluate current and projected land uses.

The predominant land uses in the Calleguas service area are residential development and open space. Developed areas are primarily built out, due to topographic restrictions (such as the hills and mountains surrounding the Cities of Simi Valley, Thousand Oaks, and Moorpark) as well as regulatory constraints such as the SOAR ordinances. In addition to the County SOAR ordinance that applies to unincorporated Ventura County, the cities of Camarillo, Oxnard, Simi Valley, Thousand Oaks, and Moorpark have enacted SOAR ordinances to establish voter-controlled urban growth boundaries, known as City Urban Restriction Boundaries (CURBs). CURBs are development boundaries around each city. Voter approval is required for any city annexation and development of land outside of the CURB.

Several large undeveloped areas exist within the Oxnard CURB that either have developed since adoption of the CURB or are likely to fully develop by 2030. According to the City of Oxnard 2030 General Plan, once these areas are developed, additional development would have to be largely redevelopment within the CURB or by amending and expanding the CURB with voter approval (City of Oxnard, 2011). Within other cities and communities in the Calleguas service area, future growth is also expected to consist mainly of infill developments and redevelopment of properties that are vacant, underutilized, or contain obsolete development. The majority of new residential developments in the cities is expected to be multi-family apartments and townhomes. Within the unincorporated areas of the County, accessory dwelling

units and farmworker housing may increase in proportion to other residential development due to County ordinance revisions.

Ventura County adopted its 2040 General Plan (County 2040 General Plan) in September 2020. The Water Resources Element of the County 2040 General Plan includes several goals and policies to improve and protect the County's long-term water supply, particularly in light of ongoing and emerging challenges related to climate change, drought, groundwater basin overdraft, new groundwater well prohibitions, and regulations affecting groundwater use. Goal WR-1 (*To effectively manage water supply by adequately planning for the development, conservation, and protection of water resources for present and future generations*) is supported by 14 policies, including several that address imported water directly or indirectly. Policy WR-1.3 directs the County to support the development and maintenance of a diverse water supply portfolio. While imported water provides an important element of the overall portfolio, having diverse sources helps buffer against the unique challenges inherent to each. The importance of imported water is further demonstrated in Policy WR-1.4, which directs the County to continue to support the conveyance of, and seek to secure water from, State sources. Policy WR-1.7 supports continued cooperation among water suppliers to establish and maintain emergency inter-tie projects (See Section 6.8 for more information on intertie projects Calleguas is involved in). Policy WR-1.9 supports the use of groundwater basins for water storage, such as Calleguas's Las Posas ASR Project (see Section 3.2.2 and 6.3.4). Policy WR-1.11 requires new discretionary developments to demonstrate an adequate long-term supply of water, and Policy WR-1.14 requires new golf courses to utilize reclaimed water for irrigation where feasible (County of Ventura, 2020).

Several cities in the Calleguas service area have also adopted goals, policies, and standards to address water supply with respect to current and future development in their respective jurisdictions. The City of Simi Valley adopted the California Green Building Standards Code and included an amendment to require builders to provide water efficient landscape irrigation design that reduces the use of potable water by 50% over maximum allowable water application standards (City of Simi Valley, 2012). The City of Moorpark adopted water efficiency and reuse goals in its General Plan Update (City of Moorpark, 2023) and its Water Efficient Landscape Ordinance, which establishes a structure for designing, installing, maintaining and managing water efficient landscapes in new and rehabilitated projects (City of Moorpark, 2020). The ordinance reduces water use to the lowest practical amount and sets an upper limit that shall not be exceeded. It also establishes provisions for water management practices and water waste prevention for established landscapes. The City of Thousand Oaks Municipal Code Section 10-2.1101 et seq. requires a variety of water conservation measures for existing and new developments, including progressively more stringent measures in the event of drought (City of Thousand Oaks, 2023).

The current and projected water supply, use, and reliability analyses for the Calleguas service area as presented in this 2025 UWMP have been developed to consider these local goals, policies, and standards while also maintaining a conservative estimate to ensure that the reasonable worst-case scenario of water demand is addressed.

3.7 Changes to the Service Area

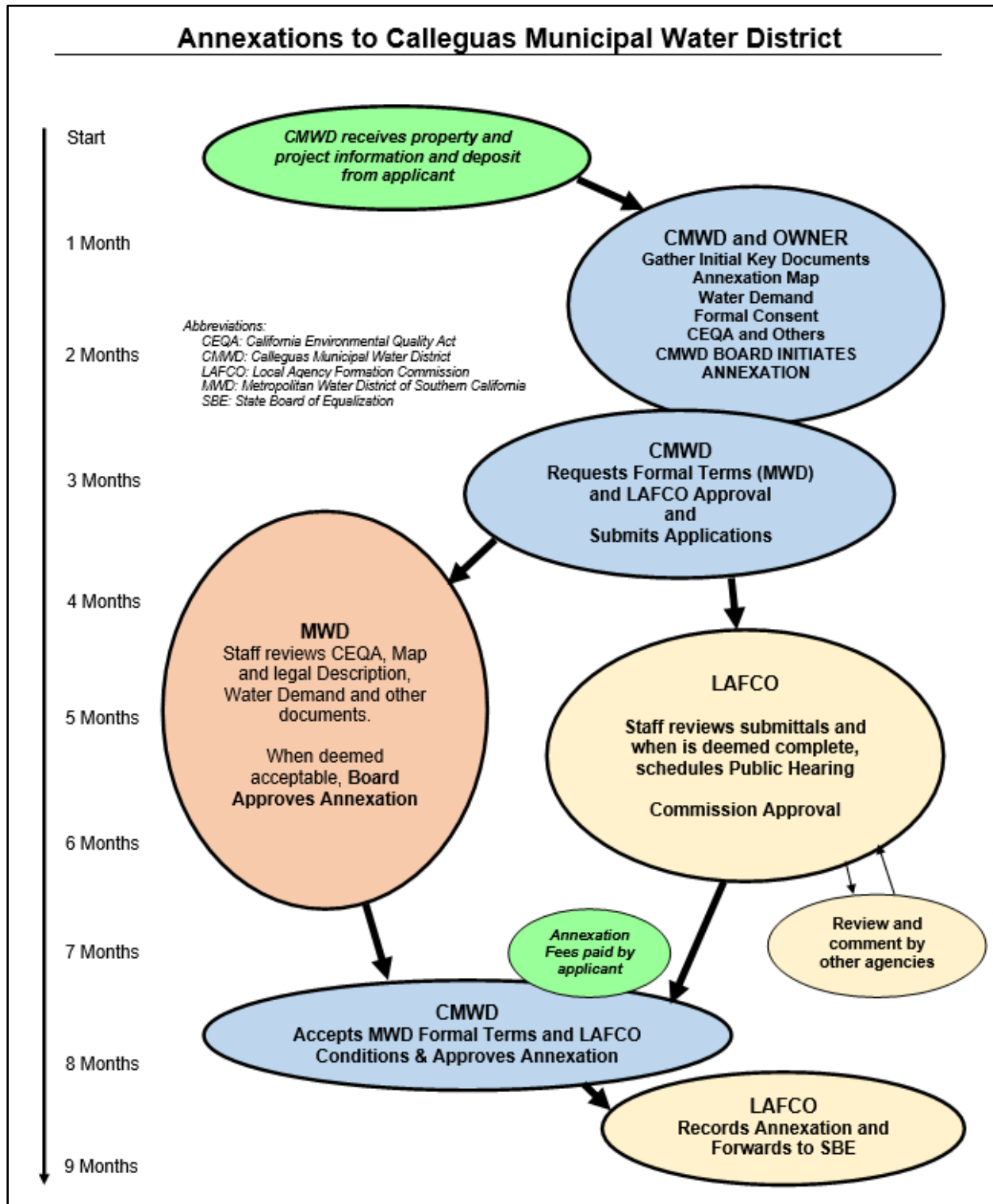
Calleguas, as a member agency of Metropolitan, provides imported water service to its purveyors. Existing policies and agreements restrict such service to uses within the Calleguas service area boundary to preserve the integrity of ratepayer investments. Section 5(a) of Calleguas Ordinance No. 12 provides that “the right of any Member Agency to water served by the District’s facilities shall be restricted to the amount required for uses within the area of the District lying within the boundaries of such Member Agency” and that “no potable water ... produced by a Member Agency be sold or delivered for any use outside the District’s boundaries.” Therefore, any property outside of Calleguas’s boundaries must undergo annexation to both Calleguas and Metropolitan to receive imported municipal water service via a Calleguas purveyor. Annexation is the administrative process of changing a public agency boundary to take in more land. Figure 3-4 provides an overview of the Calleguas annexation process.

When Calleguas joined Metropolitan in 1960, its service area was approximately 172,800 acres (270 square miles) and included the communities of Camarillo, Somis, Moorpark, Thousand Oaks, Newbury Park, Santa Susana, and Simi Valley. The City of Oxnard annexed to Calleguas shortly thereafter, and by 2010 the Calleguas service area had grown to 234,160 acres (366 square miles). The size and frequency of annexation cases have slowed considerably since 2000. As shown in Table 3-8, between 2010 and 2025 there have been 11 annexations to Calleguas totaling 173 acres. The annexations ranged in size from 0.7 to 109.1 acres, with most under 10 acres. One annexation was in the Camarillo area, and all others are in Oxnard. Future annexations are expected to continue this trend of an average of one relatively small annexation completed per year. Future expansion of Calleguas’s boundaries is expected primarily on the Oxnard Plain.

Table 3-8. Annexations to Calleguas Since 2010

Annexation No.	Name	Completed	Acres	Location
94	California Conservation Corps	9/21/2010	17.0	Camarillo
95	Evergreen & Crossroads	12/20/2012	5.7	Oxnard
96	Paseo Nuevo	4/23/2012	4.9	Oxnard
97	Ventura Boulevard	12/12/2013	2.8	Oxnard
98	East Village Phase III	4/8/2014	109.1	Oxnard
100	Pleasant Valley Venture, LLC	1/26/2017	8.7	Oxnard
101	Ocean View Schools	8/27/2018	5.3	Oxnard
102	Dioji	7/30/2018	0.7	Oxnard
103	Cabrillo Economic Development Corporation	12/17/2019	2.0	Oxnard
104	Rio Urbana	7/20/2022	10.7	Oxnard
106	Cypress Place at Garden City/Garden City Acres Park	9/21/2022	6.3	Oxnard
TOTAL			173.2	

Figure 3-4. Calleguas Annexation Process



4 Water Use Characterization

This section describes and quantifies Calleguas’s past, current, and future water use through 2050. Calleguas provides potable water on a wholesale basis to its purveyors. This section addresses water use characteristics and projected water demands on Calleguas.

IN THIS SECTION

- Historical Water Use
- Current and Projected Water Use

4.1 Historical Water Use

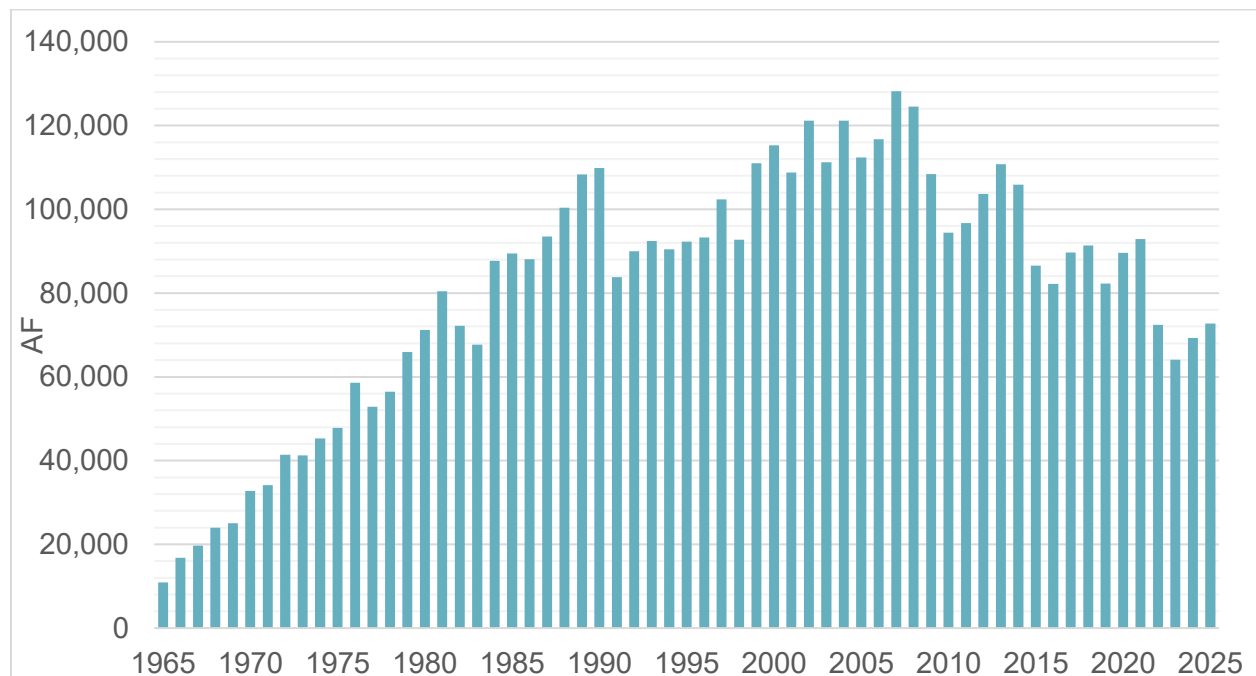
Sales to other agencies account for 99% of Calleguas’s water demands. Within the Calleguas service area, municipal and industrial uses account for approximately 95% of the imported water distributed by Calleguas, with agricultural uses accounting for the remaining 5%. These proportions are forecasted to remain constant throughout the planning period.

Figure 4-1 depicts Calleguas’s potable water deliveries since 1965. As shown, demand for imported water peaked in 2007 with 128,163 AF delivered. Since 2007, imported water demand has been trending downward. In 2023, Calleguas’s imported water deliveries were about 64,100 AF, which is the lowest potable water delivered since 1980.

The decline in imported water demand is attributed to investments in local water supplies to reduce imported water demand as well as conservation efforts and changing water use patterns in the region. Calleguas has invested in both the development of local water supplies to improve water supply resilience and reliability, discussed in Section 6, and promoted local conservation efforts, discussed in Section 9. The demand for imported water supplies will continue to be offset with local supply investment and conservation.

Additionally, Calleguas’s potable water demand can fluctuate significantly year to year depending on local rainfall. In drier years, demand for outdoor water use typically increases; in wet years, such as in 2023, demands are reduced.

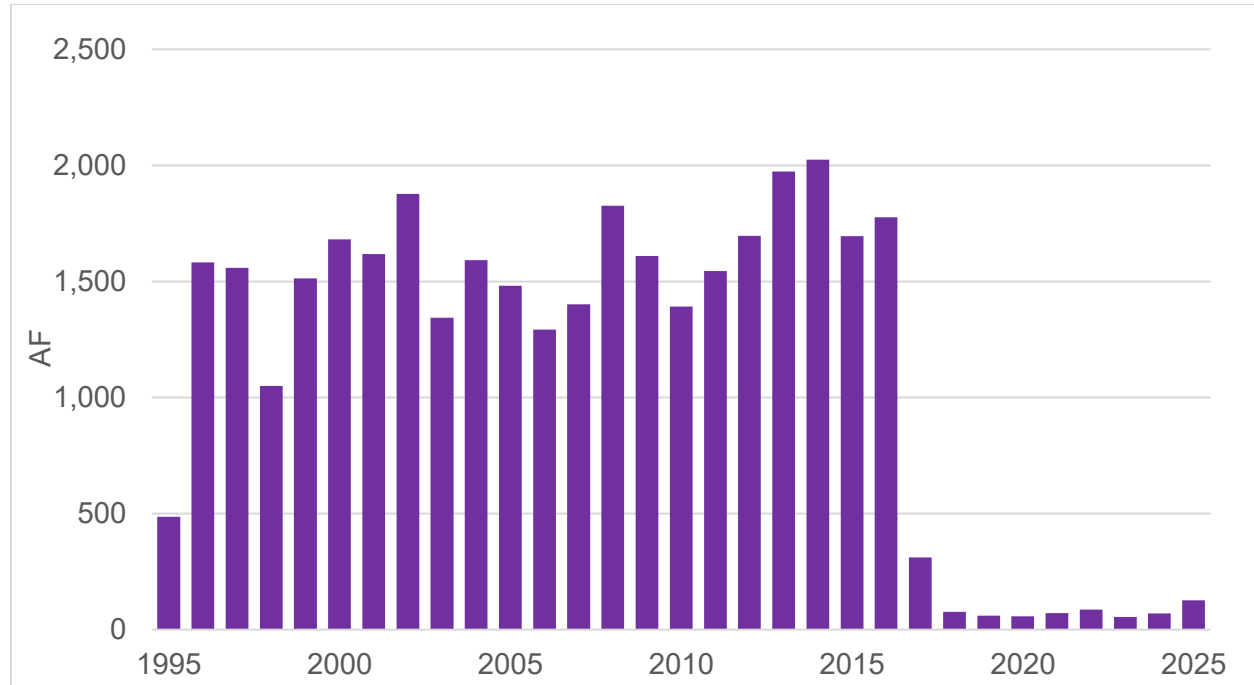
Figure 4-1. Historic Potable Water Deliveries



In the 1990s, Calleguas built recycled water delivery systems within the Conejo and Simi Valleys and began providing a small volume of recycled water on a wholesale basis within its service area, shown in Figure 4-2. In 2017, Calleguas turned over ownership, operation, and

maintenance of its recycled water facilities in the Conejo Valley, resulting in a drop in recycled water deliveries. Calleguas still owns the recycled water system in Simi Valley, with deliveries averaging about 75 AF per year since 2018.

Figure 4-2. Historic Recycled Water Deliveries



4.2 Current and Projected Water Use

Table 4-1 lists Calleguas’s actual water demands for 2025. The majority of Calleguas’s demand is driven by potable water deliveries to its purveyors. Figure 4-3 shows the distribution of purveyor potable water deliveries in 2025.

Other water uses include imported water inputs to the Las Posas ASR Project and Lake Bard for storage and non-potable recycled water deliveries to Simi Valley. Typically, Calleguas only injects water into the Las Posas ASR Project ahead of a planned imported water outage for use shortly afterward; this is because it has already accumulated the targeted volume of outage storage in the Las Posas Basin. This water is considered a “pass-through” demand and not included in Table 4-1. Calleguas typically keeps Lake Bard full in the event of an imported water outage, replaces volumes used during an outage immediately following the outage, and puts small volumes of water into the lake as needed to compensate for evaporative losses.

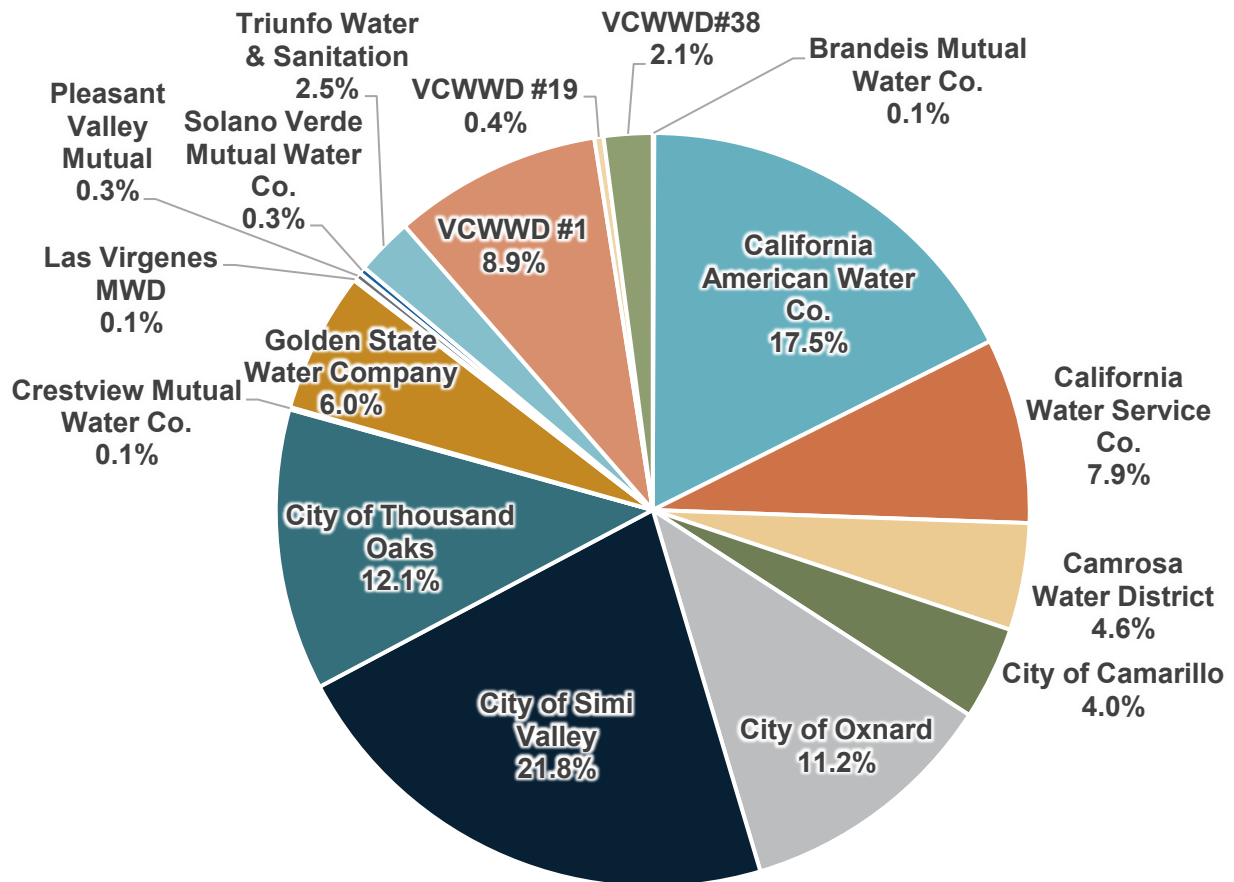
Table 4-1. 2025 Demands for Potable and Non-Potable Water

Use Type		2025 Actual	
	Additional Description	Level of Treatment	Volume (AFY)
Sales to other agencies	Potable water deliveries	Potable Water	72,740
Other ¹	Replenishment water	Potable Water	756
Total Potable Water Demand			73,496
Sales to other agencies	Recycled water deliveries to Simi Valley	Non-Potable	127
Total			73,623

Notes:

1. Other water use includes net annual inputs to Lake Bard and Las Posas ASR Project for storage. Excludes water put into storage and produced in the same year.

Figure 4-3. 2025 Calleguas Potable Water Deliveries



Note: Purveyors receiving no water from Calleguas in 2025, including Berylwood Heights Mutual Water Company, Butler Ranch Mutual Water Company, and Zone Mutual Water Company, are not shown. Additionally, Calleguas delivered a small volume of water to Las Virgenes Municipal Water District in 2025 while testing the recently completed Calleguas-Las Virgenes

Interconnection. In the future the interconnection is only expected to be used during imported water outage conditions and periodic operation to ensure reliable functionality and to maintain water quality in the pipelines.

Calleguas calculates its projected imported water demand as the total water demand for the Calleguas service area less local supplies:

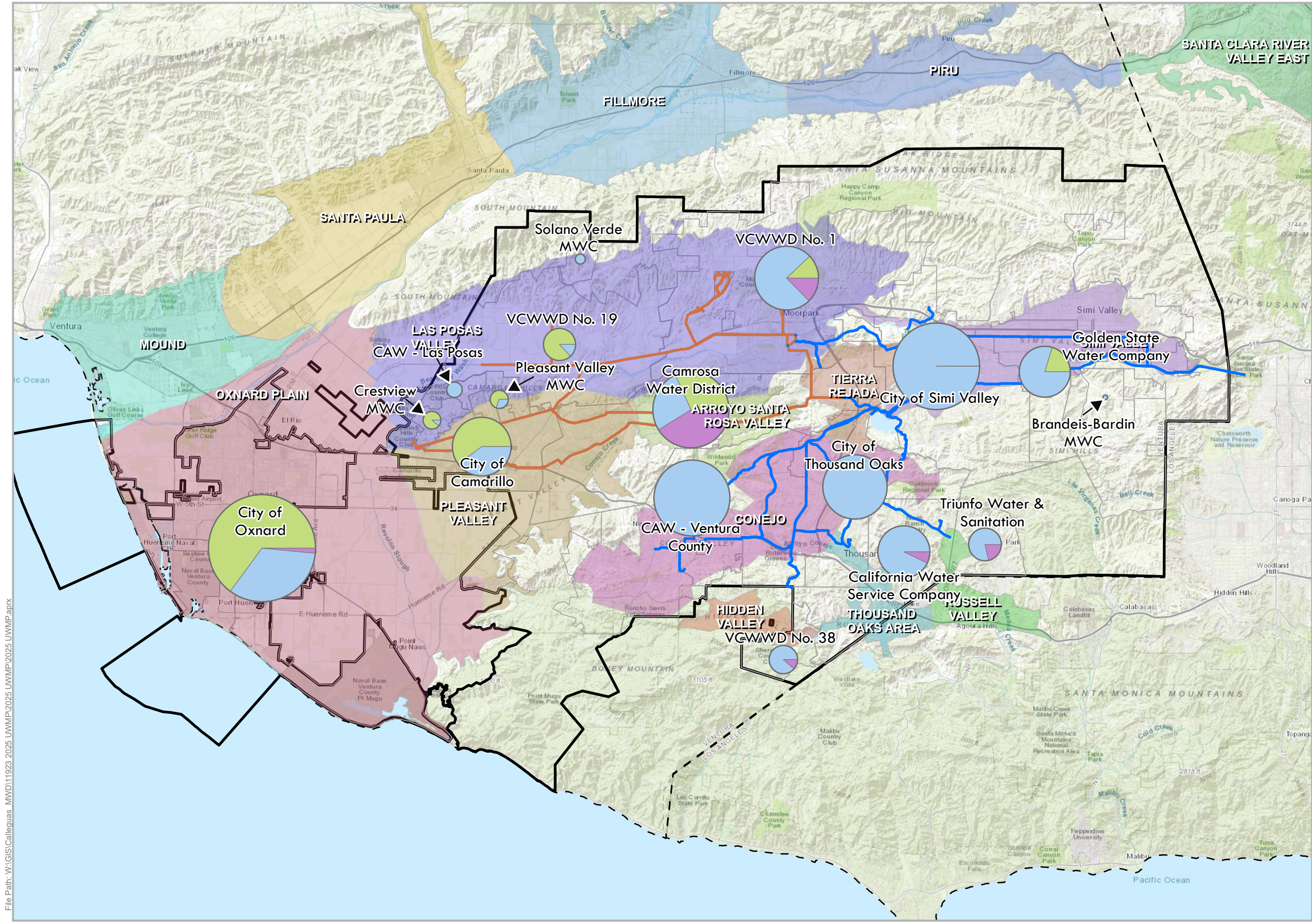
Calleguas Imported Demand = Total Calleguas Service Area Demands – Local Supplies

Figure 4-4 depicts the 2025 total water use by purveyor, including the percentage of imported water from Calleguas, local groundwater, and recycled water sources. As shown, the purveyors in the Upper Zone were nearly 100% reliant on imported water supplies provided by Calleguas. Purveyors located in the Lower Zone of the Calleguas distribution system have greater access to local water supplies and are therefore less dependent on imported water.

Calleguas coordinated with its purveyors during the development of the 2025 UWMP and requested projected population, water demand, and water supplies (including imported water supply needs). Many of the purveyors are urban water suppliers and have prepared updated demand and supply projections considering expected population growth, planned investments in local supplies, water use trends, conservation regulations, and climate change. Many of the purveyors who are not urban water suppliers also provided their current projections for use in this UWMP. For non-urban water suppliers that did not have long term projections available¹, the average supply and demand over the last five years was assumed to be constant through 2050. This volume accounts for 4% of the total projected potable water sales. Table 4-2 lists the projected total service area demand, local supplies, imported water sales, replenishment water, and recycled water demands through 2050.

Note that projected water demands are lower than in previous Calleguas UWMPs and projected imported water demand projections developed by Metropolitan. Recent severe droughts from 2012-2016 and 2020-2022 led to a significant conservation campaign and water use restrictions implemented by Calleguas and the purveyors, resulting in an overall decrease in water demands. Additionally, these back-to-back severe droughts highlighted the declining reliability of imported water supplies and reinvigorated a need to invest more in local water supplies for greater water resiliency and reliability. The decrease from projected water use when compared to the Calleguas 2020 UWMP can be attributed to this post-drought demand hardening effect and greater investment in local supplies. Further, population growth projections decreased after the 2020 US Census data were released, illustrating more modest population growth (and in some cases, population declines) compared with projections made prior to the last census, further lowering projected water demands.

¹ Non-urban water suppliers that did not have long-term projections available include California-American Water – Las Posas District, Berylwood Heights Mutual Water Company, Butler Ranch Mutual Water Company, VCWWD No. 19, VCWWD No. 38, and Pleasant Valley Mutual Water Company.



Legend

- Calleguas Municipal Water District Service Area
- County Boundary
- 2025 Retail Demand**
- Groundwater
- Imported from Calleguas
- Recycled Water
- 9,800
- 2,800
- 48
- Existing Infrastructure**
- Potable Pipeline, Lower Zone
- Potable Pipeline, Upper Zone

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Table 4-2. Projected 2030 - 2050 Demands

Use Type	2030	2035	2040	2045	2050
Total Service Area Demand ^{1,2}	124,710	124,380	124,180	125,210	125,520
Local Groundwater ^{1,2}	43,710	41,740	40,720	39,870	39,060
Local Recycled Water ^{1,3}	8,300	8,560	9,060	9,570	10,070
Calleguas Imported Water Sales¹	72,700	74,090	74,380	75,770	76,390
Replenishment Water ^{1,4}	650	650	650	650	650
Calleguas Total Potable Demand	73,350	74,740	75,030	76,420	77,040
Recycled Water Sales ^{1,5}	80	80	80	80	80
TOTAL	73,430	74,820	75,110	76,500	77,120

Notes:

1. All values are rounded to the nearest 10.
2. Local groundwater supply projections provided by purveyors. This includes potable groundwater, desalinated groundwater, and non-potable groundwater resources.
3. Local recycled water supply projections provided by purveyors. This includes tertiary treated recycled water, non-potable surface water diverted from Conejo Creek, and future potable reuse.
4. Replenishment water is based on the 2021-2025 average net input to Lake Bard to account for evaporative losses.
5. Recycled water sales are based on the 2021-2025 average recycled water sales to Simi Valley.

As a wholesale supplier, Calleguas is not required to perform water loss audits nor is Calleguas subject to reporting distribution system losses in the UWMP. However, Calleguas performs internal water audits and balances to monitor the amount of unaccounted water use. Losses are incorporated into the demand projections by estimating replenishment water demand, which accounts for evaporative losses from Lake Bard. Other losses may include errors in supply or turnout meters, treatment-related losses at the Lake Bard WFP, and dewatering activities related to system maintenance which are more difficult to quantify. Replenishment water to the Las Posas ASR Project is not included in projections because Calleguas intends to only inject water ahead of planned outages and extract it shortly after storing the water to provide to the purveyors.

4.2.1 Characteristic Five-Year Water Use

In addition to past and projected uses, the UWMP more closely analyzes anticipated conditions for the next five years (2026 – 2030) and consider climate change impacts. In the next five years, Calleguas anticipates that demands will remain fairly steady with an increase of approximately 720 AFY (or less than 1%) from current conditions, as shown in Table 4-3. Details on the supply versus demand analysis for the next five years are discussed in Section 7.2.

Table 4-3. Projected 2026-2030 Demands

Use Type	Additional Description	2026	2027	2028	2029	2030
Sales to Other Agencies	Potable water deliveries	72,730	72,720	72,710	72,700	72,700
Other	Replenishment water	650	650	650	650	650
Total Potable		73,380	73,370	73,360	73,350	73,350
Sales to Other Agencies	Recycled water deliveries to Simi Valley	80	80	80	80	80
TOTAL		73,460	73,450	73,440	73,430	73,430

5

SB X7-7 Baselines, Targets, and 2025 Compliance

This section discusses California’s Conservation Target Compliance. As a Wholesale Supplier, Calleguas is not required to establish or report on an urban per capita water use target.

IN THIS SECTION

- SBX7-7 Conservation Target Compliance

5.1 Conservation Target Compliance

On November 10, 2009, the California State Legislature passed Senate Bill 7 as part of the Seventh Extraordinary Session, referred to as SBX7-7. SBX7-7, also known as the Water Conservation Bill, mandated that the State of California achieve a 20% reduction in urban per capita water use by 2020.

SBX7-7 requires each urban retail water supplier to develop water use targets and agricultural water suppliers to implement efficient water management practices. Consequently, beginning in 2010, retail water suppliers documented historical per capita water use in their UWMPs and identified the means and methods for reducing per capita consumption by 20% by 2020.

Requirements associated with SBX7-7 for urban wholesale water suppliers are different than those for urban retail water suppliers. Most notably, since target per capita water use rates were measured for compliance at the retail level, wholesale water suppliers were not specifically required to identify the per capita water use rates for each of their purveyors. However, wholesale water suppliers were expected to include an assessment of how water conservation programs and policies implemented by the wholesale water agency helped the retail suppliers in the service area achieve their SBX7-7 requirements.

As a wholesale water agency, Calleguas was not required to establish or report on an urban per capita water use target. However, Calleguas supports Metropolitan's regional conservation programs that are designed to assist member agencies and retail water suppliers in the service area with complying with SBX7-7. These efforts include technical assistance, legislation, code and standards updates, and financial incentives that are needed for market transformation to increase water use efficiency.

To increase public awareness of water resource issues and encourage a greater measure of water use efficiency, Calleguas has sponsored and/or actively coordinated various outreach programs. Among other efforts, in recent years, Calleguas has hosted semi-annual native plant sales and rain barrel sales. Calleguas has also presented workshops to promote the use of California-friendly landscaping and turf alternatives, hosted graywater and rainwater capture workshops, and sponsors ongoing hands-on drip irrigation workshops presented by the UC Master Gardeners of Ventura County. Calleguas financed development of the California True Colors Garden and Learning Center in the City of Thousand Oaks in partnership with the UC Master Gardeners, the City of Thousand Oaks, and the Conejo Recreation and Park District. Calleguas staff routinely provides presentations on water resources matters to local political bodies and community and service organizations, maintains a robust social media presence as part of its communications strategy, and frequently publishes large, full-color display advertisements in local newspapers regarding the availability of consumer rebates for water saving devices.

More information on Calleguas's public outreach and water use efficiency promotion activities can be found in Section 9.

6

Water Supply Characterization

This section describes and quantifies Calleguas’s current and projected water supplies. It provides a narrative description of each supply source and quantifies the supply availability for each supply source identified.

IN THIS SECTION

- Water Supply Analysis Overview
- Water Supply Characterization
- Future Water Projects
- Energy Intensity

6.1 Water Supply Overview

Calleguas primarily provides imported water purchased from Metropolitan to its purveyors and exclusively provides imported water for potable purposes. Additionally, Calleguas delivers a small volume of recycled water in Simi Valley. A summary of Calleguas's supplies is presented in this chapter, as well as supply sources used by its purveyors that are not delivered by Calleguas.

6.2 Imported Water

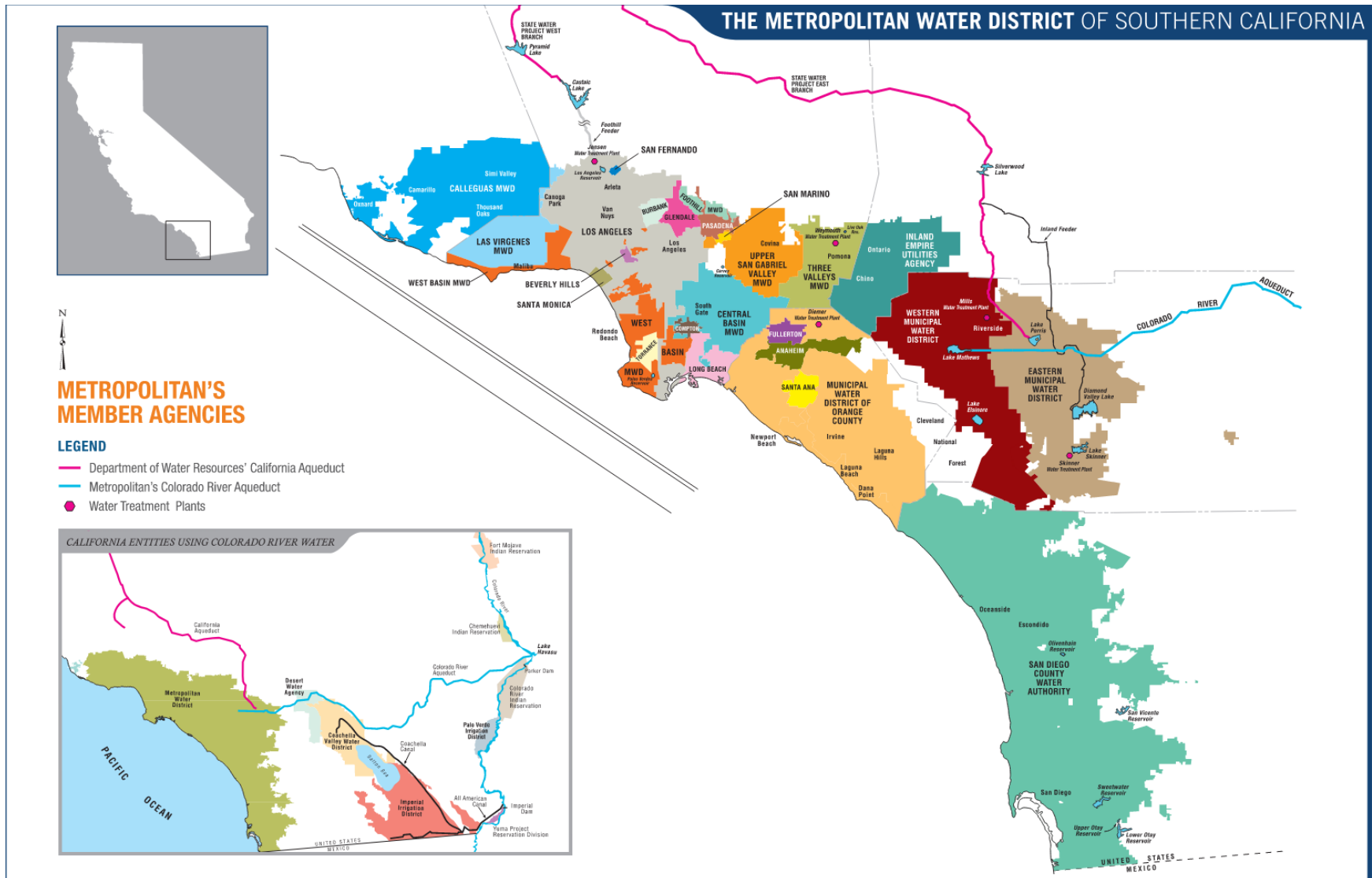
Calleguas's primary (and only potable) water supply is imported water purchased from Metropolitan. Calleguas is a Metropolitan Member Agency, with Metropolitan delivering imported water to Calleguas through a single service connection in Chatsworth. Metropolitan is a wholesale water supplier that serves water to other agencies in the Southern California coastal plain, including portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties, shown in Figure 6-1. Metropolitan provides supplies from the CRA and the SWP and has multiple storage facilities used to supplement supplies during a drought or supply outage. Calleguas is in Metropolitan's SWP Dependent Area; this is because Calleguas exclusively receives SWP water under normal Metropolitan operating conditions. In drought periods, Metropolitan can use its Greg Avenue pumping facilities to deliver limited supplies from the CRA to Calleguas.

The SWP is a 700-mile network of reservoirs, aqueducts, and pumping facilities owned by the State of California and operated by DWR that convey water from the northern Sierra Nevada Mountain Range to Northern California, the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California. The SWP receives water from the northern Sierra Nevada Mountain range watershed and primarily relies on Sierra snowpack for water supply. Figure 6-2 includes a map of the SWP facilities.

In 1960, Metropolitan signed a water supply contract with DWR for participation in the SWP. Metropolitan is one of 29 agencies that have long-term contracts with DWR and are participants in the SWP. It is the largest SWP agency in terms of the number of people it serves (18.8 million), the share of SWP water that it is allocated (approximately 46%), and the percentage of total annual payments made to DWR (approximately 52% in 2025) (Metropolitan Water District of Southern California, 2025).

Water delivered to Calleguas is treated by Metropolitan at the Joseph Jensen Filtration Plant in Granada Hills, shown in Figure 6-1, and is typically delivered to Calleguas through Metropolitan's West Valley Feeder No. 2 Pipeline. The West Valley Feeder No. 2 Pipeline can deliver up to 300 cubic feet per second (cfs) of water to the East Portal of Calleguas's eight-foot-diameter Santa Susana Tunnel. The East Portal, located in the community of Chatsworth, is Calleguas's sole direct connection to Metropolitan. From this point, water is conveyed through the Santa Susana Tunnel into Simi Valley, where Calleguas distributes water through its transmission system, stores water in Lake Bard, or stores imported water via Las Posas ASR Project.

Figure 6-1. Metropolitan Water District Service Area



Source: (Metropolitan Water District of Southern California)

Figure 6-2. SWP Facilities



Source: SWP Facilities Map (Metropolitan Water District of Southern California, 2025)

Imported water delivered to Calleguas is of high quality and meets all drinking water standards. For more information on the water quality of the treated water supplies that Calleguas distributes to its purveyors, please see the July 2025 Annual Water Quality Report provided in Appendix E.

6.2.1 Imported Water Reliability

Metropolitan estimates imported water supply reliability for its Member Agencies for use in their 2025 UWMPs. Metropolitan has undertaken several planning initiatives over the years to provide a policy framework, operating guidelines, and resource targets for Metropolitan to ensure regional water supply reliability. Metropolitan's regional supply planning is typically completed through their Integrated Resources Planning (IRP) process. The 2020 IRP initiated a scenario planning process that is now coordinated through Metropolitan's ongoing Climate Adaptation Management Plan for Water (CAMP4W). The IRP is Metropolitan's long-term, comprehensive water resources planning strategy to assess reliability for the region by considering overall demands for the Metropolitan service area relative to local supplies and imported water availability. The IRP analyzes a wide range of uncertainties through scenario planning and ranges in future supply and demand within its service area. Calleguas relied on Metropolitan's 2020 IRP and its updated regional needs assessment for water supply projections for the Calleguas service area for its 2025 Water Resources Implementation Strategy.

Metropolitan's assumptions in their 2025 UWMP include a single outcome approach and are within the plausible future contemplated in the 2020 IRP. However, it should be noted that Metropolitan is planning for a wider range of scenarios of conditions than included in their UWMP assessment.

Metropolitan's 2025 UWMP estimates SWP water supply reliability using DWR's 2025 Delivery Capability Report (DCR) (DWR, 2025). The DCR provides SWP supply estimates assuming existing SWP facilities for SWP contractors to use in their planning efforts, including their 2025 UWMPs. The 2025 DCR includes DWR's estimates of SWP water supply availability under both existing (2025) and future (2045) conditions adjusted for climate change.

DWR's estimates of SWP deliveries are based on a computer model that simulates monthly operations of the SWP and Central Valley Project systems. Key inputs to the model include the facilities included in the system, hydrologic inflows to the system, regulatory and operational constraints on system operations, and contractor demand for SWP water. In conducting its model studies, DWR must make assumptions regarding each of these key inputs.

For the 2025 DCR existing conditions model scenario, DWR applied the existing facilities, hydrologic inflows to the model based on 100 years of historical inflows (1922–2021), and current regulatory and operational constraints. The 2025 DCR incorporates recent regulatory restrictions, including the 2018 Coordinated Operation Agreement Amendment, 2024 Biological Opinions of the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, the 2024 Incidental Take Permit issued by the California Department of Fish and Wildlife, and contractor demand at maximum Table A Amounts. The 2025 DCR current condition scenario using climate-adjusted historical hydrology estimates the Table A allocation to be 54% for the long-term average and 5% under a single dry year (1977) condition (DWR, 2025) (Metropolitan Water District of Southern California, 2025).

To ensure consideration of climate change impacts, the 50 percent Level of Concern (50LOC) future condition as described in the 2025 DCR was also utilized in Metropolitan's analysis. The 50LOC scenario represents a 2043 middle-of-the-road or central tendency future for the SWP and includes:

- A 1.5 degrees Celsius temperature increase over current average temperatures
- 1.5 percent wetter than average
- 15 centimeters of sea level rise

The 50LOC delivery estimates Table A reliability is 48% under a long-term average condition, and 1% under a single dry-year (1977) condition for future 2043 conditions (DWR, 2025) (Metropolitan Water District of Southern California, 2025).

In dry, below-normal conditions, Metropolitan can increase the supplies received from the California Aqueduct by developing flexible Central Valley/SWP storage and transfer programs. Storage enables the capture of surplus amounts of water in normal and wet climate and hydrologic conditions when it is plentiful for supply and environmental uses that can then be used in dry years and in conditions where augmented water supplies are needed to meet demands. Metropolitan's resource analysis model considers all the capacities and constraints of its storage facilities and programs and simulates the fill and withdrawal of these facilities through the 100 hydrologic conditions from 1922-2021. Although SWP reliability is projected to decline over time, as described in the 2025 DCR, Calleguas benefits from added imported water supply reliability through Metropolitan's storage programs.

Metropolitan's long-term water service reliability assessment performed for the UWMP shows that, under the UWMP planning assumptions, there would be sufficient supply and storage capabilities to meet projected demands from 2030-2050 (Metropolitan Water District of Southern California, 2025). However, Metropolitan acknowledges that the UWMP projections do not include the wider range of planning assumptions considered in their other planning documents, including the 2020 IRP. See Section 7.1.1.3 for additional details on imported water supply reliability assumed for a normal, single dry year, and five consecutive dry year scenarios.

6.3 Groundwater

Groundwater has been used in Ventura County since the late 19th century and is an important water resource in the County for municipal, industrial, and irrigation uses. The Calleguas service area spans multiple groundwater basins and subbasins, shown in Figure 6-3. The largest and most heavily used groundwater basins in the Calleguas service area are the Las Posas Valley Basin, the Pleasant Valley Basin, and the Oxnard Plain Subbasin, which are almost entirely under the jurisdiction of the Fox Canyon Groundwater Management Agency (FCGMA). See Figure 6-3.

Calleguas does not utilize groundwater as a supply source but does operate the Las Posas ASR Project in the Las Posas Valley Basin to store imported water supply. The District also has significant storage balances across the Las Posas Valley Basin, the Pleasant Valley Basin, and

the Oxnard Plain Subbasin accumulated via in-lieu deliveries of imported water during storage programs with purveyors between 1993-2016.

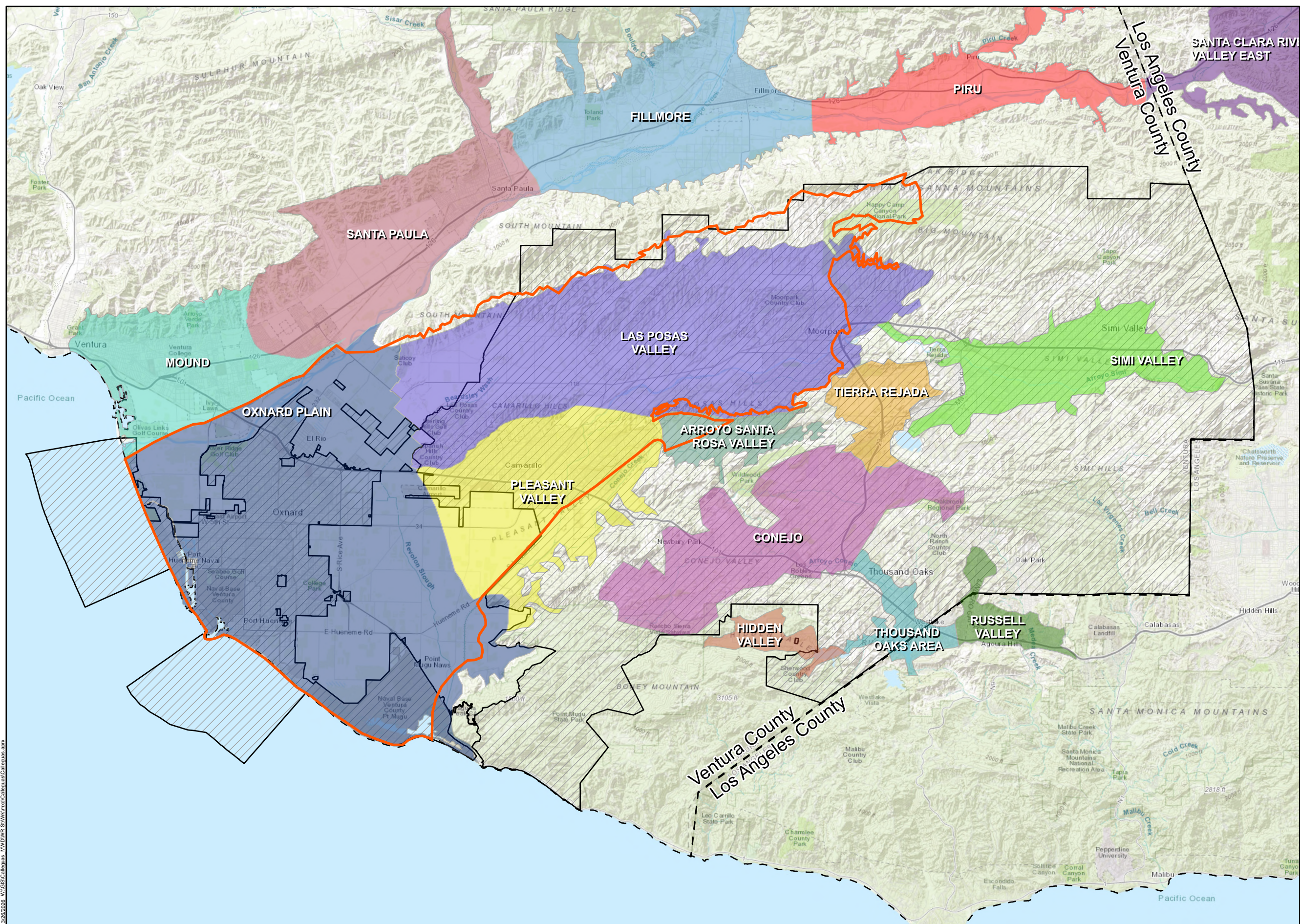
Local groundwater resources serve as an important water supply for many of Calleguas's purveyors. Local groundwater basins are recharged by infiltration of streamflow and precipitation, artificial and mountain-front recharge, return flow from agricultural and residential irrigation, and, in varying degrees, groundwater underflow from adjacent basins. The returned portion of imported water utilized by most Calleguas's purveyor customers is treated at local wastewater treatment facilities and discharged to the Calleguas Creek watershed. This water ultimately percolates into the aquifers, serving as an important source of recharge.

6.3.1 Groundwater Management

6.3.1.1 Fox Canyon Groundwater Management Agency

The FCGMA is an independent special agency created in 1983 to oversee groundwater resources within all or portions of four groundwater basins underlying the southern portion of Ventura County. The primary objective for the FCGMA is set out in the Fox Canyon Groundwater Management Act. Section 601 from the FCGMA Act states the "FCGMA shall develop, adopt, and implement a plan to control extractions from the Oxnard and Mugu aquifers with the objective of balancing water supply and demand in the Oxnard Plain of Ventura County." Article 6 further charges the FCGMA with investigations of the lower aquifer system and a plan to control extractions to address seawater intrusion.

The FCGMA's boundary is located partially within Calleguas's service area and overlies approximately 118,000 acres. The FCGMA boundary encompasses the coastal basins that underlie the cities of Oxnard, Port Hueneme, Camarillo, and Moorpark.



- Legend**
- Calleguas Municipal Water District Service Area
 - Fox Canyon GMA
 - County Boundary
 - Groundwater Subbasin**
 - Arroyo Santa Rosa Valley
 - Conejo
 - Fillmore
 - Hidden Valley
 - Las Posas Valley
 - Mound
 - Oxnard Plain
 - Piru
 - Pleasant Valley
 - Russell Valley
 - Santa Clara River Valley East
 - Simi Valley
 - Thousand Oaks Area
 - Tierra Rejada
 - Santa Paula

There are four major groundwater basins wholly or partially within the FCGMA’s jurisdiction: the Oxnard Plain Subbasin, Pleasant Valley, Arroyo Santa Rosa, and the Las Posas Valley. The aquifers are recharged by infiltration of streamflow and precipitation, artificial and mountain-front recharge, return flow from agricultural and residential irrigation, and in varying degrees by groundwater underflow from adjacent basins.

The FCGMA’s goal is to sustainably manage the groundwater basins to avoid undesirable results as identified in the GSPs. To achieve this goal, the FCGMA has adopted ordinances to eliminate groundwater overdraft and to combat the ongoing threat of seawater intrusion. These ordinances and resolutions help to regulate, conserve, and manage the use and extraction of groundwater within the region. For more information regarding history and a description of active ordinances, please visit the [FCGMA website](#).

6.3.1.2 Groundwater Sustainability

With the passage of California’s Sustainable Groundwater Management Act (SGMA) in 2014, prudent management of the state’s critical groundwater basins is now a primary water resource concern and mandated by state law. SGMA required adoption of groundwater sustainability plans (GSPs) for high- or medium-priority basins subject to critical overdraft and to bring basins into sustainability by 2040.

SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins sustainably and requires those GSAs to adopt GSPs. SGMA designated the FCGMA as the “Exclusive” GSA for the basins within its jurisdiction. Table 6-1 provides a general description of groundwater management and links to the GSP for each required basin in the Calleguas service area.

The FCGMA, acting in the capacity of the GSA and after extensive stakeholder engagement as required by SGMA, submitted GSPs for the Las Posas Valley Basin, the Pleasant Valley Basin, and the Oxnard Subbasin in 2020, all three of which are deemed “High-Priority Basins” by the state of California. The Pleasant Valley Basin and Oxnard Subbasin are also considered “critically overdrafted.” As required by SGMA, the GSPs describe pertinent “undesirable results” for each basin and lay out plans to avoid those results and achieve “sustainability” by 2040 (Oxnard and Pleasant Valley) or 2042 (Las Posas). Five-year updates to the GSPs were approved by the FCGMA Board in December 2024. While the GSPs describe projects and programs that could contribute to basin sustainability, none have been completed to date. Adjudications in all three basins and resource constraints at the FCGMA have complicated implementation, and the FCGMA continues primarily in its role as a regulator of groundwater extraction.

The Arroyo Santa Rosa Basin is only partially within the jurisdiction of the FCGMA. The entire basin is within the boundaries of Camrosa and the main water-bearing portion of the basin is outside the FCGMA boundary. Despite the basin being Very Low Priority, Camrosa and the County of Ventura formed the Arroyo Santa Rosa Basin GSA (with the FCGMA relinquishing jurisdiction in its portion of the basin) to jointly manage the entire basin under a GSP, which was submitted in 2022.

Other groundwater basins within the Calleguas service area were determined to be Low or Very Low Priority and no other GSAs have been formed.

Table 6-1. Groundwater Basin Management within Calleguas Service Area

Groundwater Basin	GSAs	GSP
Las Posas Valley	- FCGMA - Camrosa Water District GSA - Las Posas Outlying Areas GSAs (County of Ventura)	https://fcgma.org/lpv-gsp-files/
Pleasant Valley	- FCGMA - Camrosa Water District GSA - Pleasant Valley Outlying Areas GSAs (County of Ventura)	https://fcgma.org/pleasant-valley-gsp-files/
Oxnard Plain Subbasin	- FCGMA - Camrosa Water District GSA - Oxnard Outlying Areas GSAs (County of Ventura)	https://fcgma.org/oxnard-subbasin-gsp-files/
Arroyo Santa Rosa	- Arroyo Santa Rosa GSA	https://asrgsa.com/wp-content/uploads/2023/06/ASR-VGB-GSP-FINAL.pdf
Simi Valley	N/A	N/A
Tierra Rejada	N/A	N/A
Conejo	N/A	N/A
Thousand Oaks Area	N/A	N/A
Hidden Valley	N/A	N/A
Russell Valley	N/A	N/A

6.3.2 Adjudications

A comprehensive groundwater adjudication was filed in 2018 concerning the Las Posas Valley Basin. In July 2023, the Santa Barbara Superior Court issued a statement of decision adopting a judgment in Las Posas Valley Water Rights Coalition, et al. v. Fox Canyon Groundwater Management Agency, Santa Barbara Sup. Ct. Case No. VENC100509700 ([LPV Judgment](#)). The LPV Judgment adjudicates all groundwater rights in the Las Posas Valley Groundwater Basin and provides for the basin’s sustainable management pursuant to the SGMA (FCGMA, 2024), incorporating the GSP into the physical solution.

The LPV Judgment protects Calleguas’s right to make reasonable use of the Las Posas Valley Basin’s storage space to facilitate operation of the ASR Project consistent with Article X, section 2 of the California Constitution. As required by the Judgment, Calleguas is working with representatives from the FCGMA and the landowners to cooperatively develop an ASR Project Operations Plan. Until the ASR Project Operations Plan is complete and the Court has approved and integrated the Calleguas ASR Project Operations Plan into the Physical Solution,

Calleguas shall operate the ASR Project consistent with current FCGMA approvals (Final Judgment for the Las Posas Valley Groundwater Basin, 2023).

A groundwater adjudication was filed in 2021 for the Oxnard Plain Subbasin and Pleasant Valley Basin. As of the production of this plan, the adjudication is ongoing.

6.3.3 Groundwater Quality

Groundwater in the Calleguas service area is generally high in chloride and TDS. Seawater intrusion has long been a concern and was the issue that precipitated the creation of the FCGMA. The intrusion occurs exclusively along the coastline in the Oxnard Subbasin.

Chloride presents a challenge in many of the groundwater basins in the Calleguas service area. In some areas, water suppliers must either blend groundwater with lower-chloride water or remove the chloride in the groundwater through a reverse osmosis (desalter) process to render the water suitable for irrigation and potable use. Calleguas is an active participant in regional efforts to advance groundwater desalter projects through the operation and future expansion of the SMP (see Section 6.7) and through its involvement with the Calleguas Creek Watershed Management Group, which implements Total Maximum Daily Load requirements for the watershed.

High nitrate concentrations in the groundwater are localized in the Oxnard Subbasin and the Arroyo Santa Rosa Basin. The primary sources of nitrate are septic systems and agricultural fertilizer. To address the problem, restrictions or bans on septic systems have been implemented in some locations and best management practices are being implemented to limit agricultural contributions.

Calleguas manages the Las Posas ASR Project. Stored water in the Las Posas ASR Project could contain iron and manganese at levels that cause discoloration, potentially resulting in customer complaints, depending on the extent of extraction and the timing in relation to the last injection event. Calleguas typically injects water ahead of a planned outage for later extraction to reduce iron and manganese levels. The Las Posas ASR Project water supplies are expected to meet all primary Maximum Contaminant Levels (MCLs)², but may not meet secondary MCLs or customer expectations for aesthetics under certain operational conditions. Calleguas developed a public outreach toolkit to be ready to distribute in the event of an outage or drought that requires significant extraction from the ASR Project. Public outreach materials would warn residents of the potential for discolored water, explain the causes of discoloration, provide information on the safety of the water, and provide a contact for more information.

² Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water by state and federal regulations. Primary MCLs address health concerns, while secondary MCLs address aesthetics such as color, taste, and odor.

6.3.4 Groundwater Storage

Calleguas does not pump native groundwater, but stores imported water through the Las Posas ASR Project in the Las Posas Valley Basin. Table 6-2 lists the volume of water injected and pumped from the Las Posas Valley Basin through the ASR Project. As shown, in most years Calleguas has a net increase in volume to the basin. In 2022, Calleguas used stored water from the project to meet demand during severe imported water shortages, resulting in a net storage decrease of about 3,900 AF that year. However, in 2023 Calleguas injected more water to replace the water pumped from storage the previous year. At this time, Calleguas’s goal is to maintain about 20,000 AF of storage through the project, and the current volume is approximately 23,430 AF as of December 2025.

Table 6-2. Groundwater Volume Pumped 2021-2025

Las Posas ASR Project	2021	2022	2023	2024	2025
Injected Volume	1,406	359	4,513	1,115	1,271
Pumped Volume	173	4,269	168	397	846
Net Change in Volume¹	1,233	-3,911	4,346	718	424

Note:

1. A positive net change in volume is when more water is injected into or otherwise stored in the basin than produced in a year. A negative net change is due to more water produced from the basin than injected in a year.

Calleguas typically only uses the Las Posas ASR Project in normal years to meet demand during scheduled imported water outages. In periods of drought and imported water shortages, Calleguas projects it can pump up to 5,000 AFY from the Las Posas ASR Project to meet demands. This is similar to how it operated during water shortage conditions in 2022.

Calleguas participates in Metropolitan’s Cyclic Cost Offset Program (CCOP), whereby Metropolitan will include a cost offset credit during years with a surplus of imported water that can be stored. This program encourages its member agencies to purchase surplus water when available. Calleguas participates in the CCOP program when surplus water is available to store through the Las Posas ASR Project. Mostly recently, Calleguas purchased 1,807 AF in 2023 through the CCOP and nearly 6,000 AF in 2019.

Calleguas is investigating similar cyclic storage agreements for several of its purveyors for whom cyclic storage or cyclic deliveries is feasible; this would potentially allow for more supplies to be utilized in the Calleguas service area for use in outages and drought periods.

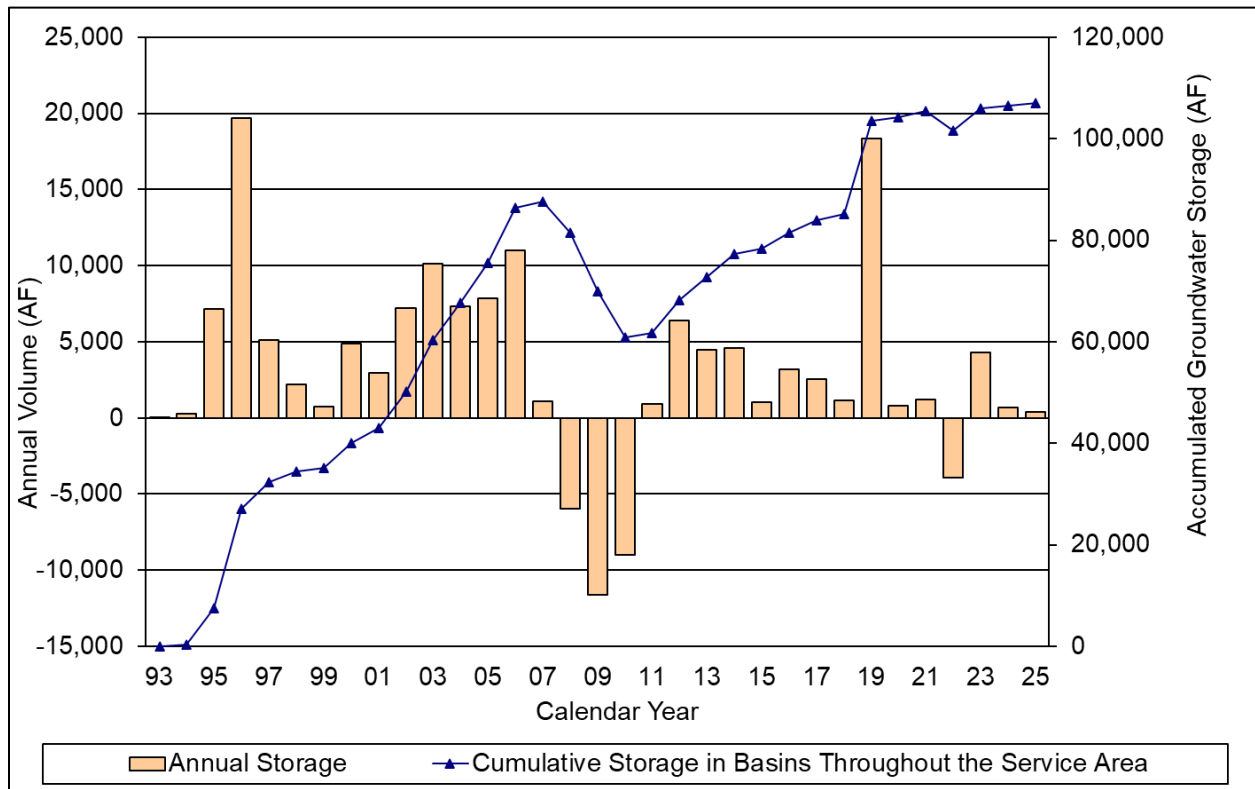
In addition to injecting imported water, Calleguas has periodically stored water through in-lieu means since the early 1990s. Under this storage method, Calleguas has supplied imported water to well operators who, in turn, reduce groundwater pumping. The reduction in pumping results in the creation of storage credits. Such storage credits are then transferred to Calleguas. In this way, groundwater can be stored and subsequently pumped during periods when imported supplies are curtailed.

Calleguas accumulated additional groundwater storage credits through the Conejo Creek Diversion Project (CCDP). The CCDP consists of a diversion structure and pipelines that were jointly constructed by Calleguas and Camrosa. Tertiary treated effluent from the City of Thousand Oaks' Hill Canyon Wastewater Treatment Plant is diverted from Conejo Creek and used for agricultural and landscape irrigation within Camrosa's service area. Water that is not used within Camrosa's service area is provided to the Pleasant Valley County Water District for agricultural irrigation in lieu of groundwater pumping. In return, Calleguas received groundwater storage credits from the FCGMA equal to the amount of water delivered. By agreement and historically, some of these credits were pumped from wells operated by the United Water Conservation District (UWCD) to meet demands in the Cities of Oxnard and Port Hueneme. In 2014, Calleguas turned over all its project facilities and obligations to Camrosa but retained groundwater storage credits that it had accrued as a project participant up to that time.

Figure 6-4 shows Calleguas's accumulated groundwater storage in the FCGMA-approved programs stored in basins throughout the Calleguas service area since 1993. Approximately 23,430 AF of Calleguas's almost 106,700 AF of storage credits is from water injected via the Las Posas ASR Project, with the rest of the storage from credits gained from in-lieu deliveries. It is important to note that extraction of credits is subject to the FCGMA's policies and conditions of adopted storage programs. End of year storage reports can be found in Appendix F.

As illustrated on Figure 6-4, Calleguas's groundwater storage steadily increased through 2007; but, as a result of drought conditions, Calleguas extracted stored water to help meet regional water demands from 2008 through 2011. Since 2011, Calleguas steadily increased its stored water primarily via direct injection of imported water through the Las Posas ASR Project. In the last five years, Calleguas used stored water from the ASR Project in 2022 to meet demands during imported water shortages and drought conditions.

Figure 6-4. Calleguas Historical Groundwater Storage Data



Note: Accumulated groundwater storage credits in the FCGMA Approved Programs. Extraction of credits is subject to the FCGMA's policies and conditions of adopted storage programs.

6.4 Surface Water

Calleguas does not provide or utilize surface water except that which it receives from Metropolitan.

6.5 Stormwater

Calleguas does not utilize or treat stormwater as a supply.

6.6 Wastewater and Recycled Water

Calleguas has actively supported the development and use of recycled wastewater within its service area. In the 1990s, Calleguas built recycled water delivery systems within the Conejo and Simi Valleys. In the 2000s, Calleguas built recycled water facilities as a participant in the CCDP, as described in Section 6.3.4. Calleguas has since ceased involvement in the Oak Park/North Ranch/Lake Sherwood recycled water system and CCDP, so currently Calleguas only operates a small recycled water system in Simi Valley.

From 2016 to 2019, Calleguas conveyed recycled water on behalf of the City of Oxnard from the City's Advanced Water Purification Facility (AWPF) to agricultural customers for irrigation in lieu

of groundwater pumping. The AWPf water was transported through the SMP, which was operating at very low capacity as a brine discharge facility. Because the AWPf water is extremely low in salinity, even when blended with the brine discharge in the SMP, it provided water of a quality suitable for agricultural irrigation.

6.6.1 Wastewater Collection, Treatment, and Disposal

Calleguas does not operate any wastewater treatment facilities nor provide supplemental treatment to recycle water. Seven service providers treat wastewater that originates within the Calleguas service area. These service providers are independent of Calleguas; therefore, the entire service area of each provider may or may not be within the Calleguas service area boundary. Many of these service providers treat wastewater so that it can be recycled for non-potable uses, such as irrigation of agricultural crops, golf courses, street medians, school athletic fields, and dust abatement. Table 6-3 summarizes the wastewater service providers in the Calleguas service area and uses of recycled water.

Table 6-3. Wastewater Treatment and Recycled Water Uses in the Calleguas Service Area

Wastewater Service Provider & Treatment Facility	Treatment Level for Recycled Water	Recycled Wastewater Use	Methods to Encourage Recycled Wastewater Use	Method of Disposal for Non-Recycled Wastewater
Camarillo Sanitary District Water Reclamation Plant	Tertiary	Irrigation	Not applicable	Conejo Creek
Camrosa Water Reclamation Facility	Tertiary	Irrigation	Recycled water priced lower	Salinity Management Pipeline ¹
City of Oxnard Advanced Water Purification Facility	Tertiary (all) with reverse osmosis and advanced oxidation (some)	Industrial, Irrigation	Mandatory use, recycled water priced lower	Ocean outfall
City of Simi Valley Wastewater Treatment Plant	Tertiary	Irrigation, Dust abatement	Recycled water priced lower	Arroyo Simi
City of Thousand Oaks Hill Canyon Wastewater Treatment Plant	Tertiary	None directly (diverted downstream at CCDP)	NA	North Fork of Arroyo Conejo Creek
Triunfo Water & Sanitation District/ Las Virgenes Municipal Water District Joint Powers Authority - Tapia Water Reclamation Facility	Tertiary	Irrigation	Recycled water priced lower	Los Angeles River or Malibu Creek ²
VCWWD No. 1 - Moorpark Wastewater Treatment Plant	Tertiary	Irrigation	Recycled water priced lower	Percolation Ponds

Notes:

1. Treated effluent from the Camrosa Water Reclamation Facility is normally delivered to storage ponds and used for irrigation. Discharge to the SMP is rare and generally only occurs during wet-weather events.
2. The Tapia Water Reclamation Facility is not permitted to discharge into Malibu Creek between April 15th and November 15th.

6.6.2 Recycled Water System

Beginning in the mid-1990s, Calleguas owned, operated, and maintained recycled water systems in the Oak Park, North Ranch, and Lake Sherwood areas. The recycled water originates at the Tapia Water Reclamation Facility owned and operated by the Las Virgenes – Triunfo Joint Powers Authority (JPA). It was purchased from the JPA by Triunfo Water and Sanitation District (TWSD) and delivered to Calleguas at the Los Angeles/Ventura County line. Calleguas then distributed and sold the recycled water to TWSD, California Water Service Company (Cal Water), and Hidden Valley Municipal Water District. In 2017, Calleguas transferred the recycled water facilities and associated easements to TWSD and terminated the agreement to purchase recycled water from Las Virgenes and TWSD.

Today, Calleguas owns a small pipeline that provides recycled water to the City of Simi Valley (VCWWD No. 8). Calleguas does not provide any supplemental treatment to the recycled water it distributes.

6.6.3 Recycled Water Beneficial Uses

Table 6-4 lists the 2025 actual and future projected recycled water deliveries provided by Calleguas through year 2050.

Table 6-4. Current and Projected Recycled Water Deliveries

Receiving Supplier	Level of Treatment	Actual		Projected			
		2025	2030	2035	2040	2045	2050
VCWWD No. 8 (City of Simi Valley)	Tertiary	127	80	80	80	80	80

Table 6-5 compares the projection for 2025 recycled water use from the 2020 UWMP to the actual recycled water use in 2025. As described above, Calleguas currently owns a small pipeline that provides recycled water to the City of Simi Valley (VCWWD No. 8).

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

Receiving Supplier	2020 Projection for 2025	2025 Actual Use
VCWWD No. 8 (City of Simi Valley)	80	127

6.6.4 Actions to Encourage and Optimize Future Recycled Water Use

In 1990, the Calleguas Board of Directors adopted Resolution No. 773, which calls for reducing demand for potable water through the expanded use of recycled water. The resolution mandates that recycled water shall be used, whenever feasible, to displace the use of potable water for new construction landscape and turf irrigation. Calleguas also supports recycled water use through the SMP, which facilitates purveyors’ development of their own recycled water and other local supply projects. The SMP is discussed in Section 6.7.

6.7 Desalinated Water

This section describes current desalted brackish groundwater within the Calleguas service area and how Calleguas promotes the development of this local supply. Calleguas does not currently use seawater desalination as a water supply.

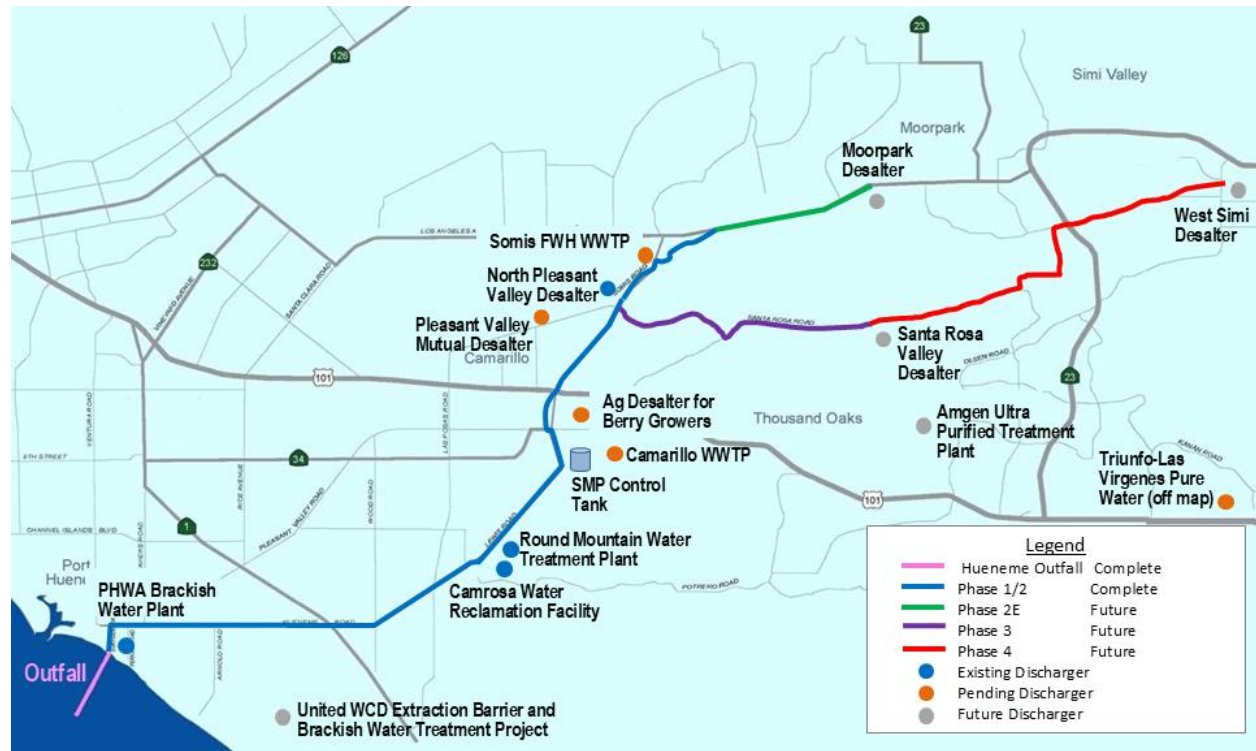
Calleguas does not currently utilize desalted water. However, Calleguas promotes the development of brackish groundwater desalting opportunities in its service area through the SMP. For decades, local agencies and regulators have been working to address increasing salinity levels in the Calleguas Creek Watershed. The SMP was designed to manage the use of high salinity groundwater and treated municipal wastewater, dispose of the brine produced by enhanced water treatment, and facilitate the development of water sources otherwise unavailable due to poor water quality. The SMP consists of a pipeline system, pressure regulating station, and storage tank used to transport brine concentrate and excess recycled water generated within the watershed to an ocean outfall. The purpose of the SMP is to facilitate the utilization of additional water sources by providing a mechanism to efficiently dispose of the concentrate generated during treatment. Since the SMP began operating in 2014, it has been a critical piece of Ventura County's water infrastructure. The SMP currently extends approximately 22 miles from its upstream end in Somis, in unincorporated Ventura County, to its downstream terminus at the ocean outfall in Port Hueneme, shown in Figure 6-5.

In 2014, the first discharge to the SMP occurred from Camrosa's Round Mountain Water Treatment Plant, a brackish groundwater desalter facility. In 2015, the PHWA Brackish Water Demonstration Facility began discharging brine to the SMP. Most recently, in 2023, the City of Camarillo's North Pleasant Valley Desalter began discharges to the SMP.

As shown in Figure 6-5, the SMP is planned for expansion to serve future desalter projects in the region. As segments of the SMP are constructed, it is anticipated that additional facilities will connect to the SMP to discharge generated brine.

Upon full build-out, the SMP is anticipated to improve water supply reliability by facilitating development of up to an estimated 40,000 AF of new, local water supplies each year. The SMP is vital to the region's water reliability, as imported supplies from the SWP have become increasingly less reliable and vulnerable to drought, catastrophic levee failures from flood and/or seismic events, and regulatory-based shutdowns of pumping facilities to protect listed and other special-status species in the Delta.

Figure 6-5. Salinity Management Pipeline Alignment



Source: (Calleguas Municipal Water District, 2026)

6.8 Water Exchanges and Transfers

As a member agency of Metropolitan, Calleguas benefits from water exchanges and transfer agreements made through Metropolitan.

Currently, Calleguas does not directly participate in any water exchanges or transfers on a regular basis. However, Calleguas has several current and planned projects with other agencies to provide water supply exchanges during an imported water supply outage, including:

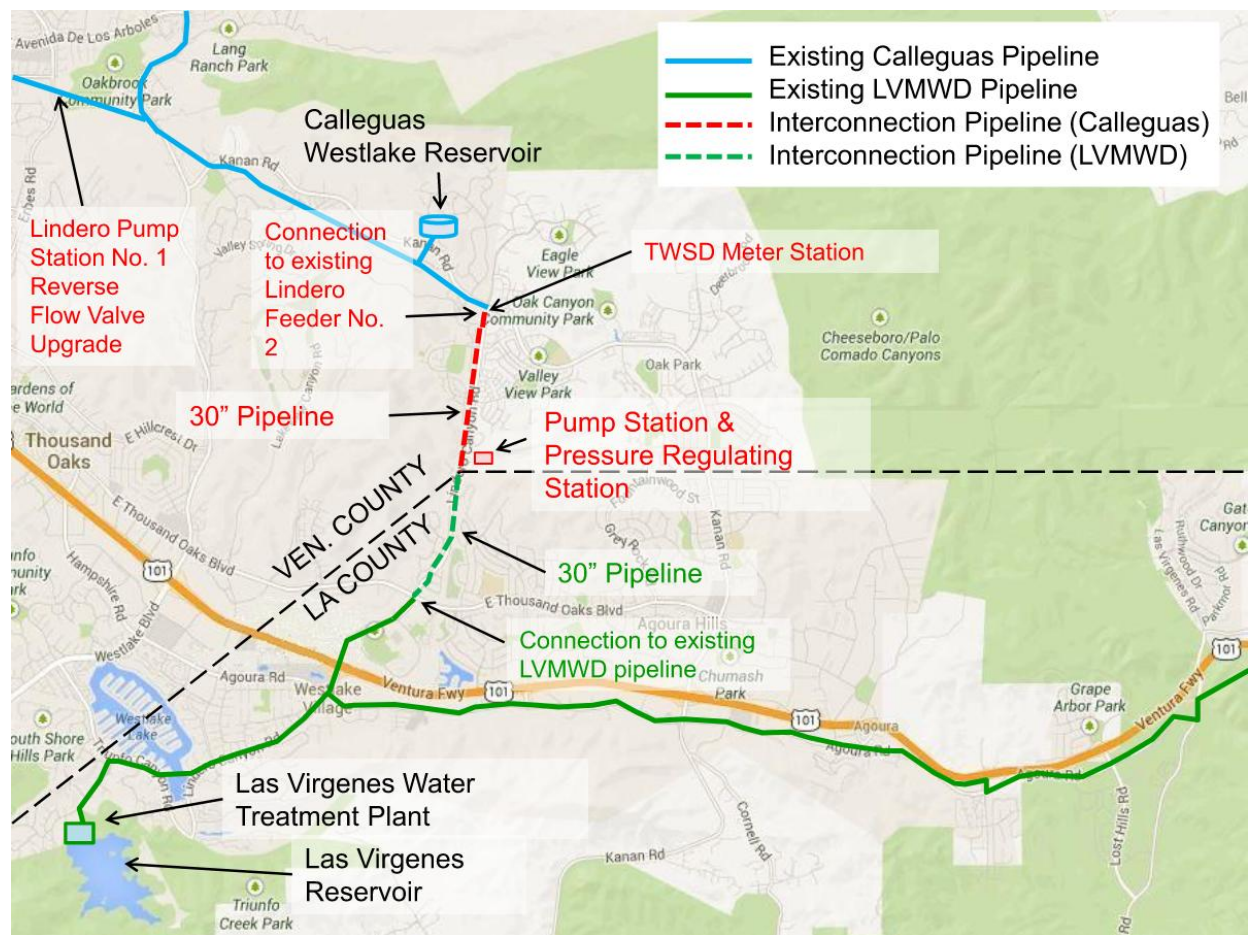
Crestview Interconnection:

In 2020, Calleguas completed an interconnection with Crestview Mutual Water Company (Crestview) that could allow for a flow rate of up to 5 cfs when requested by Calleguas in the event of an outage.

Las Virgenes Municipal Water District Interconnection:

The Calleguas – Las Virgenes Municipal Water District Interconnection is a joint project between Calleguas and the adjacent Las Virgenes Municipal Water District (LVMWD) to improve regional system reliability. It is a cost-effective means of receiving potable water for customers of both agencies if either agency experiences either a complete or partial supply outage not significantly affecting the supply of the other agency. The project includes over 11,000 feet of 30" diameter pipeline, a potable water pump and pressure regulating station, and associated appurtenances (Figure 6-6). LVMWD can deliver 8 to 21 cfs to Calleguas and Calleguas can deliver 6 to 30 cfs to LVMWD through the interconnection. Project construction was completed in 2024.

Figure 6-6. Calleguas - LVMWD Interconnection



Source: Calleguas Municipal Water District, 2025

City of Ventura Interconnection:

An interconnection between Calleguas and the City of Ventura is in development, which will provide an additional source of outage supply for Calleguas that is not dependent on the Metropolitan system. The City of Ventura has access to a variety of groundwater and surface water supplies, as well as its planned WaterPure Project, which can be delivered to Calleguas

during an outage. After the outage, Calleguas will “pay back” the City with imported water. This interconnection will also enable delivery to the City of its State Water Project entitlement. The interconnection will consist of a seven-mile pipeline connecting the western extent of the Calleguas distribution system to the City of Ventura and is expected to be operational in 2027.

Regional Exchange Program

Calleguas is also leading the development of a Regional Exchange Program within its service area to promote transfers and exchanges between and among Calleguas and/or its purveyors. The development of a regional exchange program was a No Regrets action from Calleguas’s Water Resource Implementation Strategy, discussed in Section 6.10. It would allow Calleguas and/or purveyors to collaborate on local supply projects and share the costs and benefits with Calleguas delivering local supplies through their transmission system.

6.9 Supply from Storage

As described in Section 6.3.4, Calleguas stores imported water in the Las Posas Valley Basin through its Las Posas ASR Project. Calleguas maintains about 20,000 AF in storage for use during droughts and imported water outages. Since Calleguas has built up this storage volume over time, imported water is typically only injected ahead of a planned imported water outage for use during the outage. If Calleguas uses the ASR Project during a drought to meet demand, it plans to replenish the storage once the shortage is over to maintain about 20,000 AF in storage. This was done in 2022 and 2023. Calleguas does not plan to use stored water in a normal year, except for imported water outages. However, Calleguas may choose to draw from its stored water during a single-dry year or multiple-year long drought, similar to how it used water from the project in 2022 when imported water supplies were limited. Calleguas currently has over 100,000 AF in groundwater storage in the Las Posas Valley Basin through the ASR Project as well as the Pleasant Valley Basin and the Oxnard Plain Subbasin through storage credits.

Additionally, Calleguas owns and operates Lake Bard, which provides 10,500 AF of storage volume. Calleguas keeps Lake Bard full of imported water from Metropolitan for use during an imported water outage.

6.10 Future Water Projects

Calleguas has focused its recent planning efforts on water supply resilience and reliability for the region, including water use efficiency (discussed in Section 9) and maximizing use of local water resources. Calleguas completed a Water Supply Alternatives Study (WSAS) in February 2022, building upon earlier planning studies. The WSAS evaluated and identified potential projects to meet Calleguas’s demand during an extended (six-month) outage of imported water supplies. The WSAS consisted of two phases. Phase 1 was a reconnaissance-level study that produced a list of 36 broad water supply alternatives screened for further evaluation. Alternatives determined to be viable in Phase 1 were then developed into specific projects and assessed in more detail in Phase 2. In total, 116 water supply projects were evaluated in Phase 2. These were winnowed down to 16 “leading contender” projects for the

region to meet demands during an extended outage of imported water supplies (Kennedy Jenks, 2022).

Several of the projects identified through the WSAS process have begun design and are planned for implementation within the next few years, including rehabilitation of the Fairview well to provide additional outage supplies. This also includes construction of a pump station at Lake Bard to be able to treat the lowest 3,000 AF of volume through the Lake Bard Water Filtration Plant and use as a potable water supply. Table 6-6 lists these future water supply projects.

In 2025, Calleguas completed the Water Resources Implementation Strategy (WRIS_t), building upon the WSAS findings. The WRIS_t reevaluates the most promising projects from the WSAS, not only for their potential benefits as an outage supply, but also for their benefits under normal and dry-year water supply conditions, considering the long-term reliability of imported supply deliveries from Metropolitan to the Calleguas service area in the future. The WRIS_t included an inclusive stakeholder engagement process to incorporate the region's unique interests and needs, developed an adaptive portfolio of projects that can ensure long-term water supply reliability and resilience for the region, and an adaptive management framework for implementation of the preferred portfolio that can respond to changing conditions (WSC, Dopudja and Wells, 2025).



The WRIS_t considered a total of 24 water supply and infrastructure projects. The projects include the WSAS “leading contender” projects and additional projects developed based on feedback from purveyors and Regional Partners located adjacent to the Calleguas service area during interviews, meetings, and project workshops. Projects were grouped into six thematic portfolios designed to contrast investment, performance, and outcome and then assessed across multiple criteria.

The three top-scoring thematic portfolios were hybridized into four new portfolios by combining high-performing elements to optimize reliability, cost efficiency, and adaptability. Although developed independently, the hybrid portfolios share several key projects, including brackish water treatment, potable reuse, groundwater banking, and enhanced regional interconnections. The hybrid portfolios were assessed using the evaluation criteria, and the scoring results revealed that all hybrid portfolios have a similar performance and outperformed the status quo

and thematic portfolios. The recommended preferred portfolio includes projects common to all hybrid portfolios, including:

- **Oxnard Advanced Water Purification Facility Expansion and Indirect Potable Reuse Project.** This project includes the expansion of Oxnard’s AWPf and development of an indirect potable reuse project that would inject advanced purified water into the Oxnard Plain Basin for later extraction and local use. The project is estimated to produce up to 16,800 AFY and could be completed by Oxnard or as a joint project with Calleguas and/or other purveyors.
- **Northern Reach of Calleguas Creek Watershed Desalter Project.** This project may include expanding existing brackish groundwater desalters and/or constructing new ones within the Calleguas Creek Watershed. Calleguas, along with a working group of purveyors and the FCGMA, are embarking upon a regional desalter study to determine a preferred project.
- **Camrosa Santa Rosa Valley Desalter Project.** This project includes a new desalter located in the Santa Rosa Valley to expand Camrosa’s local groundwater production and has the potential for future expansion. Camrosa is currently implementing this project and anticipates that the first phase will be online by 2030. The Santa Rosa Desalter will increase Camrosa’s groundwater production capacity and offset approximately 880 AFY of imported water supply.
- **West-East Transmission.** Currently, Calleguas’s transmission system can move water from east to west from the Upper Zone to the Lower Zone by gravity but is unable to move water in the opposite direction. Most of the local water supplies that can be developed in the region are in the Lower Zone; there are limited local supply opportunities on the eastern side of the system in the Upper Zone. This project includes more than 15 miles of new transmission mains and multiple pumping facilities to allow Calleguas to convey water from the west (Lower Zone) to the east (Upper Zone). This would be a Calleguas-led project and would allow for the development of additional local supply to be used in Calleguas’s Upper Zone, which is currently almost fully dependent on imported water.
- **New Newbury Park Wells with Treatment.** The New Newbury Park Wells with Treatment Project involves the construction of four wells and disinfection facilities in the Newbury Park area of the City of Thousand Oaks to produce potable water. This project would provide a new local supply in the Conejo Valley that is currently 100% dependent on imported water. The project yield is estimated to be 840 AFY, although the groundwater yield varies significantly in the Conejo Valley Basin and additional well siting is needed to fully understand the potential yield.
- **Increase Pleasant Valley Basin Pumping Capacity to Extract Camrosa Water District and Thousand Oaks Credits.** This project includes construction of new groundwater wells to extract Camrosa and Thousand Oaks groundwater credits developed through the CCDP and delivery to Pleasant Valley County Water District. Camrosa is currently developing new wells to extract these credits, which is capped at

4,500 AFY but would be limited to 2,800 AFY due to production capacity. Camrosa is currently implementing this project, and new production facilities are expected to be online by 2030.

- **Oxnard Plain Program.** This includes the development of a groundwater banking project in the Oxnard Plain Basin that Calleguas, purveyors, and other Regional Partners could participate in to better manage and utilize the storage capacity in the Oxnard Plain Basin. This project assumes Calleguas would store imported water for recovery during a water supply shortage or outage. It is also recommended for development following West-East Transmission so that the stored water can be used throughout the service area.
- **Aquifer Storage and Recovery in the Santa Paula Basin.** This project includes Calleguas storing imported water in the Santa Paula Basin for recovery during water supply shortages or outages. This project is also recommended for development following West-East Transmission so that the stored water can be used throughout the service area.
- **South Oxnard Plain Brackish Water Treatment Facility.** This project is a variation of UWCD's Extraction Barrier Brackish Water Treatment project. The UWCD is currently in the project planning, environmental permitting, and design phase for their Extraction Barrier Brackish Water Treatment Project and recently constructed new monitoring wells for the project. It is currently envisioned to be implemented over two phases with up to 20 extraction wells, a brackish water treatment plant to produce up to 10,000 AFY located on the Oxnard Plain, and new distribution facilities with the completion of Phase 2 (UWCD, 2024). The variation considered in WRIS includes further expansion with 18 additional new wells and expansion of the treatment facilities to produce up to 20,000 AFY, with up to 10,000 AFY available for delivery to Calleguas. This project would rely on West-East Transmission for distribution of the new supply.
- **External Groundwater Bank.** This project includes Calleguas acquiring capacity in an external groundwater banking program where water would be stored and called upon for delivery through the SWP West Branch during shortages via Metropolitan.
- **Expansion of Camrosa Non-Potable Water System.** This project would expand Camrosa's non-potable system to offset up to 1,450 AFY of potable water currently used for irrigation.

Each of the projects in the preferred portfolio would need to be implemented in conjunction with the project's major stakeholders and many result in new supplies to a purveyor that may be included in their 2025 UWMP. To avoid double counting of future water supply projects in the retail and wholesale UWMP projections, only projects with new supplies that Calleguas would acquire and deliver are included in Table 6-6.

Additionally, many projects in the preferred portfolio would take years to implement, and some require other projects to be implemented first. An adaptive management approach is planned for project implementation to consider changing conditions over time. In the near-term, the WRIS

recommended that Calleguas implement several “No Regrets” actions, shown in Figure 6-7, to initiate the WRIS implementation process. The No Regrets actions are intended to initiate the highest-scoring supply reliability and local resilience improvements.

Calleguas is currently implementing many of the No Regrets actions, including developing a Regional Exchange Program to support the development of local supplies in the service area and allow transfers and exchange through Calleguas. Several of the purveyors are planning to utilize the regional exchange to maximize their local supply production and offset their imported water demand. Calleguas is also leading a preliminary study with key stakeholders to determine the preferred desalter approach within the northern reach of the Calleguas Creek Watershed. Calleguas continues to coordinate with FCGMA and other key stakeholders in the Oxnard Plain Basin, including the City of Oxnard and UWCD, to promote the sustainability of the basin.

Figure 6-7. Water Resources Implementation Strategy No Regrets Actions

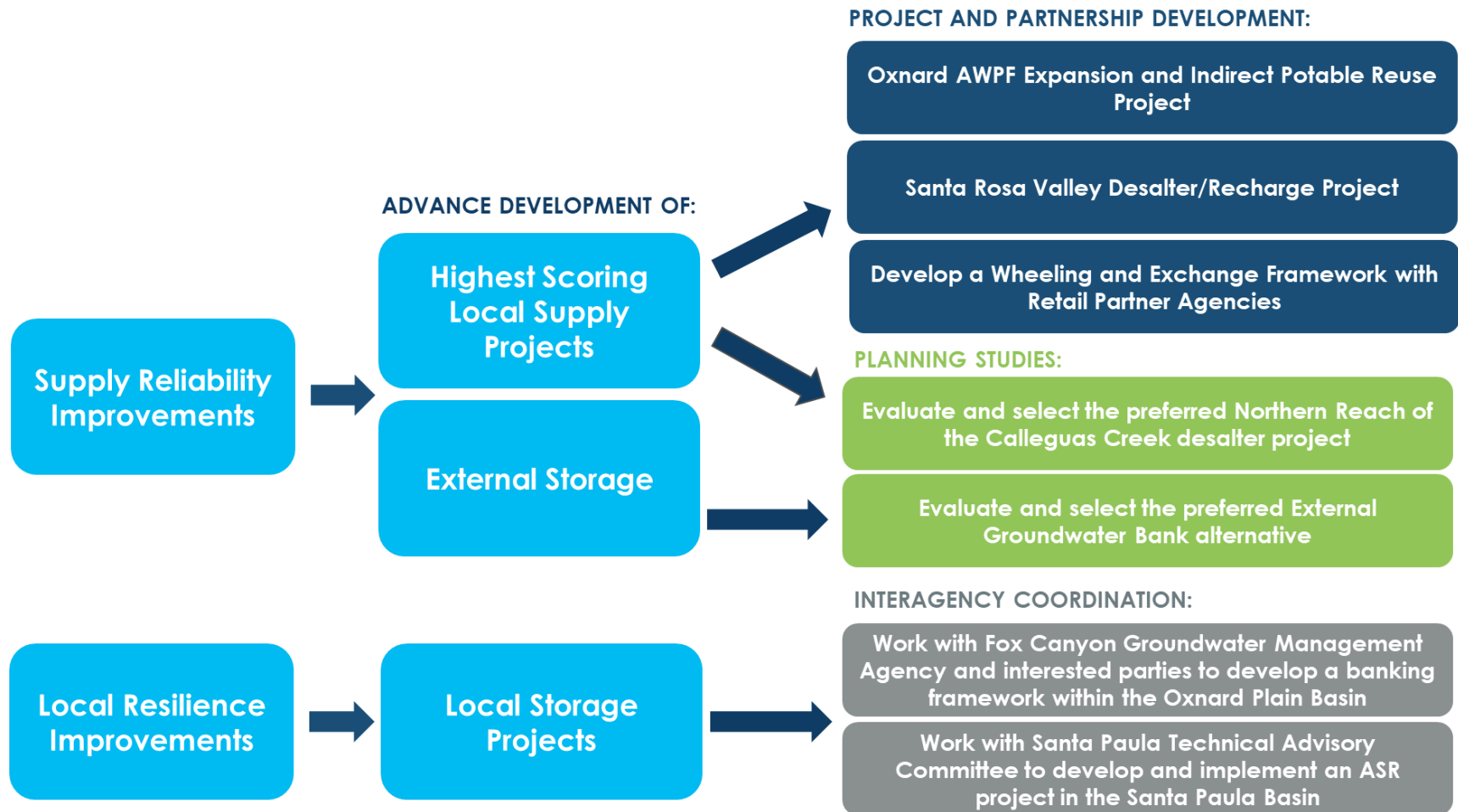


Table 6-6. Future Water Supply Projects

Project	Joint Project	Description	Planned Implementation Year	Planned Use for Year Type	Expected Increase in Water Supply
Fairview Well Rehabilitation	No	Fairview Well was installed in 1993 and operated as an ASR well until it was taken offline in 1998. This project would involve rehabilitation of the well and water would be produced from the well in the event of an imported water outage.	2028	Outage Only	1.3 cfs / up to 470 AF during a 6-month imported outage
Lake Bard Pump Station	No	Calleguas's Lake Bard has a capacity of 10,500 AF. Due to hydraulic constraints, only 7,500 AF can be treated and delivered as potable water. This project includes the construction of a pump station that would provide sufficient hydraulic head to deliver the remaining 3,000 AF through the Lake Bard Water Filtration Plant.	2029	Outage Only	3,000 AF
Calleguas/City of Ventura Interconnection	Yes - Metropolitan, City of Ventura, UWCD	A pipeline would be constructed to connect Calleguas and the City of Ventura systems. SWP water would be wheeled to Ventura through the Metropolitan and Calleguas systems. Under outage conditions, Ventura would deliver water to Calleguas.	2027	Outage Only	5-13 cfs / 1,810-4,706 AF during a 6-month imported outage
Northern Reach of Calleguas Creek Watershed Desalter Project	Yes – The FCGMA and nine purveyors (for regional study)	This project may include expanding existing brackish groundwater desalters and/or constructing new ones within the Calleguas Creek Watershed.	2035	Normal Year	2,500 – 5,500 AFY

6.11 Summary of Existing and Planned Sources of Water

The current and projected water supply to Calleguas through 2050 is shown in Table 6-7. The projected imported water from Metropolitan is assumed to be equivalent to the projected potable water demand shown in Table 4-2. In a normal water year, Metropolitan’s 2025 UWMP and 2020 IRP project that there will be sufficient supply to meet all of Calleguas’s imported water demand. Calleguas’s imported water outage supplies are not shown since these are not used during normal operations.

Table 6-7. Current and Projected Water Supplies

Water Supply	Actual		Projected			
	2025	2030	2035	2040	2045	2050
Imported Water from Metropolitan¹	73,496	74,290	73,030	73,740	75,980	76,190
Recycled Water²	127	80	80	80	80	80
TOTAL	73,623	74,370	73,110	73,820	76,060	76,270

Notes:

1. Imported water projections include potable sales demand and replenishment water. Imported water supply projections are estimates as equal to potable water demand projections (see Table 4-2).
2. Calleguas does not operate any wastewater treatment facilities; however, it does own a small pipeline that provides recycled water to the City of Simi Valley (VCWWD No. 8).

6.12 Energy Intensity

Urban water suppliers must include information used to calculate the energy intensity of their water service in the UWMP. Required information is limited to that which is readily obtainable by the supplier for the listed operations.

Water energy intensity is defined as the total amount of energy, calculated on a whole system basis, required for the use of a given amount of water in a specific location. This section reports Calleguas’s calculated operational energy intensity, consistent with the guidance provided by DWR in Appendix O of the 2025 Draft UWMP Guidebook. Operational energy intensity is the total amount of energy expended by an urban water supplier on a per AF basis to take water from the location where the urban water supplier acquires the water to its point of delivery. Thus, calculations do not include the water energy intensity upstream (i.e., Metropolitan’s system and the SWP) or downstream (i.e., purveyor distribution systems) from the Calleguas system. Those calculations are included in those wholesaler’s and purveyors’ 2025 UWMPs.

Table 6-8 presents Calleguas’s wholesale potable water deliveries, associated energy consumption, and associated hydropower generation during the calendar year 2024 (the most recent year for which all energy data from Southern California Edison is available). Calleguas operates five hydroelectric-generating stations within its system and has contracts with

Southern California Edison for the sale of power from these facilities. As shown in Table 6-8, in 2024, Calleguas’s energy intensity for the water system was approximately 275 kWh/AF but was reduced to about 10.5 kWh/AF with energy generation at Calleguas’s hydropower facilities.

Table 6-8. 2024 Energy Intensity

	Total Utility	Hydropower¹	Net Utility
Volume of Water Entering Process (AF)	69,322		69,322
Energy Consumed (kWh)	6,221,738	-5,746,233	475,505
Energy Intensity (kWh/AF)	275		10.5

Notes:

1. Includes hydropower generation from the Conejo, East Portal, Springville, Santa Rosa, and Grandsen hydropower facilities.

7

Water Service Reliability and Drought Risk Assessment

This section describes the water service reliability through 2050. As required by the UWMP Act, the assessment compares total projected water supply and demands over the next 25 years in five-year increments under a normal, single-dry, and multiple-dry water years. This section also includes the drought risk assessment, which provides a snapshot of the anticipated surplus or deficit if a drought were to occur in the next five years.

IN THIS SECTION

- Water Service Reliability Assessment
- Drought Risk Assessment

7.1 Water Service Reliability Assessment

Water service reliability is determined based on the security of both water supply and water infrastructure. The supply reliability assessment discusses factors (i.e., climatic, environmental, water quality, and legal) that could potentially limit the expected quantity of water available from Calleguas's current and projected sources of supply through 2050. Multiple drought scenarios are evaluated, and the quantitative impacts of these factors on water supply and demand are analyzed, along with potential strategies to address them.

Evaluating water service reliability is critical for water management as it can help identify potential problems before they happen. Water managers can then take proactive steps to mitigate shortages by encouraging water use efficiency, securing new water supplies, and/or investing in infrastructure.

7.1.1 Constraints on Water Sources

Southern California's water supply is subject to natural and man-made forces ranging from drought and earthquakes to environmental regulations and water rights determinations. In addition, climate change is expected to exacerbate these challenges and potentially introduce new ones.

Some of the challenges facing Southern California with respect to water, including Calleguas, include:

- A major earthquake could damage levees within the Delta, the California Aqueduct, and/or the CRA, interrupting water supply to the region for many months, if not years.
- Environmental water demands are increasing, especially in the Delta, thus reducing the availability of water for other uses within California.
- California, like much of the west, is susceptible to long periods of drought.
- Recent studies indicate that Delta and Colorado River supplies will be even more variable than that of the historical record, further stressing California water supplies.
- Many groundwater basins are in an overdraft condition.

The following sections discuss specific challenges that could affect Calleguas's water supplies.

7.1.1.1 Sacramento/San Joaquin Delta

As discussed in Metropolitan's Draft 2025 UWMP (Metropolitan Water District of Southern California, 2025), the SWP's existing water delivery system is inefficient and requires substantial upgrades to withstand the impacts of climate change and seismic events and reduce negative impacts on sensitive fish species. Existing pumping operations cause reverse river flows, trap migrating fish, and contribute to a decline in native fish populations. To address this, in recent years, DWR has severely curtailed water exports from the Delta. In addition, aging levees comprised largely of peat soils are all that protect most of California's water supplies from seismic events and the effects of climate change. Earthquakes, rising sea levels, intense

storms, and floods could cause these levees to fail, which would contaminate the fresh water with salt and disrupt water service to 27 million Californians. Without improvements to the water supply infrastructure, the environment and the state's broader economy are at increasing risk of water supply disruption, job losses, higher food and water prices, and further decline in sensitive species.

California has been in the planning stages of a project to update the conveyance facilities from the Delta since 2005. Originally envisioned as a joint water conveyance and habitat conservation project, the effort was split into two projects in 2015. The previous version of the water conveyance component, formerly called "California WaterFix," included construction of three new intakes, each with a maximum diversion capacity of 3,000 cfs, on the east bank of the Sacramento River between Clarksburg and Courtland in the north Delta. Each intake site would employ state-of-the-art on-bank fish screens and, although the diversions would be located outside of the main range for delta and longfin smelt, the fish screens would be designed to meet delta smelt criteria. Two 40-foot diameter underground pipelines would carry the diverted water by gravity flow approximately 30 miles to the expanded Clifton Court Forebay, where two pumping plants would be constructed to maintain optimal water levels in the forebay for the existing SWP and Central Valley Project pumping facilities. The existing pumps would lift the water into the canals that flow hundreds of miles to supply San Joaquin Valley farms and cities as far away as San Diego. The north Delta intakes, which would be operated with the existing south Delta pumping facilities as a "dual conveyance system," would correct the current issue of "reverse flows" which can draw fish off their migratory path into predator-rich channels and towards state and federal pumps.

When Governor Gavin Newsom took office in 2019, he announced that he did not support the two-tunnel WaterFix Project but did support a single-tunnel project to modernize conveyance facilities through the Bay Delta. The currently proposed project is called the Delta Conveyance Project (DCP). In 2019, DWR initiated planning and environmental review for the single-tunnel DCP and certified the Environmental Impact Report in December 2023. The project includes two new 3,000-cfs intakes north of the Delta, an approximately 45-miles long, 36-foot diameter tunnel through the Delta, and a pumping plant to connect the tunnel to the existing Bethany Reservoir on the California Aqueduct.

In October 2025, DWR certified that DCP is consistent with the Delta Plan. DWR is continuing with the design refinements, environmental planning, and permitting through 2026-2027. DCP will potentially be operational in 2045 following extensive planning, permitting, and construction. Metropolitan entered a funding agreement for the DCP preconstruction work planned for 2026-2027 with a funding participation level of 47.2%. However, at this time Metropolitan has not committed to future DCP funding for final design and construction costs, which would require further Board approval.

More information on the DCP, federal and State incidental take authorizations in the Delta, and the Bay-Delta Water Quality Control Plan Update and associated Voluntary Agreements can be found in Section 3.2 of Metropolitan's Draft 2025 UWMP (Metropolitan Water District of Southern California, 2025).

Note that DCP is not included in Metropolitan's 2025 UWMP projections.

7.1.1.2 Climate Change

Climate change is a crucial consideration in water planning and management, as it could have significant effects on supplies including availability, reliability, and water quality. The vulnerability of the water sector to climate change stems from a modified hydrology that affects the frequency, magnitude, and duration of extreme events, which, in turn, affect water quantity, quality, and infrastructure. Both water supply and demand can be altered by the effects of climate change.

Predicted Climate Changes in Ventura County

The Watersheds Coalition of Ventura County (WVCV) Integrated Regional Water Management Plan (IRWMP) was amended in 2019 and includes a comprehensive study on the effects of climate change on Ventura County, including the entire Calleguas service area. Calleguas is a participant in the WVCV.

Appendix K of the WVCV IRWMP is an assessment of climate change in Ventura County produced through a partnership between WVCV and Drs. Nina Oakley and Benjamin Hatchett of the Western Regional Climate Center at the Desert Research Institute in Reno, Nevada. As stated in the report, "the goal of this project and report is to 'paint a picture' of future climate in Ventura County to support decision making and prioritization of vulnerabilities related to climate during the IRWM planning process" (Oakley, 2019).

The report analyzes the results of 32 Global Climate Models that were utilized to ascertain probable changes in temperature, precipitation, and evapotranspiration in the County. For the period of 2021 through 2040, the analyses conclude that inland air temperature is likely to increase at least 3-5 °F and coastal air temperature will increase at least 2-3 °F, on average. Evapotranspiration is predicted to increase by up to 5-10%. There was no consensus among the various climate models as to whether average annual precipitation will increase or decrease in the County, but all deviations from current levels were relatively small. However, the models suggest that the number of dry days per year will increase, with 7% fewer days of precipitation in winter, 11% fewer days in spring, and 20% fewer in fall. Because annual precipitation is not expected to change much, this suggests precipitation events will be more intense when they do occur. The overall trend is predicted to be slightly wetter winters, summers with little change, and slightly drier spring and fall seasons. The predicted changes in precipitation, temperature, and evapotranspiration are expected to intensify by mid-century (2041-2070) (Oakley, 2019).

Climate Change Impacts on Water Reliability

As described in Section 6.2, Calleguas's potable water is entirely supplied by Metropolitan. Under normal operating conditions, this water is from the SWP. However, in times of drought or other shortage conditions, the water Metropolitan supplies to Calleguas may include some CRA water. Section 2.6 of Metropolitan's 2025 UWMP elaborates on Metropolitan's assessment of climate change impacts on its water supplies and its activities to plan for and mitigate those

impacts. Although Calleguas maintains storage supplies in Lake Bard and the Las Posas ASR Project, the source water in storage also comes from Metropolitan.

The following discussion assesses the potential local impacts of climate change:

- **Temperature.** An average increase in temperature of at least 3-5 °F is expected to increase water demand in the Calleguas service area, mainly for landscaping and use in recreational facilities such as swimming pools. However, Calleguas's purveyors are likely to control increases in these types of water demands to maintain compliance with SBX7-7 and water budgets to meet their Urban Water Use Objectives under the 2018 "Making Water Conservation a California Way of Life" legislation.
- **Precipitation.** Longer dry periods are anticipated, which could lead to extended and more frequent droughts. Under dry conditions, Calleguas typically works with its purveyors to communicate messaging to the public about reducing or eliminating non-essential water uses, and Calleguas can increase its incentives for water-efficient appliances and fixtures. See Chapter 8 for more information on actions Calleguas can take during varying degrees of water shortage.

Dry periods can also result in reduction in local aquifers. Although Calleguas does not rely on native groundwater as a water source, many of its purveyors utilize groundwater to varying degrees. As groundwater sources become depleted, purveyors may require more imported water from Calleguas to meet their demands.

More extreme rainfall events in the service area are also predicted, as described above. These rain events can trigger mudslides, which could damage Calleguas facilities that are located on or near slopes especially in areas recently affected by wildfires.

- **Evapotranspiration.** As described above, climate modeling in Ventura County predicts a significant increase in evapotranspiration (up to 5-10%), which will increase demand for irrigation water. Residential and commercial irrigation in the service area is provided primarily by potable water, with recycled water used for some park, golf course, and commercial areas. Increases in evapotranspiration will directly increase demands for imported water from Calleguas for landscape irrigation. It could also indirectly increase demand on Calleguas for the agricultural sector. Although little potable water is used for agriculture in the Calleguas service area, impacts from climate change on groundwater availability could increase demand for supplemental imported supplies.
- **Wildfire.** Longer dry periods coupled with increased temperatures heighten the risk and likelihood of wildfires. The Calleguas service area contains large areas of open space with development interspersed, which makes most of the area vulnerable to wildfire. Fires in and around Ventura County have been increasing in frequency and size. Two of the top 20 most destructive wildfires in California history, the Thomas Fire (2017) and the Woolsey Fire (2018), as well as the more recent Mountain Fire (2024), affected the Calleguas service area in recent years (CalFire, 2025). Wildfires can damage or destroy Calleguas and/or purveyor facilities, which could lead to service disruptions and water quality concerns.

- **Sea-level rise.** Although Calleguas does not use native groundwater directly, many purveyors in the Lower Zone rely on coastal aquifers for a significant portion of their water supply. Sea level rise can exacerbate and speed saltwater intrusion into these aquifers, especially in dry times where replenishment is low. Saltwater intrusion can degrade the water quality in the aquifer to the point that it is no longer useable. If this were to occur, the purveyors who rely on the coastal aquifers would require a larger proportion of their demand to be met by imported water from Calleguas.

Climate Change Adaptation and Mitigation

As climate change continues to unfold in the coming decades, water agencies will need to adapt new strategies, which may require reevaluating existing agency policies, regulations, facilities, and funding priorities.

Examples of mitigation and adaptation strategies include, but are not limited to, the following:

- Developing long-term plans that identify specific climate change adaptation elements.
- Increasing groundwater recharge using surface water and recycled water.
- Promoting the use of recycled water.
- Promoting water use efficiency for urban, agricultural, commercial, and industrial water users.
- Making beneficial use of impaired groundwater resources.
- Increasing investments in infrastructure that promote adaptation strategies and mitigate the loss of existing supplies that are susceptible to climate change impacts.
- Updating regulations to utilize the most current scientific data to most effectively balance environmental, agricultural, and municipal water needs.

Calleguas considered these strategies when developing the WRIS_t, and they influenced WRIS_t recommendations and future water projects described in Section 6.10.

7.1.1.3 Metropolitan Reliability

Historically, there have been sufficient SWP supplies for Metropolitan to meet the Calleguas service area's imported water needs. However, in periods of drought and low Sierra snowpack, DWR reduces the amount of water it provides the SWP contractors, including Metropolitan, by lowering the contractors' SWP allocation. Record-low snowpack and two consecutive years with SWP allocations of 5% resulted in Metropolitan implementing an Emergency Water Conservation Program in April 2022 for its SWP dependent areas, which includes Calleguas. Calleguas adopted and passed through the Emergency Water Conservation Program to its purveyors, limiting outdoor water use to one day per week through early 2023, when record rainfall alleviated drought conditions. The reliability of SWP supplies is expected to continue to decline in the future with supplies also becoming more variable year to year due to climate change and other factors (DWR, 2025).

In 1996, following the severe 1987-92 statewide drought, Metropolitan adopted its initial IRP that provided the framework for a long-term water supply reliability strategy for Metropolitan's service area. The 1996 IRP included a reliability goal of meeting "retail-level water demands under all foreseeable hydrologic conditions." That goal has carried through the subsequent updates to the IRP, completed in 2004, 2010, and 2015. As described in Section 6.2, Metropolitan's most recent 2020 IRP analyzes a wide range of uncertainties through scenario planning and ranges in future supply and demand within its service area. The 2020 IRP acknowledges that the future is not predictable and is a function of many diverse drivers that are out of the control of the water community. The purpose of scenario planning is to broaden the understanding of plausible, but uncertain, future conditions affecting both supplies and demands. Metropolitan's assumptions in their 2025 UWMP include a single outcome approach and are within the plausible future contemplated in the 2020 IRP. The 2020 IRP includes a wider range of scenarios of conditions than considered in Metropolitan's UWMP assessment, including a worst-case scenario.

Metropolitan's 2025 UWMP water reliability assessment anticipates reliable supplies in all year types. However, Metropolitan's 2025 UWMP includes a single outcome approach, and the 2020 IRP includes a wider range of scenarios of conditions than included in their UWMP assessment. A copy of Metropolitan's projections for Calleguas from their 2025 UWMP is included in Appendix G.

For more conservative planning, Calleguas's water reliability assessment in this UWMP relies on imported water projections developed for Calleguas's WRIS and based on Metropolitan's 2020 IRP's reduced imported supply scenario rather than Metropolitan's 2025 UWMP assessment. For the 2020 IRP, Metropolitan developed 96 SWP supply projections from 2021 through 2045 based on 96 years of historic data. The projections included an upper-bound stable imported water supply projection and a lower-bound reduced imported water supply projection. The reduced imported water supply projection was used in the WRIS and incorporates the rapid onset of climate change impacts that are expected to increase the variability of future SWP supply, including increased frequency and duration of drought periods (Metropolitan Water District of Southern California, 2022).

The Calleguas-specific SWP supply projections provided by Metropolitan were extended through 2065 to align with the WRIS planning period. This was done by repeating the 2025 to 2045 projections with a 9% reduction factor applied based on the 2021 SWP Delivery Capability Report estimated reductions in SWP supply by 2060 (DWR, 2021).

The SWP projections were then adjusted to include Metropolitan's planned projects that were not incorporated into the IRP projections. Table 7-1 lists the planned Metropolitan projects, their start year, and how much additional supply was added to the Calleguas SWP supply projections. Metropolitan's drought action projects will address conveyance constraints in Metropolitan's system. Some of the drought action projects allow Calleguas to directly receive CRA and stored imported water supplies, most notably Sepulveda/Venice Pump Stations; other drought action projects do not deliver CRA and stored imported water supplies directly to Calleguas. However, they indirectly benefit Calleguas in a SWP drought because they reduce

Metropolitan’s overall SWP dependent area demand. Metropolitan’s Antelope Valley-East Kern (AVEK) High Desert Water Bank, a 280,000 AF groundwater bank in the Antelope Valley groundwater basin, was already included in the IRP projections.

Table 7-1. Metropolitan Projects Incorporated into SWP Projections

Metropolitan Projects	Start Year¹	Project AFY	Supply Adjustment (AFY)	Note
Metropolitan Drought Actions (SWP Offset with CRA)				
TVMWD Pumpback Upgrades	2035	20,000	3,800	Calleguas supply adjustment assumes a benefit of 19% based on a ratio of Calleguas’s Imported Water Demand to the SWP Dependent Area Imported Water Demand from 2011-2020
Sepulveda/Venice Pump Stations	2026	22,000	4,200	
DVL to Rialto/Foothill PS Interconnection	2027	75,000	14,300	
Shift Supply from B-5 to B-5A	2026	4,000	800	
Regional Conveyance Improvements	2040	550,000	N/A	Tied to Pure Water Southern California
Core Supply Projects				
Pure Water Southern California	2033	155,000	4,800 in 2033 9,600 by 2040	Calleguas supply benefit assumes 3.1% by 2033 and 6.2% by 2040 based on the ratio of 2011-2020 Calleguas’s Imported Water Demand to Metropolitan’s total demand from 2011-2020 (6.2%). Only half of the benefit (3.1%) is included prior to the completion of the Regional Conveyance Improvements.

Note:

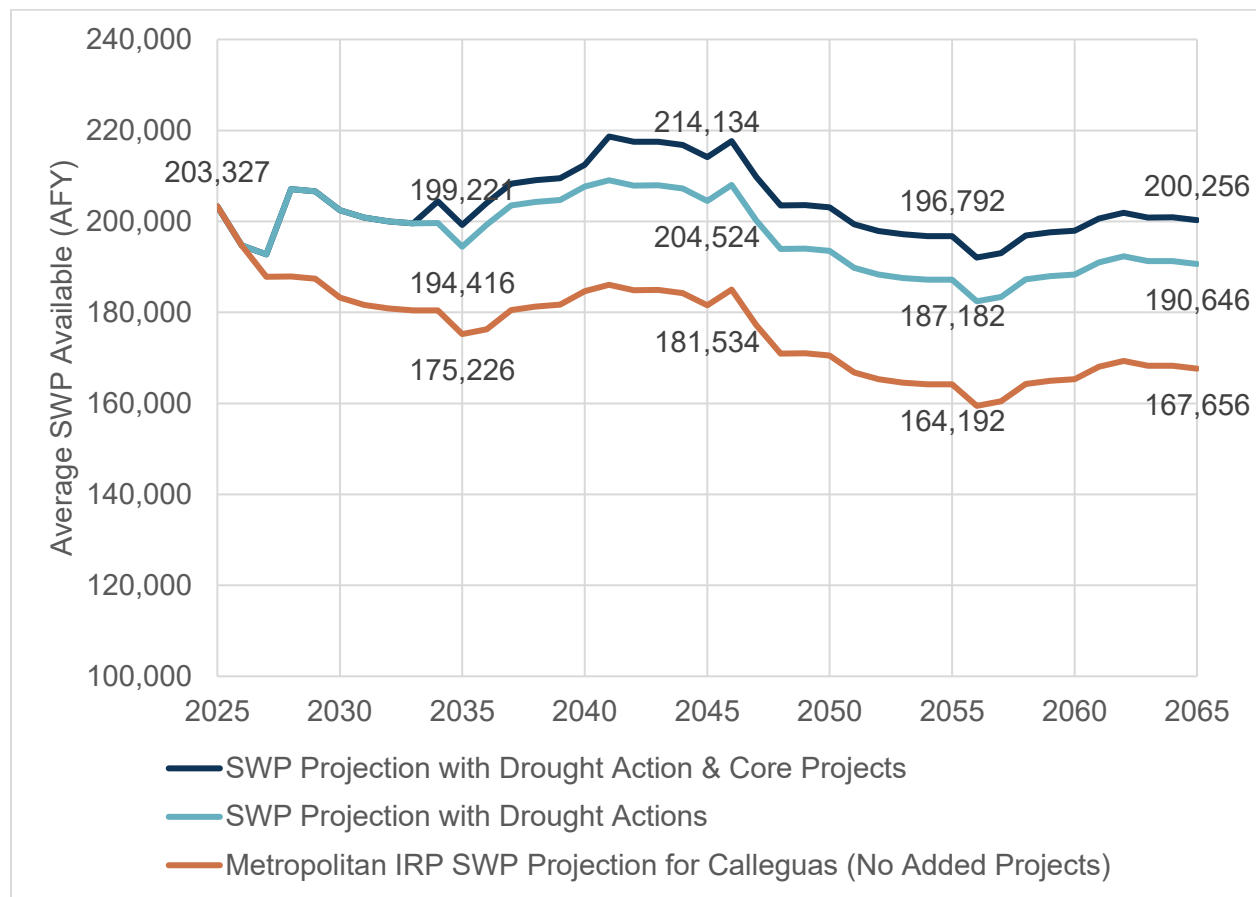
1. Project start year based on Regional Conveyance Improvements Update Presentation on October 3, 2023 (Metropolitan Water District of Southern California, 2023)

Pure Water Southern California was added to the projections as a planned core supply project starting in 2033 based on the latest information available at the time of the WRIS analysis. However, there is still uncertainty that the Pure Water Southern California project will be completed and the timing for implementation. The Pure Water Southern California project is not currently envisioned to be capable of directly providing supply to the Calleguas service; however, if developed, it is expected to provide indirect benefits by offsetting demand within Metropolitan’s service area. Metropolitan has also identified and is currently considering

Regional Conveyance Improvements. This is estimated to be complete by 2040. These improvements include major new pumping and transmission facilities to further increase supplies to the SWP-dependent area. With these improvements, Calleguas will have greater supply availability from Metropolitan. For the purposes of the WRIS^t supply projections, the supply benefits to Calleguas from Pure Water Southern California are phased with a small benefit upon start up and then a larger benefit once the Regional Conveyance Improvements are completed.

Figure 7-1 shows the average imported water supplies to Calleguas developed for the WRIS^t using the 2020 IRP projections provided by Metropolitan; they are adjusted, as described above, to include Metropolitan’s drought action and core supply projects (noted in Table 7-1). The WRIS^t projections incorporate the SWP Projection with Drought Action and Core Projects (upper curve on Figure 7-1) that includes both types of planned projects to improve imported water supply reliability. As shown, the average imported water supply to Calleguas is projected to remain relatively consistent through 2065 with the implementation of Metropolitan’s planned projects.

Figure 7-1. Average Imported Water Supply Projection to the Calleguas Service Area



7.1.2 Year Type Characterization

In accordance with CWC Section 10635(a), every urban water supplier must provide their expected water service reliability for a normal year, single-dry year, and five consecutive dry years for 2030, 2035, 2040, 2045, and optionally 2050.

DWR defines these years as:

- **Normal Year:** This condition represents a single year or an averaged range of years that most closely represents the average water supply available.
- **Single-Dry Year:** The single-dry year is recommended to be the year that represents the lowest water supply available.
- **Five-Consecutive Year Drought:** The driest five-year historical sequence for the supplier, which may be the lowest average water supply available for five years in a row.

7.1.3 Supply Basis

The supply basis for the water service reliability assessment includes:

- **Imported Water:** Average and minimum supply projected to the Calleguas service area using 96 imported water supply projections developed for Calleguas's WRIS based on Metropolitan's 2020 IRP, described in Section 7.1.1.3.
- **Las Posas ASR Project:** Up to 5,000 AFY available during a single-dry or multiple-dry year condition, described in Section 6.3.4. This is similar to operations in 2022 when Calleguas pumped almost 4,300 AF from storage to mitigate for imported water supply shortages.
- **Calleguas Creek Watershed Desalter:** For planning purposes, up to 3,800 AFY from a future desalter project is assumed to be available in all year types starting in 2035. However, this estimate is preliminary and actual production, timing, and whether supplies would be available to Calleguas (in whole or in part) depend on project approvals, financing, infrastructure, and operational outcomes. See Section 6.10 for more information on this future supply project.
- **Recycled Water:** Average deliveries of 80 AFY available in all year types, described in Section 6.6.

7.1.4 Supply and Demand Comparison

Results of the water supply and demand analysis for normal, single dry, and five-year consecutive drought are shown in the following sections. Calleguas expects to meet demands under all water year scenarios with the use of their WSCP during water shortages. Calleguas is committed to continuing to promote local resources and invest in water conservation efforts to ensure reliability and resiliency in the future.

7.1.4.1 Normal Year

During normal years, Metropolitan is projected to have sufficient supplies to meet all its demand in its 2025 UWMP and 2020 IRP, including Calleguas's imported water demand. As shown in

Figure 7-1, the average projected imported water available to the Calleguas service area is around 200,000 AFY through the planning period and far exceeds Calleguas’s projected demand. Other normal year supplies include 80 AFY of recycled water from 2030 to 2050 and 3,800 AFY from the Calleguas Creek Watershed Desalter Project beginning in 2035 through 2050.

Table 7-2 compares Calleguas’s normal year supply and demand through 2050. The imported water supply is calculated as the volume needed to meet projected demand. As shown, projected supplies are anticipated to be adequate to meet demand.

Table 7-2. Normal Year Supply and Demand Comparison

	2030	2035	2040	2045	2050
Imported Water¹	73,350	70,940	71,230	72,620	73,240
Calleguas Creek Watershed Desalter²	0	3,800	3,800	3,800	3,800
Recycled Water	80	80	80	80	80
Supply Total	73,430	74,820	75,110	76,500	77,120
Total Demand	73,430	74,820	75,110	76,500	77,120
Difference	0	0	0	0	0

Notes:

1. Imported water supply availability is calculated as the supply needed to meet projected demand in Table 4-2. Metropolitan projects will have sufficient supply to meet unrestricted demand in a normal year type in its 2025 UWMP and 2020 IRP (Metropolitan Water District of Southern California, 2025) (WSC, Dopudja and Wells, 2025).
2. Calleguas Creek Watershed Desalter is a new local groundwater desalter project anticipated to be online by 2035. See Section 6.10 for more information.

7.1.4.2 Single-Dry Year

During a single-dry year, imported water supply may be restricted. The minimum imported water supply during a single-dry year scenario is estimated as 69,430 AFY from the imported water supply projections developed for the WRIS. This volume represents the minimum supply during a single-dry year, excluding back-to-back dry years, from the 96 imported water supply projections developed from Metropolitan’s 2020 IRP projections. Additionally, the single-dry year scenario includes 5,000 AFY from the Las Posas ASR Project, 80 AFY of recycled water, and 3,800 AFY from the Calleguas Creek Watershed Desalter Project beginning in 2035.

Table 7-3 shows the estimated supply and demand during a single-dry year. As shown, the supply is estimated to be sufficient to meet the projected dry year water demands through 2050.

Table 7-3. Single Dry Year Supply and Demand Comparison

	2030	2035	2040	2045	2050
Imported Water¹	69,430	69,430	69,430	69,430	69,430
Las Posas ASR Project²	5,000	5,000	5,000	5,000	5,000
Calleguas Creek Watershed Desalter³	0	3,800	3,800	3,800	3,800
Recycled Water	80	80	80	80	80
Supply Total	74,510	78,310	78,310	78,310	78,310
Total Demand	73,430	74,820	75,110	76,500	77,120
Difference	1,080	3,490	3,200	1,810	1,190

Notes:

1. Imported water supply availability based on the minimum imported water supply in a single dry year from 96 projections developed for Calleguas’s 2025 WRIS^t project based on Metropolitan’s 2020 IRP Reduced Imported Water Projections (WSC, Dopudja and Wells, 2025).
2. Calleguas plans to use Las Posas ASR Project during periods of drought and imported water supply outages to meet demand, up to approximately 5,000 AFY.
3. Calleguas Creek Watershed Desalter is a new local groundwater desalter project anticipated to be online by 2035. See Section 6.10 for more information.

7.1.4.3 Five Consecutive Dry Years

For the five consecutive dry years scenario, the imported water supply is estimated to range from 58,200 to 103,100 AFY based on the five consecutive lowest years in the imported water supply projections. These were developed for the 2025 WRIS^t and based on Metropolitan’s 2020 IRP projections, as shown in Table 7-4. Similar to a single-dry year scenario, this scenario includes 5,000 AFY from the Las Posas ASR Project, 80 AFY of recycled water, and 3,800 AFY from the Calleguas Creek Watershed Desalter Project beginning in 2035.

Table 7-4 shows the water supply versus demand evaluation under five consecutive drought years. In years one through four, Calleguas projects sufficient supplies to meet demand. In the fifth consecutive drought year, imported water supplies are projected to be insufficient to meet the projected unconstrained demand. During a imported water supply shortage, Metropolitan would likely impose water allocations per its Water Shortage Allocation Plan or Emergency Water Conservation Program like in 2022. Because the projections incorporate new local water supply (3,800 AFY) beginning in 2035, the imported water supply allocation from Metropolitan is assumed to be reduced in 2035 on a 1:1 basis.

Calleguas assumes their WSCP would be used to reduce demand by about 15% to match the supply availability. Calleguas is confident that this demand reduction could be achieved; this is because a 20% or greater reduction in imported demand occurred in the 2012 to 2016 and 2021 to 2022 droughts.

Metropolitan’s investment in drought action and core supply projects, included in the projections used in the analysis, have already improved conveyance constraints that led to the significant water shortages experienced in 2022. Metropolitan’s investments are projected to continue to maintain imported water supply reliability to Calleguas as SWP reliability decreases. Additionally, this UWMP projects decreased imported water demand compared to previous planning documents due to the investment in more reliable local supplies by Calleguas and many purveyors, further improving the service area’s supply reliability.

Table 7-4. Multiple Dry Years Supply and Demand Comparison

	2030	2035	2040	2045	2050
Year 1					
Imported Water ¹	91,600	91,600	91,600	91,600	91,600
Las Posas ASR Project ²	5,000	5,000	5,000	5,000	5,000
Calleguas Creek Watershed Desalter ³	0	3,800	3,800	3,800	3,800
Recycled Water	80	80	80	80	80
Supply Total	96,680	100,480	100,480	100,480	100,480
Total Demand	73,430	74,820	75,110	76,500	77,120
Year 1 Difference	23,250	25,660	25,370	23,980	23,360
Year 2					
Imported Water ¹	102,300	102,300	102,300	102,300	102,300
Las Posas ASR Project ²	5,000	5,000	5,000	5,000	5,000
Calleguas Creek Watershed Desalter ³	0	3,800	3,800	3,800	3,800
Recycled Water	80	80	80	80	80
Supply Total	107,380	111,180	111,180	111,180	111,180
Total Demand	73,430	74,820	75,110	76,500	77,120
Year 2 Difference	33,950	36,360	36,070	34,680	34,060
Year 3					
Imported Water ¹	79,500	79,500	79,500	79,500	79,500
Las Posas ASR Project ²	5,000	5,000	5,000	5,000	5,000
Calleguas Creek Watershed Desalter ³	0	3,800	3,800	3,800	3,800
Recycled Water	80	80	80	80	80
Supply Total	84,580	88,380	88,380	88,380	88,380
Total Demand	73,430	74,820	75,110	76,500	77,120
Year 3 Difference	11,150	13,560	13,270	11,880	11,260

	2030	2035	2040	2045	2050
Year 4					
Imported Water ¹	103,100	103,100	103,100	103,100	103,100
Las Posas ASR Project ²	5,000	5,000	5,000	5,000	5,000
Calleguas Creek Watershed Desalter ³	0	3,800	3,800	3,800	3,800
Recycled Water	80	80	80	80	80
Supply Total	108,180	111,980	111,980	111,980	111,980
Total Demand	73,430	74,820	75,110	76,500	77,120
Year 4 Difference	34,750	37,160	36,870	35,480	34,860
Year 5					
Imported Water ¹	58,200	54,400	54,400	54,400	54,400
Las Posas ASR Project ²	5,000	5,000	5,000	5,000	5,000
Calleguas Creek Watershed Desalter ³	0	3,800	3,800	3,800	3,800
Recycled Water	80	80	80	80	80
Supply Total	63,280	63,280	63,280	63,280	63,280
Total Demand	73,430	74,820	75,110	76,500	77,120
Year 5 Difference	-10,150	-11,540	-11,830	-13,220	-13,840
WSCP Use Reduction Savings	10,150	11,540	11,830	13,220	13,840
Year 5 Revised Difference	0	0	0	0	0

Notes:

1. Imported water supply availability based on the minimum imported water supply in a single dry year from 96 projections developed for Calleguas’s 2025 WRIS project based on Metropolitan’s 2020 IRP Reduced Imported Water Projections (WSC, Dopudja and Wells, 2025). Calleguas’s allocation is assumed to be reduced by 3,800 AFY in 2035 because of other new local supplies being online.
2. Calleguas plans to use Las Posas ASR Project during periods of drought and imported water supply outages to meet demand, up to approximately 5,000 AFY.
3. Calleguas Creek Watershed Desalter is a new local groundwater desalter project anticipated to be online by 2035. See Section 6.10 for more information.

7.2 Drought Risk Assessment

CWC Section 10635 (b) requires a drought risk assessment (DRA). The DRA provides a quick snapshot of the anticipated surplus or deficit if a five-consecutive year drought were to occur in the next five years. The DRA can be modified or updated outside of the UWMP five-year plan cycle, so a description of the data, methodology, and basis for shortage conditions must be included in this 2025 UWMP. The DRA evaluates each water supply’s reliability and compares available water supplies and projected demands during a five-consecutive dry years scenario. This short-term analysis can help water suppliers foresee undesired risks, such as upcoming

shortages, and provide time to evaluate and implement the necessary response actions needed to mitigate shortages in a less impactful manner to the community and environment.

7.2.1 Data, Methods, and Basis for Water Shortage Condition

CWC Section 10612 requires the DRA to be based on the driest five-year historic sequence for the agency's water supply. However, CWC Section 10635 also requires that the analysis consider current conditions, plausible changes on projected supplies and demands due to climate change, anticipated regulatory changes, and other locally-applicable criteria. Since Calleguas's imported water supplies are provided by Metropolitan, and the DRA should consider current conditions such as Metropolitan's current storage volumes, Calleguas's DRA relies on Metropolitan's DRA in their 2025 UWMP. Metropolitan's projected supplies to Calleguas for the 2025 UWMP is provided in Appendix G.

As described in Section 6.2, Metropolitan developed estimates of future supplies for its service area based on 100 years (1922-2021) of historic hydrology. This was done using DWR's 2025 DCR, which includes climate change impacts to deliveries at a 2043 emission level and 15 centimeters of sea level rise. For Metropolitan and its member agencies, including Calleguas, the five-consecutive years of 1988 to 1992 represent the driest five-consecutive year historic sequence for its water supply, and use this five-year historic sequence to complete the DRA.

Calleguas's projected 2026 to 2030 demand is presented in Table 4-3. The imported water demands projections are based on information provided by the purveyors, as described in Section 4.2.

7.2.2 DRA Total Water Supply and Use Comparison

The DRA assumptions for each supply are listed below and summarized in Table 7-5:

- **Imported Water:** Uses supply estimates provided by Metropolitan and developed for their 2025 UWMP based on the 1988 to 1992 hydrology (see Appendix G). Metropolitan estimates that there could be a potential shortfall of core supplies in four of the next five years, which would be supplemented with supply augmentation actions from their WSCP to meet its member agencies projected demand (Metropolitan Water District of Southern California, 2025).
- **Las Posas ASR:** Assumes up to 5,000 AFY could be pumped from storage.
- **Recycled Water:** Assumes recycled water use remains constant at 80 AFY.

As shown in Table 7-5, Calleguas does not project any shortfalls over the next five years.

Table 7-5. 2026-2030 DRA Projections

	2026	2027	2028	2029	2030
Imported Water ¹	68,380	68,370	68,360	68,350	68,350
Las Posas ASR Project ²	5,000	5,000	5,000	5,000	5,000
Recycled Water	80	80	80	80	80
Supply Total	73,460	73,450	73,440	73,430	73,430
Total Demand	73,460	73,450	73,440	73,430	73,430
Difference	0	0	0	0	0

Notes:

1. Imported water supply availability is calculated as the supply needed to meet projected demand in Table 4-3. Metropolitan projects it will have sufficient supply to meet Calleguas’s demand in a five year drought. See Appendix G for Metropolitan provided supply projections.
2. Calleguas plans to use Las Posas ASR Project during periods of drought and imported water supply outages to meet demand, up to approximately 5,000 AFY.

8

Water Shortage Contingency Plan

The Water Shortage Contingency Plan (WSCP) is a detailed plan for how Calleguas intends to act in the case of a water shortage condition. This allows for management of a shortage with predictability and accountability. This section provides an overview of the contents of Calleguas's WSCP. The standalone WSCP is included in Appendix H.

IN THIS SECTION

- Overview of WSCP Components

8.1 WSCP Introduction

The California Water Code (CWC) Section 10632 requires that every urban water supplier shall prepare and adopt a standalone WSCP as part of its UWMP.

Calleguas's WSCP is included as Appendix H and will be separately submitted to DWR. The WSCP is developed independently of the 2025 UWMP and can be amended, as needed, without amending the UWMP.

The WSCP is a strategic plan that Calleguas uses to prepare for and respond to foreseeable and unforeseeable water shortages. A water shortage occurs when the water supply available is insufficient to meet the normally expected customer water use at a given point in time. A shortage may occur due to several reasons, such as water supply quality changes, climate change, drought, regional power outage, and catastrophic events (e.g., earthquake). Additionally, the State may declare a statewide drought emergency and mandate that water suppliers reduce demands, as occurred in 2014 and 2022. The WSCP serves as the operating manual that Calleguas will use to prevent catastrophic service disruptions through proactive, rather than reactive, mitigation of water shortages.

The WSCP provides a process for an annual water supply and demand assessment and structured steps designed to respond to actual conditions. This level of detailed planning and preparation provides accountability, predictability, and will help Calleguas maintain reliable supplies and reduce the impacts of any supply shortages and/or interruptions.

The WSCP must be updated based on new requirements every five years and will be adopted as a current update for submission to DWR.

8.2 Overview of WSCP Components

The Water Code establishes several prescriptive elements that must be included in a wholesale water supplier's WSCP. Each element and its location within the WSCP is described below.

Water Service Reliability Analysis: Summarizes Calleguas's water supply analysis and reliability and identifies any key issues that may trigger a shortage condition.

Annual Water Supply and Demand Assessment Procedures: Describes the key data inputs, evaluation criteria, and methodology for assessing the system's reliability for the coming year, and the steps to formally declare any water shortage stages and response actions.

Water Shortage Stages: Establishes water shortage stages to clearly identify and prepare for shortages.

Shortage Response Actions: Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand.

Communication Protocols: Describes communication protocols under each stage to ensure customers, the public, and government agencies are informed of shortage conditions and requirements.

Legal Authority: Lists the legal documents that grant Calleguas the authority to declare a water shortage and implement and enforce response actions.

Financial Consequences of WSCP Implementation: Describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies to offset financial burdens.

WSCP Refinement Procedures: Describes the factors that may trigger updates to the WSCP and outlines how to complete an update.

Plan Adoption, Submittal, and Availability: Describes the process for the WSCP adoption, submittal, and availability after each revision.

The WSCP was prepared in conjunction with Calleguas's 2025 UWMP and is a standalone document that can be modified as needed. The document is compliant with the CWC Section 10632 and incorporates guidance from the DWR UWMP Guidebook.

9

Demand Management Measures

This section describes Calleguas’s efforts to promote water use efficiency, reduce demand on the water supply, and prepare for future requirements.

IN THIS SECTION

- Metering
- Public Education and Outreach
- Water Conservation Program
- Other Demand Management Measures
- Asset Management
- Wholesaler Supplier Assistance Program

9.1 Introduction

This section describes the water conservation programs that Calleguas has implemented for the past five years and is currently implementing. Wholesale agencies must provide narrative descriptions of demand management measures (DMMs) and efforts related to the following:

- Metering.
- Public education and outreach.
- Water conservation program coordination and staffing support.
- Other demand management measures.
- Asset management.
- Wholesale supplier assistance programs.



The implementation of cost-effective Best Management Practices (BMPs) provides mechanisms for both active conservation and financial incentives for reducing discretionary consumption. Calleguas will continue to work with its purveyors and Metropolitan to identify new ways to manage water consumption in a cost-effective manner, and will continue to measure and evaluate the effectiveness of the current conservation activities.

9.2 Metering

Calleguas's system is fully-metered, and all accounts are billed based on the volume of water used. All meters are Venturi meters, calibrated annually, and receive appropriate scheduled maintenance. **All turnouts are connected through land lines or wirelessly to:**

1. A supervisory control and data acquisition system that provides real-time flow and pressure readings to Calleguas operations staff, and
2. A purveyor web site that provides real-time, historical, and totalized flow data to both Calleguas and purveyor staff.

9.3 Public Education and Outreach

Calleguas promotes conservation, education, and public awareness programs through its website, social media sites, tours, and speaking engagements. Calleguas budgeted over \$150,000 for Public Outreach and Education Programs for FY 24-25. This budget supports

advertising Water Use Efficiency (WUE) rebates and other messaging with the intended purpose of increasing water awareness.

Calleguas is actively involved in a variety of programs designed to increase public awareness of water resource issues and encourage a greater measure of water use efficiency within the community. Calleguas’s programs include native plant and rain barrel sales, information fairs, drought-tolerant landscaping and turf removal classes, drip irrigation workshops, and drought-tolerant demonstration gardens, as well as preparation, distribution, and advertising of promotional materials.

Rain Barrel Sales Event



As mentioned above, Calleguas sponsors and hosts monthly Hands-On Drip Irrigation Workshops presented by the University of California Master Gardeners of Ventura County. Workshops are offered free to the community, and participants work in small groups with Master Gardeners to learn to assemble and install a drip irrigation system. They also receive a copy of the UC Drip Irrigation Education Guide.

Calleguas also holds periodic turf removal, drought-tolerant landscape, and California-friendly plant classes at its headquarters in Thousand Oaks.



Hands-on Drip Irrigation Workshop

FREE HANDS-ON DRIP IRRIGATION WORKSHOPS

The second Saturday of the Month
January to June 2026
9-11 AM

Calleguas Municipal Water District
2100 Olsen Road
Thousand Oaks, CA 91360

registration required

Presented by: UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources UC Master Gardener Program

Sponsored by: CALLEGUAS MUNICIPAL WATER DISTRICT

Since its creation in 2011, Calleguas has co-sponsored the California True Colors Garden and Learning Center (Garden), a water conservation demonstration garden located on property owned by the Conejo Recreation and Park District (CRPD) at 1385 Janss Road in the City of Thousand Oaks. The Garden consists of six subareas, each supporting a different plant palette showcasing California natives and other California-friendly, low water-use plants. The UC Master Gardeners of Ventura County host ongoing garden talks, tours of the Garden, and hands-on education classes for the public to allow residents to learn about water-wise gardening at home. The Garden is a partnership between the UC Master Gardeners of Ventura County, Calleguas, the City of Thousand Oaks, and CRPD.



9.4 Water Conservation Program Coordination and Staffing Support

Calleguas has staff designated to the oversight and implementation of the conservation BMPs and the promotion of water conservation.

9.5 Other Demand Management Measures

Calleguas performs water audits and balances to monitor the amount of unaccounted water use. Average water loss in the Calleguas distribution system is consistently less than 1% of total water delivered.

9.6 Asset Management

Calleguas's computer-based Time and Activity Tracking System contains a geographically referenced database of the components of Calleguas's infrastructure. Operations and Maintenance staff schedule and document preventive maintenance and document unplanned maintenance. The system allows for reliable and efficient planning of work, rehabilitation, and replacement of components that have a recurring need for unplanned maintenance.

After the Northridge earthquake, all storage reservoirs were analyzed for compliance with new seismic standards. All reservoirs determined to need seismic upgrades have been upgraded or replaced.

Each part of Calleguas's infrastructure that is accessible without dewatering is inspected annually. The Santa Susana Tunnel is inspected periodically and immediately following a significant seismic event. Calleguas has 26 miles of prestressed concrete cylinder pipe, which is subject to failure from breaks in the steel prestressing wires. These pipes are inspected using eddy current technology to proactively identify wire breaks. When such breaks are detected, the at-risk pipes are lined using steel cylinders or carbon fiber material.

Each year, Calleguas's entire pipeline system is monitored for corrosion. As needed, cathodic protection systems are installed or replaced to protect pipelines from corrosion. Other facilities are protected through routine recoating and repainting.

Calleguas's Lake Bard Dam is monitored every month using piezometers to measure water levels and every six months to measure settlement. The results are reviewed annually by a registered engineer and submitted to the California Division of Safety of Dams.

9.7 Wholesale Supplier Assistance Programs


Calleguas works closely with its purveyors and provides financial assistance in the implementation of several BMPs. For FY 24-25, Calleguas budgeted \$375,000 for WUE and Conservation Programs. A portion of the WUE budget is reserved for supplementing rebate programs offered by Metropolitan, specifically high-efficiency clothes washers, premium high-efficiency toilets, weather-based irrigation controllers, and soil moisture sensors systems. Calleguas currently offers incentives on top of the normal Metropolitan incentive for these devices. Figure 9-1 lists the current rebates available to residents and businesses within the Calleguas service area. These include Metropolitan's regional rebates plus any additional incentives provided by Calleguas.

Figure 9-1. Calleguas Wholesale Supplier Assistance Rebates



Visit **bewaterwise.com**[®]

For Water Efficiency **Rebates**




RESIDENTIAL REBATES		COMMERCIAL REBATES	
High Efficiency Clothes Washer	\$110	Ultra Low and Zero Water Urinals	\$200
Premium High-Efficiency Toilet (1.06 gallons per flush or less)	\$65	Premium High-Efficiency Toilet (1.06 gallons per flush or less)	\$40
Turf Replacement Additional Tree Rebate (max.5)	Starting at \$2/sq. ft. \$100/Tree	Turf Replacement Additional Tree Rebate (max. 5)	Starting at \$2/sq. ft. \$100/Tree
Weather Based Irrigation Controller or Soil Moisture Sensor System	\$105	Weather Based Irrigation Controller or Soil Moisture Sensor System	\$35/Station
Hose Bib Irrigation Controller	\$35	Hose Bib Irrigation Controller	\$35
Rain Barrel (max. 2)	\$35	Efficient Rotating Nozzles (min. 30) Large Rotary Nozzles	\$2/Nozzle \$13/Set
Cistern (min. 200 gal. capacity)	\$250-\$350	Air-Cooled Ice Machine	\$1,000
Efficient Rotating Nozzles (min. 15)	\$2/Nozzle	Connectionless Food Steamer	\$485/ Compartment
Flow Monitoring Device (in select areas)	\$100		





Additional commercial rebates available for HVAC, Medical, and Dental equipment. Please visit Bewaterwise for a full list of incentives.

For more information, visit bewaterwise.com

Rebates are subject to change. Visit bewaterwise.com for current rebate amounts, eligibility, and program requirements.

✉ socalwatersmart@egia.org ☎ 888- 376-3314

Table 9-1 shows the total water-efficient device rebate activity in the Calleguas service area from 2021-2025, including the total rebate amount and amount contributed by Metropolitan and supplemented by Calleguas and its purveyors. Note that eligible devices, rebate amounts, and the maximum number of each device per customer are reassessed on an annual basis.

Table 9-1. Device Rebates 2021 - 2025

Device	No. of Rebate ¹	Rebate Total	Metro-politan Rebate Total	Calleguas Rebate Supplement Total	Purveyor Rebate Supplement Total ²
Faucet Aerators	246	\$1,078	\$1,078	\$0	\$0
Flow Monitor Device On Consumer Property	39	\$4,570	\$3,900	\$0	\$0
Flow Monitor Device On Utility Meter	113	\$11,845	\$11,225	\$0	\$0
High Efficiency Clothes Washers	2,275	\$247,597	\$193,375	\$50,000	\$2,020
High Efficiency Toilets	2,146	\$409,650	\$405,670	\$3,000	\$340
Hose Bib Irrigation Controller	17	\$700	\$595	\$0	\$0
Weather-Based Irrigation Controllers and Add-Ons	3	4,585	2,320	25	0
Soil Moisture Sensor System	2	210	160	50	0
Ice-Making Machine	2	\$2,000	\$2,000	\$0	\$0
Low-flow Showerheads	798	\$10,512	\$10,512	\$0	\$0
Rain Barrel	704	\$25,278	\$24,628	\$0	\$160
Rotating Nozzle	4,215	\$14,740	\$8,345	\$0	\$0
Weather-Based Irrigation Controllers	1,454	\$180,594	\$149,575	\$27,377	\$1,172
Weather-Based Irrigation Controllers with Landscape Logic	65	\$12,223	\$11,793	\$0	\$0
Total	12,079	\$925,582	\$825,176	\$80,452	\$3,692

Notes:

1. Number of rebate applications paid. The number of devices rebated is higher for many of the devices because a customer may receive a rebate on multiple units.
2. Currently only TWSD provides a rebate supplement.

The Calleguas WUE budget also supports processing of custom programs implemented by the purveyors. These custom programs, such as demonstration gardens, toilet leak detection sensors, and conservation kit giveaways, may be partially reimbursed by Metropolitan and/or

Calleguas. Calleguas utilizes funding offered by Metropolitan through its Member Agency Administered Program to support custom WUE programs implemented by the purveyors.

Customers of the purveyors can participate in Metropolitan’s turf replacement program, which provides a rebate starting at \$2 per square foot of irrigated turf grass that is removed and replaced with drought-tolerant landscaping and water efficient irrigation. This program is available for both residential and commercial properties and can be accessed through Metropolitan’s website, bewaterwise.com.

During the most recent drought, Calleguas invested \$2 million to supplement the turf replacement rebate, increasing it from \$2 to \$3 per square foot of turf removed. The extra \$1 per square foot supplement first went into effect on September 1, 2021 and the rebate supplement budget was fully committed by spring 2023.

Table 9-2 summarizes the turf replacement program activity in the Calleguas service area in 2021-2025. Over the past five years, over 3.1 million square feet (over 71 acres) of irrigated turf grass has been converted to drought-tolerant landscaping in the Calleguas service area, with an estimated water savings of 405 AF per year.

Table 9-2. Turf Replacement Rebates Paid in 2021 - 2025

Year	Total No. of Rebates Paid	Total Rebate Amount	Total Square Feet Converted	Water Saved (AFY)
2021	70	\$339,899	172,014	22.4
2022	323	\$1,877,358	681,014	88.5
2023	571	\$3,263,071	1,140,755	148.3
2024	181	\$2,347,433	942,156	122.5
2025	68	\$666,884	179,516	23.3
Total	1,213	8,494,645	3,115,455	405.0

10 Plan Adoption, Submittal, and Implementation

This section describes the completed steps taken to make the UWMP publicly available as well as adopt and submit the UWMP in accordance with the Water Code.

IN THIS SECTION

- Completed Steps for UWMP and WSCP

10.1 Completed Steps for UWMP and WSCP

This chapter describes the steps taken by Calleguas to adopt and submit the UWMP and to make it publicly available.

The 2025 UWMP and WSCP were made available for public review in May 2026 and a public hearing was held on June 3, 2026 at the Calleguas Board of Directors meeting to receive public input on the draft documents. Per Government Code 6066, the public hearing was noticed in the Ventura County Star and local Acorn Newspapers twice in May 2026 during the public review period. The hearing notices are attached as Appendix D. Calleguas also notified its purveyors, Metropolitan, and other stakeholders of the availability of the Public Draft and Public Hearing as shown in Table 2-1.

The Final 2025 UWMP and WSCP were formally adopted by the Calleguas Board of Directors on June 3, 2026 following the Public Hearing. A copy of the Adoption Resolution is included in Appendix I. A hard copy of Calleguas's Final 2025 UWMP and WSCP were sent to the California State Library, DWR (electronically using the WUEdata reporting tool), and all cities and counties within the Calleguas service area within 30 days of adoption. Calleguas made the Final 2025 UWMP available online (www.calleguas.com), and at the Calleguas public office during normal business hours for public review.

Should Calleguas need to amend the adopted 2025 UWMP or WSCP in the future, Calleguas will hold a public hearing for review of the proposed amendments to the document. Calleguas will send a 60-day notification letter to all cities and counties within the service area and notify the public. Notification to the public will be published twice in the newspaper with the first notice being a minimum of two weeks prior to the public hearing. Once the amended document is adopted, a copy of the finalized version will be sent to the California State Library, DWR (electronically using the WUEdata reporting tool), and all cities and counties within the Calleguas service area within 30 days of adoption. The finalized version will also be made available to the public both online (www.calleguas.com) and in person at Calleguas's public office during normal business hours.

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Appendix A UWMP checklist



Wholesale (x = required)	Order	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	1	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and overview	n/a	Section 1.1
x	1	Chapter 1	10630.5	Each plan shall include a simple description of the Supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a Supplier may also choose to include a simple description at the beginning of each chapter.	Plan preparation	n/a	Section 1.1
x	2.1	Section 2.1	10620(b)	Every person that becomes a Supplier shall adopt UWMP within one year after it has become a Supplier.	Plan preparation	n/a	Section 2.1
x	2.5	Section 2.5	10644	Supplier shall report if this UWMP is an individual UWMP and whether the Supplier belongs to a regional UWMP or regional alliance.	Plan preparation	2-2	Section 2.1
x	2.5	Section 2.5	10644	Supplier shall report whether the data is in fiscal or calendar years and the units of measure used for reporting water volumes.	Plan preparation	2-3	Section 2.1
x	2.4	Section 2.4	10642	Provide supporting documentation that the Supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan preparation	n/a	Section 2.2
x	2.4	Section 2.4.2	10620(d)(3)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other Suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan preparation	n/a	Section 2.2
x	2.4	Section 2.4.1	10631(h)	Wholesale Suppliers will provide their Suppliers with identification and quantification of the existing and planned sources of water available from the Wholesale Supplier to the Supplier during various water year types.	Plan preparation	2-4 W	Section 2.2
x	3	Chapter 3.0	10631(a)	Describe the Supplier service area.	System description	n/a	Section 3.1
x	3.3	Section 3.3	10631(a)	Describe the climate of the Supplier's service area.	System description	n/a	Section 3.3
x	3.4	Section 3.4.1	10631(a)	Provide the current and projected service area populations for 2030, 2035, 2040, 2045 and optionally 2050.	System description	3-1	Section 3.4, Table 3-6
x	3.4	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the Supplier's water management planning.	System description	n/a	Section 3.5
x	3.5	Section 3.5	10631(a)	Describe the land uses within the service area... include the current and projected land uses within the existing or anticipated service area affecting the Supplier's water management planning. Describe the land uses within the service area.	System description and baselines	n/a	Section 3.6
Optional	4.2	Sections 4.2.3 and 4.2.4	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System water use	4-1 and 4-2	Section 4.1 and 4.2
Optional	4.3	Section 4.3.1	10631(d)(3)(A)	Report the distribution system water loss for each of the five years preceding the plan update.	System water use	4-5	Optional, not included.
x	4.2	Section 4.2.5.6	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System water use	n/a	Section 4.2.1
x	5.1	Section 5.1	10608.36	Wholesale Suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their Retail Suppliers achieve targeted water use reductions.	Baselines and targets	n/a	Section 5.1
x	6.1	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System supplies	n/a	Section 6.1
x	6.1	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, including changes in supply due to climate change.	System supplies	n/a	Section 6.2, 6.3, and 7.1
x	6.2	Section 6.2.2	10631(b)(4)(C)	Indicate whether groundwater is an existing or planned source of water available to the Supplier. If groundwater is identified as an existing or planned source of water... (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years.	Water supplies and recycled water	6-1	Section 6.3
x	6.2	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the Supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System supplies	n/a	Section 6.3.1
x	6.2	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System supplies	n/a	Section 6.3
x	6.2	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the Supplier has the legal right to pump.	System supplies	n/a	Section 6.3.2
x	6.2	Section 6.2.2	10631(b)(4)(B)	For unadjudicated basins... (include) information as to whether DWR has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin...	Water supplies and recycled water	n/a	n/a - Calleguas does not pump from an unadjudicated basin as discussed in Section 6.3
x	6.2	Section 6.2.2	10631(b)(4)(B)	For unadjudicated basins... describe efforts by the Supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	Water supplies and recycled water	n/a	n/a - Calleguas does not pump from an unadjudicated basin as discussed in Section 6.3
x	6.2	Section 6.2.2.	10631(b)(4)(C)	If groundwater is identified as an existing or planned source of water... (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years.	System supplies	6-1	Section 6.3.4
x	6.2	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System supplies	6-9	Section 6.3.4
x	6.1	Section 6.1	10631(b)	Identify and quantify the existing and planned sources of water available for 2025, 2030, 2035, 2040, 2045 and optionally 2050.	System supplies	6-8 and 6-9	Section 6.11, Table 6-8
x	6.2	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System supplies	n/a	Section 6.8

Wholesale (x = required)	Order	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	6.2	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System supplies (recycled water)	6-3	n/a- Calleguas does not operate wastewater treatment facilities nor provide supplemental treatment to recycle water.
x	6.2	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the Supplier's service area.	System supplies (recycled water)	6-4	Section 6.6.2 and 6.6.3
x	6.2	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System supplies (recycled water)	6-4	Section 6.6.3
x	6.2	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the Supplier's service area at the end of 5, 10, 15, and 20 years, and describe the actual use of recycled water in comparison to uses previously projected.	System supplies (recycled water)	6-4 and 6-5	Section 6.6.3, Tabel 6-4, Table 6-5
x	6.2	Section 6.2.5	10633(f)	Describe the actions that may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System supplies (recycled water)	6-6	Section 6.6.4
x	6.2	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the Supplier's service area.	System supplies (recycled water)	n/a	Section 6.6.4
x	6.2	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System supplies	6-7	Section 6.7
x	6.2	Section 6.2.10	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water Supplier to address water supply reliability in average, single-dry, and for a period of drought lasting five consecutive water years.	System supplies	6-7	Section 6.10
x	6.3	Section 6.3 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a Supplier can readily obtain.	System suppliers, energy intensity	O-1A, O-1B, O-1C, and O-2	Section 6.12, Table 6-9
	7.1	Section 7.1	10634	Provide information on the quality of existing sources of water available to the Supplier and the manner in which water quality affects water management strategies and supply reliability.	Water supply reliability assessment	n/a	Section 6.2, 6.3, 7.1
x	7.2	Section 7.2	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the Supplier with the total projected water use over the next 20 years.	Water supply reliability assessment	7-2, 7-3, and 7-4	Section 7.1.4, Table 7-2, 7-3, and 7-4
x	7.2	Section 7.2.3	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water supply reliability assessment	n/a	Section 7.1
x	7.3	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water supply reliability assessment	n/a	Section 7.2, Table 7-5
x	7.3	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive years.	Water supply reliability assessment	n/a	Section 7.2.1
x	7.3	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water supply reliability assessment	n/a	Section 7.1
x	7.3	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the Supplier with the total projected water use for the drought period.	Water supply reliability assessment	7-5	Section 7.2, Table 7-5
x	7.3	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water supply reliability assessment	n/a	Section 7.1.1
x	8	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water shortage contingency planning	n/a	Appendix H
x	8	Chapter 8	10632(a)(1)	Provide an analysis of water supply reliability (from Guidebook Chapter 7) in the WSCP.	Water shortage contingency planning	n/a	Appendix H Section 2.0
x	8.2	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the Supplier will use each year to determine its water reliability.	Water shortage contingency planning	n/a	Appendix H Section 3.0
x	8.2	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the Supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water shortage contingency planning	n/a	Appendix H Section 3.0
x	8.3	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10%, 20%, 30%, 40%, 50% shortage, and greater than 50% shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water shortage contingency planning	n/a	Appendix H Section 4.0
x	8.3	Section 8.3	10632(a)(3)(B)	Suppliers with an existing WSCP that uses different water shortage levels must cross reference their categories with the six standard categories.	Water shortage contingency planning	8-1	n/a, WSCP uses the six standard stages
x	8.4	Section 8.4	10632(a)(4)(A)	Suppliers with WSCPs that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water shortage contingency planning	8-2	Appendix H Section 5.0
x	8.4	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water shortage contingency planning	8-3	Appendix H Section 5.1
x	8.4	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water shortage contingency planning	8-2	Appendix H Section 5.2
x	8.4	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to State-mandated prohibitions are appropriate to local conditions.	Water shortage contingency planning	Table 8-3	Appendix H Section 5.1.1
x	8.4	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water shortage contingency planning	8-2 and 8-3	Appendix H Section 5.0
x	8.4	Section 8.4.6	10632.5	The UWMP shall include a seismic risk assessment and mitigation plan.	Water shortage contingency plan	n/a	Appendix H Section 5.4
x	8.5	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water shortage contingency planning	n/a	Appendix H Section 6.0

Wholesale (x = required)	Order	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	8.5	Section 8.5	10632(a)(5)(B), 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water shortage contingency planning	n/a	Appendix H Section 6.0
x	8.7	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the Supplier to enforce shortage response actions.	Water shortage contingency planning	n/a	Appendix H Section 7.0
x	8.7	Section 8.7	10632(a)(7)(B)	Provide a statement that the Supplier will declare a water shortage emergency per Water Code Chapter 3. <i>Water Shortage Emergencies</i> .	Water shortage contingency planning	n/a	Appendix H Section 7.0
x	8.7	Section 8.7	10632(a)(7)(C)	Provide a statement that the Supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water shortage contingency planning	n/a	Appendix H Section 7.0
x	8.8	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water shortage contingency planning	n/a	Appendix H Section 8.0
x	8.8	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water shortage contingency planning	n/a	Appendix H Section 8.0
x	8.10	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the WSCP to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water shortage contingency planning	n/a	Appendix H Section 9.0
x	8.12	Section 8.12	10632(c)	Make available the WSCP to customers and any city or county where it provides water within 30 days after adoption of the plan.	Water shortage contingency planning	n/a	Appendix H Section 10.0
x	9.2	Sections 9.2	10631(e)(2)	Wholesale Suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and Supplier assistance program.	Demand management measures	n/a	Chapter 9
x	10.2	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the Supplier provides water that the Supplier will be reviewing the UWMP and considering amendments or changes to the plan.	Plan adoption, submittal, and implementation	10-1	Section 2.2 and 10.1
x	10.4	Section 10.4	10621(f)	Each urban water Supplier shall update and submit its 2025 plan to DWR by July 1, 2026.	Plan adoption, submittal, and implementation	n/a	Section 10.1
x	10.2	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the Supplier made the UWMP and WSCP available for public inspection, published notice of the public hearing, and held a public hearing about the UWMP and WSCP.	Plan adoption, submittal, and implementation	n/a	Section 10.1, Appendix D
x	10.2	Section 10.2.2	10642	The Supplier is to provide the time and place of the hearing to any city or county within which the Supplier provides water.	Plan adoption, submittal, and implementation	10-1	Section 10.1
x	10.3	Section 10.3.2	10642	Provide supporting documentation that the UWMP and WSCP has been adopted as prepared or modified.	Plan adoption, submittal, and implementation	n/a	Section 10.1, Appendix I
x	10.4	Section 10.4	10644(a)	Provide supporting documentation that the Supplier has submitted their UWMP to the California State Library.	Plan adoption, submittal, and implementation	n/a	Section 10.1
x	10.4	Section 10.4	10644(a)(1)	Provide supporting documentation that the Supplier has submitted their UWMP to any city or county within which the Supplier provides water no later than 30 days after adoption.	Plan adoption, submittal, and implementation	n/a	Section 10.1
x	10.4	Sections 10.4.1 and 10.4.2	10644(a)(2)	The UWMP, or amendments to the UWMP, submitted to DWR shall be submitted electronically.	Plan adoption, submittal, and implementation	n/a	Section 10.1
x	10.7	Section 10.7.2	10644(b)	If revised, submit a copy of the WSCP to DWR within 30 days of adoption.	Plan adoption, submittal, and implementation	n/a	Section 10.1
x	10.5	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its UWMP with DWR, the Supplier has or will make the plan available for public review during normal business hours.	Plan adoption, submittal, and implementation	n/a	Section 10.1
x	10.5	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its WSCP with DWR, the Supplier has or will make the plan available for public review during normal business hours.	Plan adoption, submittal, and implementation	n/a	Section 10.1
x	10.6	Section 10.6	10621(c)	If Supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan adoption, submittal, and implementation	n/a	n/a - Calleguas is not regulated by the CPUC

Appendix B Standardized Tables

B



Submittal Table 2-2: Plan Identification			
Select Only One	Type of Plan		
<input checked="" type="checkbox"/>	Individual UWMP		
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)	Name of RUWMP Drop down list	If "Other" specify name of RUWMP
NOTES:			

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
<input checked="" type="checkbox"/>	Supplier is a wholesale supplier
<input type="checkbox"/>	Supplier is a retail supplier
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables are in calendar years
<input type="checkbox"/>	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP (select from drop down)	
Unit	AF
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.	
NOTES:	

Submittal Table 2-4 Wholesale: Water Supplier Information Exchange (select one) Water Code Section 10631	
<input checked="" type="checkbox"/>	Supplier has informed more than 10 other water suppliers of water supplies available in accordance with Water Code Section 10631(h). Completion of the table below is optional. If not completed, include a list of the water suppliers that were informed.
Page 2-3	Provide page number for location of the list.
<input type="checkbox"/>	Supplier has informed 10 or fewer other water suppliers of water supplies available in accordance with Water Code Section 10631(h).
Water Supplier Name	
Add additional rows as needed	
Berylwood Heights Mutual Water Company	
Brandeis Mutual Water Company	
Butler Ranch Mutual Water Company	
California-American Mutual Water Company	
California Water Service Company	
Carmosa Water District	
City of Camarillo	
City of Oxnard*	
City of Thousand Oaks	
Crestview Mutual Water Company	
Golden State Water Company	
Pleasant Valley Mutual Water Company	
Solano Verde Mutual Water Company	
Triunfo Water and Sanitation District	
Ventura County Waterworks District No. 1 (VCWWD No. 1)	
Ventura County Waterworks District No. 8 (VCWWD No. 8)	
Ventura County Waterworks District No. 19 (VCWWD No. 19)	
Ventura County Waterworks District No. 38 (VCWWD No. 38)	
Zone Mutual Water Company	
NOTES: Calleguas indirectly serves the Port Hueneme Water Agency (PHWA) via the City of Oxnard. PHWA serves the City of Port Hueneme, Channel Islands Beach Community Services District, and the Naval Base Ventura County. Calleguas indirectly serves VCWWD No. 17 (Bell Canyon) via VCWWD No. 8.	

Submittal Table 3-1 Wholesale: Population - Current and Projected Water Code Section 10631(a)						
Population Served	2025	2030	2035	2040	2045	2050(opt)
	615,900	619,300	622,700	621,200	619,800	618,400
NOTES: Population estimates rounded to the nearest hundred.						

OPTIONAL Submittal Table 4-1 Wholesale: Total Uses for Potable and Non-Potable Water - Actual Water Code Section 10631(d)(1)			
Use Type	Additional Description (as needed)	2025 Actual	
Drop down list May select each use multiple times These are the only use types that will be recognized by the WUE data online submittal tool		Level of Treatment When Delivered (OPTIONAL) Drop down list	Volume
Add additional rows as needed			
Sales to other agencies	Potable water deliveries	Potable	72,740
Other (optional)	Replenishment water	Potable	756
Sales to other agencies	Recycled water deliveries to Simi Valley	Non-Potable	127
Total			73,623
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. USER TESTING: For reporting of STORAGE, see guidance in email.			
NOTES: Other water use includes annual inputs put into Lake Bard and Las Posas ASR for storage. Excludes water put into storage and produced in the same year.			

OPTIONAL Submittal Table 4-2 Wholesale: Uses for Potable and Non-Potable Water - Projected | Water Code Section 10631(d)(1)

Use Type		Projected Water Use (Report To the Extent that Records are Available)					
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool.	Additional Description (as needed)	Level of Treatment When Delivered (OPTIONAL) Drop down list	2030	2035	2040	2045	2050 (opt)
Add additional rows as needed							
Sales to other agencies	Potable water deliveries	Potable	72,700	74,090	74,380	75,770	76,390
Other (optional)	Replenishment water	Potable	650	650	650	650	650
Sales to other agencies	Recycled water deliveries to Simi Valley	Non-Potable	80	80	80	80	80
Total:			73,430	74,820	75,110	76,500	77,120
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.							
USER TESTING: For reporting of STORAGE, see guidance in email.							
NOTES:							

Submittal Table 6-1 Wholesale: Groundwater Volume Pumped Water Code Section 10631(4) and 10631(4)(C)							
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.						
<input type="checkbox"/>	All or part of the groundwater described below is desalinated.						
Groundwater Type Drop Down List May use each category multiple times	Water Type (OPTIONAL) Drop down list	Location or Basin Name	2021	2022	2023	2024	2025
Add additional rows as needed							
Alluvial Basin	Potable	East Las Posas	173	4,269	167	397	846
Total:			173	4,269	167	397	846
DWR NOTES Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.							
NOTES: Only production from the Las Posas ASR Project is listed. Calleguas injects imported water to the basin for storage and subsequent use during a water shortage.							

Submittal Table 6-3 Wholesale: Wastewater Treatment and Discharge Within Service Area in 2025 Water Code Section 10633(a)														
<input checked="" type="checkbox"/>	Wholesale Supplier neither distributes nor provides supplemental treatment to recycled water. The Supplier will not complete the table below.													
Wastewater Treatment Plant Name and Place ID Number Drop down list	Does This Plant Treat Wastewater Generated Outside the UWMP Service Area? (OPTIONAL) Drop down list	2025 Volume of Wastewater Received from UWMP Service Area	Total 2025 Volume of Water Treated	2025 End Uses of Wastewater in UWMP Service Area										
				Recycled Water Within UWMP Service Area		Recycled Water Outside of UWMP Service Area		Wastewater Discharged		Instream Flow Permit Requirements		Wastewater Delivered to Another Entity		
				Recycled Water Standard or Treatment Level Drop down list	Volume	Recycled Water Standard or Treatment Level Drop down list	Volume	Recycled Water Standard or Treatment Level Drop down list	Volume	Recycled Water Standard or Treatment Level Drop down list	Volume	Recycled Water Standard or Treatment Level Drop down list	Volume	Name of other entity
Add additional rows as needed.														
Total:		0	0		0		0		0		0		0	
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.														
NOTES:														

Submittal Table 6-4 Wholesale: Current and Projected Recycled Water Uses Water Code Section 10633(c)										
<input type="checkbox"/>		Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will only complete the column on "Potential Recycled Water Use" and submit an accompanying narrative on the feasibility of that potential recycled water use.								
Name(s) of Facility/ies Producing (Treating) the Recycled Water (OPTIONAL) :					City of Simi Valley Wastewater Treatment Plant					
Name of Supplier Operating the Recycled Water Distribution System (OPTIONAL) :					Calleguas Municipal Water District					
Supplemental Water Added in 2025 (volume) Include units (OPTIONAL) :					0					
Source of 2025 Supplemental Water (OPTIONAL) :					N/A					
Name of Receiving Supplier or Direct Use by Wholesale Supplier	Water Type (after treatment if treated) (OPTIONAL) Drop down list	Additional Information (as needed)	2025	2030	2035	2040	2045	2050 (opt)	Potential Recycled	
									Volume	Narrative page number
VCWWD No. 8 (City of Simi Valley)	Non-Potable		127	80	80	80	80	80	N/A	Section 6.6.4
Total:			127	80	80	80	80	80	0	
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. Potential recycled water use - a description of the feasibility of these uses must be included in the narrative.										
NOTES: Calleguas does not operate any wastewater treatment facilities, however it does own a small pipeline that provides recycled water to the City of Simi Valley (VCWWD No. 8). In the future, it is expected that the City of Simi Valley will take on ownership, operation, and maintenance of this delivery facility.										

Submittal Table 6-5 Wholesale: 2020 UWMP Recycled Water Use Projection Compared to 2025 Actual Water Code Section 10633		
<input type="checkbox"/>	Recycled water was not used or distributed by the supplier in 2025, nor projected for use or distribution in 2020. The wholesale supplier will not complete the table below.	
Name of Receiving Supplier or Direct Use by Wholesale Supplier	2020 Projection for 2025	2025 Actual Use
Add additional rows as needed		
VCWWD No. 8 (City of Simi Valley)	80	127
Total:	80	127
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.		
NOTES:		

Submittal Table 6-7 Wholesale: Expected Future Water Supply Projects or Programs Water Code Section 10631(f)							
<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.						
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) Drop down list	Planned Implementation Year	Planned for Use in Year Type Drop Down list	Expected Increase in Water Supply to Supplier (This may be a range)
	Drop Down List (yes/no)	If Yes, Supplier Name					
Add additional rows as needed							
Crestview Well No. 8 and Agreement to Deliver Water During an Outage	Yes	Crestview Mututal Water Company	Calleguas would fund the construction of an additional well (Well No. 8) for Crestview Mutual Water Company. In exchange, at least 3 cubic feet per second (CFS) of water could be delivered under outage conditions to Calleguas or its member purveyors.	Potable	2028	Outage	3 cfs/ Up to 1,086 AF during a 6-month imported outage
Fairview Well Rehabilitation	No		Fairview Well was installed in 1993 and operated as an ASR well until it was taken offline in 1998. This project would involve rehabilitation of the well and water would be produced from the well in the event of an imported water outage.	Potable	2028	Outage	1.3 cfs/ up to 470 AF during a 6-month imported outage
Lake Bard Pumps	No		Calleguas' Lake Bard has a capacity of 10,500 AF. Due to hydraulic constraints, only 7,500 AF can be treated and delivered as potable water. This project includes the construction of a pump station that would provide sufficient hydraulic head to flow the remaining 3,000 AF through the Lake Bard Water Filtration Plant.	Potable	TBD	Outage	3,000 AF
City of Ventura SWP Interconnection	Yes	Metropolitan Water District, City of Ventura, United Water Conservation District, Casitas MWD	A pipeline would be constructed to connect Calleguas' and the City of Ventura systems. SWP water would be wheeled to Ventura and Casitas through Metropolitan's and Calleguas' systems. Under outage conditions, Ventura would deliver water to Calleguas.	Potable	2027	Outage	5-13 cfs/ up to 1,810-4,706 AF during a 6-month imported outage
Northern Reach of Calleguas Creek Watershed Desalter Project	Yes	City of Simi Valley, VCWWD, Camarillo	A new desalter treatment facility located in the Calleguas Creek Watershed. This may include expanding the existing North Pleasant Valley in Camarillo to produce an additional 3,800 AFY, constructing the Moorpark desalter up to 2,500 AFY, or the Simi Valley Desalter up to 5,500 AFY. These desalter projects use the same source supply for treatment, and are mutually exclusive.	Potable	2035	All Year Types	3,600 – 5,500 AFY
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.							
NOTES:							

Submittal Table 6-8 Wholesale: Water Supplies — Actual 2025 | Water Code Section 10631(b)

Water Supply	Additional Description (as needed)	2025		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume	Water Type (after treatment if treated) (OPTIONAL) Drop Down list	Total Right or Safe or Sustainable Yield (OPTIONAL)
Purchased or Imported Water	Potable water from Metropolitan	73,496	Potable	
Recycled Water	Recycled water sales to VCWWD No. 8	127	Potable	
Total:		73,623		0
<p>DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. USER TESTING: For reporting of STORAGE, see guidance in email.</p>				
<p>NOTES:</p>				

OPTIONAL Submittal Table 6-8DS: Source Water Desalination by Urban Water Supplier

<input checked="" type="checkbox"/>	Supplier does not reduce salinity in either groundwater or surface water prior to distribution.										
Desalination Facility (Drop Down list)	Plant Capacity	Intake Type Drop down list	Source Water Type Drop down list	Influent TDS	Brine Discharge Drop down list	Volume of Water Desalinated					Name(s) of Agencies that Receive this Water
						2021	2022	2023	2024	2025	
Total:						0	0	0	0	0	
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.											
NOTES:											

Submittal Table 6-9 Wholesale: Water Supplies — Projected | Water Code Section 10631 (b)

Water Supply			Projected Water Supply (Report to the Extent Practicable)									
May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	Water Type (after treatment if treated) (OPTIONAL) Drop Down list	2030		2035		2040		2045		2050 (opt)	
			Reasonably Available Volume	Total Right or Safe or Sustainable Yield (OPTIONAL)	Reasonably Available Volume	Total Right or Safe or Sustainable Yield (OPTIONAL)	Reasonably Available Volume	Total Right or Safe or Sustainable Yield (OPTIONAL)	Reasonably Available Volume	Total Right or Safe or Sustainable Yield (OPTIONAL)	Reasonably Available Volume	Total Right or Safe or Sustainable Yield (OPTIONAL)
Purchased or Imported Water	Potable water from Metropolitan	Potable	73,350		74,740		75,030		76,420		77,040	
Recycled Water	Recycled water sales to VCWWD No. 8	Non-Potable	80		80		80		80		80	
Total:			73,430		74,820	0	75,110		76,500		77,120	

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.

NOTES: NOTES:

1.Imported water projections includes potable sales demand and replenishment water.

2.Calleguas does not operate any wastewater treatment facilities, however it does own a small pipeline that provides recycled water to the City of Simi Valley (VCWWD No. 8). In the future, it is expected that the City of Simi Valley will take on ownership, operation, and maintenance of this delivery facility.

Table O-1B: Recommended Energy Reporting - SINGLE DELIVERY PRODUCT - TOTAL UTILITY APPROACH

Water Delivery Product drop down list (If delivering more than one type of product use Table O-	Retail Potable Deliveries	Urban Water Supplier Operational Control		
Start Date of Reporting Period	1/1/2024	Sum of All Water Management Processes	Non-Consequential Hydropower	
End Date of Reporting Period	12/31/2024			
Is upstream embedded energy in the values reported?	No			
Units of Measure for Water	AF	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process		69,322		69322.1
Energy Consumed (kWh)		6,221,738	-5,746,233	475505
Energy Intensity (kWh/vol. converted to MG)		275.44	0	21.05
Quantity of Self-Generated Renewable Energy				
0 kWh				
Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)				
Metered Data				
Data Quality Narrative:				
2024 metered potable water sales, metered energy useage from Southern California Edison, metered hydropower generation at Calleguas's five hydropower generation faillities.				
Narrative:				
Includes hydropower generation from the Conejo, East Portal, Springville, Santa Rosa, and Grandsen hydropower facilities.				

OPTIONAL Submittal Table 7-1 Wholesale: Basis of Water Year Data (Reliability Assessment)

Year Type	Base Year (If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2024-2025, use 2025)	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not
		Quantification of available supplies is provided in this	
		Volume Available	% of Average Supply
Average Year	Average supply based on projections developed for Calleguas's 2025 WRIS _t based on Metropolitan's 2002 IRP coresponding to the 1922-2017 hydrology	200,000	100%
Single-Dry Year	Minimum supply for a single-dry year based on projections developed for Calleguas's 2025 WRIS _t based on Metropolitan's 2020 IRP coresponding to the 1977 hydrology	69,430	35%
Consecutive Dry Years 1st Year	Minimum supply for a 5-dry year scenario based on projections developed for Calleguas's 2025 WRIS _t based on Metropolitan's 2020 IRP coresponding to the 2002-2006 hydrology	91,600	46%
Consecutive Dry Years 2nd Year		102,300	51%
Consecutive Dry Years 3rd Year		79,500	40%
Consecutive Dry Years 4th Year		103,100	52%
Consecutive Dry Years 5th Year		61,500	31%
<p>DWR NOTES: Supplier may use multiple versions of Submittal Table 7-1 W if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Submittal Table 7-1 W, in the "Note" section of each submittal table, state that multiple versions of Submittal Table 7-1 W are being used and identify the particular water source that is being reported in each submittal table.</p> <p>Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.</p>			
<p>NOTES: Table shows imported water supply availability only.</p>			

Submittal Table 7-2 Wholesale: Normal Year Supply and Use Comparison Water Code Section 10635 (a)					
	2030	2035	2040	2045	2050 (Opt)
Supply Totals (autofill from Submittal Table 6-9 W):	73,430	74,820	75,110	76,500	77,120
Use Totals:	73,430	74,820	75,110	76,500	77,120
Surplus/(shortfall)	0	0	0	0	0
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
NOTES					

Submittal Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison | Water Code Section 10635(a)

	2030	2035	2040	2045	2050 (Opt)
Supply Totals:	74,510	78,310	78,310	78,310	78,310
Use Totals:	73,430	74,820	75,110	76,500	77,120
Surplus/(shortfall)	1,080	3,490	3,200	1,810	1,190
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES:					

Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison | Water Code Section 10635(a)

		2030	2035	2040	2045	2050 (Opt)
First Year	Supply Totals:	96,680	100,480	100,480	100,480	100,480
	Use Totals:	73,430	74,820	75,110	76,500	77,120
	Surplus/(shortfall)	23250	25660	25370	23980	23360
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Second Year	Supply Totals:	107,380	111,180	111,180	111,180	111,180
	Use Totals:	73,430	74,820	75,110	76,500	77,120
	Surplus/(shortfall)	33,950	36,360	36,070	34,680	34,060
	OPTIONAL WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Third Year	Supply Totals:	84,580	88,380	88,380	88,380	88,380
	Use Totals:	73,430	74,820	75,110	76,500	77,120
	Surplus/(shortfall)	11,150	13,560	13,270	11,880	11,260
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					

Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison | Water Code Section 10635(a)

Fourth Year	Supply Totals:	108,180	111,980	111,980	111,980	111,980
	Use Totals:	73,430	74,820	75,110	76,500	77,120
	Surplus/(shortfall)	34,750	37,160	36,870	35,480	34,860
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fifth Year	Supply Totals:	63,280	63,280	63,280	63,280	63,280
	Use Totals:	73,430	74,820	75,110	76,500	77,120
	Surplus/(shortfall)	-10,150	-11,540	-11,830	-13,220	-13,840
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit	10,150	11,540	11,830	13,220	13,840
	Revised Surplus/(shortfall)	0	0	0	0	0
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.						
NOTES:						

Submittal Table 7-5 Wholesale: Five-Year Drought Risk Assessment Water Code Section 10635(b)(3)	
2026	Total
Total Water Use:	73650
Total Supplies:	73650
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
2027	Total
Total Water Use:	73830
Total Supplies:	73830
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
2028	Total
Total Water Use:	74010
Total Supplies:	74010
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
2029	Total
Total Water Use:	74190
Total Supplies:	74190
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	

Submittal Table 7-5 Wholesale: Five-Year Drought Risk Assessment Water Code Section 10635(b)(3)	
2030	Total
Total Water Use:	74370
Total Supplies:	74370
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.	
NOTES:	

Submittal Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
<input checked="" type="checkbox"/>	Supplier Uses the Standard Six Levels of Water Shortage. The 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%		
NOTES:			
10632 (a) Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan that consists of each of the following elements:			
(3)(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.			
(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.			

Submittal Table 8-2 Wholesale: Supply Augmentation and Other Actions Water Code Section 10632(a)(4)(A),(C) and (E)			
Yes	Is the Supplier completing this table using the standard six levels?		
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier Drop down list 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? Include units used (volume type or percentage)	Additional Explanation or Reference (OPTIONAL)
1-6	Stored Emergency Supply	5,000 AFY	Pump and deliver water from Las Posas ASR Wellfield.
6	Stored Emergency Supply	7,500 AFY	Treat and deliver water from Lake Bard. This would only be used during and imported water outage. Volume shown assumes a 6-month imported water outage.
6	Transfers	1,800 - 4,700 AFY	Receive water from Las Virgenes Municipal Water District through the Calleguas-Las Virgenes Interconnection. This would only be used during and imported water outage. Volume shown assumes a 6-month imported water outage.
6	Transfers	1,085 AFY	Receive water from Crestview through the Crestview Interconnection. This would only be used during and imported water outage. Volume shown assumes a 6-month imported water outage.
NOTES:			

Submittal Table 8-3 Wholesale: Demand Reduction Actions | Water Code Section 10632(a)(4)(B) and (E)

Yes	Is the Supplier completing this table using the standard six levels? (yes/no)		
Shortage Level	Demand Reduction Actions Drop down list These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap? Include units used (volume type or percentage)	Additional Explanation or Reference (OPTIONAL)
Add additional rows as needed			
1	Expand Public Information Campaign	0-100%	
1	Provide Rebates on Plumbing Fixtures and Devices	0-100%	
1	Provide Rebates for Landscape Irrigation Efficiency	0-100%	
1	Provide Rebates for Turf Replacement	0-100%	
1	Other	0-100%	Implement new conservation and water efficiency programs
1	Other	0-100%	Call for voluntary retailer supply shift to non-imported potable sources
1	Other	0-100%	Call for voluntary retailer water use reductions
1	Reduce System Water Loss	0-100%	
1	Other	0-100%	Make funding available for Retail Partners to implement their WSCP actions
2	Other	0-100%	Implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 20%.
3	Landscape - Limit landscape irrigation to specific days	0-100%	Implement mandatory landscape watering restrictions.
3	Other	0-100%	Implement monthly volumetric limits for imported water supplies.
3	Other	0-100%	Implement and expand one or more of the shortage response actions listed for Stage 1-2 to achieve demand reduction target of 30%.
4	Other	0-100%	Implement and expand one or more of the shortage response actions listed for Stage 1-3 to achieve demand reduction target of 40%.
5	Other	0-100%	Implement and expand one or more of the shortage response actions listed for Stage 1-4 to achieve demand reduction target of 50%.
6	Moratorium or Net Zero Demand Increase on New Connections	0-100%	
6	Other	0-100%	Implement an outage response and allocation system.
6	Other	0-100%	Implement and expand one or more of the shortage response actions listed for Stage 1-5 to achieve demand reduction target of greater than 50%.
NOTES:			

Submittal Table 10-1 Wholesale: Notification to Cities and Counties (select one) | Water Code Section 10621(b) and 10642

<input type="checkbox"/>	Supplier has notified more than 10 cities or counties in accordance with Water Code Sections 10621 (b) and 10642.	
	Provide the page or location of this list in the UWMP.	
<input checked="" type="checkbox"/>	Supplier has notified 10 or fewer cities or counties.	
City Name	60 Day Notice	Notice of Public Hearing
City of Camarillo	Yes	Yes
City of Moorpark	Yes	Yes
City of Oxnard	Yes	Yes
City of Simi Valley	Yes	Yes
City of Thousand Oaks	Yes	Yes
City of Port Hueneme	Yes	Yes
County Name Drop Down List	60 Day Notice	Notice of Public Hearing
Ventura County	Yes	Yes
NOTES:		

Appendix C Delta Reliance



Calleguas Municipal Water District

2025 UWMP Appendix C: Reduced Delta Reliance Reporting

1.0 Background

Calleguas Municipal Water District (Calleguas) is a Member Agency of the Metropolitan Water District of Southern California (Metropolitan). Metropolitan provides Calleguas with imported water supplies, which Calleguas in turn distributes on a wholesale basis to its purveyors. Metropolitan is a contractor on the State Water Project (SWP) and virtually all imported water supplies made available to Calleguas originate from the SWP system. The SWP system runs from Lake Oroville in Northern California to Southern California, crossing the Sacramento-San Joaquin Delta (Delta) along the way.

Calleguas is an urban water supplier that anticipates receiving water from a proposed covered action, such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta. Through this appendix, Calleguas is providing information in 2025 Urban Water Management Plan (UWMP) that may be used in the covered action process to demonstrate consistency with Delta Plan Policy WR P1, *Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance* (WR P1).¹

Delta Plan Policy WR P1 is one of fourteen regulatory policies in the Delta Plan. The Delta Plan was adopted in 2013 by the Delta Stewardship Council. Delta Plan Policy WR P1 identifies UWMPs as a tool to demonstrate consistency with state policy to reduce reliance on the Delta for a supplier that carries out or takes part in a covered action. WR P1 details what is needed for a covered action to demonstrate consistency with reduced reliance on the Delta and improved regional self-reliance. WR P1 subsection (a) states that:

- (a) Water shall not be exported from, transferred through, or used in the Delta if all of the following apply:*
- (1) One or more water suppliers that would receive water as a result of the export, transfer, or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);*
 - (2) That failure has significantly caused the need for the export, transfer, or use; and*

¹ Cal. Code Regs., tit. 23, § 5003.

- (3) *The export, transfer, or use would have a significant adverse environmental impact in the Delta.*

WR P1 subsection (c)(1) further defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above.

(c)(1) Water suppliers that have done all the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:

- (A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;*
- (B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and*
- (C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).*

The analysis and documentation provided below include all the elements described in WR P1(c)(1) and are included in Calleguas's UWMP to support a certification of consistency for a future covered action.

2.0 Summary of Expected Outcomes for Reduced Reliance on the Delta

As stated in WR P1(c)(1), the policy requires that, commencing in 2015, UWMPs include expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance. WR P1 further states that those outcomes shall be reported in the UWMP as the reduction in the amount of water used, or in the percentage of water used, from the Delta.

It is important to note that Metropolitan reports the expected outcomes for reduced reliance on the Delta in its 2025 UWMP on a region-wide scale that includes its Member Agencies. From its 2010 baseline, both long-term Regional Self-Reliance and Reduced Reliance on Supplies from the Delta Watershed are expected to increase over time.

Calleguas will report its own expected outcomes for Regional Self-Reliance. This report uses the approach and guidance described in Appendix C of DWR's Urban Water Management Plan Guidebook 2025 (Guidebook Appendix C) issued in January 2026.

As discussed in Section 4.0, Metropolitan's Member Agencies and their customers indirectly reduce reliance on the Delta through collective efforts as a cooperative. Therefore, Calleguas

will report Metropolitan's expected outcomes for Reduced Reliance on Supplies from the Delta Watershed.

The following provides a summary of the near-term (2030) and long-term (2050) expected outcomes for Calleguas's Delta reliance and regional self-reliance. The results show that on a District-wide scale, Calleguas and its purveyors are measurably reducing reliance on the Delta and improving regional self-reliance, both as an amount of water used and as a percentage of water used.

2.1 Expected Outcomes for Regional Self-Reliance for Calleguas

- Near-term (2030) – Normal water regional self-reliance is expected to increase by 103,000 acre-feet (AF) from the 2010 baseline; this represents an increase of about 25% of 2030 normal water year retail demands (Table 3).
- Long-term (2050) – Normal water regional self-reliance is expected to increase by 101,000 AF from the 2010 baseline; this represents an increase of about 24% of 2050 normal water year retail demands (Table 3).

2.2 Expected Outcomes for Reduced Reliance on Supplies from the Delta Watershed for Metropolitan

- Near-term (2030) – Normal water year reliance on supplies from the Delta watershed decreased by 466,000 AF from the 2010 baseline, this represents a decrease of 6.5% of 2025 normal water year retail demands (Table 4).
- Long-term (2050) – Normal water year reliance on supplies from the Delta watershed decreased by 537,000 AF from the 2010 baseline, this represents a decrease of just over 9.4% of 2045 normal water year retail demands (Table 4).

3.0 Demonstration of Reduced Reliance on the Delta

The methodology used to determine Metropolitan's reduced Delta reliance and Calleguas's improved regional self-reliance is consistent with the approach detailed in DWR's UWMP Guidebook Appendix C, including the use of narrative justifications for the accounting of supplies and the documentation of specific data sources. Some of the key assumptions underlying these analyses include:

- A future SWP Interconnection will enable wheeling of SWP water supplies through Metropolitan and Calleguas to the City of Ventura. This program would be online no earlier than 2027, and with a potential long-term average of no more than 4,700 AFY. As this supply would be wheeled through the Calleguas distribution system to satisfy demands outside of the District’s service area, this program was excluded from Calleguas’ analysis of reduced reliance on the Delta. More description on these water supplies can be found in Section 6.8 – Water Exchanges, Transfers, and Other in the Calleguas 2025 UWMP.
- All data were obtained from the current 2025 UWMP or previously adopted UWMPs and represent average or normal water year conditions.
- The analysis of Regional Self-Reliance was conducted at the Calleguas, District-wide level, and all data reflect the total contributions of its purveyors.
- The analysis of Reduced Reliance on Supplies from the Delta Watershed was conducted at the Metropolitan service area level, and all data reflect the total contributions of Metropolitan and its members as well as their customers.

3.1 Baseline and Calculation of Water Use Efficiency

In order to calculate the expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance, a baseline is needed to compare against. This analysis uses a normal water year representation of 2010 as the baseline, which is consistent with the approach described in the Guidebook Appendix C.

As shown in Table 1 and Note: The decline in population from 2025, as estimated in Calleguas’s 2020 UWMP, to 2030, as estimated in Calleguas’s 2025 UWMP, reflects adjustments based on the 2020 U.S. Census and updated population projections for Ventura County. These updated projections assume lower population growth than prior UWMPs, reflecting recent population contraction, declining migration inflows, and broader regional demographic trends (Southern California Association of Governments, 2024).

Table 2, Calleguas utilized the optional calculation tool to determine its Water Use Efficiency Since Baseline.

Table 1. Calculation of Water Use Efficiency

Service Area Water Use Efficiency Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	186,041	179,818	163,667	142,158	124,710	124,380	124,180	125,210	125,520
Non-Potable Water Demands	14,015	19,340	17,312	13,406	8,300	8,560	9,060	9,570	10,070
Potable Service Area Demands with Water Use Efficiency Accounted For	172,026	160,478	146,355	128,752	116,410	115,820	115,120	115,640	115,450

Total Service Area Population	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Population	634,800	659,330	656,804	669,437	619,300	622,700	621,200	619,800	618,400

Water Use Efficiency Since Baseline (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Per Capita Water Use (GPCD)	242	217	199	172	168	166	165	167	167
Change in Per Capita Water Use from Baseline (GPCD)		(25)	(43)	(70)	(74)	(76)	(76)	(75)	(75)
Estimated Water Use Efficiency Since Baseline		18,195	31,634	52,660	51,416	52,927	53,221	52,321	52,132

Note: The decline in population from 2025, as estimated in Calleguas's 2020 UWMP, to 2030, as estimated in Calleguas's 2025 UWMP, reflects adjustments based on the 2020 U.S. Census and updated population projections for Ventura County. These updated projections assume lower population growth than prior UWMPs, reflecting recent population contraction, declining migration inflows, and broader regional demographic trends (Southern California Association of Governments, 2024).

Table 2. Calculation of Service Area Water Demands Without Water Use Efficiency

Total Service Area Water Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	186,041	179,818	163,667	142,158	124,710	124,380	124,180	125,210	125,520
Reported Water Use Efficiency or Estimated Water Use Efficiency Since Baseline		18,195	31,634	52,660	51,416	52,927	53,221	52,321	52,132
Service Area Water Demands without Water Use Efficiency Accounted For	186,041	198,013	195,301	194,818	176,126	177,307	177,401	177,531	177,652

Data used in these calculations are explained below:

Service Area Demands with Water Use Efficiency Accounted For

The demand data shown in Table 1 were collected from the following sources and calculated in Note: The decline in population from 2025, as estimated in Calleguas's 2020 UWMP, to 2030, as estimated in Calleguas's 2025 UWMP, reflects adjustments based on the 2020 U.S. Census and updated population projections for Ventura County. These updated projections assume lower population growth than prior UWMPs, reflecting recent population contraction, declining migration inflows, and broader regional demographic trends (Southern California Association of Governments, 2024).

Table 2:

- Baseline (2010) value – Calleguas's 2010 UWMP, Table 3-3: Calleguas's Total Demand Projections
- 2015 value – Calleguas's 2010 UWMP, Table 3-3: Calleguas's Total Demand Projections
- 2020 value – Calleguas's 2015 UWMP, Appendix B – Aggregate Purveyor Supply/Demand Projections, pg. 92 Net Demand Reconciliation – Normal Year, 2020 Total Demand: 163,667 AF
- 2025 value – Calleguas's 2020 UWMP, Appendix D – Calleguas Municipal Water District Normal Year, Total Demands After Conservation
- 2030-2050 values – Calleguas's 2025 UWMP, Table 4-2 Projected 2030-2050 Demand

Non-Potable Water Demands

The demand data shown in Table 1 were collected from the following sources (note: non-potable water demands correlate directly to forecasted non-potable, local supply projections):

- Baseline (2010) value – Calleguas's 2010 UWMP, Table 2-8 Calleguas's Local Supply Projections for Average Year Conditions, Recycled Wastewater (6,947 AF) + Non-Potable Groundwater (7,068 AF). Note: Non-potable Water Demand estimates from Calleguas' 2005 UWMP were not used due to data quality concerns.
- 2015 value – Calleguas's 2010 UWMP, Table 2-8 Calleguas's Local Supply Projections for Average Year Conditions, Recycled Wastewater (12,009 AF) + Non-Potable Groundwater (7,331 AF)
- 2020 value – Calleguas's 2015 UWMP, Appendix B – Aggregate Purveyor Supply/Demand Projections, pg. 80 Summary of Recycled Supplies – Normal Year, 2020 Total Normal Year Recycled Supply: 9,485 AF, pg. 84 Summary of Non-Potable Groundwater Supplies – Normal Year, 2020 Total Normal Year Non-Potable Groundwater Supply: 7,827 AF
- 2025 value - Calleguas's 2020 UWMP, Appendix D – Calleguas Municipal Water District Normal Year, Local Supplies, Recycling
- 2030-2050 values – Calleguas's 2025 UWMP, Table 4-2 Projected 2030-2050 Demand, Projected recycled water supplies provided by purveyors

Total Service Area Population

The population data shown in Table 1 were collected from the following sources:

- Baseline (2010) value – Calleguas’s 2005 UWMP Table 1-3 Calleguas Service Area Projections, MWD
- 2015 value – Calleguas’s 2010 UWMP, Table 1-3 Calleguas Service Area Population Projections, MWD Projections
- 2020 value – Calleguas’s 2015 UWMP, Table 3-1 Population – Current and Projected
- 2025 value – Calleguas’s 2020 UWMP, Appendix D – Calleguas Municipal Water District Normal Year, Demographics
- 2030-2030 values – Calleguas’s 2025 UWMP, Table 3-6 Calleguas Service Area Current and Projected Population

Water Use Efficiency Since Baseline

As demonstrated in Note: The decline in population from 2025, as estimated in Calleguas’s 2020 UWMP, to 2030, as estimated in Calleguas’s 2025 UWMP, reflects adjustments based on the 2020 U.S. Census and updated population projections for Ventura County. These updated projections assume lower population growth than prior UWMPs, reflecting recent population contraction, declining migration inflows, and broader regional demographic trends (Southern California Association of Governments, 2024).

Table 2, the Calleguas service area has seen a significant increase in water use efficiency since the 2010 baseline. Imported water demands are forecasted to decrease into the future as Calleguas and purveyors expand and/or implement new local supply programs.

Total Service Area Water Demands

Following the calculation of “Reported Water Use Efficiency”, those demands are added to “Service Area Water Demands with Water Use Efficiency Accounted For” to reflect the total retail water demands for the Calleguas service area (Note: The decline in population from 2025, as estimated in Calleguas’s 2020 UWMP, to 2030, as estimated in Calleguas’s 2025 UWMP, reflects adjustments based on the 2020 U.S. Census and updated population projections for Ventura County. These updated projections assume lower population growth than prior UWMPs, reflecting recent population contraction, declining migration inflows, and broader regional demographic trends (Southern California Association of Governments, 2024).

Table 2).

3.2 Water Supplies Contributing to Regional Self-Reliance

For a covered action to demonstrate consistency with the Delta Plan, WR P1(c)(1) states that water suppliers must report the expected outcomes for measurable improvement in regional self-reliance. Table 3 shows expected outcomes for supplies contributing to regional self-reliance both in amount and as a percentage. The numbers shown in Table 3 represent efforts

to improve regional self-reliance for the Calleguas service area and include the total contributions of Calleguas and its purveyors.

Supporting narratives and documentation for all the data shown in Table 3 are provided below:

Water Use Efficiency

The water use efficiency information shown in Table 3 is taken directly from Table 2. It is now reflected as a supply contributing to regional self-reliance.

Water Recycling (Non-potable)

The water recycling values shown in Table 3 are supplies to meet the projected “Non-potable Water Demands” shown in Table 1. A description on these water supplies can be found in Section 6.6 – Wastewater and Recycled Water in the Calleguas’s 2025 UWMP.

Local and Regional Water Supply and Storage Projects

The local and regional water supply and storage projects data shown in Table 3 include local groundwater recovery and groundwater desalter production in Calleguas’s service area, and were collected from the following sources:

- Baseline (2010) value – Calleguas’s 2010 UWMP Table 2-8 Calleguas’s Local Supply Projections for Average Year Conditions
- 2015 value – Calleguas’s 2010 UWMP Table 2-8 Calleguas’s Local Supply Projections for Average Year Conditions
- 2020 value – Calleguas’s 2015 UWMP, Appendix B – Aggregate Purveyor Supply/Demand Projections pages 82-86, 2020 Normal Year sum of Potable Groundwater Supplies (34,665 AF), Non-Potable Groundwater Supplies (7,827 AF), and Recovered Groundwater Supplies (12,350 AF)
- 2025 values – Calleguas’s 2020 UWMP, Appendix D – Calleguas Municipal Water District Normal Year, Local Supplies, Groundwater Production and Groundwater Recovery
- 2030-2050 values – Calleguas’s 2025 UWMP, Table 4-2 Projected 2030-2050 Demand, Projected local groundwater water supplies provided by purveyors

The results shown in Table 3 demonstrate that Calleguas is improving its regional self-reliance. Water supplies contributing to regional self-reliance are projected to increase over time. The following provides a summary of the near-term (2030) and long-term (2050) expected outcomes for Calleguas’s improved regional self-reliance:

- Near-term (2030) – The expected outcome for normal water year regional self-reliance increases by about 41,000 AF from the 2010 baseline; this represents an increase of about 25% of 2030 normal water year retail demands.
- Long-Term (2050) – In the long-term, normal water year regional self-reliance is expected to increase to about 39,000 AF from the 2010 baseline. This represents a decrease of 23% of 2050 normal water year retail demands.

Table 3. Water Supplies Contributing to Regional Self-Reliance

Water Supplies Contributing to Regional Self-Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Water Use Efficiency	-	18,195	31,634	52,660	51,416	52,927	53,221	52,321	52,132
Water Recycling	14,015	19,340	17,312	13,406	8,300	8,560	9,060	9,570	10,070
Stormwater Capture and Use									
Advanced Water Technologies									
Conjunctive Use Projects									
Local and Regional Water Supply and Storage Projects	47,962	47,996	54,842	42,145	43,710	41,740	40,720	39,870	39,060
Other Programs and Projects the Contribute to Regional Self-Reliance									
Water Supplies Contributing to Regional Self-Reliance	61,977	85,531	103,788	108,211	103,426	103,227	103,001	101,761	101,262

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	186,041	198,013	195,301	194,818	176,126	177,307	177,401	177,531	177,652

Change in Regional Self Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Water Supplies Contributing to Regional Self-Reliance	61,977	85,531	103,788	108,211	103,426	103,227	103,001	101,761	101,262
Change in Water Supplies Contributing to Regional Self-Reliance		23,554	41,811	46,234	41,449	41,250	41,024	39,784	39,285

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Percent of Water Supplies Contributing to Regional Self-Reliance	33.3%	43.2%	53.1%	55.5%	58.7%	58.2%	58.1%	57.3%	57.0%
Change in Percent of Water Supplies Contributing to Regional Self-Reliance		9.9%	19.8%	22.2%	25.4%	24.9%	24.7%	24.0%	23.7%

3.3 Reliance on Water Supplies from the Delta Watershed

WR P1(c)(1) requires that water suppliers report the expected outcomes for measurable reductions in supplies from the Delta watershed either as an amount or as a percentage.

For reduced reliance on supplies from the Delta Watershed, the data used in this analysis represent the total regional efforts of Metropolitan and its member agencies (e.g., Calleguas) and their customers (many of them retail agencies), and were developed in conjunction with Calleguas and other Metropolitan member agencies as part of the UWMP coordination process (as described in Chapter 5 of Metropolitan's 2025 UWMP). In accordance with UWMP requirements, Metropolitan's member agencies and their customers (many of them retail agencies) also report demands and supplies for their service areas in their respective UWMPs. The data reported by those agencies are not additive to the regional totals shown in Metropolitan's UWMP, rather their reporting represents subtotals of the regional total and should be considered as such for the purposes of determining reduced reliance on the Delta.

While the demands that Metropolitan's member agencies and their customers report in their UWMP's are a good reflection of the demands in their respective service areas, they do not adequately represent each water supplier's contributions to reduced reliance on the Delta. In order to calculate and report their reliance on water supplies from the Delta watershed, water suppliers that receive water from the Delta through other regional or wholesale water suppliers would need to determine the amount of Delta water that they receive from the regional or wholesale supplier. Two specific pieces of information are needed to accomplish this, first is the quantity of demands on the regional or wholesale water supplier that accurately reflect a supplier's contributions to reduced reliance on the Delta and second is the quantity of a supplier's demands on the regional or wholesale water supplier that are met by supplies from the Delta watershed.

For water suppliers that make investments in regional projects or programs it may be infeasible to quantify their demands on the regional or wholesale water supplier in a way that accurately reflects their individual contributions to reduced reliance on the Delta. Due to the extensive, long-standing and successful implementation of regional demand management and local resource incentive programs in Metropolitan's service area, this infeasibility holds true for Metropolitan's members as well their customers. **For Metropolitan's service area, reduced reliance on supplies from the Delta watershed can only be accurately accounted at the regional level.** This is further discussed in Section 4.0.

The following provides a summary of the near-term (2030) and long-term (2050) expected outcomes for Metropolitan's Delta reliance on supplies from the Delta watershed:

- Near-term (2030) – Normal water year reliance on supplies from the Delta watershed decreased by 466,000 AF from the 2010 baseline, this represents a decrease of 6.5% of 2030 normal water year retail demands (Table 4).

- Long-term (2050) – Normal water year reliance on supplies from the Delta watershed decreased by 537,000 AF from the 2010 baseline, this represents a decrease of 9.4% of 2050 normal water year retail demands (Table 4).

The results show that as a region, Metropolitan and its members (including Calleguas) as well as their customers are measurably reducing reliance on the Delta and improving regional self-reliance, both as an amount of water used and as a percentage of water used.

Table 4. Reliance on Water Supplies from the Delta Watershed (Metropolitan UWMP Table A.10-3; DWR UWMP Table C-4)

Water Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050
CVP/SWP Contract Supplies	1,472,000	1,029,000	984,000	1,133,000	949,000	924,000	901,000	877,000	877,000
Delta/Delta Tributary Diversions	-	-	-	-	-	-	-	-	-
Transfers and Exchanges of Supplies from the Delta Watershed	20,000	44,000	91,000	58,000	77,000	77,000	78,000	78,000	78,000
Other Water Supplies from the Delta Watershed	-	-	-	-	-	-	-	-	-
Total Water Supplies from the Delta Watershed	1,492,000	1,073,000	1,075,000	1,191,000	1,026,000	1,001,000	979,000	955,000	955,000
Service Area Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050
Service Area Demands without Water Use Efficiency Accounted For	5,493,000	5,499,000	5,219,000	4,925,000	4,969,000	5,102,000	5,209,000	5,302,000	5,391,000
Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050
Water Supplies from the Delta Watershed	1,492,000	1,073,000	1,075,000	1,191,000	1,026,000	1,001,000	979,000	955,000	955,000
Change in Supplies from the Delta Watershed	NA	(419,000)	(417,000)	(301,000)	(466,000)	(491,000)	(513,000)	(537,000)	(537,000)
Percent Change in Supplies from the Delta Watershed (As a Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050
Percent of Supplies from the Delta Watershed	27.2%	19.5%	20.6%	24.2%	20.6%	19.6%	18.8%	18.0%	17.7%
Change in Percent of Supplies from the Delta Watershed	NA	-7.6%	-6.6%	-3.0%	-6.5%	-7.5%	-8.4%	-9.1%	-9.4%

Source: Metropolitan 2025 Draft UWMP, Appendix 10 - Metropolitan’s Reduced Delta Reliance Reporting (February 2026)

4.0 Infeasibility of Accounting Supplies from the Delta Watershed for Metropolitan's Member Agencies and their Customers

Metropolitan's service area, as a whole, reduces reliance on the Delta through investments in non-Delta water supplies, local water supplies, and regional and local demand management measures. Consistent with Metropolitan's 2025 Urban Water Management Plan (UWMP), reduced reliance on supplies from the Delta watershed is evaluated at the regional level through changes in regional self-reliance and total reliance on Delta supplies. Metropolitan's member agencies coordinate reliance on the Delta through their membership in Metropolitan, a regional cooperative providing wholesale water service to its 26 member agencies. Accordingly, regional reliance on the Delta can only be measured regionally—not by individual Metropolitan member agencies and not by the customers of those member agencies.

Metropolitan's member agencies, and those agencies' customers, indirectly reduce reliance on the Delta through their collective efforts as a cooperative. Metropolitan's member agencies do not control the amount of Delta water they receive from Metropolitan. Metropolitan manages a statewide integrated conveyance system consisting of its participation in the State Water Project (SWP), its Colorado River Aqueduct (CRA) including Colorado River water resources, programs and water exchanges, and its regional storage portfolio. Along with the SWP, CRA, storage programs, and Metropolitan's conveyance and distribution facilities, demand management programs increase the future reliability of water resources for the region. In addition, demand management programs provide system-wide benefits by decreasing the demand for imported water, which helps to decrease the burden on the district's infrastructure and reduce system costs, and free up conveyance capacity to the benefit of all member agencies.

Metropolitan's costs are funded almost entirely from its service area, with the exception of grants and other assistance from government programs. Most of Metropolitan's revenues are collected directly from its member agencies. Properties within Metropolitan's service area pay a property tax that provided approximately 15 percent of the fiscal year 2024 annual budgeted revenues. The rest of Metropolitan's costs are funded through rates and charges paid by Metropolitan's member agencies for the wholesale services it provides to them.² Thus,

² A standby charge is collected from properties within the service areas of 22 of Metropolitan's 26 member agencies, ranging from \$5 to \$15 per acre annually, or per parcel if smaller than an acre. Standby charges go towards those member agencies' obligations to Metropolitan for the Readiness-to-Serve Charge. Standby charges represented approximately 2 percent of Metropolitan's total revenues in Fiscal Year 2025/26. See *Metropolitan Water District of Southern California, Water Standby Charge for Fiscal Year*

Metropolitan’s member agencies fund nearly all operations Metropolitan undertakes to reduce reliance on the Delta, including Colorado River Programs, storage facilities, Local Resources Programs and conservation programs within Metropolitan’s service area.

Because of the integrated nature of Metropolitan’s systems and operations, and the collective nature of Metropolitan’s regional efforts, it is infeasible to quantify each of Metropolitan’s member agencies’ individual reliance on the Delta. It is infeasible to attempt to segregate an entity and a system that were designed to work as an integrated regional cooperative.

In addition to the member agencies funding Metropolitan’s regional efforts, they also invest in their own local programs to reduce their reliance on any imported water. Moreover, the customers of those member agencies may also invest in their own local programs to reduce water demand. However, to the extent those efforts result in reduction of demands on Metropolitan, that reduction does not equate to a like reduction of reliance on the Delta. Demands on Metropolitan are not commensurate with demands on the Delta because most of Metropolitan’s member agencies receive blended resources from Metropolitan as determined by Metropolitan—not the individual member agency—and for most member agencies, the blend varies from month-to-month and year-to-year due to hydrology, operational constraints, use of storage and other factors.

4.1 Colorado River Programs

As a regional cooperative of member agencies, Metropolitan invests in programs to ensure the continued reliability and sustainability of Colorado River supplies. Metropolitan was established to obtain an allotment of Colorado River water, and its first mission was to construct and operate the CRA. The CRA consists of five pumping plants, 450 miles of high voltage power lines, one electric substation, four regulating reservoirs, and 242 miles of aqueducts, siphons, canals, conduits and pipelines terminating at Lake Mathews in Riverside County. Metropolitan owns, operates, and manages the CRA. Metropolitan is responsible for operating, maintaining, rehabilitating, and repairing the CRA, and is responsible for obtaining and scheduling energy resources adequate to power pumps at the CRA’s five pumping stations.

Colorado River supplies include Metropolitan’s basic Colorado River apportionment, along with supplies that result from existing and committed programs, including supplies from the Imperial Irrigation District (IID)-Metropolitan Conservation Program, the implementation of the Quantification Settlement Agreement (QSA) and related agreements, and the exchange agreement with San Diego County Water Authority (SDCWA). The QSA established the baseline water use for each of the agreement parties and facilitates the transfer of water from agricultural agencies to urban uses. Since the QSA, additional programs have been implemented to increase Metropolitan’s CRA supplies. These programs have continued to evolve in response to ongoing drought conditions in the Colorado River Basin and associated

2025/26, Board Materials (as presented May 13, 2025 and incorporated in subsequent budget materials, including November 2025 revision), and Metropolitan Water District of Southern California, Water Revenue Bonds Official Statement, Appendix A – “The Metropolitan Water District of Southern California.”

shortage and contingency actions. These include the PVID Land Management, Crop Rotation, and Water Supply Program, as well as the Lower Colorado River Water Supply Project. The 2007 Interim Guidelines provided for the coordinated operation of Lake Powell and Lake Mead, as well as the Intentionally Created Surplus (ICS) program that allows Metropolitan to store water in Lake Mead.

4.2 Storage Investments/Facilities

Surface and groundwater storage are critical elements of Southern California's water resources strategy and help Metropolitan reduce its reliance on the Delta. Because California experiences dramatic swings in weather and hydrology, storage is important to regulate those swings and mitigate possible supply shortages. Surface and groundwater storage provide a means of storing water during normal and wet years for later use during dry years, when imported supplies are limited. The Metropolitan system, for purposes of meeting demands during times of shortage, regulating system flows, and ensuring system reliability in the event of a system outage, provides over 1,000,000 acre-feet of system storage capacity. Diamond Valley Lake provides 810,000 acre-feet of that storage capacity, effectively doubling Southern California's previous surface water storage capacity. Other existing imported water storage available to the region consists of Metropolitan's raw water reservoirs, a share of the SWP's raw water reservoirs in and near the service area, and the portion of the groundwater basins used for conjunctive-use storage.

Since the early twentieth century, DWR and Metropolitan have constructed surface water reservoirs to meet emergency, drought/seasonal, and regulatory water needs for Southern California. These reservoirs include Pyramid Lake, Castaic Lake, Elderberry Forebay, Silverwood Lake, Lake Perris, Lake Skinner, Lake Mathews, Live Oak Reservoir, Garvey Reservoir, Palos Verdes Reservoir, Orange County Reservoir, and Metropolitan's Diamond Valley Lake (DVL).

Metropolitan's Live Oak and Garvey Reservoirs serve exclusively as regulating facilities and have a combined capacity of approximately 4,100 AF. The remaining reservoirs are primarily used to meet emergency, drought, and seasonal demands, with a total gross storage capacity of 1,760,200 AF. However, not all of this capacity is available to Metropolitan; accounting for dead storage and volumes allocated to other entities, Metropolitan's effective storage capacity is approximately 1,665,200 AF. Conjunctive use of the aquifers offers another important source of dry year supplies. Unused storage in Southern California groundwater basins can be used to optimize imported water supplies, and the development of groundwater storage projects allows effective management and regulation of the region's major imported supplies from the Colorado River and SWP. Over the years, Metropolitan has implemented conjunctive use through various programs in the service area; Table 5 lists the groundwater conjunctive use programs active in the region.

Table 5. Contractual Conjunctive Groundwater Projects

Project and Project Proponents*	Storage Capacity (TAF)	Dry-Year Yield (TAF/Year)	Storage Account Balance as of 1/1/2025 (TAF)
Los Angeles County			
Upper Claremont Heights Groundwater Storage Program Three Valleys MWD	3.0	1.0	1.2
San Bernardino County			
Chino Basin Groundwater Storage Program IEUA, TVMWD, Chino Basin Watermaster	100.0	33.0	63.8
Riverside County			
Elsinore Groundwater Storage Program Western MWD, Elsinore Valley MWD	12.0	4.0	11.9
Total	115.0	38.0	76.9

* Metropolitan's active Conjunctive Use Programs as of July 1, 2025.

4.3 Metropolitan Demand Management Programs

Demand management costs are Metropolitan's expenditures for funding local water resource development programs and water conservation programs. These Demand Management Programs incentivize the development of local water supplies and the conservation of water to reduce the need to import water to deliver to Metropolitan's member agencies. These programs are implemented below the delivery points between Metropolitan's and its member agencies' distribution systems and, as such, do not add any water to Metropolitan's supplies. Rather, the effect of these downstream programs is to produce a local supply of water for the local agencies and to reduce demands by member agencies for water imported through Metropolitan's system. The following discussions outline how Metropolitan funds local resources and conservation programs for the benefit of all of its member agencies and the entire Metropolitan service area. Notably, the history of demand management by Metropolitan's member agencies and the local agencies that purchase water from Metropolitan's members has spanned more than four decades. The significant history of the programs is another reason it would be difficult to attempt to assign a portion of such funding to any one individual member agency.

4.3.1 Local Resources Programs

In 1982, Metropolitan began providing financial incentives to its member agencies to develop new local supplies to assist in meeting the region's water needs. Because of Metropolitan's

regional distribution system, these programs benefit all member agencies regardless of project location because they help to increase regional water supply reliability, reduce demands for imported water supplies, decrease the burden on Metropolitan's infrastructure, reduce system costs, and free up conveyance capacity to the benefit of all the agencies that rely on water from Metropolitan.

For example, the Groundwater Replenishment System (GWRS) operated by the Orange County Water District is the world's largest water purification system for indirect potable reuse. It was funded, in part, by Metropolitan's member agencies through the Local Resources Program. Annually, the GWRS produces approximately 130,000 acre-feet of reliable, locally controlled, drought-proof supply of high-quality water to recharge the Orange County Groundwater Basin and protect it from seawater intrusion. The GWRS is a premier example of a regional project that significantly reduced the need to utilize imported water for groundwater replenishment in Metropolitan's service area, increasing regional and local supply reliability and reducing the region's reliance on imported supplies, including supplies from the State Water Project.

Metropolitan's local resource programs have evolved through the years to better assist Metropolitan's member agencies in increasing local supply production. The following is a description and history of the local supply incentive programs.

Local Projects Program

In 1982, Metropolitan initiated the Local Projects Program (LPP), which provided funding to member agencies to facilitate the development of recycled water projects. Under this approach, Metropolitan contributed a negotiated up-front funding amount to help finance project capital costs. Participating member agencies were obligated to reimburse Metropolitan over time. In 1986, the LPP was revised, changing the up-front funding approach to an incentive-based approach. Metropolitan contributed an amount equal to the avoided State Water Project pumping costs for each acre-foot of recycled water delivered to end-use consumers. This funding incentive was based on the premise that local projects resulted in the reduction of water imported from the Delta and the associated pumping cost. The incentive amount varied from year to year depending on the actual variable power cost paid for State Water Project imports. In 1990, Metropolitan's Board increased the LPP contribution to a fixed rate of \$154 per acre-foot, which was calculated based on Metropolitan's avoided capital and operational costs to convey, treat, and distribute water, and included considerations of reliability and service area demands.

Groundwater Recovery Program

The drought of the early 1990s sparked the need to develop additional local water resources, aside from recycled water, to meet regional demand and increase regional water supply reliability. In 1991, Metropolitan conducted the Brackish Groundwater Reclamation Study which determined that large amounts of degraded groundwater in the region were not being utilized. Subsequently, the Groundwater Recovery Program (GRP) was established to assist the recovery of otherwise unusable groundwater degraded by minerals and other contaminants,

provide access to the storage assets of the degraded groundwater, and maintain the quality of groundwater resources by reducing the spread of degraded plumes.

Local Resources Program

In 1995, Metropolitan's Board adopted the Local Resources Program (LRP), which combined the LPP and GRP into one program. The Board allowed for existing LPP agreements with a fixed incentive rate to convert to the sliding scale up to \$250 per acre-foot, similar to GRP incentive terms. Those agreements that were converted to LRP are known as "LRP Conversions."

Competitive Local Projects Program

In 1998, the Competitive Local Resources Program (Competitive Program) was established. The Competitive Program encouraged the development of recycled water and recovered groundwater through a process that emphasized cost-efficiency to Metropolitan, timing new production according to regional need while minimizing program administration cost. Under the Competitive Program, agencies requested an incentive rate up to \$250 per acre-foot of production over 25 years under a Request for Proposals (RFP) for the development of up to 53,000 acre-feet per year of new water recycling and groundwater recovery projects. In 2003, a second RFP was issued for the development of an additional 65,000 acre-feet of new recycled water and recovered groundwater projects through the LRP.

Seawater Desalination Program

Metropolitan established the Seawater Desalination Program (SDP) in 2001 to provide financial incentives to member agencies for the development of seawater desalination projects. In 2014, seawater desalination projects became eligible for funding under the LRP, and the SDP was ended.

2007 Local Resources Program

In 2006, a task force comprised of member agency representatives was formed to identify and recommend program improvements to the LRP. As a result of the task force process, the 2007 LRP was established with a goal of 174,000 acre-feet per year of additional local water resource development. The new program allowed for an open application process and eliminated the previous competitive process. This program offered sliding scale incentives of up to \$250 per acre-foot, calculated annually based on a member agency's actual local resource project costs exceeding Metropolitan's prevailing water rate.

2014 Local Resources Program

A series of workgroup meetings with member agencies was held to identify the reasons why there was a lack of new LRP applications coming into the program. The main constraint identified by the member agencies was that the \$250 per acre-foot was not providing enough of an incentive for developing new projects due to higher construction costs to meet water quality requirements and to develop the infrastructure to reach end-use consumers located further from treatment plants. As a result, in 2014, the Board authorized an increase in the maximum

incentive amount, provided alternative payment structures, included onsite retrofit costs and reimbursable services as part of the LRP, and added eligibility for seawater desalination projects. The current LRP incentive payment options are structured as follows:

Option 1 – Sliding scale incentive up to \$340/AF for a 25-year agreement term

Option 2 – Sliding scale incentive up to \$475/AF for a 15-year agreement term

Option 3 – Fixed incentive up to \$305/AF for a 25-year agreement term

On-site Retrofit Programs

In 2014, Metropolitan's Board also approved the On-site Retrofit Pilot Program which provided financial incentives to public or private entities toward the cost of small-scale improvements to their existing irrigation and industrial systems to allow connection to existing recycled water pipelines. The On-site Retrofit Pilot Program helped reduce recycled water retrofit costs to the end-use consumer which is a key constraint that limited recycled water LRP projects from reaching full production capacity. The program incentive was equal to the actual eligible costs of the on-site retrofit, or \$975 per acre-foot of up-front cost, which equates to \$195 per acre-foot for an estimated five years of water savings ($\$195/\text{AF} \times 5 \text{ years}$) multiplied by the average annual water use in previous three years, whichever is less. The Pilot Program lasted two years and was successful in meeting its goal of accelerating the use of recycled water.

In 2016, Metropolitan's Board authorized a permanent On-site Retrofit Program (ORP). This program encompassed lessons learned from the Pilot Program and feedback from member agencies to make the program more streamlined and improve its efficiency. With an annual budget of \$3 million, as of fiscal year 2024/25 the program has funded 550 sites, replacing 15,360 acre-feet of potable water with recycled water per year.

Stormwater Pilot Programs

In 2019, Metropolitan's Board authorized both the Stormwater for Direct Use Pilot Program and a Stormwater for Recharge Pilot Program to study the feasibility of reusing stormwater to help meet regional demands in Southern California. These pilot programs are intended to encourage the development, monitoring, and study of new and existing stormwater projects by providing financial incentives for their construction/retrofit and monitoring/reporting costs. These pilot programs will help evaluate the potential benefits delivered by stormwater capture projects and provide a basis for potential future funding approaches. Metropolitan's Board authorized a total of \$12.5 million for the stormwater pilot programs (\$5 million for the District Use Pilot and \$7.5 million for the Recharge Pilot).

Current Status and Results of Metropolitan's Local Resource Programs

Today, nearly one-half of the total recycled water and groundwater recovery production in the region has been developed with an incentive from one or more of Metropolitan's local resource programs. During fiscal year 2025, Metropolitan provided about \$5 million for production of 40,000 acre-feet of recycled water for non-potable and indirect potable uses. Metropolitan provided about \$8 million to support projects that produced about 53,000 acre-feet of recovered

groundwater for municipal use. Since 1982, Metropolitan has invested \$771 million to fund 90 recycled water projects and 28 groundwater recovery projects that have produced a cumulative total of about 4.6 million acre-feet.

4.3.2 Conservation Programs

Metropolitan's regional conservation programs and approaches have a long history. Decades ago, Metropolitan recognized that demand management at the consumer level would be an important part of balancing regional supplies and demands. Water conservation efforts were seen as a way to reduce the need for imported supplies and offset the need to transport or store additional water into or within the Metropolitan service area. The actual conservation of water takes place at the retail consumer level. Regional conservation approaches have proven to be effective at reaching retail consumers throughout Metropolitan's service area and successfully implementing water saving devices, programs and practices. Through the pooling of funding by Metropolitan's member agencies, Metropolitan is able to engage in regional campaigns with wide-reaching impact. Regional investments in demand management programs, of which conservation is a key part along with local supply programs, benefit all member agencies regardless of project location. These programs help to increase regional water supply reliability, reduce demands for imported water supplies, decrease the burden on Metropolitan's infrastructure, reduce system costs, and free up conveyance capacity to the benefit of all member agencies.

4.3.3 Incentive-Based Conservation Programs

Conservation Credits Program

In 1988, Metropolitan's Board approved the Water Conservation Credits Program (Credits Program). The Credits Program is similar in concept to the Local Projects Program (LPP). The purpose of the Credits Program is to encourage local water agencies to implement effective water conservation projects through the use of financial incentives. The Credits Program provides financial assistance for water conservation projects that reduce demands on Metropolitan's imported water supplies and require Metropolitan's assistance to be financially feasible.

Initially, the Credits Program provided 50 percent of a member agency's program cost, up to a maximum of \$75 per acre-foot of estimated water savings. The \$75 Base Conservation Rate was established based Metropolitan's avoided cost of pumping SWP supplies. The Base Conservation Rate has been revisited by Metropolitan's Board and revised twice since 1988, from \$75 to \$154 per acre-foot in 1990 and from \$154 to \$195 per acre-foot in 2005.

Metropolitan's Credits Program investment in fiscal year 2025 was \$22 million.

Member Agency Administered Program

Some member agencies also have unique programs within their service areas that provide local rebates that may differ from Metropolitan's regional program. Metropolitan continues to support these local efforts through a member agency administered funding program that adheres to the

same funding guidelines as the Credits Program. The Member Agency Administered Program allows member agencies to receive funding for local conservation efforts that supplement, but do not duplicate, the rebates offered through Metropolitan's regional rebate program.

Water Savings Incentive Program

There are numerous commercial entities and industries within Metropolitan's service area that pursue unique savings opportunities that do not fall within the general rebate programs that Metropolitan provides. In 2012, Metropolitan designed the Water Savings Incentive Program (WSIP) to target these unique commercial and industrial projects. In addition to rebates for devices, under this program, Metropolitan provides financial incentives to businesses and industries that created their own custom water efficiency projects. Qualifying custom projects can receive funding for permanent water efficiency changes that result in reduced potable demand.

4.3.4 Non-Incentive Conservation Programs

In addition to its incentive-based conservation programs, Metropolitan also undertakes additional efforts throughout its service area that help achieve water savings without the use of rebates. Metropolitan's non-incentive conservation efforts include:

- residential and professional water efficient landscape training classes
- water audits for large landscapes
- research, development and studies of new water saving technologies
- advertising and outreach campaigns
- community outreach and education programs
- advocacy for legislation, codes, and standards that lead to increased water savings

4.3.5 Current Status and Results of Metropolitan's Conservation Programs

Since 1990, Metropolitan has invested \$976 million in conservation rebates that have resulted in a cumulative savings of 4.32 million acre-feet of water as of fiscal year 2025. These investments include \$414 million in turf removal which resulted in 175 million square feet of lawn turf removed. During fiscal year 2025, 1.12 million acre-feet of water is estimated to have been conserved. This annual total includes Metropolitan's Conservation Credits Program; code-based conservation achieved through Metropolitan-sponsored legislation; building plumbing codes and ordinances; reduced consumption resulting from changes in water pricing; and pre-1990 device retrofits.

4.4 Infeasibility of Accounting Regional Investments in Reduced Reliance Below the Regional Level

The accounting of regional investments that contribute to reduced reliance on supplies from the Delta watershed is straightforward to calculate and report at the regional aggregate level.

However, any similar accounting is infeasible for the individual member agencies or their customers. As described above, the region (through Metropolitan) makes significant investments in projects, programs and other resources that reduce reliance on the Delta. In fact, all of Metropolitan's investments in Colorado River supplies, groundwater and surface storage, local resources development and demand management measures that reduce reliance on the Delta are collectively funded by revenues generated from the member agencies through rates and charges.

Metropolitan's revenues cannot be matched to the demands or supply production history of an individual agency, or consistently across the agencies within the service area. Each project or program funded by the region has a different online date, useful life, incentive rate and structure, and production schedule. It is infeasible to account for all these things over the life of each project or program and provide a nexus to each member agency's contributions to Metropolitan's revenue stream over time. Accounting at the regional level allows for the incorporation of the local supplies and water use efficiency programs done by member agencies and their customers through both the regional programs and through their own specific local programs. As shown above, despite the infeasibility of accounting reduced Delta reliance below the regional level, Metropolitan's member agencies and their customers have together made substantial contributions to the region's reduced reliance.

4.5 References

<https://mwdh2o.legistar.com/View.ashx?M=F&ID=14909541&GUID=74F23E74-C89B-4C8D-ACA8-764CBA3DFA63>

<https://www-admin.mwdh2o.com/media/soibemtf/2026-annual-achievement-report.pdf>

<https://d1q0afiq12ywwq.cloudfront.net/media/5ralzxit/public-review-draft-february-2026-uwmp.pdf>

<https://mwdh2o.legistar.com/View.ashx?M=F&ID=10371591&GUID=1A060A60-2A18-4EA1-BB1B-3624C07C4C61>

5.0 UWMP Implementation

In addition to the analysis and documentation described above, WR P1(c)(1) requires that all programs and projects included in the UWMP that are locally cost-effective and technically feasible, which reduce reliance on the Delta, are identified, evaluated, and implemented consistent with the implementation schedule. WR P1(c)(1)(B) states that:

(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta[.]

In accordance with Water Code Section 10631(f), water suppliers must already include in their UWMP a detailed description of expected future projects and programs that they may implement to increase the amount of water supply available to them in normal and single-dry

water years and for a period of drought lasting five consecutive years. The UWMP description must also identify specific projects, include a description of the increase in water supply that is expected to be available from each project, and include an estimate regarding the implementation timeline for each project or program.

Section 6.9 – Future Water Projects of Calleguas’s UWMP summarizes the implementation plan and continued progress in developing a diversified water portfolio to meet the service area’s water needs.

Appendix D Notices





RAUL AVILA, PRESIDENT
DIVISION 1

REDDY PAKALA, SECRETARY
DIVISION 3

SCOTT H. QUADY, DIRECTOR
DIVISION 2

THIBAUT ROBERT, VICE PRESIDENT
DIVISION 4

JACQUELYN McMILLAN, TREASURER
DIVISION 5

KRISTINE McCAFFREY
GENERAL MANAGER

2100 OLSEN ROAD, THOUSAND OAKS, CA 91360 • (805) 526-9323 • CALLEGUAS.COM

February 12, 2026

SUBJECT: NOTICE OF PREPARATION OF THE 2025 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN FOR CALLEGUAS MUNICIPAL WATER DISTRICT

Calleguas Municipal Water District (Calleguas) is preparing its 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) in compliance with the Urban Water Management Planning Act. An update of Calleguas's UWMP is required every five years. The 2025 UWMP will support Calleguas's long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs. This letter serves as Calleguas's notice that it is preparing and updating its 2025 UWMP and WSCP and amending its 2020 UWMP. Calleguas is also preparing an Appendix to the 2025 UWMP to demonstrate consistency with Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2020 UWMP is amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2025 UWMP and adoption of the WSCP.

Calleguas encourages participation by land use agencies, water agencies, and other interested parties in the UWMP, and would like to extend to your agency an opportunity to meet with us to review the various elements of the UWMP including assumptions about future population, future water demand, future water supplies, and recent and planned water conservation and efficiency programs and projects.

Calleguas's draft 2025 UWMP and WSCP will be available for public review in spring 2026 at Calleguas's office located at 2100 Olsen Road, Thousand Oaks, CA 91360 and online at www.calleguas.com. Calleguas will subsequently hold a noticed public hearing to hear public comments and consider adoption of the plan following the public review period. You will be notified when the draft 2025 UWMP is complete and ready for public review and comment.

Calleguas invites you to submit comments and consult with us regarding the 2025 UWMP and WSCP. If you have any questions, comments, or input regarding these documents, please contact me via email at jlancaster@calleguas.com or by phone at (805) 579-7194.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer Lancaster".

Jennifer Lancaster
Manager of Water Resources



RAUL AVILA, PRESIDENT
DIVISION 1

REDDY PAKALA, SECRETARY
DIVISION 3

SCOTT H. QUADY, DIRECTOR
DIVISION 2

THIBAUT ROBERT, VICE PRESIDENT
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KRISTINE McCAFFREY
GENERAL MANAGER

2100 OLSEN ROAD, THOUSAND OAKS, CA 91360 • (805) 526-9323 • CALLEGUAS.COM

May 08, 2026

Subject: Notice of Availability and Public Hearing for Calleguas Municipal Water District's Draft 2025 Urban Water Management Plan (UWMP) and Draft Water Shortage Contingency Plan (WSCP)

Calleguas Municipal Water District (Calleguas) has prepared its Draft 2025 Urban Water Management Plan (UWMP) and Draft Water Shortage Contingency Plan (WSCP) and invites public review and comment.

The draft documents are available:

- **In person:** 2100 Olsen Road, Thousand Oaks, CA 91360
- **Online:** <https://www.calleguas.com/transparency/general-information/>

The 2025 UWMP, prepared in compliance with California Water Code §§10610–10657 and §10608, evaluates projected water demands, available supplies, resource development programs, and conservation measures within the Calleguas service area.

The Draft WSCP, included as Appendix H of the UWMP, outlines actions Calleguas may take during severe water shortages or supply emergencies. The WSCP will be adopted as a standalone plan, allowing updates independent of the UWMP's five-year cycle.

Public Comments

Written comments must be submitted by **June 2, 2026, at 5:00 p.m.** to:

Calleguas MWD
Attn: Jennifer Lancaster
2100 Olsen Road
Thousand Oaks, CA 91360
jlancaster@calleguas.com

Public Hearing

A public hearing will be held during the Calleguas Board of Directors meeting on:

June 3, 2026, at 4:00 p.m.

2100 Olsen Road, Thousand Oaks, CA 91360

To participate, visit: <https://www.calleguas.com/about-us/agendas-minutes/>

Following adoption, the UWMP and WSCP will be submitted to the California Department of Water Resources by **July 1, 2026.**



Notice of Availability and Public Hearing for Calleguas Municipal Water District's Draft 2025 Urban Water Management Plan & Draft 2025 Water Shortage Contingency Plan

Calleguas Municipal Water District's (Calleguas) Draft 2025 Urban Water Management Plan (UWMP) and Draft 2025 Water Shortage Contingency Plan (WSCP) are available for public review and comment.

The UWMP was prepared in compliance with the Urban Water Management Planning Act (Division 6, Part 2.6 of the California Water Code). The UWMP describes and evaluates projected water demands, water supplies, water resource development programs and conservation measures in Calleguas's service area.

The Draft WSCP was prepared in conjunction with the 2025 UWMP and is included as Appendix H to the 2025 UWMP. The WSCP will be adopted as a stand-alone plan which will allow for updating independent of the 5-year UWMP planning cycle. The WSCP details the potential actions Calleguas will take in response to a severe water shortage or water supply emergency.

The Draft 2025 UWMP and WSCP are available for review at the Calleguas office at 2100 Olsen Road, Thousand Oaks, CA 91360, and an electronic copy is available for download on the Calleguas web site at: <https://www.calleguas.com/transparency/general-information/>

Public comments on the plan must be submitted to Calleguas MWD, 2100 Olsen Road, Thousand Oaks, CA 91360, Attn: Jennifer Lancaster or via email to jlancaster@calleguas.com by June 2, 2026.

A public hearing on the 2025 UWMP and WSCP will be held during the regularly scheduled Calleguas Board of Directors meeting on June 3, 2026 at 4:00 p.m. at 2100 Olsen Road, Thousand Oaks, CA 91360. To participate, visit <https://www.calleguas.com/about-us/agendas-minutes/>

Following adoption by the Calleguas Board of Directors, the 2025 UWMP and the 2025 WSCP will be submitted to the California Department of Water Resources by July 1, 2026.

Appendix E 2025 Water Quality Report





July 2025

Annual Water Quality Report

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

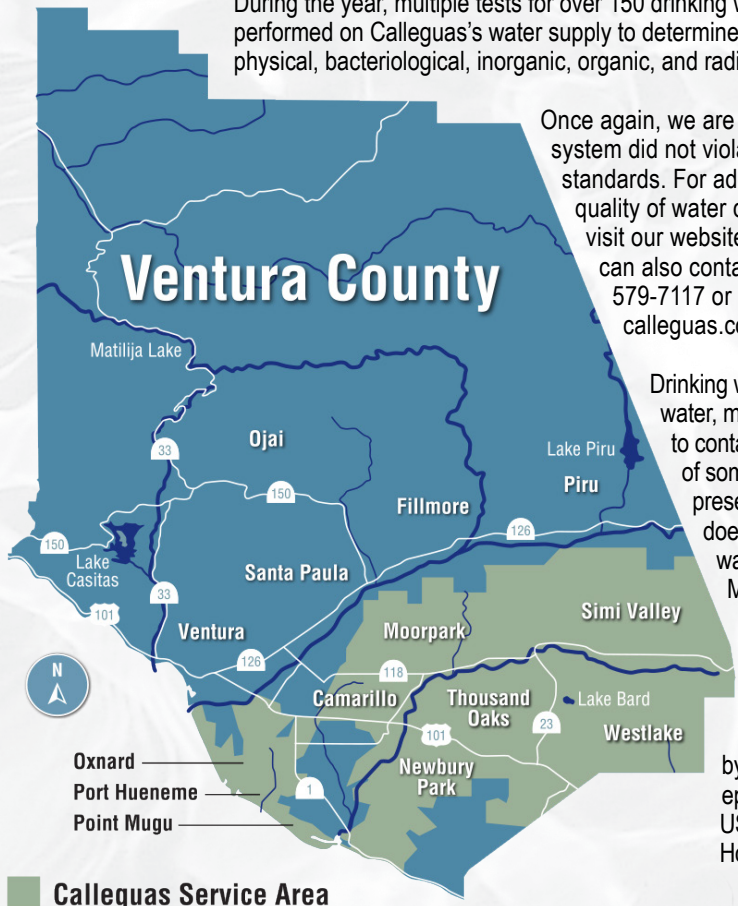
Water Quality Is Our Top Priority

Water quality continues to be a priority for Calleguas Municipal Water District. Our mission since the 1950s has been to provide our service area with a reliable supply of high quality, imported drinking water. A team of highly trained professionals works hard to ensure Calleguas's water supply meets all state and federal water quality standards. This brochure provides information about the sources and quality of the water delivered by Calleguas to its purveyors in 2024. Included are details about where the water comes from, what it contains, and how it compares to state and federal standards. Since Calleguas is a wholesaler water system, these results are reflective of the water served to local purveyors. Purveyors may further blend or treat the water received from Calleguas; information on water served to homes and businesses are available in local retailer's Annual Water Quality Reports.

During the year, multiple tests for over 150 drinking water contaminants were performed on Calleguas's water supply to determine concentrations of mineral, physical, bacteriological, inorganic, organic, and radioactive constituents.

Once again, we are proud to report our system did not violate any water quality standards. For additional information on the quality of water delivered by Calleguas, visit our website at Calleguas.com. You can also contact Amy Mueller at (805) 579-7117 or by email at amueller@calleguas.com.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate water poses a health risk. More information about contaminants and potential health effects can be obtained from United States Environmental Protection Agency (USEPA) by visiting epa.gov/aboutepa/, epa-hotlines.org or calling the USEPA Safe Drinking Water Hotline at (1-800-426-4791).



Our Source Water

Calleguas relies on State Project Water for its primary drinking water supply; State Project Water is obtained from the Feather River Watershed, located in the northern Sierras, and conveyed through the State Water Project. The water quality tables in this report demonstrate this dependence by providing the percentage of each source used last year. Colorado River water serves as a secondary imported water supply source and is transported through Metropolitan Water District's Colorado River Aqueduct.

Metropolitan Water District of Southern California has completed a source water assessment of both the State Water Project and Colorado River supply. The State Water Project source is considered to be most vulnerable to urban and storm water runoff, wildlife, agriculture, recreation, and wastewater. The Colorado River source is considered to be most vulnerable to contamination from recreation, urban and stormwater runoff, increasing urbanization in the watershed, and wastewater. A copy of this assessment can be obtained by contacting Metropolitan at (800) 354-4420.

Originating in northern California, State Water Project deliveries are conveyed over 500 miles through a network of reservoirs, aqueducts, and pump stations. The State Water Project supply is filtered and disinfected at Metropolitan's Joseph Jensen Filtration Plant in Granada Hills.

Following treatment at the Jensen and Weymouth Plants, water is conveyed by pipeline through the San Fernando Valley to Calleguas's mile-long tunnel in the Santa Susana Mountains. Information on the quality of the treated water can be found on the attached water quality tables.

The water is then distributed by Calleguas and its purveyors to an estimated 650,000 Ventura County residents, representing 75% of the County's population. Surplus supplies of imported water are stored in Lake Bard, the District's surface water reservoir near the City of Thousand Oaks, and the Las Posas groundwater basin underlying the City of Moorpark and surrounding area. Through the Las Posas Aquifer Storage and Recovery (ASR) project, Calleguas stores water for use during both planned and emergency supply outages.

Visit calleguas.com for more information on the Las Posas ASR project and other Calleguas water supply reliability programs.

General Information About Source Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water before we treat it include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Path of Imported Water to the Calleguas Service Area



State
Water
Project



Metropolitan
Water
District



Calleguas
Municipal
Water
District



19 Retail
Water
Providers

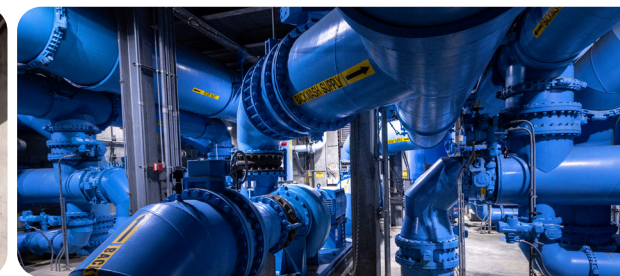
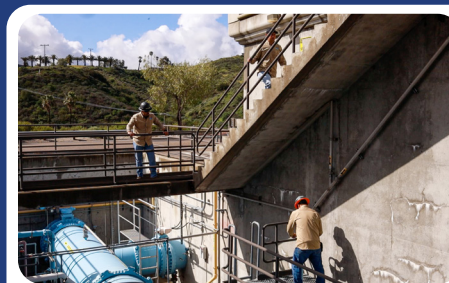


Residents
and
Businesses

Our Treated Water

In order to ensure tap water is safe to drink, the USEPA and the State Division of Drinking (DDW) Water prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

These standards are achieved through vigilant watershed protection and treatment techniques used at Metropolitan's Jensen and Weymouth Plants, as well as Calleguas's Lake Bard Water Filtration Plant. A good indicator of the effectiveness of a filtration system is the measurement of turbidity, or the cloudiness of water. Lower turbidity values are indicative of proper filtration. Turbidity values are listed on the tables included in this report.



Water Quality Data

The following tables list all the drinking water contaminants we detected during the 2024 calendar year. The presence of these contaminants in the water does not necessarily indicate the water poses a health risk. Unless otherwise noted, the data presented in these tables is from testing done January 1 through December 31, 2024. The DDW requires Calleguas to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of water quality, are more than one year old.



Summary of Water Quality Results for 2024

Parameter	Percent of Supply		Imported Surface Water Treated at Metropolitan's Jensen Plant		Locally Stored Surface Water Treated by Calleguas		Major Sources in Drinking Water
	MCL [MRDL]	PHG (MCLG) [MRDLG]	Average	Range	Average	Range	
			98%		2%		

PRIMARY DRINKING WATER STANDARDS - Mandatory Health-Related Standards

CLARITY (a)

Turbidity (NTU) (TT)	Highest Single Value		Soil runoff	
	0.04	0.14	% of samples ≤ 0.3 NTU	100%
	100%	100%		

MICROBIOLOGICAL

Heterotrophic Plate Count Bacteria (CFU/mL) (b)	TT	n/a	System-wide: Average = ND, Range = ND - 2		Naturally present in the environment

DISINFECTION BY-PRODUCTS AND DISINFECTANT RESIDUALS

Parameter	MCL [MRDL]	PHG (MCLG) [MRDLG]	Average	Range	Major Sources in Drinking Water		
Bromate (ppb) (c)	10	0.1	3.1	ND - 5.4	ND	ND	By-product of drinking water ozonation
Haloacetic Acids (ppb) (d)	60	n/a	System Wide: Highest LRAA = 12.0, Range = 6.0 - 22.0		By-product of drinking water disinfection		
Total Chlorine Residual (ppm)	[4]	[4]	System Wide: Highest RAA = 2.3, Range = 1.7 - 2.8		Drinking water disinfectant added for treatment		
Total Trihalomethanes (ppb) (d)	80	n/a	System Wide: Highest LRAA = 21.8, Range = 13.0 - 36.0		By-product of drinking water disinfection		

INORGANIC CHEMICALS

Parameter	MCL [MRDL]	PHG (MCLG) [MRDLG]	Average	Range	Major Sources in Drinking Water		
Aluminum (ppb)	1,000	600	62	52 - 91	ND	ND	Erosion of natural deposits, residual from water treatment process
Arsenic (ppb)	10	0.004	ND	ND	3	2 - 4	Erosion of natural deposits; runoff from orchards
Fluoride (ppm) (e)	2.0	1.0	System Wide: Highest RAA = 0.7, Range = 0.6 - 1.0		Water additive that promotes strong teeth		
Nitrate (as N) (ppm)	10	10	0.5	0.5	ND	ND	Runoff & leaching from fertilizer use; erosion of natural deposits
Selenium (ppb)	50	30	ND	ND	ND	ND - 6	Erosion of natural deposits; discharge from refineries

RADIOLOGICALS

Parameter	MCL [MRDL]	PHG (MCLG) [MRDLG]	Average	Range	Major Sources in Drinking Water		
Gross Beta Particle Activity (pCi/L)	50	(0)	ND	ND	5.5	5.4 - 5.6	Decay of natural & man-made deposits
Uranium (pCi/L)	20	0.43	2.0	2.0 - 3.0	1.5	1.4 - 1.5	Erosion of natural deposits

ABBREVIATIONS, DEFINITIONS, and NOTES

CFU/mL = Colony forming units per milliliter
 LRAA = Locational running annual average
 n/a = Not applicable

ND = None detected
 NTU = Nephelometric turbidity units
 ppb = Parts per billion, or micrograms per liter (ug/L)

ppm = Parts per million, or milligrams per liter (mg/L)
 pCi/L = Picocuries per liter
 RAA = Running annual average

Maximum Contaminant Level (MCL) = The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible.

Maximum Contaminant Level Goal (MCLG) = The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL) = The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial pathogens.

Maximum Residual Disinfectant Level Goal (MRDLG) = The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Public Health Goal (PHG) = The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard = MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Treatment Technique (TT) = A required process intended to reduce the level of a contaminant in drinking water.

(a) The turbidity level of filtered water shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1.0 NTU at any time.

(b) Calleguas monitors HPC bacteria in its distribution system to ensure treatment process efficacy.

(c) Compliance for treatment plants that use ozone is based on a running annual average of monthly samples.

(d) Compliance is based on the LRAA of data collected at distribution system-wide monitoring locations. The range of all samples collected is included.

(e) The Metropolitan Water District (MWD) treats their water by adding fluoride to the naturally occurring level in order to help prevent dental caries in consumers. The fluoride levels in the treated water are maintained within a range of 0.6 - 1.2 ppm, as required by State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW).



Summary of Water Quality Results for 2024

Parameter	Percent of Supply		Imported Surface Water Treated at Metropolitan's Jensen Plant		Locally Stored Surface Water Treated by Calleguas		Major Sources in Drinking Water
	Secondary MCL	Notification Level	Average	Range	Average	Range	
			98%		2%		

SECONDARY DRINKING WATER STANDARDS – Aesthetic Standards

Aluminum (ppb) (a)	200		62	52 - 91	ND	ND	Erosion of natural deposits, residual from water treatment process
Chloride (ppm)	500		40	39 - 41	99	99 - 100	Runoff and leaching from natural deposits; seawater influence
Color (Units)	15		1	1	ND	ND	Naturally-occurring organic materials
Odor (TON Units)	3		1	1	ND	ND	Naturally-occurring organic materials
Specific Conductance (µS/cm)	1,600		510	498 - 522	782	773 - 790	Substances that form ions when in water, seawater influence
Sulfate (ppm)	500		90	89 - 92	103	102 - 103	Runoff and leaching from natural deposits
Total Dissolved Solids (ppm)	1,000		306	291 - 322	430	410 - 450	Runoff and leaching from natural deposits
Zinc (ppm)	5.0		ND	ND	0.06	0.06	Runoff/leaching from natural deposits

ADDITIONAL PARAMETERS (Unregulated)

Alkalinity, total as CaCO ₃ (ppm)	NS	NS	98	94 - 101	125	120 - 130	
Boron (ppm)	NS	1	0.17	0.17	0.28	0.27 - 0.28	
Calcium (ppm)	NS	NS	38	38 - 39	37	36 - 38	
Chlorate (ppb)	NS	NL = 800	71	71	ND	ND	
Corrosivity (AI) (b)	NS	NS	12.2	12.2	12.3	12.1 - 12.4	
Hardness (Total Hardness) (ppm)	NS	NS	148	143 - 153	163	160 - 165	
Magnesium (ppm)	NS	NS	14	13 - 14	17	17	
pH (pH Units)	NS	NS	8.3	8.2 - 8.3	8.2	8.1 - 8.3	
Potassium (ppm)	NS	NS	2.6	2.6	4.0	4.0	
Sodium (ppm)	NS	NS	46	46	89	86 - 91	
Total Organic Carbon (ppm)	NS	NS	2.4	2.0 - 2.5	2.7	2.6 - 2.8	

ABBREVIATIONS, DEFINITIONS, and NOTES

AI = Aggressive index

ND = None detected

NS = No standard

ppb = Parts per billion, or micrograms per liter (µg/L)

ppm = Parts per million, or milligrams per liter (mg/L)

µS/cm = Microsiemens per centimeter

Secondary Maximum Contaminant Level (MCL) = Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Notification Level = The level at which notification of the public water system's governing body is required.

(a) Aluminum has both primary and secondary standards. Compliance with the MCL is based on a running annual average.

(b) AI measures the aggressiveness of water transported through pipes. Water with AI <10.0 is highly aggressive and would be very corrosive to almost all materials found in a typical water system. AI ≥ 12.0 indicates non-aggressive water. AI between 10.0 and 11.9 indicates moderately aggressive water.

Information for Customers with Special Water Needs

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA Hotline (1-800-426-4791).



Constituents Tested for and Not Detected

In addition to the information provided in the Summary of Water Quality Results, Calleguas also monitored for, but did not detect, many other contaminants during 2024. Some of those contaminants were:

Antimony	Cyanide	Nitrite	Strontium-90
Asbestos	Foaming Agents	Perchlorate	Thallium
Beryllium	Herbicides	Pesticides	Total Chromium
Cadmium	Lead	Radium 226	Tritium
Chromium 6	Mercury	Radium 228	Volatile Organic Chemicals (VOCs)
Copper	MTBE	Silver	

Our Mission:

To provide the service area with a reliable supplemental supply of regional and locally developed water in an environmentally and economically responsible



Information on Lead in Household Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Your local utility is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. For information on lead in drinking water, testing methods, and ways to reduce exposure, contact the USEPA Hotline (1-800-426-4791) or visit the website (epa.gov/safewater/lead).

Drinking Water Fluoridation

In 2007, Calleguas's wholesale water provider, Metropolitan Water District of Southern California, joined a majority of the nation's public water suppliers in systematically adding fluoride to drinking water at each of their five water treatment plants in order to help prevent tooth decay.

In line with recommendations from the State Division of Drinking Water, as well as the U.S. Centers for Disease Control and Prevention, Metropolitan adjusted the natural fluoride level in the water, which ranges from 0.1 to 0.4 parts per million, to the optimal range for dental health of 0.7 parts per million. Fluoride levels in drinking water are limited under California state regulations at a maximum dosage of 2 parts per million.

Fluoride has been added to U.S. drinking water supplies since 1945.

For more information about the benefits of drinking water fluoridation, please visit the following websites: The American Dental Association at ada.org/resources/community-initiatives/fluoride-in-water and U.S. Centers for Disease Control and Prevention at cdc.gov/fluoridation

Information on Radon

Water suppliers are required to provide information on the presence of radon in water sources. A known human carcinogen, radon is a radioactive gas that one cannot see, taste, or smell. Commonly found in soils throughout the United States, breathing air containing radon may lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. Radon can seep up through the ground and into homes and other structures through cracks and holes in foundations. Over time, concentrations of the gas can increase to high levels potentially exposing inhabitants to greater health risks. It is possible radon can also be released from tap water when used for showering, washing dishes, and other household activities. However, the concentration of radon released through tap water is in most cases assumed to be considerably lower than concentrations entering a home from underlying ground. If you are concerned about radon, you are advised to test the air in your home. Testing is inexpensive and easy. The USEPA recommends taking measures to reduce radon levels in your home if concentrations are 4 PicoCuries per liter of air (pCi/L) or higher. For additional information, call your state radon program (1-800-745-7236), the USEPA Hotline at (1-800-426-4791), or call the National Safe Council Radon Hotline (1-800-SOS-RADON).

Water Use Efficiency

Calleguas makes water use efficiency a priority and has long offered rebate programs for water use efficiency devices. Over the years, water saving technologies have advanced in both quality and effectiveness and these advancements have increased the number of rebate offerings.

Resource Links for Water Use Efficiency

Calleguas's Landscape is Change Program: landscapeischange.com

Ventura County Water Wise Gardening: venturacountygardening.com

Regional Water Use Efficiency Program: bewaterwise.com

Rebates (SoCal WaterSmart): socialwatersmart.com

Education: mwdh2o.com/education-landing-page

Gardening Classes: bewaterwise.com/classes

California Native Plant Society: cnps.org

More Information on Water Quality

Calleguas Municipal Water District

2100 Olsen Road • Thousand Oaks, CA 91360
(805) 526-9323
calleguas.com

Metropolitan Water District of Southern California

Public Affairs • P.O. Box 54153 • Los Angeles, CA 90054
(800) CALL MWD
mwdh2o.com

State Water Resources Control Board

Division of Drinking Water • 601 North 7th Street • Sacramento, CA 94234
waterboards.ca.gov/drinking_water/programs

U.S. Environmental Protection Agency (WH-550)

Office of Ground Water & Drinking Water

401 M. Street, S.W. • Washington, D.C. 20460
Safe Drinking Water Hotline (800) 426-4791
water.epa.gov/ground-water-and-drinking-water

The Calleguas Municipal Water District Board of Directors meets on the first and third Wednesday of each month at 4:00 pm. The public is welcome to attend. See calleguas.com/about-us/agendas-minutes for upcoming meeting agendas and details on participation.



calleguas.com

Raul Avila, President

Thibault Robert, Vice President

Reddy Pakala, Secretary

Jacquelyn McMillan, Treasurer

Scott Quady, Director

Kristine McCaffrey, General Manager

Appendix F Calleguas Groundwater Storage Account Balance Reports



CALLEGUAS MUNICIPAL WATER DISTRICT
2021 Groundwater Account

Monthly Activity	East Las Posas WF injection	East Las Posas WF Production	East Las Posas Well Flush	6811 Grimes Allocation	West Las Posas In Lieu	Zone East Las Posas In Lieu	CCWRP PVCWD	United Storage	West Basins Oxnard and PV In Lieu	Monthly Total
January	163.94	-0.32	-8.22	2.118	0.00	0.00	0.00	0.00	0.00	157.52
February	254.03	-139.65	-3.51	-2.118	0.00	0.00	0.00	0.00	0.00	108.75
March	43.47	0.00	-2.48	0.00	0.00	0.00	0.00	0.00	0.00	40.99
April	0.04	-0.07	-0.49	0.00	0.00	0.00	0.00	0.00	0.00	-0.52
May	122.34	0.00	-1.88	0.00	0.00	0.00	0.00	0.00	0.00	120.46
June	16.40	-0.03	-1.41	0.00	0.00	0.00	0.00	0.00	0.00	14.96
July	11.18	0.00	-4.60	0.00	0.00	0.00	0.00	0.00	0.00	6.58
August	0.00	0.00	-0.55	0.00	0.00	0.00	0.00	0.00	0.00	-0.55
September	0.00	0.00	-0.72	0.00	0.00	0.00	0.00	0.00	0.00	-0.72
October	1.79	-2.21	-2.46	0.00	0.00	0.00	0.00	0.00	0.00	-2.88
November	0.00	0.00	-4.64	0.00	0.00	0.00	0.00	0.00	0.00	-4.64
December	792.48	-30.64	-2.61							759.23
Totals	1,405.67	-172.92	-33.57	0.00	0.00	0.00	0.00	0.00	0.00	1,199.18

Account Totals	Present	Previous Years	Total
Las Posas Basin Wellfield no allocation	1,199.18	20,771.16	21,970.34
Allocation	0.00	0.00	0.00
Las Posas Basin Wellfield w/ allocation	1,199.18	20,771.16	21,970.34
East Las Posas Basin In Lieu	0.00	6,347.56	6,347.56
West Las Posas In Lieu	0.00	25,192.00	25,192.00
CCWRP	0.00	23,453.37	23,453.37
United Storage	0.00	10,481.91	10,481.91
Oxnard In Lieu	0.00	18,060.00	18,060.00

Wellfield + In Lieu	28,317.90
CCWRP +West Basins	41,513.37

CALLEGUAS STORAGE ACCOUNT

105,505.18

CALLEGUAS MUNICIPAL WATER DISTRICT
2022 Groundwater Account

Monthly Activity	East Las Posas WF injection	East Las Posas WF Production	East Las Posas Well Flush	6811 Grimes Allocation	West Las Posas In Lieu	Zone East Las Posas In Lieu	CCWRP PVCWD	United Storage	West Basins Oxnard and PV In Lieu	Monthly Total
January	0.00	-290.67	-3.05	2.117						-291.60
February	0.00	0.00	0.00	-0.630						-0.63
March	117.30	-1.65	-0.75	-1.49						113.41
April	0.00	0.00	-0.12	0.00						-0.12
May	0.00	0.00	0.00	0.00						0.00
June	0.00	0.00	0.00	0.00						0.00
July	145.33	-178.58	-4.37	0.00						-37.62
August	0.00	-928.78	-5.57	18.00						-916.35
September	0.00	-928.83	-6.94	-18.00						-953.77
October	0.00	-913.94	-1.31	0.00						-915.25
November	0.00	-827.74	-1.68	0.00						-829.42
December	95.86	-180.87	-1.79	0.00						-86.80
Totals	358.49	-4,251.06	-25.58	0.00	0.00	0.00	0.00	0.00	0.00	-3,918.15

Account Totals	Present	Previous Years	Total
Las Posas Basin Wellfield no allocation	-3,918.15	21,970.34	18,052.19
Allocation	0.00	0.00	0.00
Las Posas Basin Wellfield w/ allocation	-3,918.15	21,970.34	18,052.19
East Las Posas Basin In Lieu	0.00	6,347.56	6,347.56
West Las Posas In Lieu	0.00	25,192.00	25,192.00
CCWRP	0.00	23,453.37	23,453.37
United Storage	0.00	10,481.91	10,481.91
Oxnard In Lieu	0.00	18,060.00	18,060.00

Wellfield + In Lieu	24,399.75
CCWRP +West Basins	41,513.37

CALLEGUAS STORAGE ACCOUNT

101,587.03

CALLEGUAS MUNICIPAL WATER DISTRICT
2023 Groundwater Account

Monthly Activity	East Las Posas WF injection	East Las Posas WF Production	East Las Posas Well Flush	6811 Grimes Allocation	West Las Posas In Lieu	Zone	CCWRP PVCWD	West Basins		Monthly Total
						East Las Posas In Lieu	CCWRP PVCWD	United Storage	Oxnard and PV In Lieu	
January	0.00	-0.23	-0.21	2.117	0.00	0.00	0.00	0.00	0.00	1.68
February	273.16	-1.76	-3.89	-2.117	0.00	0.00	0.00	0.00	0.00	265.39
March	625.22	-165.06	-5.61	0.00	0.00	0.00	0.00	0.00	0.00	454.55
April	0.00	0.00	-1.37	0.00	0.00	0.00	0.00	0.00	0.00	-1.37
May	0.00	0.00	-0.88	0.00	0.00	0.00	0.00	0.00	0.00	-0.88
June	445.97	0.00	-4.56	0.00	0.00	0.00	0.00	0.00	0.00	441.41
July	1,091.86	0.00	-3.75	0.00	0.00	0.00	0.00	0.00	0.00	1,088.11
August	967.53	0.00	-1.55	0.00	0.00	0.00	0.00	0.00	0.00	965.98
September	559.01	0.00	-4.73	18.00	0.00	0.00	0.00	0.00	0.00	572.28
October	4.88	0.00	0.00	-6.77	0.00	0.00	0.00	0.00	0.00	-1.89
November	0.00	0.00	0.00	-4.97	0.00	0.00	0.00	0.00	0.00	-4.97
December	545.16	0.00	0.00	-4.09	0.00	0.00	0.00	0.00	0.00	541.07
Totals	4,512.79	-167.05	-26.55	2.17	0.00	0.00	0.00	0.00	0.00	4,321.36

Account Totals	Present	Previous Years	Total
Las Posas Basin Wellfield no allocation	4,319.19	18,034.19	22,353.38
Allocation	2.17	0.00	2.17
Las Posas Basin Wellfield w/ allocation	4,321.36	18,034.19	22,355.55
East Las Posas Basin In Lieu	0.00	6,347.56	6,347.56
West Las Posas In Lieu	0.00	25,192.00	25,192.00
CCWRP	0.00	23,453.37	23,453.37
United Storage	0.00	10,481.91	10,481.91
Oxnard In Lieu	0.00	18,060.00	18,060.00

Wellfield + In Lieu	28,703.11
CCWRP +West Basins	41,513.37

CALLEGUAS STORAGE ACCOUNT

105,890.39

CALLEGUAS MUNICIPAL WATER DISTRICT
2024 Groundwater Account

Monthly Activity	Zone						CCWRP PVCWD	West Basins		Monthly Total
	East Las Posas WF injection	East Las Posas WF Production	East Las Posas Well Flush	6811 Grimes Allocation	West Las Posas In Lieu	East Las Posas In Lieu	CCWRP PVCWD	United Storage	Oxnard and PV In Lieu	
January	327.95	-394.33	-1.30	-2.170	0.00	0.00	0.00	0.00	0.00	-69.85
February	0.00	0.00	-0.42	0.000	0.00	0.00	0.00	0.00	0.00	-0.42
March	0.00	0.00	-0.98	0.00	0.00	0.00	0.00	0.00	0.00	-0.98
April	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	67.98	0.00	-4.29	0.00	0.00	0.00	0.00	0.00	0.00	63.69
June	0.00	0.00	-3.76	0.00	0.00	0.00	0.00	0.00	0.00	-3.76
July	0.00	0.00	-0.98	0.00	0.00	0.00	0.00	0.00	0.00	-0.98
August	3.15	-1.03	-5.98	0.00	0.00	0.00	0.00	0.00	0.00	-3.86
September	5.75	0.00	-1.34	0.00	0.00	0.00	0.00	0.00	0.00	4.41
October	0.00	0.00	-1.11	0.00	0.00	0.00	0.00	0.00	0.00	-1.11
November	0.00	0.00	-1.20	0.00	0.00	0.00	0.00	0.00	0.00	-1.20
December	710.04	-1.48	-7.82	0.00	0.00	0.00	0.00	0.00	0.00	700.74
Totals	1,114.87	-396.84	-29.18	-2.17	0.00	0.00	0.00	0.00	0.00	686.68

Account Totals	Present	Previous Years	Total
Las Posas Basin Wellfield no allocation	688.85	22,353.38	23,042.23
Allocation	-2.17	2.17	0.00
Las Posas Basin Wellfield w/ allocation	686.68	22,355.55	23,042.23
East Las Posas Basin In Lieu	0.00	6,347.56	6,347.56
West Las Posas In Lieu	0.00	25,192.00	25,192.00
CCWRP	0.00	23,453.37	23,453.37
United Storage	0.00	10,481.91	10,481.91
Oxnard In Lieu	0.00	18,060.00	18,060.00

Wellfield + In Lieu	29,389.79
CCWRP +West Basins	41,513.37

CALLEGUAS STORAGE ACCOUNT

106,577.07

CALLEGUAS MUNICIPAL WATER DISTRICT
2025 Groundwater Account

Monthly Activity	East Las Posas WF injection	East Las Posas WF Production	East Las Posas Well Flush	6811 Grimes Allocation	West Las Posas In Lieu	Zone East Las Posas In Lieu	CCWRP PVCWD	United Storage	West Basins Oxnard and PV In Lieu	Monthly Total
January	0.00	-379.16	-7.12	0.000	0.00	0.00	0.00	0.00	0.00	-386.28
February	26.26	-0.23	-2.49	0.000	0.00	0.00	0.00	0.00	0.00	23.54
March	0.00	0.00	-0.19	0.00	0.00	0.00	0.00	0.00	0.00	-0.19
April	0.89	-0.18	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.60
May	14.91	0.00	-0.87	0.00	0.00	0.00	0.00	0.00	0.00	14.04
June	54.73	-4.08	-2.53	0.00	0.00	0.00	0.00	0.00	0.00	48.12
July	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
August	0.00	-4.75	-1.84	0.00	0.00	0.00	0.00	0.00	0.00	-6.59
September	109.19	-4.40	-4.19	0.00	0.00	0.00	0.00	0.00	0.00	100.60
October	2.89	-0.25	-2.26	0.00	0.00	0.00	0.00	0.00	0.00	0.38
November	641.23	-1.09	-2.39	0.00	0.00	0.00	0.00	0.00	0.00	637.75
December	420.38	-451.86	-9.01	0.00	0.00	0.00	0.00	0.00	0.00	-40.49
Totals	1,270.48	-846.00								
2025 input total:	424.48									

Account Totals	Present	Previous Years	Total
Las Posas Basin Wellfield no allocation	391.48	23,042.23	23,433.71
Allocation	0.00	0.00	0.00
Las Posas Basin Wellfield w/ allocation	391.48	23,042.23	23,433.71
East Las Posas Basin In Lieu	0.00	6,347.56	6,347.56
West Las Posas In Lieu	0.00	25,192.00	25,192.00
CCWRP	0.00	23,453.37	23,453.37
United Storage	0.00	10,481.91	10,481.91
Oxnard In Lieu	0.00	18,060.00	18,060.00

Wellfield + In Lieu	29,781.27
CCWRP + West Basins	41,513.37

CALLEGUAS STORAGE ACCOUNT

106,968.55

Appendix G Metropolitan's 2025 UWMP Draft Projections for the Calleguas Service Area



Draft

(March 19, 2026)

Calleguas Municipal Water District

Normal Year

(Average of 1922-2021 Hydrology)

Demographics¹	2030	2035	2040	2045	2050
Total Population	639,927	644,386	645,101	642,872	639,782
Household Population	632,330	636,681	637,470	635,204	632,099
Occupied Housing Units	227,810	234,340	236,336	235,879	234,686
<i>Single Family</i>	171,834	174,906	175,278	174,712	173,917
<i>Multi-Family</i>	55,976	59,434	61,058	61,167	60,769
Persons Per Household	2.78	2.72	2.70	2.69	2.69
Urban Employment	263,962	266,923	267,273	265,520	263,939

Conservation	2030	2035	2040	2045	2050
Conservation ²	27,106	29,273	31,436	33,394	34,528
Installed Active Device Through FY2024/25	2,837	2,477	2,263	1,803	369
Code-Based and Price-Effect Savings	24,269	26,796	29,172	31,591	34,160

Total Demands After Conservation	2030	2035	2040	2045	2050
Total Demand	157,810	159,077	158,022	156,860	156,766
Retail Municipal and Industrial ³	139,433	140,406	139,598	138,436	138,343
Retail Agricultural	18,377	18,671	18,424	18,424	18,424
Seawater Barrier	0	0	0	0	0
Groundwater Replenishment	0	0	0	0	0

Local Supplies	2030	2035	2040	2045	2050
Total Local Supplies	56,664	57,096	57,475	57,682	57,809
Groundwater Production	38,526	38,526	38,526	38,526	38,526
Surface Production	0	0	0	0	0
Los Angeles Aqueduct	0	0	0	0	0
Seawater Desalination	0	0	0	0	0
Groundwater Recovery	4,595	4,818	4,989	5,016	5,043
Recycling	13,543	13,752	13,960	14,140	14,240
<i>M&I and Agricultural</i>	13,543	13,752	13,960	14,140	14,240
<i>Groundwater Replenishment</i>	0	0	0	0	0
<i>Seawater Barrier</i>	0	0	0	0	0
Other Non-Metropolitan Imports	0	0	0	0	0

Demands on Metropolitan	2030	2035	2040	2045	2050
Total Metropolitan Demands ⁴	101,146	101,981	100,546	99,178	98,957
Consumptive Use	101,146	101,981	100,546	99,178	98,957
Seawater Barrier	0	0	0	0	0
Replenishment Water	0	0	0	0	0

All units are acre-feet except in Demographics Section. Totals may not foot due to rounding.

1. Based on SCAG's 2024 Regional Transportation Plan.

2. Includes code-based, price-effect and existing active savings through fiscal year 2024/25.

Does not include future active conservation savings. Conservation is 1990 base year.

3. Retail M&I projections include conservation.

4. Replenishment water includes direct and in-lieu replenishment.

Draft

(March 19, 2026)

Calleguas Municipal Water District

Single Dry-Year

(Repeat of 1977 Hydrology)

Demographics¹	2030	2035	2040	2045	2050
Total Population	639,927	644,386	645,101	642,872	639,782
Household Population	632,330	636,681	637,470	635,204	632,099
Occupied Housing Units	227,810	234,340	236,336	235,879	234,686
<i>Single Family</i>	<i>171,834</i>	<i>174,906</i>	<i>175,278</i>	<i>174,712</i>	<i>173,917</i>
<i>Multi-Family</i>	<i>55,976</i>	<i>59,434</i>	<i>61,058</i>	<i>61,167</i>	<i>60,769</i>
Persons Per Household	2.78	2.72	2.70	2.69	2.69
Urban Employment	263,962	266,923	267,273	265,520	263,939

Conservation	2030	2035	2040	2045	2050
Conservation ²	27,106	29,273	31,436	33,394	34,528
Installed Active Device Through FY2024/25	2,837	2,477	2,263	1,803	369
Code-Based and Price-Effect Savings	24,269	26,796	29,172	31,591	34,160

Total Demands After Conservation	2030	2035	2040	2045	2050
Total Demand	156,681	157,940	156,892	155,738	155,645
Retail Municipal and Industrial ³	138,436	139,402	138,600	137,446	137,353
Retail Agricultural	18,245	18,538	18,292	18,292	18,292
Seawater Barrier	0	0	0	0	0
Groundwater Replenishment	0	0	0	0	0

Local Supplies	2030	2035	2040	2045	2050
Total Local Supplies	56,664	57,096	57,475	57,682	57,809
Groundwater Production	38,526	38,526	38,526	38,526	38,526
Surface Production	0	0	0	0	0
Los Angeles Aqueduct	0	0	0	0	0
Seawater Desalination	0	0	0	0	0
Groundwater Recovery	4,595	4,818	4,989	5,016	5,043
Recycling	13,543	13,752	13,960	14,140	14,240
<i>M&I and Agricultural</i>	<i>13,543</i>	<i>13,752</i>	<i>13,960</i>	<i>14,140</i>	<i>14,240</i>
<i>Groundwater Replenishment</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Seawater Barrier</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Other Non-Metropolitan Imports	0	0	0	0	0

Demands on Metropolitan	2030	2035	2040	2045	2050
Total Metropolitan Demands ⁴	100,017	100,843	99,416	98,056	97,836
Consumptive Use	100,017	100,843	99,416	98,056	97,836
Seawater Barrier	0	0	0	0	0
Replenishment Water	0	0	0	0	0

All units are acre-feet except in Demographics Section. Totals may not foot due to rounding.

1. Based on SCAG's 2024 Regional Transportation Plan.

2. Includes code-based, price-effect and existing active savings through fiscal year 2024/25.

Does not include future active conservation savings. Conservation is 1990 base year.

3. Retail M&I projections include conservation.

4. Replenishment water includes direct and in-lieu replenishment.

Draft

(March 19, 2026)

Calleguas Municipal Water District

Drought Lasting Five Consecutive Years

(Repeat of 1988-1992 Hydrology)

Demographics¹	2030	2035	2040	2045	2050
Total Population	639,927	644,386	645,101	642,872	639,782
Household Population	632,330	636,681	637,470	635,204	632,099
Occupied Housing Units	227,810	234,340	236,336	235,879	234,686
<i>Single Family</i>	<i>171,834</i>	<i>174,906</i>	<i>175,278</i>	<i>174,712</i>	<i>173,917</i>
<i>Multi-Family</i>	<i>55,976</i>	<i>59,434</i>	<i>61,058</i>	<i>61,167</i>	<i>60,769</i>
Persons Per Household	2.78	2.72	2.70	2.69	2.69
Urban Employment	263,962	266,923	267,273	265,520	263,939

Conservation	2030	2035	2040	2045	2050
Conservation ²	27,106	29,273	31,436	33,394	34,528
Installed Active Device Through FY2024/25	2,837	2,477	2,263	1,803	369
Code-Based and Price-Effect Savings	24,269	26,796	29,172	31,591	34,160

Total Demands After Conservation	2030	2035	2040	2045	2050
Total Demand	153,455	161,099	160,978	159,840	159,308
Retail Municipal and Industrial ³	134,795	142,250	142,158	141,122	140,590
Retail Agricultural	18,661	18,849	18,819	18,718	18,718
Seawater Barrier	0	0	0	0	0
Groundwater Replenishment	0	0	0	0	0

Local Supplies	2030	2035	2040	2045	2050
Total Local Supplies	56,487	56,923	57,342	57,609	57,758
Groundwater Production	38,526	38,526	38,526	38,526	38,526
Surface Production	0	0	0	0	0
Los Angeles Aqueduct	0	0	0	0	0
Seawater Desalination	0	0	0	0	0
Groundwater Recovery	4,506	4,729	4,939	5,005	5,032
Recycling	13,456	13,668	13,877	14,078	14,200
<i>M&I and Agricultural</i>	<i>13,456</i>	<i>13,668</i>	<i>13,877</i>	<i>14,078</i>	<i>14,200</i>
<i>Groundwater Replenishment</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Seawater Barrier</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Other Non-Metropolitan Imports	0	0	0	0	0

Demands on Metropolitan	2030	2035	2040	2045	2050
Total Metropolitan Demands ⁴	96,967	104,175	103,635	102,231	101,550
Consumptive Use	96,967	104,175	103,635	102,231	101,550
Seawater Barrier	0	0	0	0	0
Replenishment Water	0	0	0	0	0

All units are acre-feet except in Demographics Section. Totals may not foot due to rounding.

1. Based on SCAG's 2024 Regional Transportation Plan.

2. Includes code-based, price-effect and existing active savings through fiscal year 2024/25.
Does not include future active conservation savings. Conservation is 1990 base year.

3. Retail M&I projections include conservation.

4. Replenishment water includes direct and in-lieu replenishment.

Appendix H Water Shortage Contingency Plan





2025 Water Shortage Contingency Plan

Public Draft

MAY 2026

CALLEGUAS MUNICIPAL WATER DISTRICT





CALLEGUAS MUNICIPAL WATER DISTRICT

2025 Water Shortage Contingency Plan

MAY 2026

Public Draft

Prepared by Water Systems Consulting, Inc



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ACRONYMS & ABBREVIATIONS

AF	Acre-Feet
ASR	Aquifer and Storage Recovery
Calleguas	Calleguas Municipal Water District
CRA	Colorado River Aqueduct
CWC	California Water Code
DRA	Drought Risk Assessment
DWR	Department of Water Resources
ERP	Emergency Response Plan
EWSP	Emergency Water Supply Plan
FCGMA	Fox Canyon Groundwater Management Agency
IRP	Integrated Resource Plan
LADWP	Los Angeles Department of Water and Power
LBWFP	Lake Bard Water Filtration Plant
LVMWD	Las Virgenes Municipal Water District
Metropolitan	Metropolitan Water District of Southern California
Purveyors	Retail water purveyors
SWP	State Water Project
UWMP	Urban Water Management Plan
WRISt	Water Resource Implementation Strategy
WSAP	Water Supply Allocation Plan
WSAS	Water Supply Alternatives Assessment
WSCP	Water Shortage Contingency Plan
WSDM	Water Surplus and Drought Management

1.0 Introduction

This Water Shortage Contingency Plan (WSCP) is a strategic plan that the Calleguas Municipal Water District (Calleguas) uses to prepare for and respond to water shortages. A water shortage occurs when the water supply available is insufficient to meet the normally-expected customer water use at a given point in time. A shortage may occur due to several reasons, including water supply quality changes, climate change, drought, regional power outages, and catastrophic events (e.g., earthquake). Additionally, the State may declare a statewide drought emergency and mandate that water suppliers reduce demands. The WSCP serves as the operating manual that Calleguas will use to prevent catastrophic service disruptions through proactive, rather than reactive, mitigation of water shortages.

Major elements of the WSCP include a process for an annual water supply and demand assessment and shortage response actions that align with six standard water shortage levels based on water supply conditions and shortages resulting from catastrophic supply interruptions. This level of detailed planning and preparation provides accountability and predictability to help Calleguas maintain reliable supplies and reduce the impact of any supply shortages and/or interruptions.

This WSCP was prepared in conjunction with the Calleguas 2025 Urban Water Management Plan (UWMP) and is a standalone document that can be modified as needed. Calleguas is a Member Agency of the Metropolitan Water District of Southern California (Metropolitan), who provides Calleguas with imported water supplies that Calleguas distributes on a wholesale basis to its retail water purveyors. Because Calleguas is fully dependent on Metropolitan for its main water supply, Calleguas's WSCP was developed to align with Metropolitan's WSCP. This document is compliant with the California Water Code (CWC) Section 10632 and incorporates guidance from the State of California Department of Water Resources (DWR) UWMP Guidebook.

The WSCP describes the following:

1. **Water Service Reliability Analysis:** Summarizes Calleguas's water supply analysis and reliability and identifies any key issues that may trigger a shortage condition.
2. **Annual Water Supply and Demand Assessment Procedures:** Describes the key data inputs, evaluation criteria, and methodology for assessing the system's reliability for the coming year. It also describes the steps to formally declare any water shortage stages and response actions.
3. **Water Shortage Stages:** Establishes water shortage stages to clearly identify and prepare for shortages.
4. **Shortage Response Actions:** Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand.
5. **Communication Protocols:** Describes communication protocols under each stage to ensure customers, the public, and government agencies are informed of shortage conditions and requirements.

6. **Legal Authority:** Lists the legal documents that grant Calleguas the authority to declare a water shortage and implement and enforce response actions.
7. **Financial Consequences of WSCP Implementation:** Describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies to offset financial burdens.
8. **WSCP Refinement Procedures:** Describes the factors that may trigger updates to the WSCP and outlines how to complete an update.
9. **Plan Adoption, Submittal, and Availability:** Describes the process for the WSCP adoption, submittal, and availability after each revision.

2.0 Water Service Reliability Analysis

Besides the WSCP, the Urban Water Management Planning Act requires suppliers to conduct two other planning analyses to evaluate supply reliability. The first is a water service reliability assessment that compares the total water supply sources available to the water supplier with long-term 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 second is a Drought Risk Assessment (DRA) that evaluates a drought period that lasts five consecutive water years starting from the year following when the assessment is conducted.

Calleguas's water service reliability assessment and DRA are included in Section 7 of the 2025 UWMP. This section briefly describes the findings from both analyses.

For the water service reliability assessment, Calleguas utilized imported water supply projections developed for their 2025 Water Resource Implementation Strategy (WRIS_t) project, which evaluated improved water supply resilience and reliability for the Calleguas service area. The WRIS_t imported water supply projections are based on projections provided by Metropolitan and developed during for their 2020 Integrated Resource Plan (IRP). The WRIS_t projections start with Metropolitan's 2020 IRP reduced imported supply projections to the Calleguas service area and incorporate planned Metropolitan drought action and core supply projects that were not included in the original projections. Metropolitan also prepared a single scenario projection for their 2025 UWMP but acknowledges that the 2020 IRP projections include a wider range of future scenarios. For the most conservative planning, Calleguas used the lower WRIS_t projections based on Metropolitan's 2020 IRP projections for the water service reliability assessment.

The water service reliability assessment projects that Calleguas will have adequate supplies to meet expected demands in a normal, single-dry, and the first four years of a five-year consecutive drought. In year five, a demand reductions of 15%, using Calleguas's WSCP actions, is anticipated.

For the DRA, Calleguas relied on projections provided by Metropolitan for the 2025 UWMP. The DRA considers the lowest supplies available during a five-year consecutive drought, projected

changes in supplies over the next five years, and current conditions. Calleguas is almost fully reliant on Metropolitan for its supply, so Calleguas mirrored the approach for the DRA with the approach taken by Metropolitan. Using Metropolitan's 2025 UWMP projections for the DRA also takes into consideration current conditions, such as Metropolitan's existing storage reserves. Metropolitan's DRA projects that it may have shortages of its core supplies in four out of five years, but can mitigate for shortages to its member agencies by taking additional water from their storage facilities (Metropolitan Water District of Southern California, 2025). Based on Metropolitan's assessment, Calleguas also does not project any shortages in the next five years in its DRA.

In addition to supplies from Metropolitan, Calleguas has significant storage capabilities within its direct control through Lake Bard and the Las Posas Aquifer and Storage Recovery (ASR) Project. The Las Posas ASR Project provides drought and imported water outage storage supplies, while Lake Bard is reserved for outage-only periods. Additionally, Calleguas has identified, implemented, and is pursuing projects to bolster supply reliability outside of reliance on Metropolitan. These include the recently completed Calleguas-Las Virgenes Interconnection and planned Calleguas-Ventura Interconnection. Additionally, Calleguas completed a Water Supply Alternatives Assessment (WSAS) in 2022 to identify top water supply alternatives to meet demand during a six-month imported water supply outage and is currently implementing a portion of the recommendations. Calleguas also completed the WRIS in 2025 that expanded on the WSAS to evaluate water supply reliability in drought and outage periods. A description of the findings from these planning documents and Calleguas's current efforts to implement the recommendations is discussed in Section 6.10 of the 2025 UWMP.

3.0 Annual Water Supply and Demand Assessment Procedures

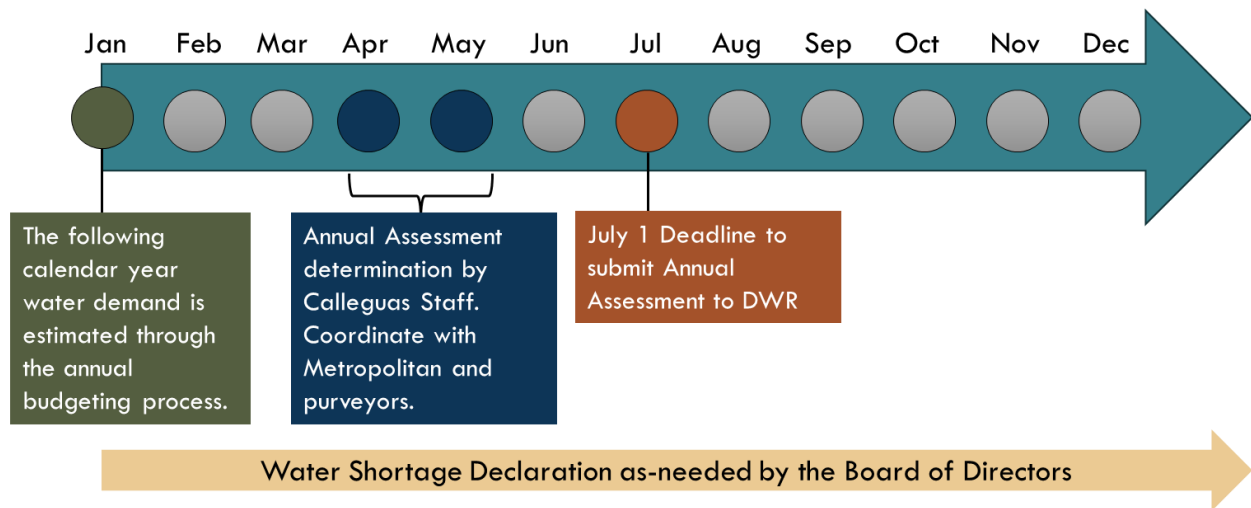
As an urban water supplier, Calleguas must prepare and submit an Annual Assessment to the DWR by July 1 each year. The Annual Assessment is a determination of the near-term outlook for supplies and demands and indicates whether a water supply shortage is projected in the next year based on known circumstances and information available at the time of analysis. The Annual Assessment can help suppliers anticipate shortages and the need to enact their WSCP shortage stage and response actions for the upcoming year.

Calleguas's Annual Assessment procedures and timeline are shown in Figure 3-1. The water demand for the following year is estimated through Calleguas's annual budgeting process by January of each year. In April and May, Calleguas staff will conduct the Annual Assessment using estimated demands developed from the budgeting process. Calleguas and Metropolitan typically coordinate in early May on the Annual Assessment; this includes a joint evaluation of whether or not projected supplies will be sufficient to meet expected demand. Calleguas will also coordinate with their purveyors to provide available supplies for their Annual Assessments.

Other factors, such as infrastructure constraints and water quality impacts, will be considered during the Annual Assessment determination.

The Calleguas Board of Directors designates the General Manager or Manager of Water Resources to approve and submit the Annual Assessment to DWR by July 1st. If the Annual Assessment indicates that a change in the current shortage level is needed, a resolution to declare that shortage stage will be brought to the Board of Directors for approval. The Board of Directors can declare a water shortage at any time if needed based on current conditions, and a shortage stage may be declared outside of the typical Annual Assessment determination timeline.

Figure 3-1. Annual Assessment Reporting Timeline



4.0 Water Shortage Stages

As required by California Water Code Section 10632(a)(3)(A), the WSCP is framed around six standard water shortage levels that correspond to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortages, shown in Table 4-1. Shortage levels also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other emergency events. The shortage levels are defined in terms of the percent shortfall of supplies against demands.

Table 4-1. Six Standard Shortage Levels

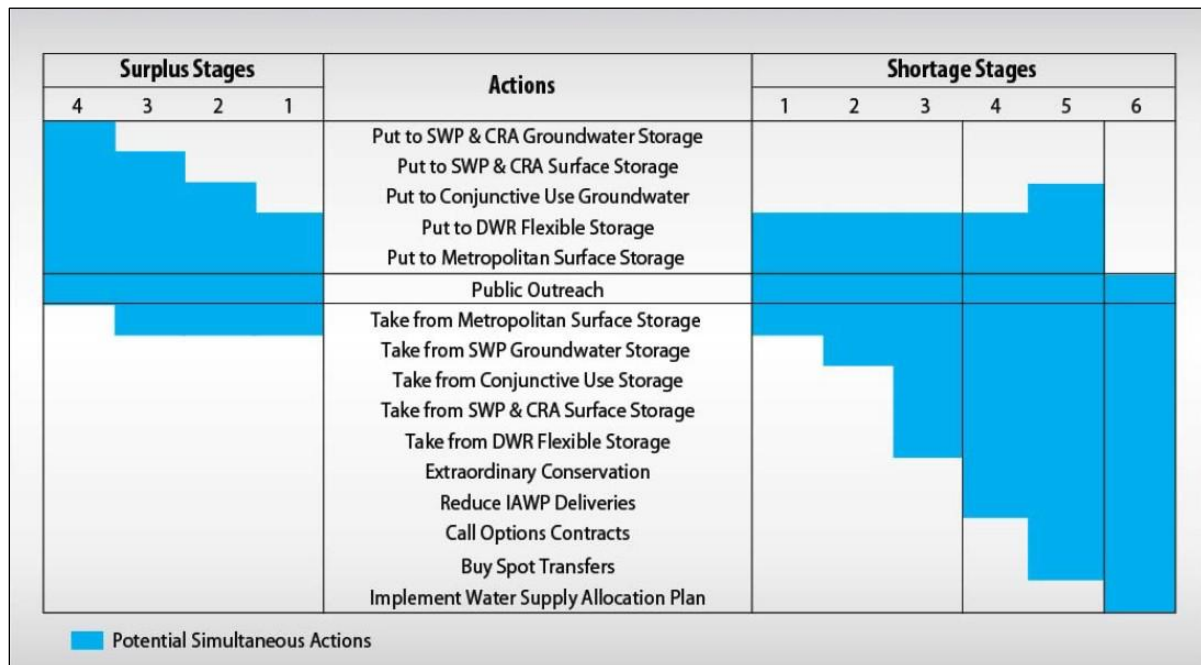
Shortage Stage	Percent Shortage Range
1	Up to 10%
2	Up to 20%
3	Up to 30%
4	Up to 40%
5	Up to 50%
6	> 50%

4.1 Determining Water Shortage Reductions

With exception of a catastrophic failure of the Santa Susana Tunnel or other critical infrastructure, Calleguas does not foresee imposing allocations except under Metropolitan’s direction. Metropolitan’s WSCP, provided in Attachment H.1, aligns their shortage response actions with the Water Surplus and Drought Management (WSDM) Plan and Water Supply Allocation Plan (WSAP) schedule.

As shown in Figure 4-1, the WSDM Plan defines six shortage management stages to guide resource management activities. These stages are not defined merely by shortfalls in imported water supply, but also by the water balances in Metropolitan’s storage programs. Thus, a 10% shortfall in imported supplies could be a WSDM stage 1 shortage if storage levels are high. If storage levels are already depleted, the same shortfall in imported supplies could potentially be defined as a more severe shortage in the WSDM.

Figure 4-1. Metropolitan WSDM Resource Stages and Actions Matrix



Source: Metropolitan Draft 2025 UWMP, Figure 2-1 (Metropolitan Water District of Southern California, 2025)

When Metropolitan must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition under its WSDM. Under most of these WSDM stages, Metropolitan is still able to meet all end-use demands for water. For WSDM shortage stages 1 through 3, Metropolitan will meet demands by withdrawing water from storage. At WSDM shortage stages 4 and 5, Metropolitan may undertake additional shortage management steps, including issuing public calls for extraordinary conservation and exercising water transfer options (or purchasing water on the open market).

The WSAP is enacted at shortage stage 6 and provides a formula for allocating available water supplies to the member agencies in case of extreme water shortages within Metropolitan's service area. The WSAP formula seeks to balance the impacts of a shortage at the retail level for shortages of Metropolitan supplies of up to 50%.

5.0 Shortage Response Actions

CWC Section 10632(a)(4) requires the WSCP to specify shortage response actions that align with the defined shortage levels, and include, at a minimum, all of the following:

- Locally appropriate supply augmentation actions.
- Locally appropriate demand reduction actions to adequately respond to shortages.
- Locally appropriate operational changes.
- Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions (Not applicable to Calleguas).
- An estimate of the extent to which the gap between supplies and demand will be reduced by implementation of each action.

5.1 Demand Reduction Actions

Table 5-1 lists Calleguas's potential demand reduction actions for each shortage stage. The demand reduction actions will be customized to meet the circumstances for the shortage condition. As a wholesale supplier, Calleguas does not provide water to the end users but to the purveyors, of which many have their own WSCP. Many of Calleguas's Stage 1 demand reduction actions include funding to support the purveyors reducing their demand, including expansion of rebates, new conservation programs, and making funding available to support purveyors implementation of their WSCP. In 2022, during a Stage 3 shortage level, Calleguas did just that. This including providing funding for turf rebates for customers in the service area and providing funding to the purveyors to mail out postcards to their customers outlining watering restrictions during a water shortage. Later water shortage stages include additional demand reduction actions and the expansion of previous stage actions. This allows Calleguas to choose a suite of demand reduction actions needed to deliver the outcome necessary to meet the requirements of a given shortage level.

Table 5-1. Demand Reduction Actions

Shortage Stage	Demand Reduction Actions	How much is this going to reduce the shortage gap?
1	Expand public information campaign.	0 to 100% of shortage gap
1	Increase conservation budget to provide additional plumbing fixtures and devices rebates.	0 to 100% of shortage gap
1	Increase conservation budget to provide additional landscape irrigation efficiency rebates.	0 to 100% of shortage gap
1	Increase conservation budget to provide additional turf rebates.	0 to 100% of shortage gap
1	Implement new conservation and water efficiency programs.	0 to 100% of shortage gap
1	Call for voluntary retailer supply shift to non-imported potable sources.	0 to 100% of shortage gap
1	Call for voluntary retailer water use reductions.	0 to 100% of shortage gap
1	Make funding available for purveyors to implement their WSCP actions.	0 to 100% of shortage gap
2	Implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 20%.	0 to 100% of shortage gap
3	Implement mandatory landscape watering restrictions.	0 to 100% of shortage gap
3	Implement monthly volumetric limits for imported water supplies.	0 to 100% of shortage gap
3	Implement and expand one or more of the shortage response actions listed for Stage 1-2 to achieve demand reduction target of 30%.	0 to 100% of shortage gap
4	Implement and expand one or more of the shortage response actions listed for Stage 1-3 to achieve demand reduction target of 40%.	0 to 100% of shortage gap
5	Implement and expand one or more of the shortage response actions listed for Stage 1-4 to achieve demand reduction target of 50%.	0 to 100% of shortage gap
6	Moratorium on annexations.	0 to 100% of shortage gap
6	Implement an outage response and allocation system.	0 to 100% of shortage gap
6	Implement and expand one or more of the shortage response actions listed for Stage 1-5 to achieve demand reduction target of greater than 50%.	0 to 100% of shortage gap

5.1.1 Consumption Reduction Methods by Purveyors

Under the most severe drought conditions, under almost any catastrophe condition, and consistent with Calleguas's Ordinance No. 12 Section 6(a), Calleguas may "apportion the available water supply among Member Agencies in an equitable manner with due regard to public health and safety, and in accordance with the provisions of the Municipal Water District Act of 1911, as amended." If a mandatory reduction in water consumption is required, the following are examples of demand reduction actions that purveyors may implement to meet shortage goals:

- Restrict irrigation hours to evening and early morning hours.
- Prohibit non-essential irrigation (ex. nonfunctional turf and irrigation not required for public health, safety, or food production) and limit water use for essential irrigation.
- Restrict or disallow irrigation entirely.
- Disallow the use of water to fill ornamental lakes, ponds, pools, and fountains.
- Limit or disallow the washing of vehicles.
- Disallow the spraying of outdoor paved surfaces and using potable water for street cleaning.
- Restrict the use of water from fire hydrants for construction purposes.
- Implement a rate structure for charges and penalties for water use restriction violations.

Each purveyor would rely on its own WSCP to guide the actions it would take to meet conservation goals.

5.2 Supply Augmentation Actions

Table 5-2 lists Calleguas's supply augmentation actions. Calleguas's primary action for all shortage stages is to pump stored water from the Las Posas ASR Project to augment supplies. Other supply augmentation actions are reserved for shortage stage 6, and only during an imported water outage condition. Calleguas is also implementing other outage supply projects in the future, including an interconnection with the City of Ventura, that could be used to augment supplies during an outage once the projects are completed. See Section 6.10 of the 2025 UWMP for more information on future projects.

Table 5-2. Supply Augmentation Actions

Shortage Stage	Supply Augmentation Actions	How much is this going to reduce the shortage gap?
1-6	Pump and deliver water from Las Posas ASR Project.	Up to 5,000 acre-feet (AF) per year
6	Treat and deliver water from Lake Bard.	Up to 7,500 AF in a 6-month outage period
6	Receive water from Las Virgenes Municipal Water District through the Calleguas-Las Virgenes Interconnection.	5 to 13 cfs (Up to 1,800 to 4,700 AF in a 6-month outage period)
6	Receive water from Crestview through the Crestview Interconnection.	3 cfs (Up to 1,085 AF in a 6-month outage period)

Included in Stage 6 are shortage response actions by Calleguas relating to a catastrophic interruption of water supply. These actions correspond to Calleguas’s water outage planning, which is outlined in its Water Supply Shortage Memorandum (included as Attachment H.2). The Water Supply Shortage Memorandum addresses how Calleguas might manage supplies during a water supply shortage and imported water outage, including potential allocation of supplies.

5.3 Catastrophic Supply Interruption

Although Metropolitan’s and Calleguas’s water delivery systems are robust, these systems are still vulnerable. A natural event, such as an earthquake, could cause the complete and sudden failure of the facilities used by Metropolitan to import water. Similarly, the facilities used to import water from Metropolitan to the Calleguas service area are susceptible to these same threats.

5.3.1 Emergency Response Plan

Calleguas maintains an Emergency Response Plan (ERP) to address the planned responses to operational emergencies, malevolent acts, and natural disasters. Calleguas’s ERP was last updated in September 2025 to address current conditions and meet the legal requirements of America’s Water Infrastructure Act.

Calleguas’s ERP address actions Calleguas will take during a catastrophic water shortage due to the interruption of, or insufficient, imported water deliveries from Metropolitan. The actions, which are also included in this WSCP, include utilizing alternative and outage supply sources. The ERP actions also call for demand reduction (Calleguas Municipal Water District, 2025).

5.3.2 Metropolitan Catastrophe Strategies

The majority of Southern California’s water is imported via three facilities. Those are the California Aqueduct, the Los Angeles Aqueduct, and the Colorado River Aqueduct (CRA). All three sources cross major faults (Figure 5-1). A catastrophic event that results in an unplanned interruption in supply from any of these facilities would have a significant impact on the ability to

need to meet purveyor demands from water stored in Lake Bard and the Las Posas ASR Project; and Calleguas could utilize one or more interconnection. Providing Calleguas with a second water source during an outage was one of the primary reasons for development of the Las Posas ASR Project.

Existing and planned interconnections with adjacent water districts can also provide supplemental water in the event of an outage in the Calleguas system (see Sections 6.8 and 6.10 of the 2025 UWMP for more information on existing and planned interconnections). The recently completed Calleguas-Las Virgenes Interconnection could be used during an imported water outage if the supply disruption only impacts Calleguas. Las Virgenes Municipal Water District (LVMWD) also relies on Metropolitan for SWP supplies, so a SWP outage in Metropolitan's or DWR's systems would impact both Calleguas and LVMWD.

Calleguas recently completed several planning efforts to address water reliability during a catastrophic imported water outage. These include, but are not limited to, the 2022 Water WSAS, 2025 WRISt, 2025 ERP (described above in Section 5.3.1), and the Water Shortage Supply Plan Technical Memorandum.

- The WSAS is a comprehensive planning effort that evaluated over 100 projects and programs to enhance water supply reliability, with emphasis on recommended projects, to meet Calleguas's water demands during an extended outage of imported supplies. Calleguas is currently implementing some of the recommendations of the WSAS. See Section 6.10 of the 2025 UWMP for more information.
- The WRISt built upon the WSAS to reevaluate the top projects for their potential benefits under normal, dry-year water supply, and outage supply conditions. The WRISt recommends a portfolio of projects and near-term "No-Regrets" actions intended to initiate the highest-scoring supply reliability and local resilience improvements. The WRISt also provides an adaptive management framework for project implementation to consider changing conditions over time. Calleguas is currently implementing many of the no-regret actions. See Section 6.10 of the 2025 UWMP for more information.
- The Water Shortage Supply Plan Technical Memorandum describes how Calleguas would manage a water shortage, including in the event of a catastrophic interruption of imported water. The intended purpose of the Water Shortage Supply Plan Technical Memorandum is to provide an overview of response actions and demand reductions to Calleguas and the purveyors during an outage for up to six months. The Water Supply Shortage Memorandum is provided as Attachment H.2.

Calleguas has several options to receive potable water during a catastrophic imported water outage. One such option is Calleguas's Lake Bard. Lake Bard has a total storage capacity of 10,500 AF and is generally kept full so it is ready during an outage of imported supply. Currently, water from Lake Bard is supplied to the Lake Bard Water Filtration Plant (LBWFP) through gravity alone, and only 7,500 AF of water stored in Lake Bard can be moved to the WFP to be treated and delivered as potable water. The remaining 3,000 AF is available as an emergency non-potable supply. However, Calleguas is currently in design of a pump station that will allow nearly the entire volume stored in Lake Bard to be treated and delivered as potable

water. The LBWFP has a treatment capacity ranging from 30 to 100 cfs. Based on this capacity, Lake Bard would empty in 5.5 weeks at maximum LBWFP flows and four months at minimum LBWFP flows.

Calleguas currently has over 20,000 AF of groundwater stored in the Las Posas ASR Project, which could provide six months of supply at 55 cfs or just over a year of supply at 25 cfs.

Additionally, Calleguas has accumulated groundwater storage credits under programs approved by Fox Canyon Groundwater Management Agency (FCGMA) in basins within the Calleguas service area. These credits may be able to be pumped by purveyors during an extended outage of imported supplies. Utilizing a combination of Lake Bard and Calleguas stored groundwater, and by limiting water supplies for purveyors to health and safety quantities only, Calleguas can endure an extended disruption in service from Metropolitan.

Calleguas's normal imported water supply comes through Metropolitan's West Valley Feeder No. 2 pipeline. Metropolitan leases a smaller, parallel pipeline, West Valley Feeder No. 1, to the Los Angeles Department of Water and Power (LADWP). Metropolitan has an agreement for LADWP to provide Calleguas with an average of 40 cubic feet per second (cfs) of LADWP water through West Valley Feeder No.1 when water is not available through West Valley Feeder No.2.

Metropolitan also has a connection capable of receiving up to 150 cfs of untreated water from LADWP's Los Angeles Aqueduct System, which originates in the Owens Valley east of the Sierra Nevada Mountains. The connection is in Magazine Canyon, which is about half a mile north of Metropolitan's Jensen Water Treatment Plant, and the water could be treated there. There is no formal agreement with LADWP to provide water to Metropolitan through this connection, but Metropolitan staff has indicated that LADWP has been cooperative about providing water in the past. In addition, Metropolitan can wheel about 35 cfs of Colorado River water to Calleguas through LADWP's LA-17 connection in Eagle Rock, West Valley Feeder No. 1, and the CA-01 meter connection in Chatsworth. There is also no formal agreement with LADWP to provide water to Calleguas through this connection.

5.3.4 Calleguas Emergency Pipeline Repair Measures

The Calleguas distribution system has proven highly reliable for over 60 years. However, its potential vulnerability was demonstrated by the 1994 Northridge Earthquake, which resulted in numerous pipeline separations and cracked joints, and again in 1997 by an intense pressure surge that led to the rupture of a 20 linear-foot section of a 66-inch diameter pre-stressed concrete pipe in Simi Valley. Large diameter pipeline failures, if not addressed promptly and properly, can create health and safety risks for many thousands of customers. Facility failures may be caused by construction activity, earthquakes, power failures, or other conditions such as pressure surges (i.e., water hammer).

Recognizing the inherent vulnerability of water transmission systems, Calleguas has taken the following actions to establish a state of preparedness that facilitates timely emergency response and assures that repairs will be performed in the most efficient manner:

- Maintenance of an extensive inventory of pipe and fittings to repair all pipe sizes and types in its potable water system. Inventory ranges from 24 to 78 inches in diameter and is located at Calleguas’s wellfield property.
- Development of comprehensive repair drawings for all pipeline types and sizes in its potable water system.
- Maintenance of an emergency contact list.
- Maintenance of contracts and insurance with contractors skilled in repair of large diameter pipelines.

5.4 Seismic Risk Assessment and Mitigation Plan

CWC Section 10632.5 mandates urban water suppliers to include in their UWMP a seismic risk assessment and mitigation plan to assess and mitigate the vulnerabilities of each of the various facilities of a water system.

Calleguas is a participant in the Ventura County Multi-Hazard Mitigation Plan 2022 update¹, which assesses the risks posed by natural and human-caused hazards and establishes mitigation strategies to reduce or avoid these risks. Earthquakes are addressed in this plan.

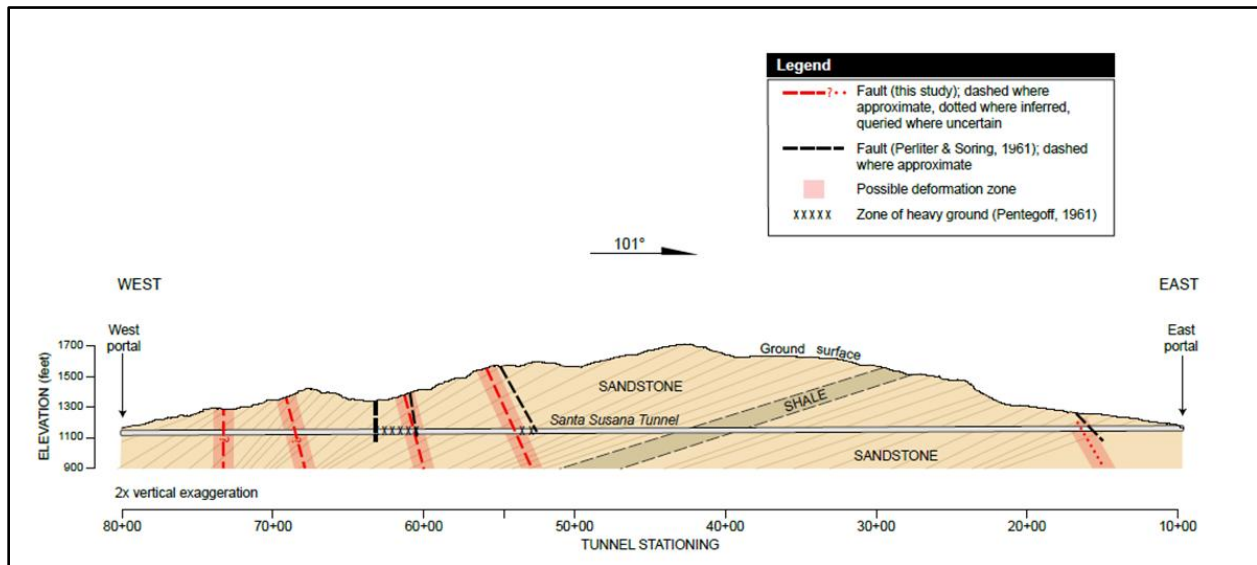
Calleguas also conducts its own seismic risk and resilience assessments on critical infrastructure, including imported water, the Wood Ranch Dam at Lake Bard, the Lake Bard Water Filtration Plant, pipelines, Las Posas ASR wells, turnouts, and the Santa Susana Tunnel.

As described above, 100% of Calleguas’s potable water supply most years is provided by Metropolitan at a single point – the East Portal in Chatsworth. It then passes through the Santa Susana Tunnel, a 1.3-mile long, 96-inch diameter tunnel that traverses the Santa Susana Pass and delivers water through the West Portal in Simi Valley. From there, the Calleguas system then branches and distributes water throughout the service area. The Santa Susana Tunnel was completed in 1962 and is tunneled through sandstone with thin shale interbeds. This single point of water delivery to the Calleguas system crosses several traces of a mapped fault zone (Figure 5-2) and is vulnerable to damage, or even complete collapse, in the event of a substantial earthquake.

¹The 2022 update of the Ventura County Multi-Hazard Mitigation Plan can be found online:

Volume 1: https://s48240.pcdn.co/wp-content/uploads/2022/12/2022-06_VenturaHMP_Vol1_Final.pdf

Volume 2: https://s48240.pcdn.co/wp-content/uploads/2022/12/2022-06_VenturaHMP_Vol2_Final.Compressed.pdf

Figure 5-2. Location of Faults along the Alignment of the Santa Susana Tunnel

Calleguas has completed a study of seismic impacts and mitigation options for the Santa Susana Tunnel. The study includes a geologic and geotechnical characterization and a Seismic Hazard Assessment. The assessment identified potential risks to the tunnel in the event of an earthquake. It also analyzed potential improvements to the tunnel to reduce risk of failure, potential repair methods to address failures should they occur, and bypass options around the tunnel to facilitate shutdowns for maintenance and deliver water in the event of a tunnel failure. Most recently, Calleguas completed a physical inspection of the tunnel and performed LiDAR mapping, survey, and scanning of the tunnel to determine baseline conditions and track any future movement or changes in condition. Results from the inspection concluded that the tunnel was not at risk of failure. Calleguas concluded that improvements to mitigate the risk of tunnel damage in an earthquake, such as implementing new outage supply projects and strengthening sections of the tunnel, are more cost-effective than tunnel repairs, and bypass options are cost prohibitive. The next steps are to refine tunnel improvement approaches and implement the improvements.

6.0 Communication Protocols

Calleguas works closely with Metropolitan in implementing strategies that effectively communicate vital information for each of the six standard water shortage levels. Metropolitan has a detailed communications strategy for each water shortage level, as described in its WSCP, included in Attachment H.1.

Calleguas maintains a list of Public Information Officers, Conservation Coordinators, and other purveyor staff that would be involved in disseminating information about the duration and severity of water shortage levels. Purveyors interact directly with end water users and are best equipped to implement demand management measures at the retail level.

Calleguas has a range of methods to communicate with the public and may increase its public communication and outreach magnitude and frequency as water shortage stages increase.

These communication methods are listed below:

- Social Media posts.
- Large signs at key locations.
- LED-flashing traffic signs.
- Press conferences/releases/briefings and media kits.
- An electronic newsletter to customers, stakeholders, elected officials, business, civic and community groups.
- TV and radio interviews/appearances.
- Op-ed columns.
- Presentations at local government or organization meetings, public outreach events, homeowner associations, and more.
- Targeted media placements such as ad space in major dailies and/or inserts in the local papers (example provided in Figure 6-1 and Figure 6-2).
- Online presence that includes specific information on the circumstances necessitating water demand reductions, current restrictions, fact sheet/FAQs, reporting waste violations, specific measures that can be taken to reduce water use, etc.

Figure 6-1. Landscape Is Change Bus Sign



Figure 6-2. Turf Removal Workshop Ad



7.0 Legal Authority

This section describes the legal authorities that empower Calleguas to implement and enforce its shortage response actions. Calleguas's Ordinance No. 12 gives its Board of Directors authority to take actions necessary to manage available supplies, including setting purveyor allocations and penalties for exceeding allocated deliveries. A copy of Ordinance No. 12 is included as Attachment H.3.

If necessary, Calleguas can declare a water shortage emergency in accordance with CWC Chapter 3 (commencing with Section 350) of Division 1. In addition, Calleguas will coordinate with any city or county within which it provides water supply services, including all purveyors, for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

8.0 Financial Consequences of WSCP Implementation

A water shortage may be created by a reduction in water supply, an increase in water demand, or a combination of both. Revenues vary according to local weather and the availability of water supplies. In dry years, imported demands increase, and Calleguas may receive higher-than-

anticipated revenues due to increased sales volumes. In wet years, imported demands decrease, and revenues drop due to lower sales volumes.

Calleguas maintains financial reserves that may be utilized to mitigate the impacts of water shortages. For example, during the 2012-2016 drought and 2020-2022 droughts, Calleguas utilized a portion of its reserves to increase its conservation budget for the purpose of extending a supplemental contribution to the Metropolitan Turf Replacement Rebate. Section 9 of the 2025 UWMP describes the rebates distributed throughout the Calleguas service area over the last five years. Additionally, in 2022 during a Stage 3 shortage level, Calleguas provided funding to its Retail Purveyors to help implement their WSCP shortage response actions. This included funding customer mailers for Port Hueneme Water Agency and the City of Simi Valley to communicate new water use restrictions.

8.1 Revenue and Expenditure Impacts

During periods of reduced consumption, revenue from water sales will decline while expenses remain relatively constant. A natural disaster may also entail unpredicted expenditures for repairs. Therefore, it is imperative that Calleguas have adequate reserves to cover operating and emergency repair expenses during these periods.

On April 29, 2014, Calleguas's Board adopted Resolution No. 1829, establishing a reserve policy which calls for funds to be set aside to (1) operate for six months without any revenue from water sales, (2) replenish Lake Bard and the Las Posas groundwater basin after use of those supplies during an extended supply outage, and (3) make emergency repairs to critical facilities in the event of a catastrophic event.² Resolution No. 1829 designates 27,500 AF as the basis for the "Emergency Water Replacement Reserve," and that same volume of supply factors into the reliability assessment for the District. These reserve funds are in place and allow for Calleguas to operate for extended periods with reduced revenue from water sales while paying for significant repairs to its system due to an unexpected event. If periods of reduced consumption are prolonged, Calleguas may be required to adjust rates to remain financially stable.

As discussed previously, Calleguas has the authority to impose penalties for exceeding allocated deliveries during declared shortage conditions. Calleguas has monitoring and control of flow at all turnouts that provides real-time flow data to both Calleguas and the purveyor receiving water from the turnout; this assists in more efficient operations during both water shortage conditions and normal operating conditions.

Calleguas Resolution No. 1829 also states that "reserve funds may be used to smooth rate increases passed on to the purveyors from Metropolitan Water District." More information on the Calleguas Reserve Policy can be found here: <https://www.calleguas.com/transparency/policies-and-ordinances/>.

² Resolution No. 1829: <https://www.calleguas.com/transparency/policies-and-ordinances/>

Much of the water system operating costs are fixed, while Calleguas's revenue is primarily driven by the volumetric use rate that varies year to year. Consequently, Calleguas is also considering evaluating a restructuring of their rates to further mitigate financial shortages during a water shortage stage in their next rate study. Calleguas's 2026 water rates currently include pass-through costs from Metropolitan, a fixed capacity charge of \$68, and a volumetric rate of \$530 per AF of water used. Calleguas's current water rates can be found here:

<https://www.calleguas.com/your-water/rates-charges/>

9.0 WSCP Refinement Procedures

The WSCP will be periodically re-evaluated to ensure that its shortage risk tolerance is adequate, and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. The WSCP will be revised and updated during each UWMP update cycle to incorporate new information. For example, new supply augmentation actions will be added, and actions that are no longer applicable for reasons such as program expiration will be removed. However, if revisions to the WSCP are warranted before the UWMP is updated, the WSCP will be updated outside of the UWMP update cycle. While preparing the Annual Assessment each year, Calleguas will routinely consider the functionality the overall WSCP and will prepare recommendations for its Board of Directors if changes are found to be needed.

10.0 Plan Adoption, Submittal, and Availability

Calleguas adopted this WSCP with the 2025 UWMP. The 2025 UWMP and WSCP were made available for public review in May 2026, and a public hearing was held on June 3, 2026 to receive public input on the draft 2025 UWMP and the WSCP.

Calleguas provided notice of preparation of the 2025 UWMP and WSCP more than 60 days in advance of the public hearing. Calleguas also provided a notice of availability of the draft 2025 UWMP and WSCP and notice of the public hearing to consider adoption of both plans to its purveyors, Metropolitan, other key stakeholders, and the public in accordance with CWC Sections 10621(b) and 10642, and Government Code Section 6066. In addition, a public notice advertising the public hearing was published in English in the Ventura County Star and local Acorn Newspapers and in Spanish in the La Vida Newspaper on multiple dates in May 2026. Appendix D of the 2025 UWMP includes the notices.

The Calleguas Board of Directors adopted the 2025 UWMP and the WSCP at a public meeting on June 3, 2026. The resolution of adoption is included as Attachment H.5.

This WSCP was submitted to DWR through the WUEData portal before the deadline of July 1, 2026. This WSCP will be available to the public on the Calleguas website (www.calleguas.com), and at the Calleguas public office during normal business hours for public review.

If Calleguas identifies the need to amend this WSCP, it will follow the same procedures for notification to cities, counties, and the public as used for the 2025 UWMP and for initial adoption of the WSCP.

References

Calleguas Municipal Water District. (2025). *Emergency Response Plan*.

Metropolitan Water District of Southern California. (2025). *Draft 2025 Urban Water Management Plan*.

Metropolitan Water District of Southern California. (2025). *Seismic Resilience Report 2025 Update*.

Tetra Tech, County of Ventura, Ventura County Sheriff. (2022). *Ventura County Multi-Jurisdictional Hazard Mitigation Plan*.

Attachment H.1 – The Metropolitan Water District of Southern California WSCP

Available at: <https://d1q0afiq12ywwq.cloudfront.net/media/y3rlxuts/public-review-draft-february-2026-water-shortage-contingency-plan.pdf>

H.1



February 2026__

Water Shortage Contingency Plan

Public Review Draft

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



Appendix 4

WATER SHORTAGE CONTINGENCY PLAN

Appendix 4

WATER SHORTAGE CONTINGENCY PLAN

This Water Shortage Contingency Plan (WSCP) complies with California Water Code (CWC) Section 10632, which requires that every urban water supplier shall prepare and adopt a WSCP as part of its urban water management plan (UWMP). Section 10632.2 provides, “An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan...or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1.” Notwithstanding, the CWC does not prohibit an urban water supplier from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP.

The WSCP is a guide for the Metropolitan Water District of Southern California’s (Metropolitan’s) intended actions during water shortage conditions. It is meant to improve preparedness for droughts and other impacts on water supplies by describing the process used to address varying degrees of water shortages. Certain elements of the WSCP are required by the CWC, including response actions that align with six standard water shortage levels based on water supply conditions, as well as shortages resulting from catastrophic supply interruptions. The WSCP also describes Metropolitan’s procedures for conducting an Annual Water Supply and Demand Assessment (Annual Assessment) that is required by CWC Section 10632.1 and is to be submitted to the California Department of Water Resources (DWR) on or before July 1 of each year, or within 14 days of receiving final allocations from the State Water Project (SWP), whichever is later.

Metropolitan’s WSCP is included as Appendix 4 to its 2025 UWMP which will be submitted to DWR by July 1, 2026. However, this WSCP is created separately from Metropolitan’s 2025 UWMP and can be amended, as needed, without amending the UWMP.

Organization of this Document

The WSCP covers the required elements as set forth by CWC Section 10632. Because Metropolitan is a wholesale urban water supplier, elements that pertain only to retail water suppliers are not addressed in this WSCP.¹ The document contains eight sections. Section A.4.1 is an introduction that explains the purpose of the WSCP and provides background on Metropolitan’s service area and system. Section A.4.2 is a summary of the water supply analysis and water reliability findings from the 2025 UWMP, pursuant to CWC Section 10635. Section A.4.3 is a description of procedures

¹ WSCP elements that apply specifically to retailer water suppliers are: (1) a description of customer compliance, enforcement, appeal, and exemption procedures for triggered response actions (CWC Section 10632(a)(6)); (2) a description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1 (CWC Section 10632(a)(8)(c)); and (3) 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 (CWC Section 10632(a)(9)).

to conduct and approve the Annual Assessment. Section A.4.4 explains the WSCP's six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, 50, and more than 50 percent shortages and describes the WSCP's shortage response actions that align with the defined shortage levels. Section A.4.5 addresses communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments regarding any current or predicted shortages and any resulting shortage response actions. Section A.4.6 is a description of the legal authorities that enable Metropolitan to implement and enforce its shortage response actions. Section A.4.7 is a description of the financial consequences of and responses for drought conditions. Section A.4.8 addresses reevaluation and improvement procedures for monitoring and evaluating the functionality of the WSCP and describes the process to adopt, submit, and amend the WSCP.

A.4.1 Background Information on Metropolitan

Background

Metropolitan is a public agency organized in 1928 by a vote of the electorate of 13 Southern California cities. The agency was enabled by the adoption of the original Metropolitan Water District Act (MWD Act) by the California Legislature "for the purpose of developing, storing, and distributing water for domestic purposes." The MWD Act also allows Metropolitan to sell "surplus water not needed or required for domestic or municipal uses within the district for beneficial purposes." In 1992, the Metropolitan Board of Directors adopted the following mission statement:

"To provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way."

Water used in Southern California comes from several sources. The investments that Metropolitan has made and its ongoing efforts in many different areas coalesce toward its goal of long-term regional water supply reliability. The first function of Metropolitan was building the Colorado River Aqueduct (CRA) to convey water from the Colorado River. Deliveries through the CRA to member agencies began in 1941 and supplemented the local water supplies of the Southern California member cities. In 1960, to meet growing water demands in its service area, Metropolitan contracted with DWR for participation in the SWP, which delivers water to Metropolitan's service area via the California Aqueduct. SWP deliveries began in 1972. Metropolitan currently receives imported water from both of these sources: (1) Colorado River via the CRA, and (2) the SWP via the California Aqueduct. Beyond its core imported supplies from the Colorado River and SWP, Metropolitan actively supports efforts to develop storage and groundwater management programs and to increase conservation, water recycling, groundwater recovery, and seawater desalination projects.

Service Area

Metropolitan's service area covers the Southern California coastal plain. It extends about 200 miles along the Pacific Ocean from the city of Oxnard to the north to the international boundary with Mexico to the south, and it reaches as far as 70 miles inland from the coast. The total area served is approximately 5,200 square miles, and it includes portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and

Ventura counties. Table A.4-1 shows that although only 14 percent of the land area of the six Southern California counties is within Metropolitan’s service area, approximately 86 percent of the population of those counties resides within Metropolitan’s boundaries.

**Table A.4-1
January 1, 2025 Area and Population in the
Six Counties of Metropolitan's Service Area**

County	Total County	In Metropolitan Service Area	Percent in Metropolitan
<i>Land Area (Square Miles)</i>			
Los Angeles County	4,085	1,399	34%
Orange County	796	698	88%
Riverside County	7,303	1,077	15%
San Bernardino County	20,105	239	1%
San Diego County	4,236	1,436	34%
Ventura County	1,855	371	20%
Metropolitan's Service Area	38,380	5,221	14%
<i>Population (Persons)</i>			
Los Angeles County	9,877,000	8,988,000	91%
Orange County	3,175,000	3,175,000	100%
Riverside County	2,496,000	1,949,000	78%
San Bernardino County	2,207,000	876,000	40%
San Diego County	3,330,000	3,186,000	96%
Ventura County	829,000	620,000	75%
Metropolitan's Service Area	21,914,000	18,794,000	86%

Source: State of California, Department of Finance, E-5 County/State Population and Housing Estimates- May 2025 release.

Metropolitan is currently composed of 26 member agencies, including 14 cities, 11 municipal water districts, and one county water authority. Metropolitan is a water wholesaler with no retail customers. It provides treated and untreated water to its member agencies.

Metropolitan’s 26 member agencies deliver to their customers a combination of local groundwater, local surface water, recycled water, desalinated seawater, and imported water received from Metropolitan. For some member agencies, Metropolitan supplies all the water used within that agency’s service area, while others obtain varying amounts of water from Metropolitan to supplement local supplies. Between 2015 and 2024, Metropolitan has provided between 39 and 53 percent of the municipal, industrial, and agricultural water used in its service area. The remaining water supply comes from local wells, local surface water, recycling, and the city of Los Angeles’ aqueducts from the Owens Valley/Mono Basin east of the Sierra Nevada. Member agencies also implement conservation programs that can be considered part of their supplies.

Some member agencies provide retail water service, while others provide water to their local area as wholesalers. Table A.4-2 shows Metropolitan’s member agencies and the type of service that they provide. As shown in the table, 15 member agencies provide

retail service to customers, nine provide only wholesale service, and two provide a combination of both. Throughout Metropolitan's service area, approximately 250 retail water suppliers directly serve the population.

**Table A.4-2
Metropolitan's Member Agencies and Type of Water Service Provided**

Member Agency	Retail or Wholesale
Los Angeles County	
Beverly Hills, City of	Retail
Burbank, City of	Retail
Central Basin Municipal Water District	Wholesale
Compton, City of	Retail
Foothill Municipal Water District	Wholesale
Glendale, City of	Retail
Las Virgenes Municipal Water District	Retail
Long Beach, City of	Retail
Los Angeles, City of	Retail
Pasadena, City of	Retail
San Fernando, City of	Retail
San Marino, City of	Retail
Santa Monica, City of	Retail
Three Valleys Municipal Water District	Wholesale
Torrance, City of	Retail
Upper San Gabriel Valley Municipal Water District	Wholesale
West Basin Municipal Water District	Wholesale
Orange County	
Anaheim, City of	Retail
Fullerton, City of	Retail
Municipal Water District of Orange County	Wholesale
Santa Ana, City of	Retail
Riverside County	
Eastern Municipal Water District	Retail & Wholesale
Western Municipal Water District	Retail & Wholesale
San Bernardino County	
Inland Empire Utilities Agency	Wholesale
San Diego County	
Eastern Municipal Water District	Wholesale
San Diego County Water Authority	Wholesale
Ventura County	
Calleguas Municipal Water District	Wholesale

Reliability Planning

Metropolitan continuously engages in planning for various aspects of its water management, including operations, long-term reliability, and emergency response. These planning efforts include the 1996 Integrated Water Resources Plan (IRP) and its three updates in 2004, 2010, and 2015; the 2020 IRP Regional Needs Assessment; the WSCP; the Water Surplus and Drought Management (WSDM) Plan; the Water Supply Allocation Plan (WSAP); Metropolitan's Emergency Storage Objective; Seismic Risk Assessment and Mitigation Plan; and most recently the Climate Adaptation Master Plan for Water (CAMP4W). Collectively, they provide a policy framework, operating guidelines, and resource targets for Metropolitan to ensure regional water supply reliability.

The IRP is Metropolitan's evolving long-term plan to assure adequate water supplies for Southern California. The first IRP was adopted in 1996 to address the complexity of developing, maintaining and delivering water to meet changing demands in the face of growing challenges. The IRP has been updated several times. In 2021, Metropolitan's IRP Regional Needs Assessment incorporated planning for multiple future scenarios to address an extended range of uncertainty. While Metropolitan coordinates regional supply planning through its inclusive IRP process, Metropolitan's member agencies also conduct their own planning analyses, including their own urban water management plans, and may develop projects independently of Metropolitan.

The WSCP is designed to be consistent with the WSDM Plan and the WSAP described below. Throughout the year, Metropolitan evaluates member agency demands, available water supplies, and existing water storage levels on a monthly basis to determine the appropriate actions identified in the WSDM Plan.

The 1999 WSDM Plan provides policy guidance for managing regional water supplies during surplus and shortage conditions. Similar in concept to the WSCP, the WSDM Plan provides an overall vision for operational supply management and characterizes a flexible sequence of actions to minimize the probability of severe shortages and reduce the likelihood of extreme shortages. WSDM Plan principles guide the specific actions to be taken under WSCP shortage stages (see section A.4.4). Data collection, continual analysis, and monthly reporting processes of WSDM Plan implementation is the basis for Metropolitan's Annual Water Supply Demand Assessment has been provided annually to the state since July 2022. The WSDM Plan is included as Attachment A to this WSCP.

The WSAP is Metropolitan's policy and formula for equitably allocating available water supplies to the member agencies during extreme water shortages when Metropolitan determines it is unable to meet all of its demands. The WSAP is included as Attachment B to this WSCP.

Metropolitan's Emergency Storage Objective is the regional planning estimate for emergency storage, which represents the amount of water that Metropolitan would hold in storage for the region in preparation for a catastrophic earthquake that would damage the aqueducts that transport imported water supplies to Southern California: the CRA, both the East and West branches of the California Aqueduct, and the Los Angeles Aqueduct. In 2019, Metropolitan and its member agencies completed a process to

update the planning estimate of Metropolitan's Emergency Storage Objective. The emergency storage allows Metropolitan to deliver reserve supplies to the member agencies to supplement local production. This helps avoid severe water shortages during periods when the imported water aqueducts may be out of service.

Beginning January 2020, CWC Section 10632.5 mandates urban water suppliers to include in their UWMP 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. For Metropolitan, this requirement was addressed as part of developing its resilience strategy and is presented in detail in Metropolitan's seismic resiliency reports in Appendix 9 to the 2025 UWMP, which are incorporated herein by reference.

A.4.2. Analysis of Water Supply Reliability

Besides the WSCP, the Urban Water Management Planning Act requires suppliers to conduct two other planning analyses to evaluate supply reliability. The first is a Water Reliability Assessment that compares the total water supply sources available to the water supplier with long-term 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 second is a Drought Risk Assessment that evaluates a drought period that lasts five consecutive water years starting from the year following when the assessment is conducted.

Metropolitan completed its Water Reliability Assessment and Drought Risk Assessment as part of the 2025 UWMP. Through the Water Reliability Assessment, Metropolitan determined that, under the conditions required by the Urban Water Management Planning Act, it has supply capabilities sufficient to meet expected demands from 2030 through 2050 under a single dry-year condition and a period of drought lasting five consecutive water years, as well as in a normal water year hydrologic condition. Metropolitan's near-term Drought Risk Assessment revealed that its supply capabilities are expected to exceed its projected water use for the year 2027. However, estimates of projected water supply and use reveal that there could be a possible shortfall of core supplies in 2026, 2028, 2029, and 2030. This shortfall is largely triggered by the assumed low supply conditions from the SWP under a repeat of the historical condition of 1988 to 1992, which is modeled at 36 percent for 2026, 32 percent for 2028, 23 percent for 2029, and 18 percent for 2030. Actual supply conditions for the next five years may prove different from historic supply conditions. The WSCP shows Metropolitan's potential shortage response actions if such shortfalls were to happen. The Drought Risk Assessment projected supplies and demands for the years 2026 through 2030 using the driest five-year sequence.

Metropolitan's principal sources of water supplies are the SWP and the Colorado River. Metropolitan receives water delivered from the SWP under State Water Contract provisions, including contracted supplies, use of carryover storage in San Luis Reservoir, and surplus supplies. Metropolitan holds rights to Colorado River water for CRA diversion at Lake Havasu. Water management programs supplement these Colorado River supplies. To secure additional supplies, Metropolitan has groundwater banking partnerships and water transfer and storage arrangements within and outside its service area.

Hydrologic conditions and environmental regulations can have a significant impact on Metropolitan's imported water supply sources. For Metropolitan's SWP supplies, precipitation in California's northern Sierra Nevada during the fall and winter helps replenish storage levels in Lake Oroville, a key SWP facility. The source of Metropolitan's Colorado River supplies is primarily the watersheds of the Upper Colorado River Basin in the states of Colorado, Utah, and Wyoming. Although precipitation is primarily observed in the winter and spring, summer storms are common and can affect water supply conditions. Hydrologic variability, potential climate change, and regulatory risk are embedded in Metropolitan's modeling efforts. Metropolitan's

modeling utilizes historical hydrologic conditions from 1992 to 2021 to simulate expected demands on Metropolitan supplies, as well as capacities and constraints of its storage facilities and supply programs. While potential impacts from climate change remain subject to study and debate, climate change is among the uncertainties that Metropolitan seeks to address through its various planning processes. Metropolitan's 2020 IRP Regional Needs Assessment and Climate Adaptation Master Plan for Water (CAMP4W) further addresses ways to account for and mitigate these uncertainties.

As demonstrated by the findings of both the Water Reliability Assessment and the Drought Risk Assessment, Metropolitan is able to mitigate the challenges posed by hydrologic variability, potential climate change, and regulatory risk on its imported supply sources through the significant storage capabilities it has developed over the last two decades, both dry-year and emergency storage.

A.4.3. Annual Water Supply and Demand Assessment Procedures

As an urban water supplier, Metropolitan is required under CWC Section 10632(a)(2) to prepare and submit an “annual water supply and demand assessment” (Annual Assessment). The Annual Assessment is a determination of Metropolitan’s near-term outlook for supplies and demands and how a perceived shortage may relate to WSCP shortage stage response actions in the current calendar year. This determination will be based on known circumstances and information available to Metropolitan at the time of analysis. Beginning in 2022, the Annual Assessment has been required to be submitted by July 1 each year, as mandated by CWC Section 10632.1. CWC Section 10632.1 also states that “[a]n 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.” The Annual Assessment and related reporting are to be conducted based on the procedures described in this WSCP. This section describes Metropolitan’s procedures for conducting the Annual Assessment, which include: (1) the written decision-making process to determine water supply reliability; and (2) the key data inputs and assessment methodology to evaluate water supply reliability for the current year and one dry year.

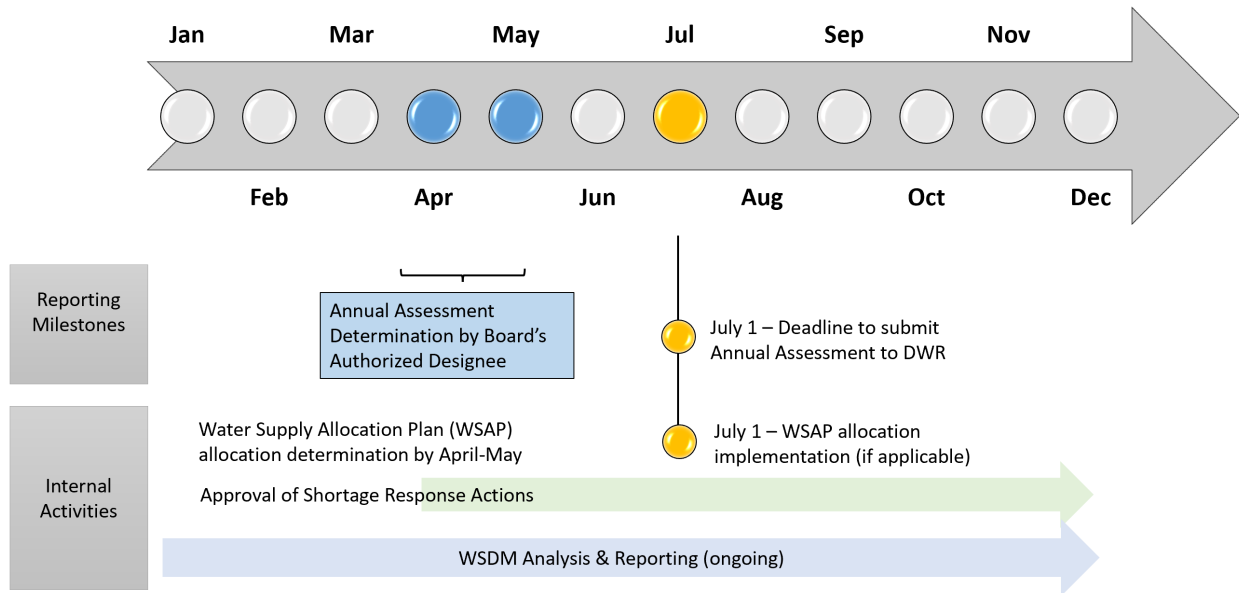
Steps to Approve the Annual Assessment Determination

The Annual Assessment will be primarily based on Metropolitan’s ongoing WSDM supply-demand tracking process which is exhibited in reporting to the Board of Directors throughout the year. WSDM planning activities involve examination of developing demand and supply conditions for the calendar year, as well as considerations of potential actions consistent with the WSDM Plan. These analyses provide key information for Metropolitan to manage resources to meet a range of estimated demands and adjust to changing conditions throughout the year.

As a water supply wholesaler, Metropolitan’s water demands are a function of retail-level demands and local water production. Water from Metropolitan serves as a supplemental source of supply for its 26 member agencies. For many member agencies, their primary source of water is produced locally from groundwater basins, surface reservoirs, recycled water projects, groundwater recovery projects, and seawater desalination. When local supplies are not enough to meet retail demands, member agencies purchase supplemental water from Metropolitan. Some member agencies rely heavily on Metropolitan due to limited local supplies. As described below, Metropolitan collects estimates of projected consumptive and replenishment water demands from its member agencies. This information is adjusted to determine unconstrained demands for the purpose of the Annual Assessment shortage percentage evaluation.

By June, Metropolitan staff provides a completed Annual Assessment for approval by the Board’s authorized designee with expressly delegated authority for approval of Annual Assessment determinations. Upon approval, Metropolitan staff submits the Annual Assessment to DWR by July 1. Figure A.4-1 provides a graphic representation of the decision-making process.

**Figure A.4-1
Sample Annual Assessment Decision-Making Timeline**



Data Inputs and Assessment Methodology

This section describes how Metropolitan will evaluate water supply reliability for the current year and one dry year for the purpose of the Annual Assessment. The Annual Assessment determination will be based on considerations of available core water supplies, unconstrained water demand, and infrastructure considerations. The difference between core water supplies and unconstrained demand will be used to determine what, if any, shortage stage is expected under the WSCP framework. The standard shortage stage percentage will be calculated by dividing the difference between core supplies and unconstrained demand by unconstrained demand. This calculation will be performed separately for anticipated current-year conditions and for an assumed dry-year condition.

Locally Applicable Evaluation Criteria

Because shortages are based on the difference between expected core supplies and unconstrained demand under current year and dry year conditions, the locally-applicable evaluation criteria to be used in the Annual Assessment for determining a shortage include the following:

- Characterization of current year and dry year scenarios based on best-available data, including anticipated hydrologic conditions for Metropolitan's supply source watersheds in the Colorado River basin and Northern California, as well as for local conditions in Metropolitan's service area in Southern California.

- Estimation of available core supplies (see below) for current year and dry year scenarios
- Estimation of unconstrained demands (see below) for current year and dry year scenarios

Together, these three criteria provide the necessary information to calculate shortage percentages by dividing the difference between core supplies and unconstrained demand by unconstrained demand, under current year and dry year scenarios. These criteria findings will also be given additional context and influenced by infrastructure considerations discussed below which will differ from year to year.

The information and analyses that comprise the Annual Assessment will be based on ongoing planning processes that include WSDM supply-demand reporting. The Annual Assessment represents a mid-year evaluation at a given point in time; even after formal approval and submittal of the Annual Assessment determination by July 1, Metropolitan will continue to monitor emerging supply and demand conditions and take appropriate actions consistent with the flexibility and adaptiveness inherent to this WSCP. Some locally-applicable conditions that affect Metropolitan's wholesale supply and demand, such as the Higher Priority Water Use Adjustment for Colorado River use (see below), local supply production, annual SWP allocations, the status of Metropolitan storage accounts, the status of the local groundwater basins, changed water use practices, and local economic activity entail a high degree of uncertainty and can differ significantly from earlier projections throughout the year.

Description and Quantification of Each Source of Water Supply (Core Supplies)

Metropolitan's core water supplies are counted as the supply component of the Annual Assessment. Core supplies include estimated water supplies from the Colorado River and the SWP for the current year. Imported core supplies vary from year to year and are influenced by annual weather and hydrology, as well as demand by other higher priority users and operational and regulatory factors.

Because core supplies are used every year when available, they are differentiated from the WSCP's shortage response actions for supply augmentation; supply augmentation actions are comprised of Metropolitan's portfolio of water storage reserves and flexible supply sources that are available on an as-needed basis.

Metropolitan's core supplies come from several programs, which are shown in Table A.4-3 and described below.

**Table A.4-3
Core Water Supplies**

Source	Core Supply
Colorado River	Colorado River Basic Apportionment Higher Priority Water Use Adjustment to Colorado River Basic Apportionment IID/MWD Conservation Program PVID Following Program Bard Water District Seasonal Following Program Quechan Seasonal Following Program Quechan Diversion Forbearance Program Lower Colorado Water Supply Project Exchange with SDCWA Exchange with the United States
State Water Project	MWD SWP Table A SWP Article 21 Interruptible Supplies SWP Port Hueneme Lease of Ventura Table A Desert Water Agency/Coachella Valley Water District/Metropolitan Water Exchange and Advance Delivery Programs

Colorado River

Colorado River Basic Apportionment

Metropolitan built, owns, and operates the 242-mile CRA. The CRA originates at Lake Havasu on the Colorado River and winds through a series of pump stations and reservoirs through the California desert to its terminal reservoir at Lake Mathews in Riverside County. The CRA has a full delivery capacity of 1.25 MAF.

The state of California holds a 4.4 MAF per year normal apportionment to Colorado River water. Metropolitan has the Fourth Priority right to 550,000 AF per year of the State’s normal apportionment. Metropolitan also holds the Fifth Priority right to an additional 662,000 AF per year which is utilized during surplus conditions or when supplies from other Colorado River users are available.

Higher Priority Water Use Adjustment to Metropolitan’s Colorado River Basic Apportionment

Entitlements to use Colorado River water in California under priorities 1, 2, and 3 are limited to 3.85 MAF per year. Priority 3(a) is held by the Imperial Irrigation District and the Coachella Valley Water District (CVWD), totaling 3.43 MAF. After accounting for contractual conservation and transfers, any unused volume available to Priority 3(a) becomes available for use by Metropolitan. Of the 3.85 MAF, the remaining 420,000 AF

is available for use under priorities 1, 2, and 3(b) held by the Palo Verde Irrigation District and the Yuma Project lands within California. Any unused amount from this volume is available for use by Metropolitan. However, Metropolitan must forego its otherwise available Colorado River supplies to meet priority 1, 2, and 3(b) use that exceeds 420,000 AF. Lastly, there are additional high-priority “present perfected rights” within California not incorporated into the other priorities, for the sake of which Metropolitan must forego its otherwise available Colorado River supplies if those present perfected uses exceed 14,500 AF. The net sum of these volumes constitutes a “higher priority water use adjustment” to Metropolitan’s base supply.

Imperial Irrigation District-Metropolitan Conservation Program

Since 1988, Metropolitan has funded water conservation programs within Imperial Irrigation District’s (IID) service area. The amount of water conserved by these programs is then transferred to Metropolitan. Conservation approaches range from distribution system improvements (such as canal lining, spill capture and the installation of non-leak irrigation gates) to efficient on-farm water management practices (such as delivering water to farmers on a 12-hour rather than a 24-hour basis). Through this program, a total of 105,000 AF per year is conserved and made available to Metropolitan.

Palo Verde Irrigation District Land Management, Crop Rotation, and Water Supply Program

In 2005, Metropolitan entered a 35-year program with the Palo Verde Irrigation District (PVID). Under the program, participating farmers in PVID are paid to reduce their water use by leaving acreage unirrigated. A base amount of 25 percent of the program acreage must be fallowed every year. Metropolitan may elect to call for additional acreage to be fallowed up to 100 percent. Fallowing calls must be made at least one year in advance by July 31 of each year and take effect on August 1 of the following year. The reduced consumptive use due to fallowed lands reduces uses under priorities 1, 2, and 3(b), thereby increasing the Colorado River water supply available to Metropolitan. The fallowing program saves a minimum of 33,000 AF per year and up to 133,000 AF in certain years.

Metropolitan/Bard Seasonal Fallowing Program

In December 2019, Metropolitan’s Board authorized a seven-year seasonal fallowing program with the Bard Water District (Bard). Under the program, Metropolitan pays participating farmers in Bard to reduce their water use by not irrigating their land from April through July. A maximum of 3,000 acres can be fallowed in any given year. Under the terms of the Quantification Settlement Agreement (QSA), water savings within the Bard service area are made available to Metropolitan. Bard Unit, as part of the Yuma Project, has a second-priority right to Colorado River water under the California priority system. Implementation of the program began in March 2020.

In September 2024, Metropolitan entered into the System Conservation Implementation Agreement (SCIA) with the U.S. Bureau of Reclamation (Reclamation). Reclamation would fund the Bard Program through 2026 to produce system water to be stored in Lake Mead.

In February 2025, Metropolitan and Reclamation amended the SCIA to include an additional 3,000 acres in the Bard Program for fallowing in years 2025 and 2026. The current Bard program has a maximum of 6,000 acres that are eligible to be fallowed. It is estimated that the Seasonal Fallowing Program provides up to 12,000 AF per year of Colorado River water to Metropolitan. This water is available in any year as needed and in accordance with the provisions described in the agreements with Bard Unit farmers and Bard.

Metropolitan/Quechan Seasonal Fallowing Program

In November 2021, Metropolitan's Board authorized a two-year pilot seasonal fallowing program with the Quechan Tribe (Tribe) of the Fort Yuma Indian Reservation. In November 2023, Metropolitan's Board authorized extending the program to the end of 2026. Under the program, participating farmers on land they lease from the Tribe are paid to reduce their water use by not irrigating a portion of this land. A maximum of 1,600 acres can be fallowed in any given year. It is estimated that the program provides up to 3,500 AF per year of Colorado River water. This water is available in any year as needed and in accordance with the provisions described in the agreements with farmers and the Tribe.

Quechan Diversion Forbearance Program

The Quechan Tribe (Tribe) on the Fort Yuma Indian Reservation (part of the Yuma Project) holds a higher priority water right than Metropolitan. In 2005, Metropolitan entered into a settlement agreement with the Tribe, under which it is entitled to divert 20,000 AF per year or the amount necessary to supply irrigation and related uses on 2,998.5 acres (whichever is less), in addition to the water the Tribe is entitled to under the 1964 Arizona v. California decree. Of this additional entitlement, 13,000 AF or the amount necessary for irrigation and related uses on 1,949.03 acres became available to the Tribe in 2006 (the remainder will become available in 2035). Metropolitan and the Tribe agreed that if it chooses to limit proposed development and forbear the diversion of any of the additional water, then Metropolitan will provide an incentive payment to the Tribe on the condition that such water is received by Metropolitan. The water supply benefit to Metropolitan is less than the cited 13,000 AF and 7,000 AF volumes since the amounts are diversions and not consumptive use. (A significant portion of the Tribe's additional diversions would pass to Metropolitan as agricultural return flows, even without the agreement.)

Lower Colorado Water Supply Project

Up to 10,000 AF of groundwater is pumped by the Lower Colorado Water Supply Project near the All-American Canal and is discharged to the Canal. IID reduces its net diversions of Colorado River water by an amount equal to the amount of Project water discharged into the Canal, permitting entities along the Colorado River that do not have rights or have insufficient rights to divert Colorado River water to obtain a supply of water. In 2007, Metropolitan entered into a contract with the USBR and the City of Needles to utilize the unused Project capacity.

Exchange with the San Diego County Water Authority (SDCWA)

Through a transfer agreement with IID and by funding the lining of the All-American and Coachella Canals, SDCWA acquired conserved Colorado River water totaling 277,700 AF per year. SDCWA makes this water available at Lake Havasu for Metropolitan to divert. Metropolitan takes possession of the water and provides a matching volume from Metropolitan's blended supplies to SDCWA by exchange.

Under the transfer agreement with IID, the stabilized annual transfer volume of 200 TAF is generated from conservation of water through on-farm efficiency conservation arrangements made by IID with its customers and other system efficiency measures.

The Coachella Canal Lining Project consists of a 35-mile concrete-lined canal, including siphons, which replaced an earthen canal. The project was completed in December 2006 and conserves 30,850 AF annually. The All-American Canal Lining Project consists of a concrete-lined canal constructed parallel to 23 miles of earthen canal and was completed in 2009, conserving 67,700 AF annually.

Pursuant to the QSA and related agreements, the 98,550 AF of water resulting from these projects annually is allocated as follows: 16,000 AF to the San Luis Rey Settlement Parties in San Diego County, 77,700 AF to SDCWA, and 4,850 AF for the Coachella Canal Lining Project mitigation.

In 2025, following many years of litigation between the parties, SDCWA and Metropolitan entered into a settlement agreement that amended the exchange agreement. Under the terms of the 2025 exchange agreement, SDCWA pays a minimum amount for exchange of 227,000 AF of water from Metropolitan each year at an agreed-upon exchange price, whether or not SDCWA makes that amount available to Metropolitan for exchange. SDCWA may still exchange up to 277,700 AF with Metropolitan. Monthly deliveries may be variable to meet SDCWA's variable demands. SDCWA may also offer to sell exchange water deliveries to Metropolitan member agencies as a right of first refusal, and Metropolitan has a right of second refusal to buy SDCWA's Colorado River water at Lake Havasu if no member agency purchases exchange deliveries from SDCWA. Any sales of exchange water deliveries by SDCWA to a member agency change only the location of the deliveries, but keep the water within Metropolitan's service area. Additional operational and other conditions apply to the rights of refusal under the 2025 exchange agreement.

Exchange with the United States

The United States furnishes the 16,000 AF allocated to the San Luis Rey Settlement Parties from the All-American and Coachella canal lining projects at Metropolitan's Colorado River Intake on Lake Havasu. Metropolitan takes possession of the water and by exchange delivers an equal volume of Metropolitan's blended supplies to SDCWA. By separate agreement, SDCWA conveys the water to the San Luis Rey Settlement Parties. So long as water conserved by the All-American Canal and Coachella Canal Lining Projects is allocated to, and available for use by, the San Luis Rey Settlement Parties, the United States will make 16,000 AF available for diversion by Metropolitan in perpetuity.

State Water Project

Table A Contract Amount

In accordance with its participation contract with DWR, Metropolitan's maximum contractual amount listed on Table A of the SWP contract is for 1,911,500 AF per year. The amount of supply available on an annual basis is allocated as a percentual of the Table A contractual amount.

DWR estimates the amount of supplies that are available each year based on hydrological conditions, operational and environmental constraints, as well as other obligations. Annual SWP allocations have ranged from 5 percent to 100 percent of the Table A amounts.

Article 21 Interruptible Supplies

Metropolitan has a contract to water supplies that are made available on an intermittent basis. Storm flows can occasionally make water supplies available that are in excess of the Table A allocation. SWP contractors can take delivery of these supplies, with their rights being based on their proportional Table A contract amounts. Historically, Article 21 interruptible supplies have ranged from 0 to 240,000 AF annually.

SWP Port Hueneme Lease of Ventura Table A

Metropolitan has a right to delivery of up to 1,850 AF of Table A supply from the Ventura County Watershed Protection District (Ventura), one of 29 SWP contractors, via a sublease agreement with the Port Hueneme Water Agency (Port Hueneme). United Water Conservation District, one of three agencies holding a contract right to Ventura Table A supply, leases this portion of their total 5,000 AF of Table A supply to Port Hueneme, which in turn subleases the Table A supply to Metropolitan. The long-term lease is a condition of the 1996 annexation of the Port Hueneme service area to Calleguas Municipal Water District and Metropolitan. This water supply is in addition to Metropolitan's Table A, and the amount available each year is determined by the SWP allocation, with 1,850 AF available at a 100 percent Table A allocation.

Desert Water Agency/Coachella Valley Water District/Metropolitan Water Exchange and Advance Delivery Programs

The Desert Water Agency (DWA) and CVWD, both in Riverside County, have rights to SWP deliveries, but do not have any physical connections to the SWP facilities. Both agencies are adjacent to the CRA. For DWA and CVWD to obtain water equal to their SWP allocations, Metropolitan has agreed to exchange an equal quantity of its Colorado River water for DWA and CVWD's SWP water. DWA has a SWP Table A contract right of 55,750 AF per year, and CVWD has a SWP Table A contract right of 138,350 AF per year, for a total of 194,100 AF per year. Additionally, CVWD has a long-term water supply agreement for 9,500 to 16,500 AF annually from the Rosedale Rio-Bravo Water Storage District.

Under the existing agreements, Metropolitan provides water from its CRA to DWA and CVWD in exchange for SWP deliveries. Metropolitan can deliver additional water to its DWA/CVWD service connections, permitting these agencies to store water. When supplies are needed, Metropolitan can then receive its full Colorado River supply, as

well as the SWP allocation from the two agencies, while the two agencies can rely on the stored water to meet their water supply needs. The amount of DWA and CVWD SWP Table A water available to Metropolitan depends on the annual SWP allocation.

Unconstrained Demands

For the purpose of the Annual Assessment and WSCP, CWC Section 10632(a)(2)(B)(i) directs Metropolitan to use current year “unconstrained demand” when assessing water supply reliability. The WSCP and Annual Assessment define unconstrained demand as expected water use in the current assessment year, based on recent water use, and before any projected shortage response actions that may be taken under the WSCP. Unconstrained demand is distinguished from observed demand, which may be constrained by preceding, ongoing, or future actions, such as emergency supply allocations during a multi-year drought. WSCP shortage response actions, if any are in place, that result in extraordinary demand reductions in the current year to constrain demand are inherently extraordinary; routine activities such as ongoing conservation programs and regular operational adjustments are not considered as constraints on demands.

To forecast near-term demands, Metropolitan begins by gathering data from its member agencies. Each July, member agencies submit their five-year demand forecasts to Metropolitan, which serve as the foundation for demand forecasting. Metropolitan then builds upon these projections to develop its own near-term forecast for its internal planning and monthly WSDM supply-demand reporting. This forecast incorporates additional factors, such as historical demand trends, changes in local supply production, weather patterns, water-use efficiency implementation, retail demand estimates, and the latest updates from member agencies.

Because these forecasted demands would be “constrained” observed demands rather than unconstrained demands, Metropolitan will adjust its near-term demand forecast for the Annual Assessment to account for extraordinary demand management measures that Metropolitan may intend or have already put into effect for the current year. Extraordinary demand management measures may include intensified communication and public outreach, and shortage allocations to its member agency customers through implementation of Metropolitan’s WSAP. Non-extraordinary water savings from regular conservation and community outreach activities are considered part of Metropolitan’s baseline demands and are not counted again for assessments of unconstrained demand.

Water Conditions for Current Year Available Supply Considering Current Year Conditions and One Dry Year

CWC Section 10632(a)(2)(B)(ii) requires the Annual Assessment to determine “*current year available supply, considering hydrological and regulatory conditions in the current year and one dry year.*” The Annual Assessment will include two separate estimates of Metropolitan’s annual water supply and unconstrained demand using: (1) current year conditions, and (2) assumed dry year conditions. Accordingly, the Annual Assessment’s shortage analysis will present separate sets of findings for the current year and dry year scenarios. The CWC does not specify the characteristics of a dry year, allowing discretion to the Supplier. Metropolitan will use this discretion to refine and update its

assumptions for a dry year scenario in each Annual Assessment as information becomes available.

In the 2025 UWMP, the “single dry year” is characterized to resemble conditions as a year in which conditions reflect the lowest water supply available to the Supplier. Metropolitan developed estimates of future demands and supplies from local sources and from Metropolitan sources based on 100 years (1922-2021) of historic hydrologic conditions. Supply and demand analyses for the single-dry year case were based on conditions affecting the SWP as this supply availability fluctuates the most among Metropolitan’s sources of supply. Based on the 100-year period, 1977 was the single driest year for SWP supplies to Metropolitan. In addition, staff analysis of the 8-river index indicated that 1977 was the single driest year from 1922 through 2021. The 8-river index is used by DWR and other water agencies as an estimate of the unimpaired runoff (or natural water production) of the Sacramento and San Joaquin River basins, which are sources of water for the SWP.

Infrastructure Considerations

The Annual Assessment will consider any infrastructure issues that may pertain to near-term water supply reliability, including repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity.

Metropolitan has five regional water treatment plants, with capacities presented in Table A.4-4. Portions of Metropolitan’s service area may receive water treated by one or a combination of several of these water treatment plants. Over the last 40 years, Metropolitan effectively delivered to its member agencies water supplies to meet demands ranging from 1.2 MAF per year to over 2.5 MAF per year.

**Table A.4-4
Metropolitan’s Water Treatment Plants**

Water Treatment Plant	Capacity (in MGD)
Jensen	750
Weymouth	520
Diemer	520
Mills	220
Skinner	350

Note: Rated capacity. Effluent capacities may be less to account for backwash.

In addition to the treatment plants, Metropolitan operates a conveyance and distribution system that is flexible and adaptable allowing delivery of supplies from a combination of SWP, Colorado River, and regional storage sources to meet demands throughout its service area, as shown in Figure A.4-2. However, system distribution capabilities and limitations can add complexity to near-term reliability. For example, a portion of Metropolitan’s service area is highly dependent on SWP supplies and can only be

delivered limited amounts of Colorado River supplies due to hydraulic constraints in the system.

Extreme drought between 2020 and 2022 resulted in the lowest cumulative three-year total water supply allocation from the SWP. The low allocations required Metropolitan and member agencies to adjust operations and implement measures developed during the previous drought on the SWP, to preserve water for areas in the system that were solely dependent on SWP supplies. Despite the efforts to conserve SWP supplies, in April 2022, Metropolitan's Board approved a resolution declaring a water shortage emergency within the SWP-dependent areas and mandated an emergency water conservation program within those areas. The disparity of impacts from the drought was exacerbated by limitations in the system that restrict the movement of Colorado River water and stored SWP supplies within Diamond Valley Lake and other storage facilities from reaching the SWP-dependent areas.

In August 2022, the Board adopted a resolution affirming Metropolitan's commitment to regional reliability to ensure all member agencies receive equivalent water supply reliability through an interconnected and robust system of supplies, storage, and programs. In response, Metropolitan and its member agencies conducted the SWP Dependent Area Drought Mitigation Workshops to identify drought solutions to prevent a recurrence of the disproportionate effects of the low SWP allocations. The workshops resulted in a proposed Drought Mitigation Action Portfolio.

The Drought Mitigation Action Portfolio recommends projects for implementation to provide timely relief to the SWP-dependent areas in the near term that do not require significant modifications of the existing infrastructure and identifies potential mid-term projects that can be implemented after the removal of system constraints through projects currently in development. The portfolio also provides alternative pathways to achieve long-term equitable supply reliability for the region through a balanced approach of infrastructure improvements, new storage and supply programs, and local supply development and demand management as directed by the Board.

The recommended drought portfolio is divided into two categories: Category 1 – Cost-Effective Projects for Timely Relief and Category 2 – Projects for Further Consideration. Category 1 projects provide a baseline of improved reliability for the SWP-dependent areas via improved access to existing storage and Colorado River supplies. Category 2 projects have the potential to provide broader drought relief and greater region-wide benefits but would require larger investments, longer implementation periods, and higher implementation risk.

Two of the Category 1 projects are currently being implemented – (1) the DVL to Rialto Project, which will enable delivery of up to 120 cfs of stored SWP supplies in DVL or Colorado River water to Metropolitan's eastern SWP-dependent area serviced by the Rialto Pipeline, and (2) the Sepulveda Feeder Pump Stations Project Stage 1, which will construct two pump stations on the Sepulveda Feeder to deliver up to 30 cfs of treated Colorado River or DVL supplies from Metropolitan's Common Pool area to the western SWP-dependent area. Three other identified Category 1 projects remain in development. These are listed below.

- **Burbank Water and Power Service Connection B-5 to B-5A Shift** – This project would construct a pump station at the Valley Blending Facility to enable Burbank to blend water from the supply side of the Greg Avenue Pump Station called the B-5A Service Connection. The shift from the Service Connection B-5 to B-5A would enable Metropolitan to deliver additional water from the Colorado River that is treated at the Weymouth Plant and pumped by the Greg Ave Pump Station to the western SWP-dependent area.
- **Three Valleys Municipal Water District Miramar Pumpback System Upgrade** – Three Valleys Municipal Water District’s Miramar system normally takes water from the Rialto Pipeline and treats it at its Miramar Water Treatment Plant before delivery into its distribution system. The Miramar Pumpback System can take treated water from the F.E. Weymouth Water Treatment Plant (Weymouth Plant) and deliver those supplies to the Miramar system through a series of pumps, offsetting the need for SWP deliveries from the Rialto Pipeline. The Miramar Pumpback System Upgrade project would increase the capacity of the existing system from 15 cfs to 30 cfs.
- **Sepulveda Feeder Pump Stations Project, Stage 2** – This project would expand the Sepulveda Feeder pumping operation to an ultimate capacity of 160 cfs. Stage 1 of the project is being designed to accommodate a future expansion under Stage 2.

The Category 2 projects require greater time for development and larger investment for implementation and are in the planning stage to ensure a thorough and collaborative assessment of their effectiveness, benefits, and risks. Implementation of different Category 2 projects will depend on the outcome of the CAMP4W evaluation, which assesses the effectiveness of different projects in mitigating the long-term supply and demand gaps and providing climate adaptation benefits. This process will allow for a thorough evaluation considering both the risks and rewards of future investments and apply the adaptive management framework to adjust the implementation plan of drought mitigation actions based on changing conditions.

Throughout each year, Metropolitan regularly carries out preventive and corrective maintenance of its facilities. Metropolitan plans and performs shutdowns to inspect and repair pipelines and facilities and support capital improvement projects. These shutdowns involve a high level of planning and coordination within Metropolitan, as well as with member agencies, other affected organizations, contractors, and the community. These shutdowns are scheduled to ensure that major portions of the distribution system are not out of service at the same time. Operational flexibility within Metropolitan's system and the cooperation of member agencies allow shutdowns to be successfully completed while continuing to meet all system demands.

Metropolitan's Infrastructure Reliability Strategy helps to ensure long-term reliable performance of the system in an efficient and cost-effective manner. Infrastructure reliability is addressed through three programs: the Maintenance Management Program, the Infrastructure Protection Plan, and the Dam Safety Program. The activities performed under these programs allow Metropolitan to extend the life span of its facilities and equipment and improve the overall reliability of the entire conveyance, treatment, and distribution system. In addition, seismic resiliency issues are addressed in the Seismic Risk Assessment and Mitigation Plan, which is included in Appendix 8 to the 2025 UWMP and incorporated herein by reference.

In the event that Metropolitan anticipates that an infrastructure issue is likely to impede or expand Metropolitan's capability to convey, treat, or distribute water during the current year, then the issue would be documented, and the determination of water reliability in the Annual Assessment would be adjusted accordingly.

Other Factors

Water quality is of paramount importance to water supply reliability. Metropolitan owns and operates five water treatment plants. Metropolitan is a national leader in providing safe drinking water that meets increasingly stringent standards, testing for over 400 constituents and performing nearly 250,000 water quality tests annually on samples gathered throughout its distribution system. Metropolitan's Water Quality Laboratory analyzes these samples to ensure that Metropolitan's delivered water meets or surpasses all state and federal drinking water standards. Because treatment to remove specific contaminants can be more costly than measures to protect water at the source, Metropolitan also actively supports improved watershed protection programs for its source waters in the Colorado River and SWP. For the Annual Assessment, any known issues related to water quality will be considered for their potential effects on water supply reliability.

A.4.4. Shortage Levels and Shortage Response Actions

Six Standard Water Shortage Levels

As required by California Water Code Section 10632(a)(3)(A), the WSCP is framed around six standard water shortage levels that correspond to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortages. As shown in Table A.4-5, each of the six shortage levels represents an increasing gap between Metropolitan's estimated core supplies and unconstrained demand as determined in the Annual Assessment. As explained above, shortage percentages will be calculated by dividing the difference between core supplies and unconstrained demand by unconstrained demand. This calculation will be performed separately for anticipated current-year conditions and for assumed dry-year conditions. Shortage levels also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other emergency events. The shortage levels are defined in terms of the percent shortfall of supplies against demands.

Shortage Response Actions

California Water Code Section 10632(a)(4) requires the WSCP to specify shortage response actions that align with the defined shortage levels, and include, at a minimum, all of the following:

- Locally appropriate supply augmentation actions
- Locally appropriate demand reduction actions to adequately respond to shortages
- Locally appropriate operational changes
- Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions (Not applicable to Metropolitan)
- An estimate of the extent to which the gap between supplies and demand will be reduced by implementation of each action.

As indicated in Table A.4-5, shortage responses will be customized to meet the circumstances for the particular shortage. Because circumstances can change at any time, Metropolitan's shortage response actions will be adjusted accordingly throughout the year. To determine specific actions that would be taken at each standard shortage level, Metropolitan will evaluate conditions specific to cost, timing, distribution needs and capabilities, and other variables that include SWP allocation, Colorado River conditions, demand reduction measures, supply program take capacities, and storage balances.

Shortages are characterized not merely by shortfalls in annual core water supplies, but also by the water balances in Metropolitan's storage programs. Thus, a 10 percent shortfall in core supplies could be met entirely with stored water if storage levels are sufficient. If storage levels are already depleted, the same shortfall in core supplies could potentially require a more complex mix of supply augmentation and demand reduction actions. In the most severe situations, shortage allocations to member

agencies through measures such as the WSAP would address any remaining shortages not already mitigated by supply augmentation and lesser demand reduction actions.

Metropolitan has invested extensively in a diverse portfolio of supply sources and system resiliency to prepare for a wide range of possible challenging conditions. Metropolitan follows the principles of its WSDM Plan, which was adopted in 1999 and provides policy guidance for managing regional water supplies to achieve reliability. It identifies a broad sequence of actions during surpluses and shortages to minimize the probability of severe shortages, based on detailed modeling of Metropolitan's existing and expected resource mix. The WSDM Plan recognizes the link between surplus and shortages and integrates planned operational actions with respect to both conditions. The WSDM Plan is included as Attachment A to this document.

**Table A.4-5
Shortage Stages and Response Actions**

Shortage Stage	Shortage Percentage	Shortage Response	
1	Up to 10%	Take from Storage Execute Flexible Supplies Implement Voluntary Demand Reduction Implement Supply Allocations	<ul style="list-style-type: none"> • 0 to 100% met by Storage • 0 to 100% met by Flexible Supplies • 0 to 20% of total retail water use met by implementing Communication Plan • 0 to 50% of total base demand met by supply allocation
2	10% to 20%	Take from Storage Execute Flexible Supplies Implement Voluntary Demand Reduction Implement Supply Allocations	<ul style="list-style-type: none"> • 0 to 100% met by Storage • 0 to 100% met by Flexible Supplies • 0 to 20% of total retail water use met by implementing Communication Plan • 0 to 50% of total base demand met by supply allocation
3	20% to 30%	Take from Storage Execute Flexible Supplies Implement Voluntary Demand Reduction Implement Supply Allocations	<ul style="list-style-type: none"> • 0 to 100% met by Storage • 0 to 100% met by Flexible Supplies • 0 to 20% of total retail water use met by implementing Communication Plan • 0 to 50% of total base demand met by supply allocation
4	30% to 40%	Take from Storage Execute Flexible Supplies Implement Voluntary Demand Reduction Implement Supply Allocations	<ul style="list-style-type: none"> • 0 to 100% met by Storage • 0 to 100% met by Flexible Supplies • 0 to 20% of total retail water use met by implementing Communication Plan • 0 to 50% of total base demand met by supply allocation
5	40% to 50%	Take from Storage Execute Flexible Supplies Implement Voluntary Demand Reduction Implement Supply Allocations	<ul style="list-style-type: none"> • 0 to 100% met by Storage • 0 to 100% met by Flexible Supplies • 0 to 20% of total retail water use met by implementing Communication Plan • 0 to 50% of total base demand met by supply allocation
6	More than 50%	Take from Storage Execute Flexible Supplies Implement Voluntary Demand Reduction Implement Supply Allocations Take from Emergency Storage, if needed	<ul style="list-style-type: none"> • 0 to 100% met by Storage • 0 to 100% met by Flexible Supplies • 0 to 20% of total retail water use met by implementing Communication Plan • 0 to 50% of total base demand met by supply allocation • Take from emergency storage during a catastrophic event

Supply Augmentation Actions

Generally, Metropolitan's first response to any gap between core supplies and demand is to make optimal use of its supply augmentation options consisting of draws from flexible supply programs and storage reserves listed in Table A.4-6. To supplement its core water supplies from the SWP and Colorado River, Metropolitan has developed and actively manages a portfolio of water supply programs, including water transfer, storage and exchange agreements, the supplies created by which are conveyed through available CRA capacity or the California Aqueduct. Metropolitan pursues voluntary water transfer and exchange programs with other entities to help mitigate supply/demand imbalances and provide additional dry-year supply sources. Metropolitan has also developed significant storage capacity in reservoirs and groundwater banking programs both within and outside of the Southern California region. Actual take capabilities would depend on various factors including water balances, location, and operational constraints.

Flexible Supplies

Metropolitan can augment its core Colorado River supplies through agreements with other agencies that have rights to use such water. Metropolitan determines the delivery schedule of these supplies throughout the year based on changes in the availability of SWP and to a smaller extent the higher priority water use adjustment for Colorado River water.

In addition to the basic SWP contract provisions, Metropolitan has other contract rights that facilitate augmentation of its SWP supply. Each SWP contractor has the right to use the facilities to move water supplies associated with agreements, water transfers, and water exchanges at the incremental cost. Metropolitan utilizes this ability in conveying water obtained through a number of agreements and exchanges with agencies in California's Central Valley, north of the Bay-Delta, and southward to Southern California.

Storage

A key component of Metropolitan's water supply capability is the amount of water in Metropolitan's storage facilities and programs in which surplus amounts of water in normal and wet years are captured until needed to augment core supplies. Metropolitan has developed an extensive storage portfolio made up of units within and outside Metropolitan's service area that includes both dry-year and emergency storage capacity. Such units, totaling approximately 6 MAF, include reservoirs and groundwater storage programs within the service area, and groundwater and surface storage accounts outside the service area delivered through the CRA or SWP. Consistent with the Emergency Storage Objective that was revised in 2019, approximately 750,000 AF of total stored water is emergency storage reserved for use in the event of supply interruptions from earthquakes or similar emergencies.

**Table A.4-6
Supply Augmentation Actions: Flexible Supplies and Storage**

Source	Flexible Supplies	Storage
Colorado River		Lake Mead Intentionally Created Surplus (ICS) Storage Program Southern Nevada Water Agency Storage and Interstate Release Agreement Desert Water Agency/Coachella Valley Water District Advanced Delivery Account Imperial Irrigation District Storage
State Water Project	SWP Transfers San Bernardino Valley Municipal Water District Program	SWP Carryover DWR Flexible Storage (Castaic Lake and Lake Perris) SWP Banking Programs
In-Region		Diamond Valley Lake Lake Mathews Lake Skinner Conjunctive Use Programs (CUP)

Demand Reduction Actions

Demand reduction actions are extraordinary measures taken to temporarily constrain water demand during a shortage. For the purpose of the WSCP and the Annual Assessment, it is important to separate temporary reductions in demand from baseline conservation as they relate to constrained and unconstrained demands. WSCP demand reduction actions result in constrained demands. Water savings from WSCP demand reduction actions must be factored into estimates of unconstrained demands for Annual Assessment shortage determinations. Intensity of demand reduction measures will vary by the severity of shortage and availability of other cost-effective supply augmentation measures. Early demand reduction actions tend to be voluntary measures that are comprised of outreach and education actions from Metropolitan’s WSCP Communication Plan (see following section A.4.5). More severe conditions may necessitate supply allocations to wholesale customers through measures such as the WSAP. Table A.4-7 shows the demand reduction measures available to Metropolitan.

**Table A.4-7
Demand Reduction Actions**

Demand Reduction Actions	
Voluntary Measures	Implement Communication Plan (May apply to Shortage Levels 1-6, Crisis) <ul style="list-style-type: none"> • Public information campaigns • Community outreach and media relations • Public opinion research • Interagency and intergovernmental coordination
Mandatory Measures	Implement supply allocation (May apply to Shortage Levels 1-6, Crisis)

Benefits of public information campaigns include rapid implementation and raising public awareness of the severity of the water shortage. For this reason, public information campaigns are included as a Demand Reduction Action in the WSCP. According to the American Water Works Association, water savings from this measure alone range from 5 to 20 percent, depending on the time, money, and effort spent.² If public outreach targets between 5 and 10 percent of the population, then demand would be assumed to be reduced by 5 to 20 percent of the 5 to 10 percent. The size of the media campaign is correlated with the number of people being reached.

Implement Communications Plan

Metropolitan’s WSCP Communication Plan details Metropolitan’s action-oriented strategy for education, outreach, and coordination during each WSCP standard shortage stage and in response to a catastrophic loss of supply. See the following section A.4.5 for the WSCP Communications Plan.

Enhanced Conservation Program

Although not considered as a WSCP demand reduction action because of their limited effect in the immediate term, Metropolitan administers regional conservation programs and co-funds member agency conservation programs designed to achieve greater water use efficiency in residential, commercial, industrial, institutional, and landscape uses. Metropolitan may implement extraordinary measures to temporarily enhance conservation during a shortage which include, but are not limited to, increasing rebates, reducing program eligibility requirements, working with rebate vendors to create in-store marketing and direct outreach to businesses, increasing direct install efforts with member agencies and partners, and working with water retailers and retail customers to develop on-site leak prevention programs. While the savings from conservation programs may not be realized quickly enough to mitigate the need for other shortage response actions, water-efficient device retrofit rebates, landscape conversions, and leak prevention all contribute to ongoing structural water savings. Conservation device

² American Water Works Association. 2019. Manual of Water Supply Practices – M60, Second Edition: Drought Preparedness and Response. p. 35

retrofits help to recover storage in future years by lowering demands in all years, not only shortage years.

Water Supply Allocation Plan

Under most conditions, Metropolitan can meet all of its service area's wholesale water needs. However, during severe water shortage situations when public information campaigns and enhanced conservation programs are insufficient to generate the needed demand reduction, Metropolitan may find it necessary to temporarily limit and allocate supplies to its member agencies. Metropolitan's WSAP allocates Metropolitan's water supplies among its member agencies, based on the principles contained in the WSDM Plan, to mitigate drawdowns from water storage reserves. The WSAP was originally approved by Metropolitan's Board in February 2008 and has been implemented three times since its adoption, most recently in April 2015. The WSAP provides a formula for equitable distribution of limited water supplies. If needed, a WSAP action is typically considered for Board approval in the month of April, with implementation beginning in the following July. This allows Metropolitan's member agencies time to prepare and to adjust their estimates for Metropolitan's current year supply for their own WSCP Annual Assessments.

The WSAP allocation is a costly shortage response action that places acute burdens upon member agencies and the public. Other shortage response actions are generally preferred to the extent practicable. Metropolitan's overall strategy considers WSAP allocations to be a fallback option to address any remaining shortages when supply augmentation actions and other demand management measures are insufficient to meet demand reduction objectives. For reference, the WSAP is included as Attachment B to this document.

Emergency Water Conservation Program

In April 2022, Metropolitan's Board declared a Water Shortage Emergency Condition for Metropolitan's SWP-dependent area and adopted a framework for a new program called the Emergency Water Conservation Program (EWCP). The EWCP preserved supplies by reducing non-essential uses of water delivered to the SWP-dependent area. Six member agencies were affected by the EWCP in 2022, serving approximately six million people. The EWCP began implementation on June 1, 2022, and was authorized through June 30, 2023. The EWCP allowed two paths for compliance involving either enforced restrictions on outdoor watering or adherence to the volumetric limits subject to monetary penalties per acre-feet for using SWP water over the limits. The first compliance path required member agencies to restrict outdoor irrigation to one day per week beginning June 1, 2022. The second path gave member agencies discretion to comply with monthly volumetric limits directly and to tailor their water management responses appropriately to their local circumstances. Due to improved water supply conditions in 2023, the EWCP was rescinded in March 2023.

Operational Changes

During shortage conditions, operations may be affected by supply augmentation or demand reduction responses. For example, Metropolitan may temporarily alter maintenance cycles, defer planned system outages, and adjust the flow and routing of

water through its system to more effectively distribute available supply across the service area, including areas that are currently only able to be served by SWP water supplies.

Because of the extensive and complex nature of Metropolitan's conveyance and distribution system and the varying levels of local supplies available among each of the member agencies, any supply-related shortage response actions triggered under the WSCP would be carefully chosen to optimally match available resources with specific localized demands by the member agencies.

Metropolitan's diversified portfolio of water supplies presents operational opportunities and challenges during droughts. Because water resources available to the Metropolitan service area come from three geographically distinct regions – Northern California, the Colorado River, and local resources – a relatively dry year affecting one of these three regions can be offset by relatively abundant supplies from the other two regions. For example, a year of ample precipitation within Metropolitan's service area tends to depress demand and enhances local water resources, further reducing demands on imported supplies. A wet year in the Sacramento-San Joaquin watersheds increases the SWP allocation, facilitating reduced diversions from the Colorado River in favor of storing supplies in Lake Mead or in the Desert Water Agency/Coachella Valley Water District Advanced Delivery Account. Conversely, a shortfall on the SWP may require system operational modifications to maximize Colorado River diversions and the delivery of Colorado River supplies to areas normally served with SWP supplies.

Additional Mandatory Prohibitions (not applicable)

California Water Code Section 10632(a)(4)(D) calls for “additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions” to be included among the WSCP's shortage response actions. However, this item is not applicable to Metropolitan. As a regional wholesaler, Metropolitan does not dictate or control the end uses of water by retail consumers.

Shortage Response Action Effectiveness

As shown in Table A.4-5, WSCP shortage response actions will be implemented to reflect the overall conditions facing Metropolitan and the resources available in that given year. Supply augmentation actions consisting of stored water and as-needed flexible supplies are expected to address between 0 to 100 percent of anticipated shortages for any shortage stage, depending on availability of those supplies; in lesser WSCP shortage stages, it is likely that shortages can be completely addressed through supply augmentation.

Efficacy of demand reduction efforts is difficult to estimate or predict, but water savings are a function of the extent to which public information campaigns reach water users and the degree of consumer response to those messages. Given the estimate of between 5 to 20 percent effectiveness described above, in concept, up to 20 percent of retail demands could be reduced if a successful media campaign reached and influenced the entire service area population. Consistent with the WSCP Communications Plan in the following section A.4.5, anticipated shortages will involve

an appropriately-sized outreach campaign to address the targeted demand reduction, which depends on the combined effectiveness of other shortage response actions.

As shown in Table A.4-8 below, the WSAP is designed to reduce wholesale demands by up to approximately 50 percent of the WSAP’s calculated base demand. The WSAP contains 10 levels of allocation, and each level is approximated to generate an additional 5 percent reduction from base demands. Table A.4-8 gives examples of estimated savings by each WSAP level using a hypothetical base demand of 1.8 MAF. Actual reductions and base demands are based on a formula that includes various factors such as actual local supply production, population growth, and conservation. The WSAP is expected to address the shortage not met by other shortage response actions. In rare cases where system supplies are unable to meet location-specific demands, such as in 2022-2023, when there was insufficient SWP system water to meet SWP-dependent demands, a region-wide allocation through the WSAP may not be appropriate. In such cases, Metropolitan may consider other measures, such as the EWCP, to address the specific problem.

**Table A.4-8
Water Supply Allocation Plan Levels**

WSAP Level	Approximate Percent Reduction	Example Base Demand	Estimated Demand Reduction
1	5%	1.8 MAF	90,000 AF
2	10%		180,000 AF
3	15%		270,000 AF
4	20%		360,000 AF
5	25%		450,000 AF
6	30%		540,000 AF
7	35%		630,000 AF
8	40%		720,000 AF
9	45%		810,000 AF
10	50%		900,000 AF

Catastrophic Interruption of Water Supplies

Metropolitan’s Emergency Storage Objective is a planning estimate that represents the amount of water that Metropolitan would hold in storage for the region in preparation for a catastrophic earthquake that would damage the aqueducts that transport imported water supplies to Southern California, including: the Colorado River Aqueduct, both the East and West branches of the California Aqueduct, and the Los Angeles Aqueduct. Emergency storage allows Metropolitan to deliver reserve supplies to the member agencies to supplement local production. This helps avoid severe water shortages during periods when the imported water aqueducts may be out of service.

The Emergency Storage Objective considers a six- and twelve-month outage period for the imported supply aqueducts incorporating latest seismic information and operational

flexibility of Metropolitan's system, a retail water demand cutback ranging from 25 to 35 percent considering the level of conservation that the region achieved during the recent drought, and an aggregated loss of 10 to 20 percent of local supplies accounting for factors that could affect local production during emergency conditions.

In 2019, Metropolitan and its member agencies completed a process to update the Emergency Storage Objective, which was set at 750,000 AF. This level of storage would prevent severe water shortages to the region given new information on expected recovery durations. The emergency storage volume represents a planning estimate for how much water Metropolitan would store for the region in preparation for a catastrophic earthquake or other disaster. It is not intended to set a basis or a policy for allocating or apportioning storage for any individual member agency.

As an additional tool, in July 2019, the Board adopted amendments to Metropolitan's Administrative Code enabling deliveries of member agency water supplies in Metropolitan's system in an emergency. These deliveries are intended to provide Metropolitan's member agencies the ability to deliver member agency water through Metropolitan's system under specific emergency conditions. Emergency deliveries can only be made if Metropolitan is unable to make deliveries to a member agency due to physical damage to Metropolitan's system resulting from a natural disaster or other emergency, and there are no alternate means for Metropolitan or the member agency to provide service to an area without the use of a portion of Metropolitan's system.

Metropolitan's strategy for catastrophic water shortage conditions is further discussed in Appendix 8 to the 2025 UWMP and incorporated herein by reference.

Emergency Freshwater Pathway (Sacramento-San Joaquin Delta)

DWR has estimated that in the event of a major earthquake in or near the Delta, water supplies could be interrupted for up to three years, posing a significant and unacceptable risk to the California business economy. A post-event strategy would provide the necessary water supply protections to avert this catastrophe. Such a plan has been coordinated through DWR, the Army Corps of Engineers, USBR, California Office of Emergency Services, Metropolitan, and the State Water Contractors. Additional information on the creation of an emergency freshwater pathway and other actions in the Delta is included in Section 2.5 of the 2025 UWMP and incorporated herein by reference.

Emergency Response Plans

Metropolitan maintains an Emergency Response Plan (ERP) that meets the requirements of the American Water Infrastructure Act of 2018. This plan was certified with the Environment Protection Agency (EPA) in 2019, and is set to be certified again in September 2025. The ERP is updated periodically and provides guidance on how Metropolitan activates and operates its Emergency Operations Center (EOC), Incident Command Posts (ICPS) and Duty Officer program. Metropolitan's EOC follows the Standardized Emergency Management System (SEMS) model, and the ICPs use the Incident Command System (ICS) to manage local incident responses. The plan utilizes a multi-hazard approach and provides a strategy for various types of incidents. The plan

also includes coordination with outside jurisdictions such as other utilities, cities, counties, state and federal governments.

Seismic Risk Assessment and Mitigation Plan

CWC Section 10632.5 mandates UWMPs to 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. For Metropolitan, the required assessment and plan are accomplished as part of developing its resilience strategy and are presented in detail in its seismic resiliency reports. This section provides a summary of the various components of Metropolitan's resilience strategy. These components are described in detail in Metropolitan's Seismic Resilience Report First Biennial Report (February 2018) and subsequent updates in 2020 and 2025.

Over its nearly 100-year history, Metropolitan has been proactive in mitigating seismic risks posed to its expansive infrastructure, as well as improving its ability to maintain (or quickly restore) water deliveries following a major earthquake. This ability to mitigate seismic risks and maintain (or quickly restore) water deliveries following a seismic event is referred to as "seismic resilience." Metropolitan's holistic strategy for seismic resilience follows a "defense in depth" multi-layered approach for managing risk. Metropolitan's Seismic Resilience Strategy has three primary objectives:

1. Provide a diversified water supply portfolio, system flexibility, and emergency storage
2. Prevent damage to water delivery infrastructure in probable seismic events and limit damage in extreme events
3. Minimize water delivery interruptions through a dedicated emergency response and recovery organization

Metropolitan's Seismic Resilience Strategy is implemented through four components that encompass the various internal functions that promote Metropolitan's seismic resilience objectives. These components are supplemented by Metropolitan's commitment to inter-agency coordination when preparing and responding to a seismic event and other emergencies.

A.4.5. WSCP Communications Plan

Introduction

From 2020 to 2025, extreme swings in hydrologic conditions were driven by a rapidly changing climate and increasingly unpredictable weather patterns. Metropolitan concentrated on building its conservation and outreach program to emphasize sustained efficiency while celebrating the remarkable water-saving achievements accomplished throughout the region. Messaging has encouraged sustainable, long-term behavioral changes, particularly with regard to outdoor water use. These efforts have helped solidify a conservation ethic across Southern California, supporting a \$1.7 billion investment in conservation, recycling and groundwater recovery since 1990. When combined with additional investments in storage, local supply development, and system flexibility, the region is well positioned to withstand future droughts. Still, in response to the challenges of climate change and other adverse supply conditions, increased water efficiency remains a critical strategy. As those extreme conditions become more

prevalent, effective communication strategies and a common understanding of necessary actions between water agencies, the public, elected officials, and other key stakeholders become even more important. These relationships and communication tools must be well established to be successful. To that end, water providers should aim to communicate to customers in the following areas:

1. Actions water providers are taking to plan for and respond to emergency situations – including drought, infrastructure failures, earthquakes, wildfires, and other natural or manmade disasters.
2. Ongoing investments to maintain and upgrade critical infrastructure – to increase resilience, reliability and flexibility.
3. Status of regional water supply conditions and triggers for WSCP shortage response actions – so customers understand the “why” between critical conservation actions.
4. Where customers can go for updates and reliable information during a water emergency – including websites, social media, hotlines and community alert systems.

Several factors influence the strategies needed to effectively communicate with the diverse communities and needs of Metropolitan’s 5,200 square-mile service area, particularly when there is an urgent need for conservation. As a wholesaler serving 26 member agencies and a region that is home to nearly 19 million people, there is no single communication message or strategy that will effectively reach Metropolitan’s diverse audiences. Furthermore, state and local water regulations during periods of drought or supply shortages can result in a broad range of water-saving requirements and goals across the region. Qualitative research from previous droughts has provided valuable insight on attitudes and behaviors toward water conservation, including drought fatigue, water quality concerns, increasing water rates and equity issues. These factors, though inherently complex, are conducive to collaboration that elevates the importance of drought resiliency. This section of the WSCP describes the basic communications strategies needed to help Metropolitan effectively communicate vital information for each of the six standard water shortage levels that represent changes from normal reliability. The six standard water shortage levels depicted in this communications plan correspond to:

- Progressively increasing estimated shortage conditions: up to 10, 20, 30, 40, 50, and greater than 50 percent shortage compared to the normal reliability conditions.

Collaboration

Collaboration with its member agencies is central to Metropolitan’s outreach plans during drought, water shortages or other demand management periods. Developing and delivering a concise regional message in multiple languages is made possible through consistent coordination with member agencies and their constituents. Metropolitan’s External Affairs group regularly engages and interacts with member agency staff in several capacities, including but not limited to the following groups:

- Member agency managers
- Legislative and government affairs representatives
- Water use efficiency/conservation coordinators
- Public information officers
- Education coordinators

In addition to member agency coordination, Metropolitan interacts with agencies and organizations outside of the region, including:

- Department of Water Resources
- State Water Resources Control Board
- Association of California Water Agencies
- California Municipal Utilities Association
- Colorado River Water Users Association
- California Water Efficiency Partnership
- Alliance for Water Efficiency
- Law enforcement and public safety agencies
- Other state and federal agencies

As seen in past droughts, the methods of communication within these groups and the frequency of meetings fluctuate based on the changing needs of our member agencies and their key audiences. Water shortage conditions are ever-evolving—remaining flexible yet focused not only reduces the risk of discordance, but it also ensures key audiences throughout Southern California receive timely, valuable and cohesive information.

As mentioned, Metropolitan’s WSCP includes six levels of potential shortage. The water-saving actions associated with each level of shortage will vary greatly. This section provides an overview of messaging strategies that would be enacted at each level, leading to more focused crisis communication strategies. This plan is adaptable and should be tailored for the needs of each situation. Metropolitan management and/or Board of Directors could also call for specific messaging strategies that address unique shortage scenarios.

Key Audiences

Communicating to stakeholders is essential during normal supply periods and becomes increasingly important during water shortages. Below is a list of key audiences:

- Metropolitan Board
- Metropolitan employees
- Member agencies and their customers
- General public

- State, federal, and local elected officials and their district office staff
- Homeowners and renters
- Multi-family property owners/managers/landlords
- Business associations/chambers of commerce
- Commercial-industrial property owners/managers
- Landscape contractors/suppliers
- Restaurant/hotel industries
- School districts/educators/students
- Building and construction trade associations
- Community/civic leaders
- Land-use agencies
- Environmental groups
- Community-based and non-profit organizations
- Non-English-speaking populations
- Disadvantaged/under-invested communities

Communicating to these audiences requires varying levels of involvement depending on the status of supply conditions. Feedback, research, and leveraging existing relationships are central to an effective communications plan; therefore, Metropolitan’s External Affairs and Water Resource Management staff will continue to coordinate closely with member agencies, stakeholders, and governing agencies on an ongoing basis to ensure appropriate messaging is culturally competent and provided in multiple languages to reflect the region’s demographics.

Goals and Objectives

Metropolitan’s communications goals are rooted in the following guiding principles:

- Motivate key audiences to:
 - Increase conservation
 - Follow voluntary or mandatory water use guidelines
 - Participate in water-saving incentive programs
 - Encourage family, friends, neighbors, and colleagues to do all the above
- Raise awareness about:
 - Water shortage and/or drought conditions
 - Water sources, supplies and reserves
 - Local, regional and state regulations

- Educate key audiences on:
 - Water supply reliability
 - Water infrastructure and delivery
 - Water quality
- Prepare the region for:
 - Varying water supply conditions
 - Escalating supply shortage levels

Standard Communication

Conservation as a way of life remains central to messaging during normal supply conditions. Regional rebate programs, indoor and outdoor water use efficiency, investments to maintain infrastructure, emergency preparedness, local supply programs, water quality, and regional supply reliability are among some of the themes that make up a normal supply period’s communications mix to encourage ongoing conservation actions. Below are Metropolitan’s communications tools:

- Media relations (news releases and advisories, interviews, op-eds)
- Social media (Twitter, Instagram, Facebook, YouTube, LinkedIn)
- Websites and Blogs
 - mwdh2o.com
 - bewaterwise.com
 - socialwatersmart.com
- Digital, print and other paid media marketing
- Search engine optimization
- E-newsletters
- Community events
- Education outreach
- Business outreach

Level 1 Communications – up to 10 percent Shortage

This section addresses the communications strategies Metropolitan uses during periods of 10 percent water shortage conditions. In addition to Metropolitan’s ongoing communications efforts, a 10 percent shortage would require the following elements:

- Media relations and communications
 - Maintain media relations activities with enhanced communication about the specific need to conserve; provide media with regional water supply conditions and Metropolitan’s shortage response action updates:

- Press releases, advisories, op-eds, and direct outreach to media to drive earned media opportunities
 - Ethnic media outreach in multiple languages.
 - Produce and distribute fact-based informational materials such as fact sheets, podcasts, and B-roll video.
- Social media
 - Emphasize ways to conserve immediately (shorter showers, less watering, links to tools on bewaterwise.com, etc.), as well as continued promotion of conservation as a way of life initiatives such as regional water use efficiency incentives and other rebate programs, including Metropolitan's Turf Replacement Program:
 - Paid social media boosting to target the District's service area
 - Encourage member agency co-branding and messaging continuity:
 - Share social media creative with the Public Information Officer Working Group and conservation coordinators
- Web
 - Establish a SharePoint site for member agencies and the public to download all water supply and conservation materials
 - Update all Metropolitan websites with pertinent conservation and water supply information
 - Provide links to local watering restrictions and conservation efforts
- Member agency coordination
 - Enhance collaboration and communication with member agencies to streamline messaging
 - Involve member agencies in the development of a communications plan
 - Provide regular campaign updates to member agency managers, staff and board members
 - Provide member agencies with campaign outreach materials (newsletter articles, creative design, bill inserts, etc.) for customization and distribution
- Community outreach
 - Make water supply conditions and conservation messaging a key component of all regular community outreach
 - Conduct additional, specialized outreach to inform non-profit organizations and civic/community leaders about water supply conditions and conservation efforts
 - Community events/webinars
 - Non-profit organization e-newsletters

- Education outreach
 - Update curriculum to reflect the enhanced need to conserve and make water supply conditions and conservation messaging a key component
 - Communicate to K-12 school districts and colleges/universities about the need for increased conservation
 - Provide regional water and environmental education programs with materials addressing the need for increased conservation
- Legislative and government affairs
 - Promote understanding with local, state and other elected officials in the region about the need to conserve
 - Encourage officials to promote these efforts to constituents

In addition:

- Regularly communicate with the Metropolitan board and employees so they are aware of how Metropolitan is responding and what they can do to support messaging efforts.
- Work with member agencies to target key industries or groups to raise awareness about water-use efficiency programs and regional water supply conditions
 - Restaurants
 - Hotels/motels
 - Public agencies
- Research and public opinion

Conduct research to gain insights on public opinion, attitudes and beliefs toward conservation and water shortage levels

- Message testing with key audiences

Level 2 Communications – up to 20 percent Shortage

In a more severe supply shortage or demand management period, Metropolitan will continue actions outlined in Level 1 communications strategies, and add the following efforts, which are designed to address a 20 percent mandatory conservation under the WSCP:

- Media relations and communications
 - Paid advertising – Execute a multimedia, multilingual regional advertising campaign to reflect a more urgent message emphasizing the need for compliance with mandatory water-use restrictions. Place paid advertisements in the following platforms:
 - Out of Home (billboards, bulletins, bus shelter ads)
 - Radio

- Television
- Digital
- Grassroots
- Host a press conference to discuss current water shortage conditions, shortage response actions, and outlook
- Coordinate with other regional or state agencies for greater impact and reach
- Social media
- Emphasize a clear and practical message conveying mandatory water-use restrictions, drought conditions and ways to save water
- Establish more targeted and focused social media advertising strategies – targeted boosting and messaging
- Member agency coordination
- Meet with member agencies to streamline a more urgent and serious campaign tone
- Coordinate paid media flights with member agencies to leverage regional exposure and distribution
- Provide multimedia and multilingual campaign materials for member agency customization
- Community outreach
- Coordinate with community-based organizations and leaders with higher impact, reach and credibility
- Inform, debrief and prepare community/civic leaders to become water conservation ambassadors in their respective communities
- Legislative and government affairs
 - Increase briefing activity with state and local officials on water supply conditions, shortage response actions, and water conservation advertising campaign

In addition:

- Help prepare and distribute materials about restrictions, ordinances and guidelines through stakeholder communication channels, including but not limited to:
 - Business organizations
 - Civic organizations
 - Elected officials
 - Building/plumbing/construction associations
 - Building managers

- o Landscape contractors
- Increase outreach efforts to key associations and interest groups throughout the region, emphasizing immediate conservation goals

Level 3 and 4 Communications – up to 30 percent or 40 percent Shortage

In addition to Level 2 communications strategies, the following efforts will address an even more severe shortage of 30 percent-40 percent mandatory conservation under the WSCP:

- Media relations and communications
 - o Increase media relations activities, with an added emphasis on the severe regional water supply conditions, the shortage response actions triggered or expected to be triggered, and the mandatory need to conserve
 - o Host news conference in multiple languages alongside high-level public officials to highlight severity and extreme measures needed
 - o Continue the following with greater frequency and stronger, more critical messaging:
 - Paid advertising campaign
 - Press releases, advisories, op-eds, etc.
 - Direct media outreach offering pre-recorded radio and TV interviews
 - Ethnic media outreach in multiple languages
- Social media
 - o Messaging shift to reflect severity of supply conditions and shortage response actions triggered or expected to be triggered– conservation is mandatory to maintain day-to-day activity and future supplies, quality of life now being impacted
- Web
 - o Make conservation messaging front and center on all websites
- Community Outreach
 - o Host a community leader briefing, bringing together representatives from community-based organizations from across the region to learn about the severity of water supply conditions
- Member agency coordination
 - o Continue to streamline messaging about WSCP level escalation to ensure message continuity throughout the region
 - o Help member agencies address local and mandatory conservation needs
 - o Coordinate with member agencies on any updated messages and campaign activities emphasizing extreme actions that must be taken

- Legislative and government affairs
- o Outreach to legislative leadership at state and federal level to raise awareness at high levels

In addition:

- Specialized targeted outreach to:
 - o Special interest groups
 - o Public agencies
 - o County and city departments
- Assess the goals and objectives of regional rebate programs, begin a shift toward immediate water-saving actions
- Research and public opinion
 - o Conduct public opinion research studies including focus groups to determine attitudes and beliefs toward extreme conservation levels to effectively communicate severity of supply conditions and the mandatory need to conserve

Level 5-6 Communications – 50 percent Shortage or more

The severity of this level of the WSCP calls for immediate, extreme conservation measures and a focus on water use for health and safety only. As with previous levels, communications strategies at this level of the WSCP incorporate and build upon ongoing efforts.

Key Communications Strategies

- Consider establishing a Joint Information Center (JIC) to pool crisis communications among emergency responders and affected local, state and federal agencies
- Consider hosting employee town halls to provide updates on the situation
- Produce and distribute fact-based informational materials such as fact sheets, podcasts, and B-roll video
- Host a press conference to announce the severity of water shortage level and shortage response actions triggered or anticipated to be triggered, in conjunction with regional and/or state emergency response and public health authorities
- Emphasize work being done by Metropolitan and its member agencies to alleviate the impacts of such a severe shortage
- Focus on the need for residential and commercial customers across the region to do their part to get through the crisis situation
- Offer vulnerable populations increased assistance, in coordination with regional emergency response teams
- Keep the media and key stakeholders informed with frequent supply condition reports

- Shift from traditional advertising campaign efforts to emergency and crisis communication approach
- Messaging is no longer conservation-focused, begin shift to crisis response communications protocols

Crisis Communications – Catastrophic Shortage

In the event of a catastrophic shortage due to an infrastructure failure and/or natural disaster, Metropolitan will enact its crisis communications plan in accordance with local, regional, state and federal emergency response guidelines that ensure a coordinated effort and effective response. This plan utilizes the Standard Emergency Management System, the Incident Command System and the National Incident Management System.

Strategic Message Development

- In an emergency, communications messages will be created in a complex environment in which the tensions of multidirectional information flows must be balanced with the need for strategic message development

Message Dissemination

Communication efforts will center on the core identified tasks: providing information to the public and external audiences. Information dissemination tools:

- Website (mwdh2o.com, bewaterwise.com)
- Social Media (Twitter, Facebook, Instagram, YouTube)
- MetAlert Emergency Notification System + RSS Feeds
- Internal memos to the workforce
- Press Releases and statements
- Participation in joint information centers
- For localized emergencies: community bulletin boards, Nextdoor

Information Dissemination

- Public Information
 - o Activate and manage the mechanisms for responding to public requests for information via social media, telephone, in writing, or by e-mail
 - o Prepare Metropolitan’s telephone operators for responding to and monitoring calls related to emergency incidents; brief them and provide scripts on how to respond to questions and where to direct calls for other requests
 - o Respond to media inquiries and prepare subject matter experts to participate in media interviews and press conferences.
 - o Monitor news media and work with editors/producers to correct any inaccuracies, as necessary
 - o Work with subject matter experts to create situation-specific talking points, fact sheets, Q&A documents and updates

- o Respond to requests and inquiries from special interest groups
- o Oversee and manage Metropolitan's emergency response website if needed, in addition to mwdh2o.com, social media, telephone, and public email correspondence response systems; establish and maintain links to other emergency response websites
- o Manage the development and testing of messages and materials for cultural and language requirements of special populations
- o Post updates on social media channels. Monitor and respond to comments as needed/appropriate
- Member agencies, partnering agencies and elected/legislative officials:
 - o The Public Information Officer (PIO) or Crisis Communications Team will communicate, as needed, with the PIOs for member agencies and other partnering agencies
 - o Help organize and facilitate official meetings and briefings to provide information and receive input from member agencies, other partners or stakeholders
 - o Notify legislative/elected officials as needed

A.4.6. Legal Authorities

This section describes the legal authorities that empower Metropolitan to implement and enforce its shortage response actions. Metropolitan is a wholesale water provider organized as a cooperative of 26 voluntary members. Metropolitan was formed pursuant to the Metropolitan Water District Act, Statutes 1969, chapter 209, as amended, codified at California Water Code, Appendix Section 109 (the “MWD Act”). Pursuant to the MWD Act, Metropolitan has the express and implied statutory authority to “[p]rovide, sell, and deliver water at wholesale for municipal and domestic uses and purposes,” among other powers. (MWD Act, §§ 120, 130.) To accomplish the provision of water, Metropolitan is also expressly authorized to promote and implement conservation programs, including during times of water shortage. (MWD Act, § 130.5.)

Metropolitan also has authority under the California Water Code to implement supply shortage programs. (Cal. Water Code, §§ 350-359, 375-378.) For example, Section 375(a) of the Water Code provides:

Notwithstanding any other provision of the law, any public entity which supplies water at retail or wholesale for the benefit of persons within the service area or area of jurisdiction of the public entity may, by ordinance or resolution adopted by a majority of the members of the governing body after holding a public hearing upon notice and making appropriate findings of necessity for the adoption of a water conservation program, adopt and enforce a water conservation program to reduce the quantity of water used by those persons for the purpose of conserving the water supplies of the public entity.

Cal. Water Code, § 375(a). Water Code Section 375(b) also provides the authority for pricing to encourage water conservation.

With regard to water delivered for other than agricultural uses, the ordinance or resolution may specifically require the installation of water-saving devices that are designed to reduce water consumption. The ordinance or resolution may also encourage water conservation through rate structure design.

Metropolitan’s Board of Directors has approved many policies and rules, codified in Metropolitan’s own Administrative Code, which further provide Metropolitan the authority to ensure the availability of its water during times of shortages. For example, Administrative Code Section 3107 requires that any territory annexed to Metropolitan comply with Metropolitan’s water use efficiency guidelines.

The Board has also ratified various policies and rules to implement a Water Supply Allocation Plan (WSAP) to address shortage conditions. Metropolitan’s WSAP provides a standardized methodology for allocating supplies during times of shortage. The WSAP is authorized pursuant to the following Board actions:

- By Minute Item 43514, dated April 13, 1999, the Board adopted the WSDM Plan.
- By Minute Item 44005, dated June 17, 2000, the General Manager has the authority to reduce Interim Agriculture Water Program deliveries up to 30 percent prior to imposing any mandatory allocation under the WSDM Plan.
- By Minute Item 47393, dated February 12, 2008, the Board adopted the WSAP.

- By Minute Item 48376, dated August 17, 2010, the Board approved adjustments to the WSAP.
- By Minute Item 48803, dated September 12, 2011, the Board approved adjustments to the WSAP.
- By Minute Item 74526, dated February 11, 2014, the Board adopted the Water Supply Alert Resolution.
- By Minute Item 49979, dated December 9, 2014, the Board approved adjustments to the WSAP.
- By Minute Item 52802, dated April 26, 2022, the Board declared a Water Shortage Emergency Condition, authorized the Emergency Water Conservation Program, and expressed support for the Governor's Executive Order N-7-2
- By Minute Item 52946, dated August 16, 2022, the Board adopted a resolution committing to regional reliability for all member agencies.

In addition to the statutes and other legal authorities set forth above, Metropolitan is empowered to implement and enforce its shortage response actions pursuant to various resolutions. For example, on April 11, 2016, Metropolitan's Board voted to adopt Metropolitan's 2015 UWMP and authorized its submittal to the State of California as stated in Resolution 9209. Metropolitan's 2015 UWMP contains Metropolitan's December 2014 WSAP in Appendix 4. Metropolitan's 2015 UWMP also describes in Section 2.4 Metropolitan's WSAP and WSDM Plan, which guides Metropolitan's planning and operations during both shortage and surplus conditions. Similarly, on May 11, 2021, Metropolitan's Board voted to adopt Metropolitan's UWMP and this WSCP as stated in Resolutions 9279 and 9281, respectively. These two Resolutions authorize Metropolitan to implement and enforce its shortage response actions contained in the WSCP, which was attached as Appendix 4 to the 2020 UWMP.

Additionally, numerous agreements allow Metropolitan to take its core supplies and shortage response actions. Core supplies and supply augmentation actions are authorized by the agreements shown in 2025 UWMP Appendix 3: Justifications for Supply Projections, which include:

Colorado River Supplies

- 1931 Seven Party Agreement dated August 18, 1931
- Metropolitan's 1930, 1931, and 1946 water delivery contracts with the Secretary of the Interior
- Consolidated Decree of the Supreme Court of the United States in *Arizona v. California*
- 2003 Quantification Settlement Agreement (QSA) and related agreements
- 2005 Settlement Agreement with the Quechan Indian Tribe
- 2007 Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead

- 1988 IID-Metropolitan Conservation and Use of Conserved Water Agreement
 - 1989 Approval Agreement
 - 1989 Supplemental Approval Agreement
- August 2004 Forbearance and Following Program Agreement with PVID
 - Landowner Agreements for Following in PVID
- 2003 Delivery and Exchange Agreement between Metropolitan and Coachella Valley Water District
- 2004 Storage and Interstate Release Agreement among Metropolitan, the Colorado River Commission of Nevada, Southern Nevada Water Authority, and the United States
- 2007 Lower Colorado Water Supply Project Contract among the United States, the City of Needles, and Metropolitan
- 2007 Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement among the Arizona Department of Water Resources, PVID, IID, the City of Needles, CVWD, Metropolitan, SNWA, and the Colorado River Commission of Nevada
- 2007 California Agreement for the Creation and Delivery of Extraordinary Conservation Intentionally Created Surplus among Metropolitan, PVID, IID, CVWD, and the City of Needles
- 2007 Agreement among the United States, the Colorado River Commission of Nevada, and the SNWA for the Funding and Construction of the Lower Colorado River Drop 2 Storage Reservoir Project
- 2007 Delivery Agreement between the United States and Metropolitan
- 2008 Metropolitan Notice of Election to Participate as a Party to the Drop 2 Funding Agreement
- 2009 Agreement among the United States, Metropolitan, the Colorado River Commission of Nevada, SNWA, and the Central Arizona Water Conservation District for a Pilot Project for Operation of the Yuma Desalting Plant
- 2010 Yuma Desalting Plant Pilot Project Delivery Agreement between the United States and Metropolitan
- 2012 Agreement among the United States, Metropolitan, the Colorado River Commission of Nevada, SNWA, and the Central Arizona Water Conservation District for a Pilot Program for the Conversion of Intentionally Created Mexican Allocation to Intentionally Created Surplus
- 2012 Interim Operating Agreement for Implementation of Minute No. 319 of the International Boundary and Water Commission
- 2012 Lower Colorado River Basin Forbearance Agreement for Binational Intentionally Created Surplus

- 2012 Binational ICS Delivery Agreement
- 2013 Agreement between Metropolitan and IID Regarding Binational Intentionally Created Surplus
- 2015 Amendment 1 to the California Agreement for the Creation and Delivery of Extraordinary Conservation Intentionally Created Surplus
- 2017 Agreement among the United States, Metropolitan, the Colorado River Commission of Nevada, SNWA, IID, and the Central Arizona Water Conservation District for a Pilot Program for the Conversion of Mexico's Water Reserve to Binational ICS
- 2017 Interim Operating Agreement for Implementation of Minute No. 323
- 2017 Binational ICS Agreement
- 2017 Binational ICS Delivery Agreement
- 2019 Lower Basin Drought Contingency Plan
- December 2019 Agreement for the Implementation of a Seasonal Land Fallowing Program in Bard Water District
 - Agreements for Seasonal Fallowing in Bard Unit (Farmer Fallowing Agreements)
- May 2020 First Amended Agreement for the Implementation of a Seasonal Land Fallowing Program in Bard Water District
- December 2021 Agreement for the Implementation of a Pilot Seasonal Land Fallowing Program with the Quechan Indian Tribe of the Fort Yuma Indian Reservation.
 - Agreements for Seasonal Fallowing on Tribe-leased lands (Farmer Fallowing Agreements for the Quechan Pilot)
- December 2023 First Amendment to the Agreement for the Implementation of a Pilot Seasonal Land Fallowing Program with the Quechan Indian Tribe of the Fort Yuma Indian Reservation.
- September 2024, Metropolitan entered into the System Conservation Implementation Agreement with the U.S. Bureau of Reclamation. The agreement would fund the Bard Seasonal Fallowing Program for up to 3,000 fallowable acres through 2026 to produce system water to be stored in Lake Mead.
 - February 2025, the agreement was amended to include additional 3,000 fallowable acres, which would make a maximum of 6,000 fallowable acres.
- Agreement Relating to Supplemental Water among The Metropolitan Water District of Southern California, the San Luis Rey Settlement Parties, and the United States
- 2003 Amended and Restated Agreement between The Metropolitan Water District of Southern California and the San Diego County Water Authority for the Exchange of Water.

- 1998 Agreement between Imperial Irrigation District and San Diego County Water Authority for Transfer of Conserved Water.
- 2003 Allocation Agreement among the United States, CVWD, IID, SDCWA, Metropolitan, and the San Luis Rey Settlement Parties.
- 2003 Colorado River Water Delivery Agreement: Federal Quantification Settlement Agreement.

State Water Project Supplies

- 1960 Contract between the State of California and The Metropolitan Water District of Southern California for a Water Supply
- Port Hueneme Water Agency Annexation: By Minute Item 41728, dated January 9, 1996, Metropolitan's Board adopted Resolution 8487 granting the concurrent annexation of Annexation No. 32 to Calleguas Municipal Water District and The Metropolitan Water District of Southern California, and fixing Metropolitan's terms and conditions for the annexation
- 1996 Sublease Agreement between the Port Hueneme Water Agency and Metropolitan
- 1967 and 1983 Water Exchange Contract and Agreements with Desert Water Agency and Coachella Valley Water District
- 1984 Advance Delivery Agreement with Desert Water Agency and Coachella Valley Water District
- The 2003 Exchange Agreement with Desert Water Agency and Coachella Valley Water District
- November 2012 Letter Agreement with Coachella Valley Water District
- 2019 Amended and Restated Agreement for Exchange and Advance Delivery with Desert Water Agency and Coachella Valley Water District
- 1997 Arvin-Edison/Metropolitan Water Management Agreement
- 1998 Turn-in/out Construction and Maintenance Agreement between DWR, Kern County Water Agency, Arvin-Edison, and Metropolitan
- 1998-2002 Water Delivery and Return Agreements with DWR, Kern County Water Agency, Arvin-Edison, and Metropolitan
- 2004 Point of Delivery Agreement with DWR, Kern County Water Agency, and Metropolitan
- 2004 Introduction of Water into the California Aqueduct with DWR, Kern County Water Agency, and Arvin-Edison
- 2007 First Amended and Restated Agreement Between Arvin-Edison Water Storage District and The Metropolitan Water District of Southern California for a Water Management Program

- 2000 Coordinated Operating Agreement between Metropolitan and San Bernardino Valley Municipal Water District
- 2001 Coordinated Operating Agreement between Metropolitan and San Bernardino Valley Municipal Water District
- 2011 Coordinated Operating, Water Storage, Exchange and Delivery Agreement among Metropolitan, Municipal Water District of Orange County, and Irvine Ranch Water District
- 2013 San Gabriel Valley MWD Exchange and Purchase Agreement
- 2019 Board Approval of the High Desert Water Bank Agreement with Antelope Valley East Kern Water Agency
- 2001 Kern Delta/Metropolitan Principles of Agreement
- 2002 Kern Delta and Metropolitan Boards of Directors Approval
- 2007 DWR-Yuba County Water Agency Purchase Agreement
- 2007 DWR-Metropolitan Yuba Dry Year Program Participation Agreement
- 2014 Amended DWR-Metropolitan Yuba Dry Year Program Participation Agreement
- 2019 Amended and Restated Agreement Among The Metropolitan Water District of Southern California, Coachella Valley Water District, and Desert Water Agency for the Exchange and Advance Delivery of Water
- 2020 Amended DWR-Metropolitan Yuba Dry Year Program Participation Agreement
- 2021 Coordinated Operating Agreement. The Coordinated Operating Agreement between Metropolitan and San Bernardino Valley District was approved by Metropolitan's Board in March 2021. The agreement will terminate on December 31, 2035 unless there is an extension of the SWP Contract.
- 2013 San Gabriel Valley MWD Exchange and Purchase Agreement. The agreement between Metropolitan and San Gabriel Valley MWD was executed in September 2013.
- 2013 Board Approval of the San Gabriel Valley MWD Exchange and Purchase Agreement. In August 2013, Metropolitan's Board authorized entering into the agreement with San Gabriel Valley MWD.

In-Region Storage and Supplies

- November 1974 Memorandum of Understanding and Agreement on Operation of Lake Skinner
- November 1994 Memorandum of Understanding on Operation of Domenigoni Valley Reservoir (now known as Diamond Valley Lake)
- Elderberry Forebay Contract for Conditions for Use
- June 2002 Division of Safety of Dams Certificate of Approval
- October 1991 Final EIR for the Eastside Reservoir Project (Diamond Valley Lake)
- 1995 amendment to Metropolitan's SWP contract to include Article 54, "Usage of Lakes Castaic and Perris"
- November 1974 Memorandum of Understanding and Agreement on Operation of Lake Skinner
- June 2002 Division of Safety of Dams Certificate of Approval
- Principles for groundwater storage adopted by the Metropolitan Board in January 2000
- Resolution for Proposition 13 Funds adopted by the Metropolitan Board in October 2000
- Agreement executed with the DWR for Interim Water Supply Construction Grant Commitment Safe Drinking Water, Clean Water, Watershed Protection and Flood Protection (Proposition 13, Chapter 9, Article 4) providing for Metropolitan to administer \$45 million in state Proposition 13 grant funds for groundwater reliability programs; October 2000
- Agreement executed for Long Beach Conjunctive Use Project, July 2002, amended in July 2003, October 2005, and November 2008
- Agreement executed for Live Oak Conjunctive Use Project, October 2002
- Agreement executed for Foothill Area Groundwater Storage Project, February 2003, amended in August 2006, April 2008, and February 2009
- Agreement executed for Chino Basin Programs, June 2003, amended in May 2004, August 2004, August 2005, May 2008, March 2009, September 2009, July 2010, and January 2015
- Agreement executed for Orange County Groundwater Storage Program, June 2003, amended in July 2004, December 2005, and July 2008
- Agreement executed for Compton Conjunctive Use Program, February 2005
- Agreement executed for Long Beach Conjunctive Use Project — Expansion in Lakewood, July 2005, amended in April 2006, August 2007, November 2008, and February 2010

- Agreement executed for Upper Claremont Basin Groundwater Storage Program, September 2005, amended in April 2008
- Agreement executed for Elsinore Basin Conjunctive Use Program, December 2006, amended in May 2008

These agreements are described in more detail in Appendix 3 to Metropolitan's 2025 UWMP.

If necessary, Metropolitan shall declare a water shortage emergency in accordance with CWC Chapter 3 (commencing with Section 350) of Division 1. In addition, Metropolitan 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.

A.4.7. Financial Consequences of and Responses for Drought Conditions

A water shortage may be created by a reduction in water supply, an increase in water demand, or a combination of both. Metropolitan's shortage response actions include supply augmentation, demand management, and operational flexibility, all of which could impact Metropolitan financially. For example, exercising the options to take water from supply augmentation programs may increase costs. Similarly, operational changes could result in higher system costs and lower revenues from on-system hydropower generation, and an increase in conservation and outreach efforts would also increase costs. On the other hand, if core supplies from the SWP or the Colorado River were reduced, variable power costs to move water into the service area would likely decrease. Additionally, effective demand management during shortages tends to decrease Metropolitan's water sales when effective, thereby potentially reducing revenue for Metropolitan. From these various financial effects, there is a potential for expenditures exceeding revenues more than budgeted, thereby requiring unanticipated draws from reserves.

Variation in the amount of revenues is already part of Metropolitan's financial planning. Revenues vary according to regional weather and the availability of statewide water supplies. In dry years, local demands increase, and Metropolitan may receive higher than anticipated revenues due to increased sales volumes. In contrast, in wet years, demands decrease, and revenues drop due to lower sales volumes. In addition, statewide supply shortages such as those in 2009 and 2015 also affect Metropolitan's revenues. Such revenue surpluses and shortages could cause instability in water rates. To mitigate this risk, Metropolitan maintains financial reserves, with a minimum and target balance, to stabilize water rates during times of reduced water sales. The reserves hold revenues collected during times of high water sales and are used to offset the need for revenues during times of low sales. Metropolitan's practice of using reserves to buffer unexpected increases or decreases in budgeted revenue also applies to unexpected expenditure increases or decreases resulting from shortage responses.

Metropolitan uses its financial reserves to mitigate the impacts of water shortages. This policy applies to each of the six shortage levels described in this WSCP. Financial reserves create a buffer to reduce the financial impact of the water shortage. Other mitigation actions such as reducing operations and maintenance expenses, deferring capital projects, and rates/charges increases are part of Metropolitan's biennial budget and rate design cycle, are not used routinely to mitigate financial impacts of water shortage response actions.

Metropolitan's reserve policy provides for a minimum reserve requirement and target amount of unrestricted reserves at June 30 of each year. Funds in excess of the target amount are to be utilized for capital expenditures in lieu of the issuance of additional debt, or for the redemption, defeasance or purchase of outstanding bonds or commercial paper as determined by the Board. However, if the fixed charge coverage ratio (the amount necessary to cover all fixed costs) is at or above 1.2, amounts over the minimum may be expended for any lawful purpose of Metropolitan, as determined by the Board. Therefore, unrestricted reserves are intended to be available to address Metropolitan's shortage response actions, as well as the consequences of those actions, so long as its fixed charge coverage ratio is at or above 1.2.

A.4.8. WSCP Adoption and Refinement Procedures

WSCP Public Notice and Adoption

Placeholder text
to be updated

Metropolitan provided notice of the availability of the draft 2020 UWMP, Appendix 11 to the 2015 UWMP, and WSCP, and notice of the public hearing on the plans in accordance with CWC Sections 10632(c) and 10645(a) and (b), Section 6066, and Chapter 17.5 (starting with 17.5001) of the Government Code. The public review drafts of the 2020 UWMP, Appendix 11 to the 2015 UWMP, and the WSCP were posted prominently on Metropolitan's website, mwdh2o.com, on February 1, 2021, more than 60 days in advance of the public hearing on April 12, 2021. The notice of availability of the documents was sent to Metropolitan's member agencies, as well as to cities and counties in Metropolitan's service area. In addition, a public notice advertising the public hearing in English and Spanish was published in 12 Southern California newspapers. The notification in English language newspapers was published on February 1 and 8, 2021. The notification was published on January 28-30, 2021 and February 1, 4-6, and 8, 2021 in Spanish language newspapers, satisfying the requirement for non-English language notification. Copies of: (1) the notification letter sent to the member agencies, cities and counties in Metropolitan's service area, and (2) the notice published in the newspapers are included in the 2020 UWMP Section 5. Table 5-3 in the 2020 UWMP provides a list of participating member agencies and other appropriate agencies that Metropolitan coordinated with in its regional planning, as well as the cities and counties that were notified about the preparation of its 2020 UWMP, Appendix 11 to the 2015 UWMP, and WSCP. In addition, the list of newspaper publications is included in Table 5-4.

Metropolitan held the public hearing for the draft 2020 UWMP, draft Appendix 11 to the 2015 UWMP, and draft WSCP on April 12, 2021, at the Board's Water Planning and Stewardship Committee meeting, held online due to COVID-19 concerns. On May 11, 2021, Metropolitan's Board determined that the 2020 UWMP and the WSCP are consistent with the MWD Act and accurately represent the water resources plan for Metropolitan's service area. In addition, Metropolitan's Board determined that Appendix 11 to both the 2015 UWMP and the 2020 UWMP includes all of the elements described in Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (Cal. Code Regs. tit. 23, § 5003) which need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action. As stated in Resolutions 9279, 9280, and 9281, the Board adopted the 2020 UWMP, Appendix 11 to the 2015 UWMP, and the WSCP and authorized their submittal to the State of California. Copies of Resolutions 9279, 9280, and 9281 are included in the 2020 UWMP Section 5, and Resolution 9281 for the WSCP is attached to this WSCP as Attachment C.

Submission and Availability of 2025 UWMP and WSCP

In fulfillment of CWC Sections 10632(c) and 10645(a) and (b), Metropolitan's final 2025 UWMP and its WSCP were posted on the mwdh2o.com website in May 2026, following their adoption by the Metropolitan board. This satisfies the requirement to make the plans available for public review and to make the WSCP available to Metropolitan's customers (which are its member agencies).

In fulfillment of CWC Sections 10632(c), 10635(c) and 10644(a)(1), Metropolitan also mailed copies of the final 2025 UWMP and WSCP (in electronic pdf format) to the California State Library and all cities and counties within Metropolitan's service area within 30 days of Board adoption.

In June 2026, in fulfillment of CWC Section 10621(f) and Sections 10644(a)(1), (2), and (b), Metropolitan's final 2025 UWMP and WSCP were electronically submitted to the State of California through DWR's WUE data website <https://wuedata.water.ca.gov/secure/>.

WSCP Reevaluation and Improvement Procedures

The WSCP will be periodically re-evaluated to ensure that its shortage risk tolerance is adequate and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. The WSCP may be revised and updated during the UWMP update cycle to incorporate updated and new information. For example, new supply augmentation actions may be added, and actions that are no longer applicable for reasons such as program expiration may be removed. However, if revisions to the WSCP are warranted before the UWMP is updated, the WSCP will be updated outside of the UWMP update cycle. In the course of preparing the Annual Assessment each year, Metropolitan staff will routinely consider the functionality of the overall WSCP and will prepare recommendations for Metropolitan's Board of Directors if changes are found to be needed.

ATTACHMENTS

Attachment A – Water Surplus and Drought Management Plan

Attachment B – Water Supply Allocation Plan

Attachment C – WSCP Resolution XXXX

ATTACHMENT A

**THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA**

WATER SURPLUS AND DROUGHT MANAGEMENT PLAN

REPORT NO. 1150

AUGUST 1999

ATTACHMENT A

ACKNOWLEDGMENTS

The consensus reached in the Water Surplus and Drought Management Plan would not have been possible without the dedication and participation of the Rate Refinement Process Workgroup, comprises made by the General Manager, staff from Metropolitan's member agencies, Metropolitan staff, and the dedication and work of the consultants.

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ATTACHMENT A

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ATTACHMENT A

**WATER SURPLUS AND DROUGHT MANAGEMENT PLAN
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA**

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EXECUTIVE SUMMARY

INTRODUCTION

The Water Surplus and Drought Management (WSDM) Plan for the Metropolitan Water District of Southern California (Metropolitan) is a ten-year plan that will be used to direct Metropolitan's resource operations to help attain the region's 100% reliability goal. The WSDM Plan recognizes the interdependence of surplus and shortage actions and is a coordinated plan that utilizes all available resources to maximize supply reliability. The overall objective of the WSDM Plan is to ensure that shortage allocation of Metropolitan's imported water supplies is not required.

The central effort in developing the WSDM Plan was a participatory process involving Metropolitan and its member agencies. Metropolitan staff and member agency representatives coordinated the Plan's development during a series of meetings of the Rate Refinement Team.

To lay a foundation for the WSDM Plan, participants in the Rate Refinement Process developed a set of proposed WSDM Principles and Implementation Goals which were subsequently adopted by the Metropolitan Board of Directors in September 1998. These Principles and Implementation Goals outline fundamental policies for guiding surplus and shortage management and establish a basis for dealing with shortages in an equitable and efficient manner.

WSDM PRINCIPLES AND IMPLEMENTATION GOALS

Guiding Principle

- Metropolitan will encourage storage of water during periods of surplus and work jointly with its Member Agencies to minimize the impacts of water shortages on the region's retail consumers and economy during periods of shortage.

Supporting Principles

- Maintain an ongoing coordinated effort among Metropolitan and its Member Agencies to encourage efficient water use, develop cost-effective local resource programs, and inform the public on water supply and reliability issues
- Encourage local and regional storage during periods of surplus and use of storage during periods of shortage
- Manage and operate Metropolitan's regional storage and delivery system in coordination with local facilities to capture and store surplus water in local groundwater and surface reservoirs
- Arrange for secure sources of additional water from outside the region for use during periods of shortage

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- Call upon sources of additional water from outside the region and water stored locally to meet the needs of consumers and protect the economy during periods of shortage

WSDM Plan Implementation Goals

- Avoid mandatory import water allocations to the extent practicable
- Equitably allocate imported water on the basis of agencies' needs

Considerations to create an equitable allocation of imported water may include:

- Impact on retail consumers and economy
 - Reclamation/Recycling
 - Conservation
 - Population and economic growth
 - Investment in local resources
 - Change and/or loss of local supply
 - Participation in Metropolitan's Non-firm (interruptible) programs
 - Investment in Metropolitan's facilities
- Encourage storage of surplus supplies to mitigate shortages and improve water quality

SURPLUS AND SHORTAGE ACTIONS

The region's ability to implement a long-term WSDM Plan results from the significant investments Metropolitan and its member agencies have made in a variety of resources since 1991. These additional resources include increased local conservation and water recycling, improvements in the reliability of imported supplies, increased regional storage, and increased conjunctive use groundwater programs. Together these improvements allow a comprehensive approach to water management.

The growing variety of resources available to the region is transforming Metropolitan from an agency with relatively modest storage capacity to one that will have storage sufficient to manage many shortages without impacts to its member agencies or retail customers. To attain this level of reliability, all storage programs and facilities, along with conservation, recycling, and other programs, must be managed as an integrated set of regional resources. To accomplish this, the WSDM Plan establishes the linkage between surplus and shortage resource management actions.

When imported supplies exceed projected demands for imported water within Metropolitan's service area, Metropolitan can operate available storage facilities to maximize the benefits of stored water to its member agencies. A number of factors affect Metropolitan's ability to divert surplus water into storage. Some of these factors include facility outages, system capacity, water quality (including requirements for managing total dissolved solids), and varying supply and demand patterns. The WSDM Plan provides a description of storage options available to Metropolitan and a framework for storing water in these programs and facilities when surplus supplies are available.

Except in severe or extreme shortages (defined in the Introduction) or emergencies, Metropolitan's resource management will allow shortages to be mitigated without impacting retail Municipal and Industrial (M&I) customers. A list of resource management actions and their descriptions are provided

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below. This list emphasizes critical storage programs and facilities, and conservation programs that make up part of Metropolitan's response to shortages. The order in which these actions are presented does not imply the exact operational management of resources that would occur during a shortage, rather it represents a general framework and guide. In fact, several actions are likely to be taken concurrently. Many factors will dictate the exact order in which these actions will be taken during shortages. One action, however, will have an assigned prioritization: the curtailment of Full Service (firm) deliveries will be last. The following summarizes the drought actions:

- Draw on storage in the Eastside Reservoir Project
- Draw on out-of-region storage in Semitropic and Arvin-Edison
- Reduce/suspend long-term seasonal and groundwater replenishment deliveries
- Draw on contractual groundwater storage programs in the region
- Draw on State Water Project (SWP) terminal reservoir storage (per Monterey Agreement)
- Call for extraordinary drought conservation and public education
- Reduce Interim Agricultural Water Program (IAWP) deliveries
- Call on water transfer options contracts
- Purchase transfers on the spot market
- Implement the allocation of Metropolitan's imported supplies to its member agencies

For the ten-year period addressed by the WSDM Plan, 1999-2008, the majority of shortage contingencies will be managed by withdrawals from storage, groundwater management and options transfers. Shortages managed using these actions would not impact the quantity of water delivered to member agencies for consumptive uses. In fact, when coupled with other drought actions such as extraordinary conservation and reduction of agricultural deliveries, it is fully expected that an allocation of firm imported water supplies will not be necessary during the next ten years. Under this worse-case scenario, an approach to allocate Metropolitan's firm imported water supplies in a fair and equitable manner will be developed.

The overall policy objective of the allocation method will be to minimize the impacts to any one agency and the region as a whole. To meet that objective, the method of allocating firm imported supply will account for:

- Each agency's demands on Metropolitan,
- Each agency's local resources
- Each agency's total retail demands.

The WSDM Plan allocation method would address each of these supply and demand components and account for each agency's conservation and recycled water programs. A pricing structure will be coupled with the WSDM allocation method to accomplish two goals:

- Encourage conservation and water recycling
- Ensure that the regional impact of the shortage is as small as possible

To provide as much water as possible without changing wholesale prices, the allocation of all available supplies will be made at the prevailing rates for firm deliveries. In order to encourage conservation to the level of allocation, the rate for agency usage from 100-102% of its allocation will be the Full Service rate plus \$175. Usage above 102% of allocated supply will be charged at three times the Full Service rate. Any substantial change in Metropolitan's water rate structure may require these rates to be revised.

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During severe or extreme shortage conditions, public outreach will play a critical role in shaping consumer response. Public information campaigns will send clear signals if extraordinary drought conservation is required. An effective public information campaign requires a joint effort among Metropolitan and its member agencies. Under this Plan, the administration of the Public Information and Government Affairs program will be the responsibility of a Drought Program Officer (DPO). The DPO will be responsible for integrating the various activities in these areas, coordinating efforts with Metropolitan's Board of Directors and member agencies, and designing the region-wide messages for the general public and various target audiences. Important constituencies are residential users, industrial and institutional users, business interests, agricultural users, elected officials, officials of various agencies such as the Department of Water Resources, and the media.

INTEGRATED RESOURCES MANAGEMENT

Throughout the Integrated Resources Planning process and the development of the WSDM Plan, extensive analysis of resource management strategies focused on maximizing supply reliability while minimizing overall resource costs. Various management strategies were analyzed under shortage scenarios based on historical hydrologic data. The WSDM Plan presents a resource management framework to guide Metropolitan's integrated approach to supply management.

The resource management framework does not dictate a scripted response to shortage or surplus. The framework recognizes the complexity and variety of conditions that require action. Supporting this framework are general rules that describe the actions to be taken in each stage of surplus or shortage. These rules depend on shortage stage, account for monthly delivery requirements, and depend on when various supplies would be available.

One of the fundamental trade-offs in dealing with supply shortages is the need to maintain flexibility while providing supply certainty to member agencies and consumers. A central focus of the WSDM Plan is the analysis of information about supplies and demands. When do various pieces of information about the supply/demand balance become more certain? When should this information impact policy-making and trigger various resource actions? The WSDM Plan addresses these questions and the actual implementation of the Plan during a shortage.

Appendix A of this report provides a ten-year simulation of projected demands and supplies showing an example of how the region can maintain 100% reliability.

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INTRODUCTION

The Metropolitan Water District of Southern California (Metropolitan) provides water to a service area covering approximately 5,200 square miles. Over 16.5 million people live within the service area, which supports a \$500 billion economy. Metropolitan provides supplemental supplies to twenty-seven member agencies, both retail and wholesale agencies, who in turn provide water to over three hundred cities and local agencies providing supplies at the retail level. In recent years Metropolitan supplemental deliveries have accounted for about one-half to two-thirds of the region's total water demands. With supplies from its Colorado River Aqueduct (CRA) and the State Water Project (SWP), Metropolitan delivers water for municipal and industrial (M&I) uses, agricultural uses, and augmentation of local storage.

As part of the implementation of the regional Integrated Resources Plan (IRP), Metropolitan and its member agencies have developed the Water Surplus and Drought Management (WSDM) Plan for Southern California. This ten-year plan will direct Metropolitan's resource operations to help attain the region's 100% reliability goal. Over this ten-year period, the WSDM Plan will be updated to account for changes impacting supplies from the Colorado River and California's Bay-Delta. In the past, Metropolitan has developed drought management plans that simply addressed shortage actions and primarily focused on issues of short-term conservation and allocation of imported water. The WSDM Plan recognizes the interdependence of surplus and shortage actions and is a coordinated plan that utilizes all available resources to maximize supply reliability. The overall goal of the WSDM Plan is to ensure that shortage allocation of Metropolitan's imported water supplies is no---At required.

Because it addresses both surplus and shortage contingencies, the WSDM Plans draws clear distinctions among the terms *surplus*, *shortage*, *severe shortage*, and *extreme shortage*.

Surplus: *Supplies are sufficient to allow Metropolitan to meet Full Service demands, make deliveries to all interruptible programs (replenishment, long-term seasonal storage, and agricultural deliveries), and deliver water to regional and local facilities for storage.*

Shortage: *Supplies are sufficient to allow Metropolitan to meet Full Service demands and make partial or full deliveries to interruptible programs, sometimes using stored water and voluntary water transfers.*

Severe Shortage: *Supplies are insufficient and Metropolitan is required to make withdrawals from storage, call on its water transfers, and possibly call for extraordinary drought conservation and reduce deliveries under the IAWP.*

Extreme Shortage: *Supplies are insufficient and Metropolitan is required to allocate available imported supplies.*

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WSDM PRINCIPLES AND IMPLEMENTATION GOALS

The central effort in developing the WSDM Plan was a participatory process involving Metropolitan and its member agencies. Metropolitan staff and member agency representatives coordinated the Plan's development during a series of meetings of the Rate Refinement Team and the Integrated Resources Planning Workgroup. To lay a foundation for the WSDM Plan, participants in the Rate Refinement Process developed a set of "WSDM Principles and Implementation Goals."

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- Change and/or loss of local supply
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- Investment in Metropolitan's facilities.

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- Encourage storage of surplus supplies to mitigate shortages and improve water quality

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REGIONAL RESOURCES AND DEMANDS

Southern California receives its water supplies from a variety of different sources, both local to the region and imported from outside the region. These sources are summarized below.

Local Supplies

Local supplies include groundwater pumping of local aquifers, surface reservoir production, recycled water, and supplies imported through wheeling arrangements or through the Los Angeles Aqueduct, which is owned and operated by the City of Los Angeles. Local supplies have, in the past, provided as much as 2.1 million acre-feet (maf) of water to meet the region's water demands. By far the largest component of local supplies is groundwater pumping, providing over 75% of historical local supplies.

Colorado River Supplies

The distribution and management of Colorado River water is governed by a complex body of laws, court decrees, compacts, agreements, regulations, and an international treaty collectively known as the "Law of the River." Metropolitan's entitlement is established by the fourth and fifth priorities of California's Seven Party Agreement, included in Metropolitan's 1931 and 1946 contracts with the Secretary of the Interior. These priorities provide 550,000 acre-feet (af) per year and 662,000 af per year, respectively. In addition, Metropolitan holds a surplus water contract for delivery of 180,000 af. The physical capacity of the CRA is slightly in excess of 1.3 maf per year, based on a pumping capacity of 1,800 cubic feet per second (cfs). Metropolitan's long-held objective is to maximize the availability of Colorado River water, up to the maximum capacity of the CRA, subject to environmental, contractual, legal, political, financial, and institutional constraints. A California 4.4 Plan is being developed among California parties that will help ensure that full CRA deliveries are maintained, while addressing the concerns of the other Colorado River basin states that rely on the river. The California 4.4 Plan includes core transfers (such as the IID/MWD conservation agreement and the proposed IID/SDCWA transfer), system conservation (such as the lining of the All American Canal), offstream storage (such as the Arizona groundwater storage program), dry year option transfers (such as PVID land fallowing), and river re-operations.

State Water Project

Metropolitan is one of 29 water agencies that have contracted with the State of California, through the Department of Water Resources (DWR), for water deliveries from the SWP system. Metropolitan's contracted entitlement is for 2.01 maf per year, or about 48 percent of the total contracted entitlement of 4.2 maf per year. SWP deliveries to Metropolitan are made via the SWP's California Aqueduct.

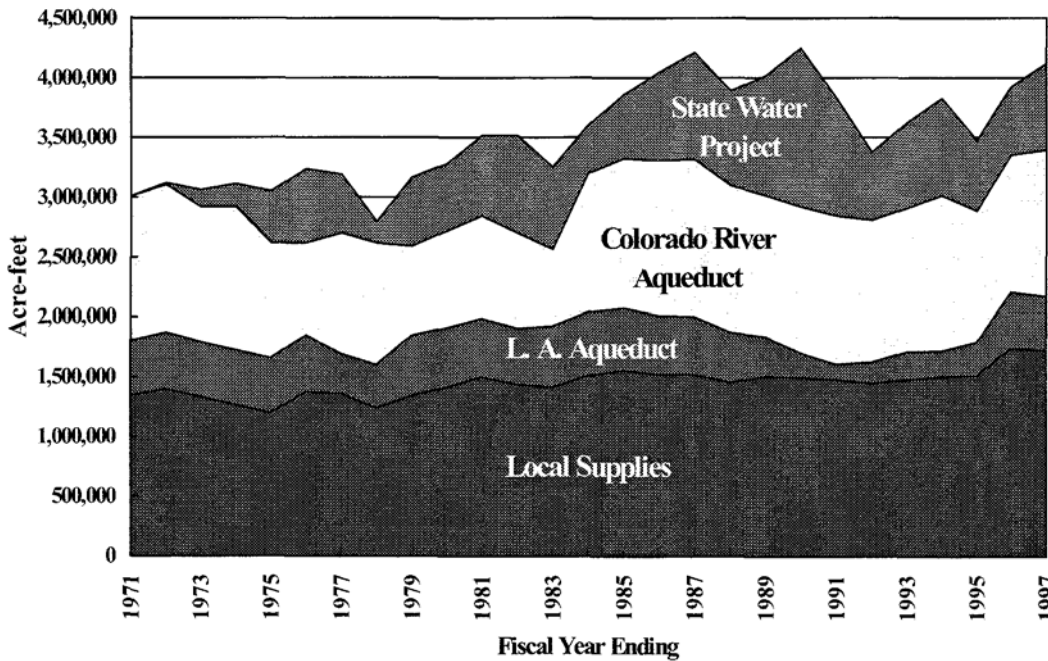
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Initial SWP facilities, completed in the early 1970's, have produced average supply yields adequate to meet just over half of the total contracted entitlement. While it was intended that additional SWP facilities would be constructed as SWP contractor demands increased up to their contracted entitlements, few facilities have been constructed since that time.

The SWP obtains its supplies primarily from the Sacramento River Basin. About half of the total supply diverted from the Delta for the SWP is regulated flow from the Feather River (a tributary to the Sacramento River), while the other half is unregulated flow from runoff downstream of Sacramento River reservoirs and from other rivers that flow into the Delta. The Sacramento River watershed is subject to wide annual variations in total runoff. The Sacramento River Index (SRI), which measures runoff in the watershed, has averaged about 18 maf per year over the last 90 years. However, runoff varies widely from year to year. For example, the SRI measured 7.8 maf in 1994 and 32.5 maf in 1995.

Figure 1 shows the historical total regional supply production by type. As shown in Figure 1, water supplies were as high as 4.25 maf in 1990 and within two years dropped to 3.4 mar, a 20% decrease.

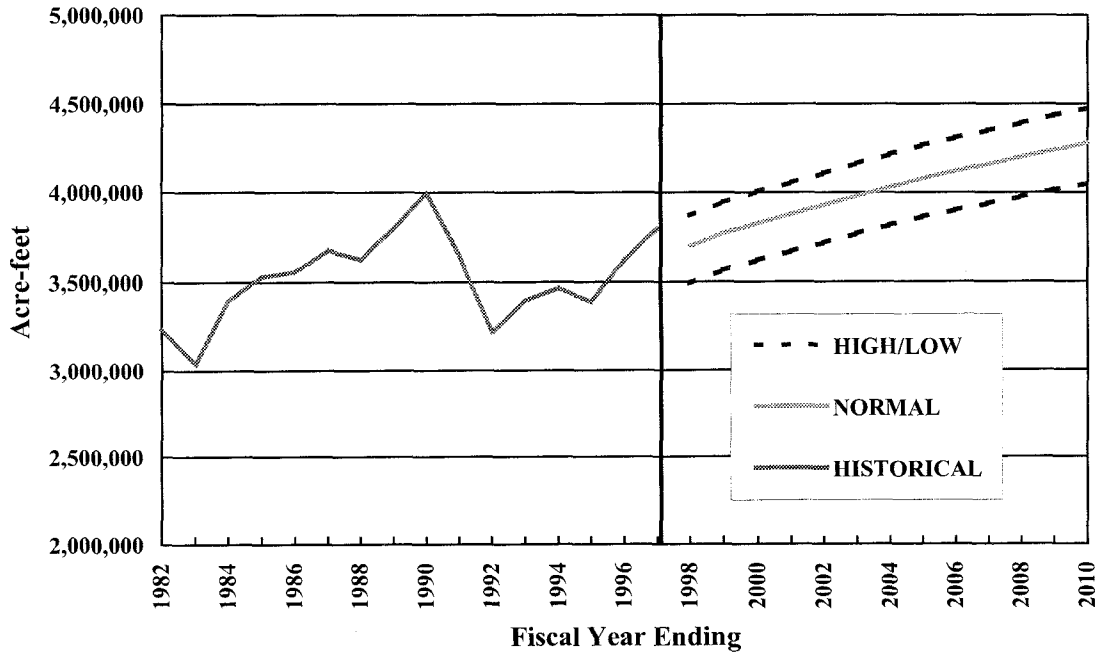
Figure 1. Historical Supply Production by Type of Supply



RETAIL DEMANDS

From 1982 through 1995, the region experienced retail water demands averaging 3.5 mar. In dry years retail demands are approximately 5 to 7% greater than normal years, while demands in wet years are about 6 to 8% below normal demands. Under normal weather conditions, assuming full implementation of conservation best management practices, total regional retail demands are projected to increase from about 3.7 mar in 1997 to almost 4.3 mar in 2010. Without conservation, demands in 2010 would be about 10 to 12% greater than projected. Increases in retail demand are driven by demographics and economics, including changes in population, housing, employment, and income. Figure 2 shows the historical and projected retail demands in Metropolitan's service area.

Figure 2. Regional Retail Water Demands



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The historical variability in demands from 1982 to 1997 is mainly due to weather and the economy. In 1983, extreme wet weather caused a significant drop in retail demands. During the period from 1985 to 1990, hot and dry weather coupled with a strong economy resulted in increased demand from 3.5 maf to 4.0 maf, a 14% increase. In 1991, the 5th year of a prolonged drought, conditions forced many communities to implement mandatory supply reductions. These mandatory reductions coupled with extraordinary drought conservation caused a 10 to 15% decrease in retail demands for the region. In addition, the period between 1992 and 1995 was very wet (with the exception of 1994, which was dry), and was a period of severe economic recession. Southern California alone lost some 700,000 jobs from 1990 through 1995. The combination of wet weather, economic recession, and conservation resulted in demands decreasing by over 17%.

DEMANDS ON METROPOLITAN

For many member agencies, Metropolitan's water deliveries represent a supplemental supply. Most member agencies have local water supplies, but agencies differ in how much their supplies alone can meet their respective retail demands. Local supplies are often base-loaded (maximized subject to various constraints) and purchases from Metropolitan are used to meet remaining demands. In addition, to meeting consumptive demands, Metropolitan's deliveries are used to replenish local groundwater and surface reservoirs. To project demands on Metropolitan, projections of member agency's retail water demands and local water supplies are made. Local supplies are then subtracted from retail demands to get consumptive demands on Metropolitan. A projection of Metropolitan's long-term seasonal and replenishment deliveries are made based on safe groundwater yield and weather/hydrology.

Metropolitan forecasts its demands for three different broad categories: Full Service, Seasonal (reservoir storage and groundwater replenishment delivered for shift or long-term storage purposes and sold at a discount), and Agricultural (deliveries of water sold at a discount for agricultural use). Overall, demands on Metropolitan can vary -+ 11 to 18% from normal conditions due to weather and hydrology.

The following four figures show historical and projected demands on Metropolitan by category. Figure 3 shows Basic Water Deliveries, Figure 4 shows Seasonal Water Deliveries, Figure 5 shows Interim Agricultural Water Program (IAWP) Deliveries, and Figure 6 shows Total Water Deliveries for Metropolitan.

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Figure 3. MWD Basic Water Deliveries

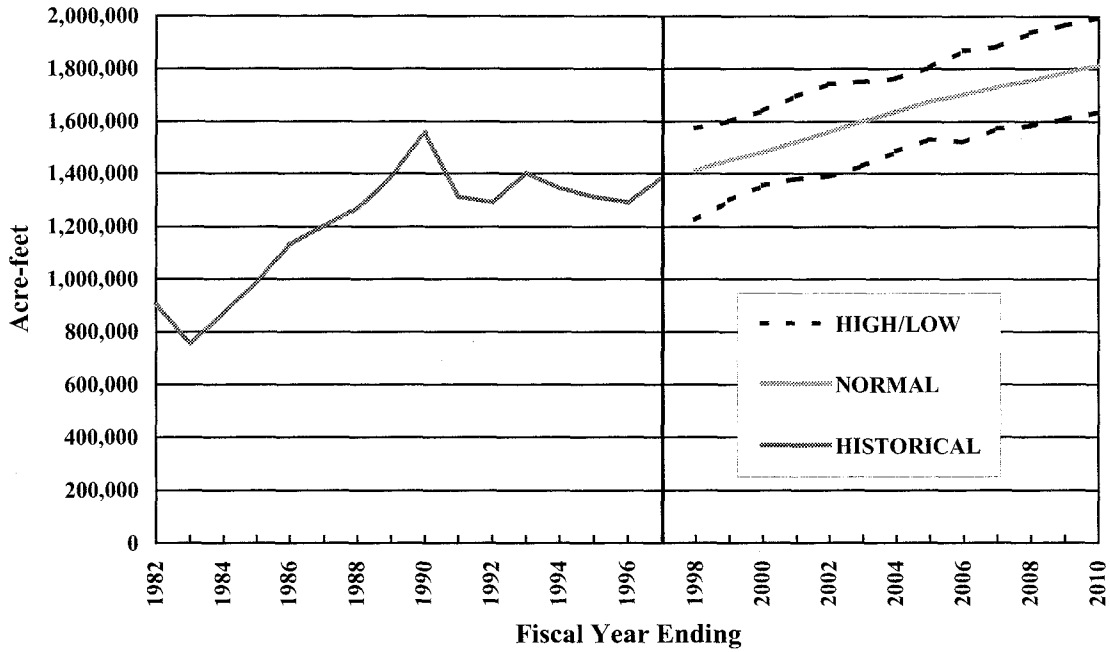
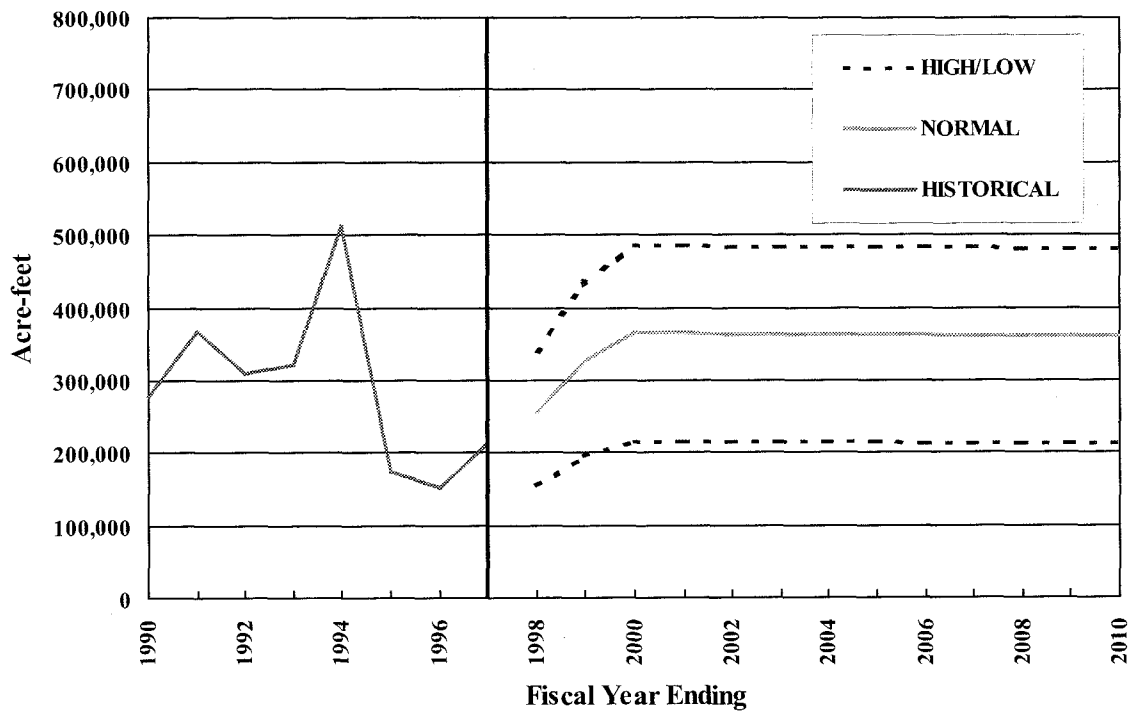


Figure 4. MWD Seasonal Water Deliveries



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Figure 5. MWD Interim Agricultural Water Program (IAWP) Deliveries

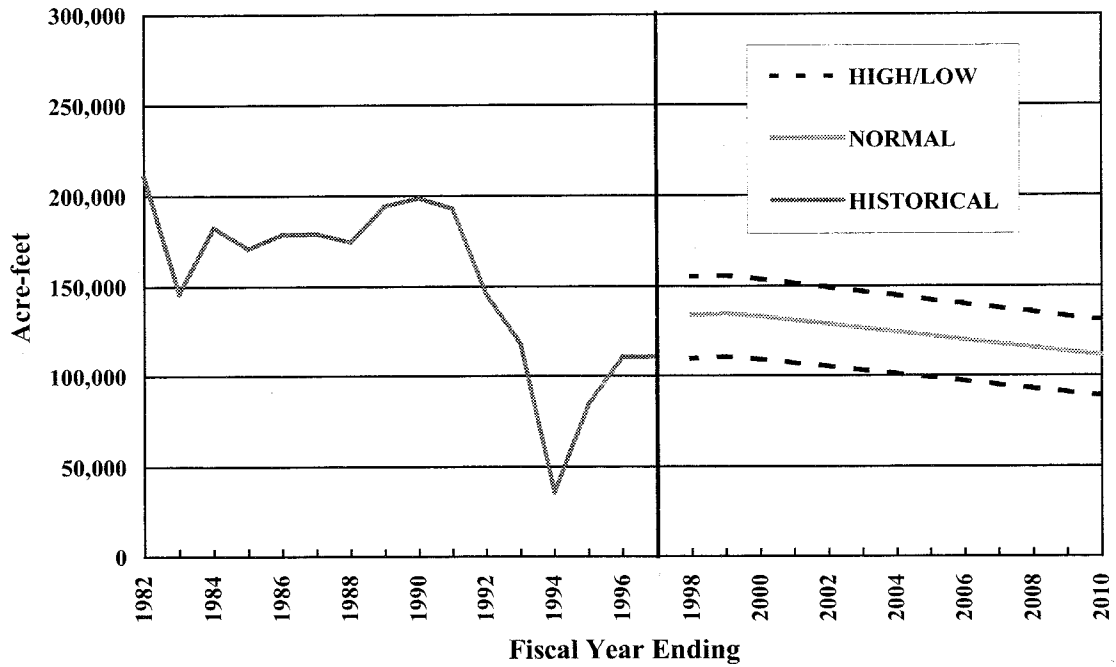
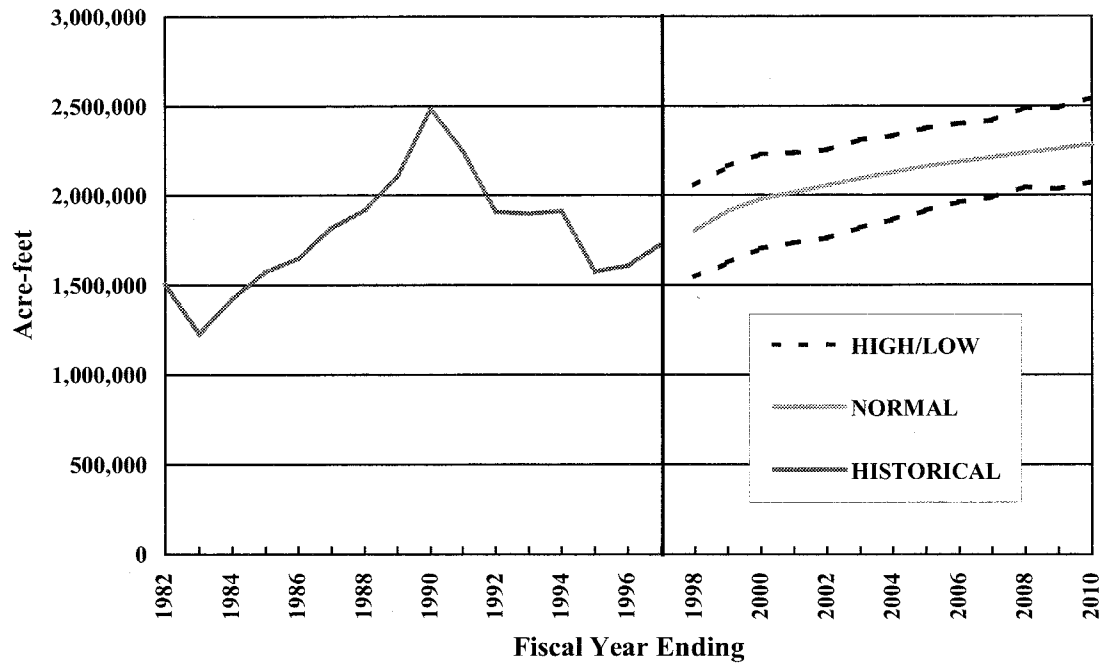


Figure 6. MWD Total Water Deliveries



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INTEGRATED RESOURCES PLANNING

To ensure supply reliability under various drought conditions, Metropolitan and its member agencies developed an Integrated Resources Plan (IRP). The IRP, adopted by Metropolitan's Board of Directors in January 1996 and periodically updated, guides Metropolitan's resource and capital improvements investments. The region's ability to develop a long-term WSDM Plan results from the significant investments Metropolitan and its member agencies have made in resources since 1991. To date, these investments include:

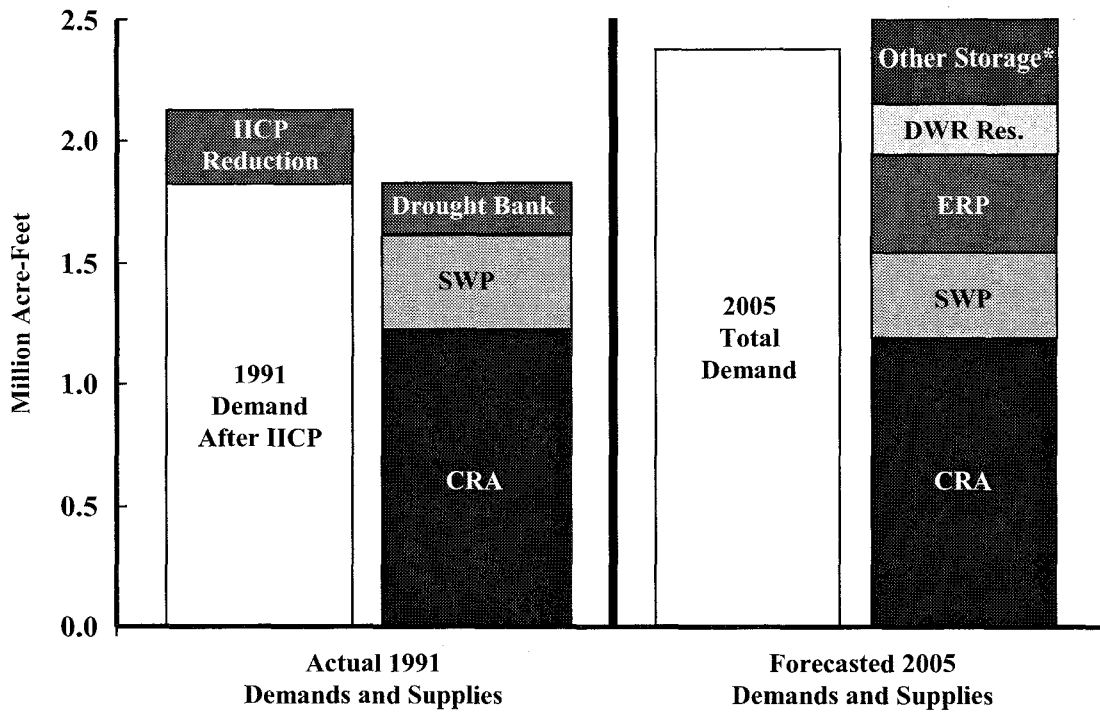
- **Local supplies:** Metropolitan co-funded over 23 local projects and 200 conservation programs that will yield a total of 160,000 af per year.
- **Colorado River Aqueduct:** Metropolitan developed transfers and storage programs to help ensure a full aqueduct. The landmark Metropolitan/Imperial Irrigation District Conservation Program (IID), will result in a savings of 107,000 af per year. Storage programs in Arizona and California, combined with the IID savings, yield a total of 280,000 af of annual core, dry year options, and storage supply.
- **State Water Project:** Metropolitan and other parties negotiated the Bay-Delta Accord and the Monterey Amendment. The Bay-Delta Accord and subsequent efforts will increase the reliability of Metropolitan's entitlement deliveries. The Monterey Amendment provides access to 220,000 af of SWP storage.
- **In-Basin Storage:** Metropolitan is constructing the Eastside Reservoir Project, with 800,000 af of storage (400,000 af of which is emergency storage for use in case of facility failure as a result of earthquake or other event).
- **Groundwater Conjunctive Use Storage:** Metropolitan developed a conjunctive use storage program in the North Las Posas Basin in Ventura County with an anticipated capacity of 210,000 af and a dry-year withdrawal rate of up to 70,000 af.
- **Transfers and Storage:** Metropolitan developed the Semitropic Storage Program, with 350,000 af of storage and dry-year withdrawals averaging about 60,000 af. Metropolitan also approved the Arvin-Edison Storage and Transfer Program, with 250,000 af of storage and dry-year withdrawals averaging about 70,000 af. Metropolitan is also exploring storage and transfer programs with the Coachella Valley Water District and the Cadiz Land Company.

As a result of these investments, it is anticipated that Metropolitan and its member agencies will be 100% reliable over the next 10 years even under a repeat of the 1991 drought condition. Figure 7 compares actual Metropolitan demands and supplies during 1991 (the last year in a multiyear severe drought) and projected demands and supplies in year 2005 (assuming a repeat of 1991 conditions). In 1991, the region faced shortages that required Metropolitan to allocate water under the Incremental Interruption and Conservation Plan (IICP). The reduction in deliveries came after demands had already been reduced as a result of local conservation. In addition, water had to be purchased from the Governor's drought emergency water bank. By the year 2005 with the investments made to date,

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Metropolitan's additional water supplies will be more than adequate to meet demands under a repeat of the 1991 drought event--even with increased demands due to growth.

Figure 7. Historical and Projected Metropolitan Supplies and Demands Under Drought Conditions



* Groundwater management, Semitropic Storage Program, and Arvin-Edison Storage Program

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SURPLUS AND SHORTAGE RESOURCE ACTIONS

Metropolitan's investments in water resources, facilities, and programs has transformed it from an agency with relatively modest storage capacity to one that will have storage sufficient to manage many shortages without negative impacts to its member agencies or retail customers. To attain this level of reliability, storage programs and facilities, along with conservation, recycling, and other programs, must be managed as an integrated set of regional resources. To accomplish this, the WSDM Plan recognizes the linkage between surplus and shortage resource management actions.

SURPLUS ACTIONS

The combination of Metropolitan's regional storage facilities, such as Lake Mathews, Lake Skinner, the future Eastside Reservoir Project, and the storage capacity available to Metropolitan in Castaic Lake and Lake Perris as a result of the Monterey Amendment, allows Metropolitan great flexibility in managing its water resources. The development of storage programs both outside and within the service area provides even greater flexibility in storing surplus water. Each of the storage facilities and programs plays an important role in achieving Metropolitan's reliability goal.

When imported supplies exceed projected demands for imported water within Metropolitan's service area, Metropolitan can operate storage facilities to maximize stored water to benefit its member agencies. A number of factors affect Metropolitan's ability to divert surplus water into storage. Some of these factors include facility outages, system capacity, water quality (including requirements for managing total dissolved solids), and varying supply and demand patterns. This section provides a description of storage options available to Metropolitan and a framework for storing water in these programs and facilities when surplus supplies are available.

Storage of Colorado River Supplies

Metropolitan has participated in a number of programs to maximize the reliability of supplies from the Colorado River. The landmark Metropolitan/Imperial Irrigation District Conservation Program will result in a savings of 107,000 af per year. These supplies will increase the reliability of Metropolitan's entitlement of Colorado River water. Other programs yield shortage benefits by increasing amounts of water stored for use during shortages. Between August 1992 and July 1994, Metropolitan and the Palo Verde Irrigation District conducted a Test Land Fallowing Program. Approximately 20,000 acres of farmland in the Palo Verde Valley were not irrigated, saving 186,000 af of water which was stored in Lake Mead for later use by Metropolitan. With Arizona and Nevada water agencies, Metropolitan is participating in a Central Arizona Groundwater Storage Demonstration Program that has encouraged the storage of water. To date, 139,000 af of supplies have been stored in groundwater basins in Central Arizona. The Desert Coachella program is an exchange and storage program with agencies situated along the Colorado River Aqueduct. Metropolitan releases Colorado River water for storage in the Coachella Groundwater Basin. Metropolitan then exchanges these supplies for the

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participating agencies' SWP supplies. These programs serve as models for future programs that could increase the reliability of Colorado River supplies. Metropolitan continues to explore other possible options that would increase the reliability of supplies. The California 4.4 Plan is being developed among California parties to increase storage programs for Colorado River supplies. In addition to core transfers and conservation programs, the California 4.4 Plan includes offstream storage (such as the Arizona groundwater storage program), dry year option transfers (such as PVID land fallowing), and river re-operations. These programs, in conjunction with favorable supply determinations by the Secretary of Interior, will ensure the highest possible reliability of Colorado River supplies.

In addition to the programs mentioned above, the Colorado River system itself contributes to the high reliability of Metropolitan's Colorado River supplies. Currently, the average Colorado River runoff exceeds basin-wide demands by over 1.0 maf per year. The Colorado River system also contains a great deal of reservoir storage capacity. The total storage capacity in the Colorado River Basin is approximately 60 maf, almost four times the Colorado River's average annual flow. For much of 1997, system storage levels were at 80% or more of total capacity. These factors allow the Bureau of Reclamation, operators of the Colorado River system, to store significant supplies for use during shortages.

Storage of State Water Project Supplies

Total storage capacity is a critical factor in comparing the operations of the Colorado River system with the SWP. On average, both systems have similar amounts of water available on an annual basis. The SWP's watersheds in the Sacramento River Basin have produced about 18 maf per year over the long term, as represented by the Sacramento River Index (SRI.) Long-term runoff on the Colorado River has averaged more than 16 maf annually since 1906. However, the ability to carry over unused water from a wet year for use in a dry year differs substantially between the two systems. State Water Project storage facilities have storage capacity of about 4.5 maf, while system storage in the Colorado River Basin totals nearly 60 maf. This gives the operators of the Colorado River reservoirs much more flexibility in storing unused water from a wet year for use in a subsequent dry year.

When water from the SWP cannot be put to immediate use in Metropolitan's service area, the water may be stored for future use. Provided storage capacity is available, the water may remain in either Oroville Reservoir (as SWP storage for delivery to all contractors the following year) or San Luis Reservoir (as carryover storage assigned to Metropolitan). Through the carryover storage program, as amended by the Monterey Amendment, Metropolitan can place a maximum of 200,000 af per year of allocated supplies in SWP surface reservoirs. The program also allows for carryover storage in non-project facilities, including surface reservoirs and groundwater basins. In the case of carryover storage in San Luis Reservoir, SWP supplies allocated to but unused by a contractor may, under certain conditions, be assigned as carryover if storage capacity is available at the end of the calendar year. However, carryover water stored for a contractor has lower priority than storage of SWP water and consequently "spills" first as San Luis Reservoir fills.

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Also, in a wet year such as 1995, low demands may allow DWR to operate San Luis Reservoir nearly full, eliminating any possibility of contractor carryover storage into the following year. As a result, carryover storage on the SWP may not be possible, and even when possible, is subject to spilling.

Due to these carryover storage limitations, Metropolitan has invested a great deal to expand its ability to store surplus SWP supplies. Metropolitan has entered into a number of water transfer and storage agreements. The Semitropic Water Banking and Exchange program allows Metropolitan to store up to 350,000 af in the groundwater basin underlying the Semitropic Water Storage District. The storage and withdrawal capacities of the program are shared with other participants in the storage program, with Metropolitan's share equaling 35%. Dry-year withdrawals will average about 60,000 af.

Metropolitan and the Arvin-Edison Water Storage District have developed a program that allows Metropolitan to store water in the groundwater basin in the Arvin-Edison service area. The program would allow the storage and withdrawal of 250,000 af of supplies over the next 25430 years. Dry-year withdrawals will average about 70,000 af.

Storage in Regional Facilities

In addition to the storage of Colorado River and SWP supplies outside the region, Metropolitan has established a number of programs for storing supplies within the region. Metropolitan owns and operates two main surface reservoirs, Lake Mathews and Lake Skinner, which have a combined storage of about 226,000 af. Only a small portion of this capacity is available for shortages, with the balance being used to regulate flows in Metropolitan's delivery system. The Eastside Reservoir Project, currently under construction, will have a total capacity of 800,000 af, with approximately 400,000 af of operational drought and seasonal storage and 400,000 af of emergency storage. Through the Monterey Amendment, Metropolitan obtained the right to use up to 220,000 af of water stored in the SWP terminal reservoirs. However, withdrawals from these terminal reservoirs must be replaced within five years.

Metropolitan and its member agencies have established the cyclic storage program to increase storage in groundwater basins within the service area. Regional groundwater basins offer an economical way for Metropolitan to improve supply reliability by storing water within the service area. This makes water readily accessible in times of need, either in emergency situations or during shortages. Some limitations are imposed by the fact that such water can generally only be used through pumping from the groundwater basin by an overlying member agency or local agency. Storage in groundwater basins takes place either by direct replenishment (spreading or injection), or through in-lieu means. Spreading (or injection) is desirable because direct measurement of the amount of stored water is a relatively simple, verifiable transaction. The main disadvantage to direct spreading is that spreading can occur only under certain conditions. For example, spreading cannot occur when spreading facilities are being used to capture local storm runoff for flood control purposes, or when the amount of local runoff precludes the need

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for imported water to replenish the basins. Also, spreading basins require frequent maintenance to assure maximum efficiency. These and other conditions can limit the ability to deliver water for spreading at a time when surplus supplies are available.

In-lieu replenishment allows most member agencies to participate in groundwater replenishment without needing direct access to replenishment facilities. Their wells, in effect, become their replenishment facilities. Both direct and in-lieu replenishment from 1986 through 1990 served the region well during the critical drought years from 1991 through 1993.

The overall objective of the various storage programs is to maximize the availability of imported water during times of need by storing surplus water in a strategic manner and utilizing the storage available within the region. Many factors affect the availability of storage capacity and Metropolitan's ability to move water to and from various facilities. After reviewing the full range of shortage actions available to Metropolitan, a framework for prioritizing the full range of surplus and shortage actions will be presented.

In addition to pricing incentives used to encourage local agencies to store water in groundwater basins, Metropolitan has developed a conjunctive use contractual storage program with the Calleguas MWD in the North Las Posas Basin. Metropolitan will fund the construction of wells which will be called upon to meet demands during dry years. This program will yield a dry year supply of about 70,000 af.

SHORTAGE ACTIONS

Except in severe or extreme shortages or emergencies, Metropolitan's management of available resources will allow shortages to be mitigated without negatively impacting retail M&I demands. Below is a list of drought actions that will be taken during periods of shortage. The goal of these actions is to avoid, to the extent practicable, the allocation of Metropolitan's firm supplies. The order in which these actions are presented does not imply the exact operational management of resources that would occur. In fact, several actions are likely to be taken concurrently. Many factors dictate the particular order in which actions will be taken during an actual shortage, although it is clear that the last action will be the curtailment of firm deliveries to the member agencies.

- Draw on storage in the Eastside Reservoir Project
- Draw on out-of-region storage in Semitropic and Arvin-Edison
- Reduce/suspend long-term seasonal and groundwater replenishment deliveries
- Draw on contractual groundwater storage programs in the region
- Draw on SWP terminal reservoir storage (per Monterey Agreement)
- Call for extraordinary drought conservation and public education
- Reduce IAWP deliveries
- Call on water transfer options contracts
- Purchase transfers on the spot market
- Implement an allocation of Metropolitan's imported supplies to its member agencies

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Even with dedicated programs to meet the reliability goal for the region, proper management and operations of these resources is critical to ensure reliability. The prioritization of both surplus and shortage actions need to account for several important criteria. It is also important to recognize that these criteria will need to be balanced. The criteria include:

Location: Out-of-region storage is more vulnerable than in-basin-storage due to the risks of seismic events. To only maximize out-of-region storage will put reliability at risk.

Take capacity: Surface reservoirs generally have the ability to be filled and drawn down very quickly. Certain groundwater storage programs have limited take capacities--requiring several years at full take capacity to withdraw **all** available storage. Stored water will be balanced so that dry year supplies are maximized.

Cost: Programs vary with respect to their marginal operating costs. Program actions will be taken to maximize supply reliability while minimizing cost.

Flexibility: Not all storage programs and transfers offer the same flexibility to Metropolitan. Some programs can only meet specific overlying demands, while others can meet demands anywhere in the system.

DESCRIPTIONS OF RESOURCE ACTIONS

Draw on storage in the Eastside Reservoir Project: Withdrawals from the Eastside Reservoir Project would provide a flexible supply for meeting a shortage. Eastside Reservoir Project supplies can be drawn upon quickly. The amount of water drawn from the Eastside Reservoir Project before exercising other shortage actions will depend on the severity of the shortage and the overall condition of other resources available to Metropolitan.

Draw on out-of-region storage in Semitropic and Arvin-Edison programs: Out-of-region programs such as Semitropic and Arvin-Edison provide cost-effective shortage supplies. These supplies also provide flexibility, as they can be distributed as effectively as any SWP supplies coming into Metropolitan's service area. Exercising these programs relatively early in the order of actions reduces the risk of leaving supplies out-of-region. Based upon the ratio of storage capacity to take capacity, these programs will generally provide supplies over several years. This provides the rationale for calling on these programs relatively early in a shortage.

Reduce Long-Term Seasonal and Replenishment Deliveries, and call on cyclic storage accounts: Certain interruptible supply programs provide benefits during shortage. Reducing deliveries to interruptible programs established for storage purposes, while continuing expected levels of groundwater production, allows limited supplies to go toward meeting direct consumptive uses. In addition, calling on cyclic storage accounts can extend the replenishment needs for several years. Most replenishment supplies would be expected to be interruptible for a minimum of two years before agencies would be allowed to claim a local supply adjustment on such supplies. Some programs have longer interruption requirements. For example, most Groundwater Recovery Programs are governed by contracts that require supply production through a three-year interruption in service.

Draw on contractual groundwater storage programs: In-region contractual groundwater programs provide cost-effective supplies that would be drawn upon during shortages. These programs are also

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limited by their take capacities and generally have several years of withdrawals in storage. For this reason, these programs might be called upon before withdrawing heavily from surface reservoir storage.

Draw on SWP terminal reservoir storage: The storage available in the SWP terminal reservoirs provides a flexible and cost-effective shortage supply. Supplies withdrawn from this program must be replaced within five years of withdrawal. For this reason, the storage in these reservoirs would be reserved for more serious shortage conditions and would be utilized after the programs and facilities listed above were used to meet the shortage.

Call for extraordinary drought conservation: Voluntary conservation programs have historically been effective in reducing water demand during drought. However, voluntary conservation programs are not without impact to the retail customer and can be perceived as a failure of water agencies to properly plan for shortages. Therefore, the call for extraordinary drought conservation will only be taken with the consent of Metropolitan's Board of Directors.

Reduce agricultural deliveries: The Interim Agricultural Water Program (IAWP) offers interruptible water to southern California's agricultural industry at discounted rates. These supplies will be interrupted as part of Metropolitan's shortage actions. Metropolitan will work with IAWP participants to provide as much advance warning of interruption as possible. The IAWP reflects current policies toward agricultural water users. The policies underlying this program are due to be reviewed during the ten-year period of the WSDM Plan. The WSDM Plan will be changed accordingly.

Call on water transfer option contracts: Transfer options programs provide cost-effective supplies when the region is faced with reducing deliveries to meet consumptive demands. These programs might also be used to increase storage levels in Metropolitan storage facilities. Replenishment of these facilities reduces the risk of leaving available supplies outside the region and helps to protect the region during extended shortages.

Purchase transfers on the spot market: During the 1987-92 drought, the Drought Water Bank proved to be one mechanism for California to reduce the overall impacts of the shortage. However, the cost of spot market supplies may cause Metropolitan to use them as a last increment of supply before the region implements reductions in M&I deliveries. It is likewise possible that availability and cost will make spot market options more favorable under certain conditions. If this occurs then spot market supplies will be sought prior to calls on option transfers. However, participation in the spot market may be restricted to those agencies that have already taken significant actions in response to the shortage.

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Implement allocation plan: As the final stage in responding to shortages, Metropolitan will implement an allocation plan to deliver reduced supplies to its member agencies. The issues of allocation and the methods of allocation are outlined in the following section.

ALLOCATION OF SUPPLY FOR M&I DEMANDS

The equitable allocation of supplies is addressed by the Implementation Goals established for the WSDM Plan, with the first goal being to "avoid mandatory import water allocations to the extent practicable." The second fundamental goal is to "equitably allocate imported water on the basis of agencies' needs." Factors for consideration in establishing the equitable allocation include retail and economic impacts, recycled water production, conservation levels, growth, local supply production, and participation and investment in Metropolitan's system and programs. In the event of an extreme shortage an allocation plan will be adopted in accordance with the principles of the WSDM Plan.

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INTEGRATED RESOURCE MANAGEMENT STRATEGY

Throughout the Integrated Resources Planning process and the development of the WSDM Plan, extensive analysis of resource management strategies focused on maximizing supply reliability while minimizing overall resource costs. Various management strategies were analyzed under shortage scenarios based on historical hydrologic data. Certain strategies yield high reliability but incur very high costs. This is the case for strategies that utilize relatively costly transfer programs early in a shortage while maintaining high storage levels. If a shortage is short, this results in high transfer costs and shortage storage programs that are not fully utilized. Other strategies draw more heavily on storage early in a shortage and do not use options transfer programs. Later in a shortage, the yields from these transfer programs, combined with low yields from depleted storage facilities, might not make up for continuing or deepening shortages. Overall, such approaches may be inexpensive to pursue at the wholesale level but have high costs associated with retail level impacts. The resource management framework presented results from extensive analysis of various strategies for managing available resources under a variety of surplus and shortage conditions. Although the extent to which various actions are exercised may still vary depending on specific shortage conditions, the ordering presented does reflect Metropolitan's anticipated order of actions during shortages.

RESOURCE MANAGEMENT FRAMEWORK

The analysis of surplus and shortage actions yields a water management framework that accounts for the degree or "stage" of surplus and shortage. These stages are defined by parameters such as storage levels and expected SWP supplies. Each stage has associated actions that could be taken as part of the response to prevailing shortage conditions. For example, Surplus Stage 1 might have as associated actions to place water in the highest-priority storage resources. Figure 8 shows the mapping between actions and stages. The darkly shaded diagonal area identifies actions that can be undertaken concurrently, while the lightly shaded areas show actions that will not be taken. For example, Metropolitan will not withdraw water from most storage resources during a surplus.

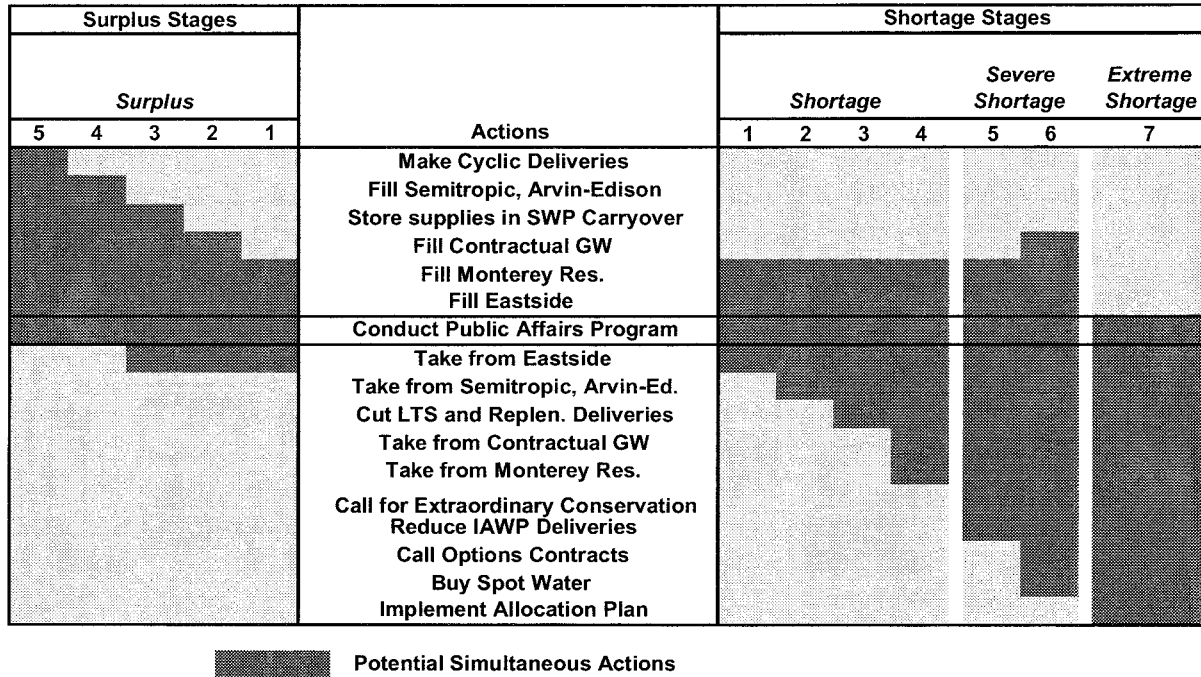
Figure 8 highlights several aspects of the WSDM Plan's approach to supply management. First and most importantly, it does not dictate a response to shortage or surplus. The framework recognizes the complexity and variety of conditions that could require various responses. Supporting this framework are general "rule curves" that dictate the extent to which particular actions are taken in various stages of surplus or shortage. For example, the rule curves indicate approximately how much water should be taken from the Eastside Reservoir Project before calling on supplies from the Semitropic or Arvin-Edison storage programs. If a shortage were greater than the desired initial withdrawal from the Eastside Reservoir Project, then Stage 2 actions would be taken. The rule curves for a particular resource would take into account shortage stage, monthly delivery requirements, and when various supplies are available.

Surplus and Shortage Stages are determined by the total amount of water that would be stored or produced by exercising the actions in that Stage. Overall storage levels in each stage are determined by the extent to which storage is increased or reduced by earlier actions. Therefore, each Stage is defined by supplies (stored or produced) and an approximate overall level of storage remaining in all resources. Up through Shortage Stage 4, the actions taken will not result in negative impacts to any consumptive uses. Shortage Stages 1 through 4 constitute shortage management without retail level impacts. The conservation efforts and reductions in IAWP deliveries in Shortage Stage 5 will result in retail impacts.

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Action by the Metropolitan Board of Directors would be required before actions corresponding to Stages 5, 6, and 7.

Figure 8. Resource Stages and Actions Matrix



The Stages and Actions Matrix (Figure 8) is read from the center moving outward. Moving from the center to the left, are actions that Metropolitan will take during surplus conditions. For instance, in a Stage 3 Surplus, Metropolitan will be adding water to the Eastside Reservoir Project, the Monterey Reservoirs (if any water is due for repayment), Contractual Groundwater Programs, and carryover storage on the State Water Project. Moving from the center to the right are actions that Metropolitan will take during periods of shortage. For instance, in a Stage 3 Shortage, Metropolitan will be pulling water from the Eastside Reservoir Project, the Semitropic and Arvin Edison programs, and interrupting deliveries of Long-Term Seasonal and Replenishment program water. In addition, the Stages and Actions Matrix allows for surplus actions to be taken during shortages and vice versa, but these actions are strictly a result of prudent water management. For example, in a Stage 6 Shortage, Figure 8 shows Metropolitan potentially filling the Eastside Reservoir Project, the Monterey Reservoirs, and contractual groundwater programs while calling on spot transfers and buying spot water. Through these actions Metropolitan will be ensuring that water supply opportunities during a drought are realized--ultimately adding to the drought reserves of southern California.

Figure 8 also highlights the on-going efforts by Metropolitan and its member agencies in the conduct of public outreach and active conservation programs. Through all conditions, effective public outreach and conservation programs are an integral part of Metropolitan's management of resources. In addition to ongoing conservation and water efficiency programs, Stage 5 of the Stages and Actions Matrix calls for participation of the citizens of southern California to take extraordinary conservation measures to cut water demand during droughts.

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As with the listing of shortage actions earlier in the report, the Stages/Actions matrix in Figure 8 only highlights certain programs and response actions. However, unlike the discussion of actions earlier, Figure 8 is intended to convey Metropolitan's currently anticipated ordering for those actions listed. As the supply and demand outlooks, programs, and other factors continue to change, the analysis of the ordering of actions will continue during the ten-year period of the WSDM Plan.

SUPPLY CERTAINTY AND THE TIMING OF RESOURCE ACTIONS

One of the fundamental trade-offs in dealing with supply shortages is the need to maintain flexibility while providing supply certainty to member agencies and consumers. A central focus of the WSDM Plan is the analysis of information about supplies and demands. When do various pieces of information about the supply/demand balance become more certain? When should this information impact policy-making and trigger various resource actions? The WSDM Plan addresses these questions and the actual implementation of the Plan during a shortage.

Figure 9 shows a hypothetical shortage year. With respect to the supply and demand outlook, a typical shortage year will have periods of certainty and stability, and other periods of relative uncertainty and transition. Important supply components--such as the SWP, CRA, Los Angeles Aqueduct (LAA), and local supplies--are closely monitored through the early part of the year. These supplies and demands are fairly well-known through the April-September period. Storage is assessed in the post-summer period and decisions about certain programs, such as long-term (LT) seasonal deliveries could be made at this time.

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Figure 9. Water Supply Outlook Throughout the Year

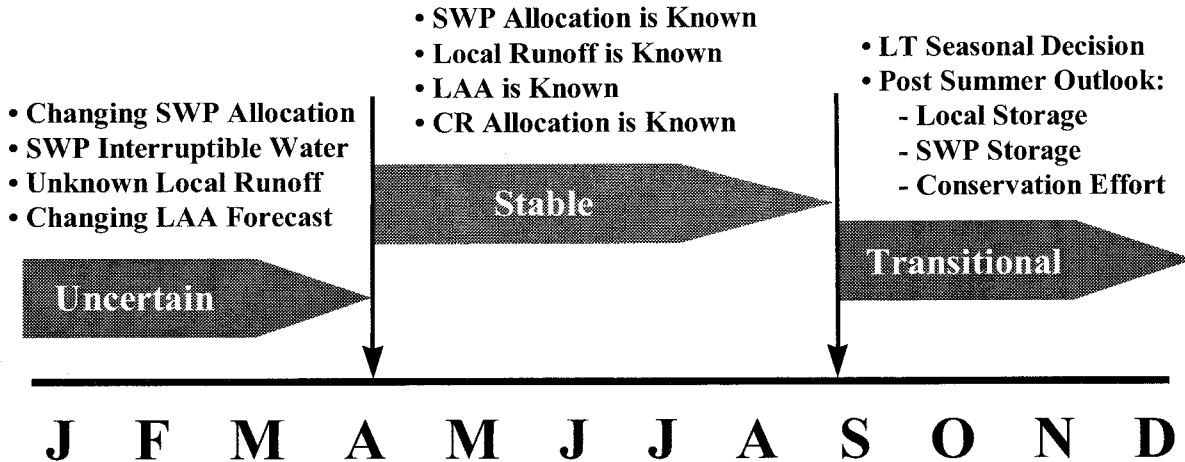
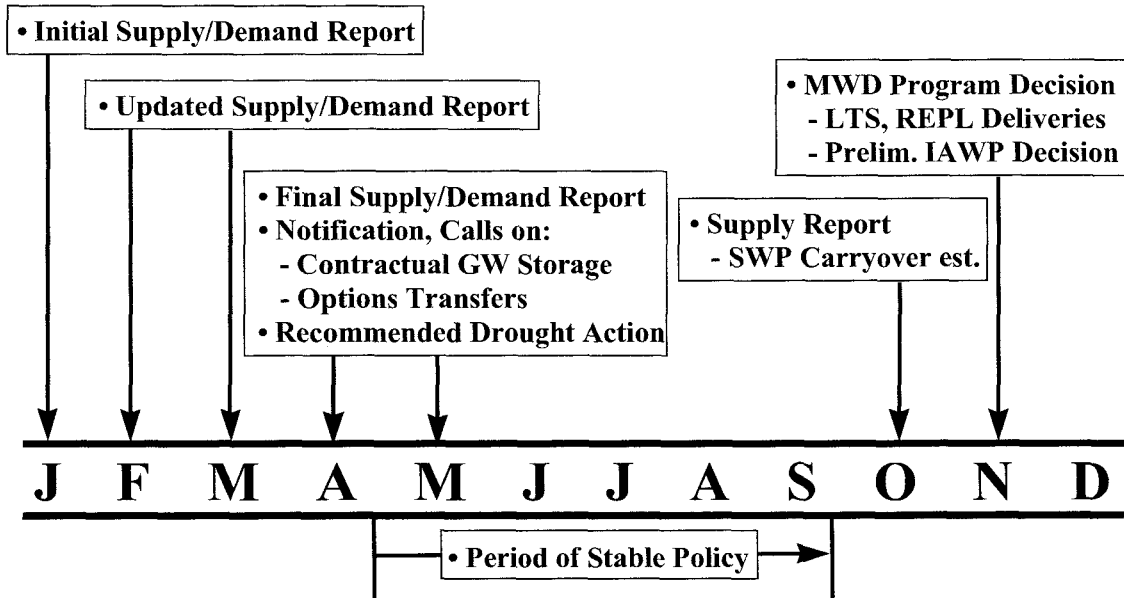


Figure 10 presents the annual schedule for actions taken in response to shortage conditions. Starting in January, an initial supply/demand report will be presented to the Metropolitan Board of Directors. SWP allocations are still only estimates in January and become more certain towards April and May. Demands for Metropolitan deliveries depend in part on how the winter hydrology develops and the condition of local supplies. These factors start to become known during the February-March period and will be reported to the Board in the Supply Report Update. By April-May, the outlook for imported supplies is known to a fairly high degree of certainty and a Final Supply Report will be produced. The May-September period will be one in which the import supply situation does not change drastically and drought policies can be implemented. Demands can be more or less than anticipated as a result of unusually hot or cool weather. At the end of summer, carryover SWP storage will be determined. October through December is a transitional period during which early assessments of available supplies for the following year will be made. During this period, Board actions would determine the management of various Metropolitan programs such as long-term seasonal (LTS) and IAWP deliveries. The following list presents major information and decision points during the year.

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Month	<u>Information/Action</u>
January	Initial Supply/Demand Reports
February, March	Updated Supply/Demand Reports
April, May	Final Supply/Demand Report Notification on Contractual GW and Options Transfer Programs Recommended Drought Actions
May-September	Stable Policy Period
October	Supply and Carryover Storage Report
November	MWD Program Decisions - LT Seasonal, Replenishment, IAWP

Figure 10. One Year of a Hypothetical Shortage - Supply and Demand Reports and Response Actions



PUBLIC OUTREACH AND CONSERVATION

Mechanisms are already in place to implement most of the water management actions and programs that are addressed in the WSDM Plan. Under the majority of supply and demand conditions, the actions of Metropolitan's Board of Directors, the General Manager, the operational activities of Metropolitan, and its member agencies would constitute all actions necessary to mitigate the shortage. Several aspects of the WSDM Plan, however, require additional attention to the administration of programs and actions. In particular, a shortage contingency requires special programs in the areas of public and governmental affairs and conservation. Metropolitan maintains an on-going public information program to encourage efficient water use. Public outreach programs are conducted at all times under both surplus and shortage conditions (see Figure 8). The actions discussed in this section constitute special actions in times of shortage.

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During shortage conditions, public outreach will play a critical role in shaping consumer response. Public information campaigns need to send clear signals if extraordinary drought conservation is to achieve needed reductions in demands. Given Metropolitan's diverse set of customers and the varying impacts that shortages can have on different consumer groups, an effective public information campaign will require a joint effort among Metropolitan and its member agencies. Under this Plan, the administration of the Public Information and Government Affairs programs will be the responsibility of a Drought Program Officer (DPO). The DPO will be responsible for integrating the various activities in these areas, coordinating efforts with Metropolitan's Board of Directors and member agencies, and designing the region-wide messages for the general public and various target audiences. Important constituencies that have been identified in the process are residential users, business interests, agricultural users, elected officials, officials of various agencies (such as the Department of Water Resources), and the media.

Many conservation programs, such as Metropolitan's ultra-low flush toilet rebate program, are driven by member agency requests. Based on history, Metropolitan expects member agency requests to increase during droughts. Metropolitan is committed to increasing overall conservation program funding to meet member agency requests during droughts and attain higher levels of savings. These programs will be implemented by Metropolitan and member and local agency conservation staff. As many of the short-term conservation objectives during a shortage would be dependent upon an effective public information program, the Drought Program Officer will also be responsible for monitoring the effectiveness of the augmented conservation programs. A monthly conservation reporting process will be implemented. Quarterly estimates of regional conservation will be developed to track the progress of various actions in mitigating the shortage.

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APPENDIX A: RESOURCE AND STORAGE SIMULATION

The Water Surplus and Drought Management Plan (WSDM Plan) uses the Stages and Actions Matrix (Figure 8) as a guide for the operation of storage and transfers for the next ten years, 1999-2008. Metropolitan asserts that the investments that Metropolitan and its member agencies have made in water supply and storage, managed in a coordinated manner as presented in the WSDM Plan, will be sufficient to assure that retail firm water demands will be met 100% of the time through the year 2008. Metropolitan performed an extensive analysis of projected water demands, current and expected water supplies, along with hydrologic variations to support this assertion. Appendix A presents a summary of this analysis which includes statistical probabilities of actions under the WSDM Plan and two illustrative examples of how supply resources may be used in the future under worst-case drought events. Although the WSDM Plan is intended to be in effect through 2008, for the purposes of analysis the planning horizon was extended through 2010.

The WSDM Plan seeks to define the operational envelope for the Metropolitan system into the near future. Although the WSDM Plan only looks out ten years, it nonetheless involves the operation of some storage and water transfer projects that have not yet become fully operational. This makes the estimation of storage and transfers operations difficult. Compounding this problem is the lack of certainty around future demands, economic conditions, or even the weather over the next ten years. To manage these uncertainties, Metropolitan has developed a computer based simulation model called the Integrated Resources Planning Simulation Model or IRPSIM.

IRPSIM uses a modeling method known as sequentially indexed monte-carlo simulation. Simply put, the model looks at projected regional retail demand and supplies of water over the next twelve years and adjusts each, up or down, based on an assumed pattern of future weather. For instance, if Metropolitan expected the weather over the next twelve years (1999-2010) to be the same as the last twelve years (1987-1998), then IRPSIM would adjust the projected 1999 demands and supplies based on the historical 1987 hydrology, and adjust the projected 2000 demands and supplies using the historical 1988 hydrology, and so on. One obvious drawback to this approach is that Metropolitan does not know what future weather will be. Therefore, Metropolitan runs the models over and over again until all recorded hydrologies, 70 in all, have been tried. In this way, Metropolitan can look at probabilistic results of being in shortage year by year through 2010.

Although the projections of water supplies used in this analysis required certain assumptions to be made, they were based on most likely or probable outcomes. In most cases, projected water supplies represented projects that are currently operational, under construction, or in the final stages of negotiations. The following represents a summary of these assumptions:

- Local recycling and groundwater recovery: assumes currently operational projects with expected increases in supply yield as demand increases
- Conjunctive use groundwater storage: assumes Las Posas (under final stages of construction) and implementation of similar programs which are under negotiation (such as Raymond, Orange, and Chino Basins)
- Semitropic and Arvin-Edison storage: assumes use of both programs which are operational with water already stored

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- Eastside Reservoir Project: assumes use of non-emergency storage from the reservoir currently under construction and an initial fill projected to start in approximately one year
- The Monterey Reservoirs: assumes use of State Water Project terminal reservoir supplies, Castaic and Perris Reservoirs, per the Monterey Amendment
- Colorado River Aqueduct: assumes a full aqueduct through the implementation of the California Plan (including lining of All American and Coachella canals, SD/IID water transfer/exchange, conjunctive use off-aqueduct storage, and river re-operations)
- State Water Project: assumes continuance of Bay-Delta Accord (with only current facilities)

One way of viewing the result of Metropolitan's WSDM Plan analyses is by summary statistics. Table A- 1 gives the probabilities of shortage actions over the next twelve years.

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Table A-1. Probability of Shortage Stage¹ by Forecast Year

1999	13%	13%	11%	7%	3%	0%	0%
2000	13%	13%	11%	9%	3%	0%	0%
2001	19%	17%	13%	10%	6%	0%	0%
2002	19%	17%	13%	10%	4%	1%	0%
2003	19%	19%	14%	11%	4%	0%	0%
2004	20%	19%	16%	13%	4%	0%	0%
2005	21%	19%	17%	13%	6%	0%	0%
2006	21%	19%	19%	13%	6%	0%	0%
2007	23%	20%	19%	13%	4%	0%	0%
2008	26%	21%	19%	16%	6%	1%	0%
2009	26%	24%	19%	17%	6%	1%	0%
2010	26%	26%	19%	19%	6%	1%	0%

Table A-1 can be read in one of two ways, by column or row. The Stage 7 column indicates that there are no historical weather conditions that require allocation over the next twelve years. This is the single most important conclusion of the WSDM Plan analysis. The Stage 6 column indicates that only in a few years--2002, and 2008 through 2010--would Metropolitan need have a need for option or spot transfer water. Read by row, Table A-1 indicates that in the year 2008 there is a 21% likelihood of taking some water from the Eastside Reservoir Project, a 19% likelihood of taking water from Semitropic or Arvin-Edison storage programs, a 17% likelihood of interrupting long-term seasonal and replenishment deliveries for two years, and so on. It should be noted that these probabilities represent the best current estimates by Metropolitan, but are based entirely on historical weather conditions. Conditions that fall outside of historical ranges, either in duration or severity, are not represented by this data.

Another way to view the WSDM Plan analysis is by observing the operation of a single hydrology. Table A-2 provides an example of resource operations for the period 1999 through 2010 assuming a repeat of the 1923 through 1934 hydrology. The table provides descriptions of hydrologic conditions to aid in understanding the example.

¹ Stage 1 consists of withdrawal from the Eastside Reservoir Project. Stage 2 consists of the above plus withdrawals from the Semitropic and Arvin-Edison water storage and transfer projects. Stage 3 consists of the above plus an interruption of Long-Term Seasonal and Replenishment discount water. Stage 4 consists of the above plus withdrawal from contractual groundwater programs and the Monterey Reservoirs. Stage 5 consists of the above plus a call for extraordinary drought conservation and interruption in agricultural discount water. Stage 6 consists of the above plus calls on option contract water and purchases of water on the open market. Stage 7 consists of the above plus allocation of remaining shortages. For a full description of stages and action, see Surplus and Shortage Resource Actions section and Figure 8 above.

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For instance, 1923 was considered to be a dry year in southern California (defined as less than 9 inches of rain at the Los Angeles Civic Center) and is categorized by the California Department of Water Resources (DWR) as a below normal year for State Water Project deliveries. In this example, 1923 weather increases southern California's demand for water and decreases imported State Water Project supplies. The Colorado River Aqueduct supplies are influenced by yet another hydrologic indicator, but for the next ten year Metropolitan expects the Aqueduct to be full.

Table A-2 indicates that retail water demands in 1999, assuming a 1923 hydrology, will be 3.979 million acre-feet (maf). Adding expected long-term seasonal and replenishment demands of 0.165 maf gives a regional total water demand of 4.144 maf. After subtracting local supplies of 2.192 maf, which are also adjusted for 1923 weather, Metropolitan expects to see a demand of 1.952 maf. In 1999, under a 1923 hydrology, Metropolitan expects to see 2.954 maf of supply. This is enough to meet all expected demands and put over 1.0 maf into storage.

The 1923 through 1934 hydrology is significant because it starts and ends dry with little recovery in the middle. However, even in these most adverse conditions the actions proposed by the WSDM Plan provides the region with enough water to avoid shortage allocation. Again the most important result of this example is read from the last line, which indicates that there are no remaining shortages through 2008

Table A-3 provides a second example of using the 1980 through 1991 hydrology. This hydrology contains the most significant drought in recent record, ending with a critically dry year on the State Water Project that is expected to yield a mere 0.389 maf. However, even under these conditions the WSDM Plan provides a method to avoid firm water allocation.

The analyses performed using the prioritized action of the Stages and Actions Matrix support Metropolitan's assertion that water supply reliability can be attained through the use of regional storage, interruption of discounted water supplies, and transfers. And, through the implementation of the WSDM Plan, Metropolitan does not expect to allocate firm water deliveries for at least the next ten years.

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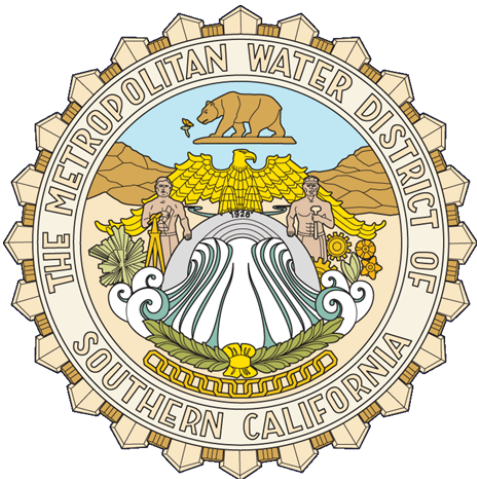
Table A-2. A Simulation of Water Supplies and Demands 1923-1934 Hydrology

Forecast Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Hydrology Year	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Hydrologic Conditions												
Southern California Year Type	Dry	Dry	Dry	Wet	Wet	Dry	Dry	Normal	Wet	Normal	Wet	Normal
Sacramento River Index D1630 Year Type	Below Normal	Critically Dry	Dry	Dry	Wet	Above Normal	Critically Dry	Dry	Critically Dry	Dry	Critically Dry	Critically Dry
Demands												
Retail Demand	3.979	4.152	4.149	4,018	4.005	4.249	4.237	4.223	4.280	4.280	4.407	4.500
Long-term/Replenishment Demand	0.165	0.182	0.226	0.188	0.149	0.176	0,213	0.203	0.164	0.175	0.141	0.163
Total Demand	4.144	4.334	4.375	4.205	4.154	4.425	4.450	4.426	4,443	4.455	4.548	4,663
Local Supplies												
Groundwater Production	1.529	1.545	1.537	1.288	1.299	1.575	1.568	1.434	1.307	1.439	1.318	1.454
L. A. Aqueduct Production	0.383	0,287	0.304	0.316	0.392	0.302	0,245	0.235	0.174	0,324	0.251	0.220
Recycling Production	0.152	0.162	0.174	0.186	0,197	0.207	0.217	0.230	0,242	0.254	0.266	0.277
Surface Production	0,128	0,089	0,076	0.116	0.154	0.147	0.108	0.094	0,133	0,136	0.151	0.145
Total Local Supply	2,192	2.084	2.091	1.905	2,043	2.231	2,139	1.993	1.856	2.153	1.986	2,097
Total MWD Demand	1.952	2.250	2,284	2,300	2.112	2.194	2.311	2.433	2.587	2.302	2.562	2.566
MWD Supply Sources												
Colorado River Aqueduct Supply	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.200
State Water Project Supply	1.754	0.812	0.783	1.280	1.678	1.438	0,764	1.163	0,589	0.843	0.559	0.620
MWD Cyclic Groundwater Deliveries	0.000	0.060	0.060	0.000	0.000	0,000	0.060	0,060	0.060	0.059	0.000	0.000
Eastside Reservoir	0.000	0.066	0.058	0.000	0.000	0.000	0,060	0.010	0.425	0.023	0.219	0.041
Arvin/Semitropic Groundwater Storage	0.000	0.111	0.115	0,000	0.000	0,000	0,119	0,000	0.115	0.117	0.059	0.041
Longterm Seasonal Demand Cuts	0.000	0,000	0,166	0.000	0.000	0.000	0.153	0.000	0.104	0,116	0.000	0.000
Cyclic Benefits	0.000	0.000	0.000	0.000	0.000	0.000	0,000	0.000	0.000	0.000	0.060	0.060
Contractual Groundwater Storage	0.000	0.000	0.000	0,000	0.000	0.000	0.000	0.000	0.095	0.000	0.095	0.084
DWR Reservoirs (Monterey Agreement)	0.000	0.000	0,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.131	0.088
Voluntary Conservation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.206	0.210
MWD Ag Cuts	0.000	0.000	0.000	0.000	0.000	0,000	0.000	0.000	0.000	0.000	0.033	0.031
Central Valley Transfers	0.000	0.000	0,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.193
Storage Puts	1.003	0.000	0.097	0.180	0.549	0.438	0.045	0.000	0,000	0.056	0.000	0.000
Remaining Shortage	0,000	0,000	0.000	0,000	0.000	0.000	0.000	0,000	0.000	0.000	0.000	0.000

Water Supply Allocation Plan



December 2014 Revision



Metropolitan Water District of
Southern California

Inside cover: Photo courtesy of Cora Edmonds/ArtXchange for the Healing Planet

Water Supply Allocation Plan

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List of Acronyms

AF – Acre-feet
CUP – Groundwater Conjunctive Use Program
CWD – County Water District
DWP – Drought Management Plan
IAWP – Interim Agricultural Water Program Reductions and Rates
IICP – Incremental Interruption and Conservation Plan
IRP – Integrated Resources Plan
GPCD – Gallons per Capita per Day
M&I – Municipal and Industrial
MWD – Municipal Water District
RUWMP – Regional Urban Water Management Plan
SWP – State Water Project
WSAP – Water Supply Allocation Plan
WSDM – Water Surplus and Drought Management

Definitions

Extraordinary Supplies- Deliberate actions taken by member agencies to augment the total regional water supply only when Metropolitan is allocating supplies through the WSAP.

Groundwater Recovery- The extraction and treatment of groundwater making it usable for a variety of applications by removing high levels of chemicals and/or salts.

In-lieu deliveries- Metropolitan-supplied water bought to replace water that would otherwise be pumped from the groundwater basins.

Seawater Barrier- The injection of fresh water into wells along the coast to protect coastal groundwater basins from seawater intrusion. The injected fresh water acts like a wall, blocking seawater that would otherwise seep into groundwater basins as a result of pumping.

Section 1: Introduction

Calendar Year 2007 introduced a number of water supply challenges for the Metropolitan Water District of Southern California (Metropolitan) and its service area. Critically dry conditions affected all of Metropolitan's main supply sources. In addition, a ruling in the Federal Courts in August 2007 provided protective measures for the Delta Smelt in the Sacramento-San Joaquin River Delta which brought uncertainty about future pumping operations from the State Water Project. This uncertainty, along with the impacts of dry conditions, raised the possibility that Metropolitan would not have access to the supplies necessary to meet total firm demands¹ and would have to allocate shortages in supplies to the member agencies.²

In preparing for this possibility, Metropolitan staff worked jointly with the member agency managers and staff to develop a Water Supply Allocation Plan (WSAP). The WSAP includes the specific formulas for calculating member agency supply allocations and the key implementation elements needed for administering an allocation should a shortage be declared. The WSAP became the foundation for the urban water shortage contingency analysis required under Water Code Section 10632 and was incorporated into Metropolitan's 2010 Regional Urban Water Management Plan (RUWMP).

Section 2: Development Process

Member Agency Input

Between July 2007 and February 2008, Metropolitan staff worked cooperatively with the member agencies through a series of member agency manager meetings and workgroups to develop a formula and implementation plan to allocate supplies in case of shortage. These workgroups provided an arena for in-depth discussion of the objectives, mechanics, and policy aspects of the different parts of the WSAP. Metropolitan staff also met individually with fifteen member agencies for detailed discussions of the elements of the recommended proposal. Metropolitan introduced the elements of the proposal to many nonmember retail agencies in its service area by providing presentations and feedback to a number of member agency caucuses, working groups, and governing boards. The discussions, suggestions, and comments expressed by the member agencies during this process contributed significantly to the development of this WSAP.

Board of Directors Input

Throughout the development process Metropolitan's Board of Directors was provided with regular progress reports on the status of this WSAP, with oral reports in September, October, and December 2007, an Information Board of Directors Letter with a draft of the WSAP in November 2007, and a Board of Directors Report with staff recommendations in January 2008. Based on Water Planning and Stewardship Committee discussion of the staff recommendations and further review of the report by

¹ Firm demands are also referred to as uninterruptable demands; likewise non-firm demands are also called interruptible demands.

² See Appendix A: Metropolitan Member Agencies.

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the member agencies, refinements were incorporated into the WSAP for final consideration and action in February 2008. The WSAP was adopted at the February 12, 2008 Board of Directors meeting.³

The 12-Month Review Process

When the Board adopted the WSAP in February 2008, the decision specified a formal revisit of the WSAP commencing in February 2010. The scheduled revisit was meant to ensure the opportunity for Metropolitan staff and the member agencies to re-evaluate the WSAP and recommend appropriate changes to the Board of Directors.

In April 2009, the Board voted to implement the WSAP for the first time. The WSAP was implemented at a Level 2 allocation level, and was in effect for the period of July 1, 2009, through June 30, 2010. Since implementation of the 2009/10 WSAP began in July 2009, a number of practical issues relating to the WSAP were identified by staff and the member agencies for further consideration during the 12-Month Review Process. Metropolitan staff engaged with the member agencies in a formal review of the WSAP from January through May 2010. During the review process the member agency managers participated in a series of six workshops. The focus of these workshops was to facilitate in-depth discussion on WSAP-related issues and lessons learned since the WSAP was implemented in July 2009. The proposed adjustments to the WSAP developed during the review process were adopted at the August 17, 2010 Board of Directors meeting⁴.

The Three-Year Review Process

The Board action to adopt of the WSAP in February 2008 also directed staff to review the WSAP formula three years after the February 2008 adoption. February 2011 marked the three-year anniversary since the adoption of the WSAP. Similar to the 12-Month Review Process, the purpose of the Three-Year Review Process was to provide an opportunity for Metropolitan staff and the member agencies to re-evaluate the plan and recommend appropriate changes for board consideration.

Metropolitan staff met with the member agencies in a formal review of the WSAP from February through August 2011. Staff and member agency managers participated in a series of eleven workshops. Proposed adjustments to the WSAP developed during the process were adopted at the September 13, 2011 Board of Directors meeting.⁵

³ A complete listing of member agency meetings and Board of Directors reporting activities is contained in Appendix B: Water Supply Allocation Plan Process Timeline.

⁴ A complete listing of member agency meetings and Board of Directors reporting activities is contained in Appendix C: 12-Month Review Process and Results.

⁵ A complete listing of member agency meetings and Board of Directors reporting activities is contained in Appendix D: Three-Year Review Process and Results.

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2014 Review Process

In 2014, California was challenged with a third year of severe drought.⁶ Metropolitan managed its operations through significant use of regional storage reserves. It was anticipated that end of year total dry storage reserves would approach levels similar to those when the WSAP was last implemented in 2009.

Following discussion at the June 2014 Water Planning and Stewardship Committee, Metropolitan staff convened a member agency working group to revisit the WSAP. The purpose of the working group was to collaborate with member agencies to identify potential revisions to the WSAP in preparation for mandatory supply allocations in 2015. There were eight working group meetings and three discussions at the monthly Member Agency Managers' Meetings.

The process focused on three areas of the WSAP: the Base Period, the Allocation Formula, and the Allocation enforcement mechanism. Proposed adjustments to the WSAP developed during the process were adopted at the December 9, 2014 Board of Directors meeting.⁷

⁶ The Governor of California proclaimed a State of Emergency due to drought conditions on January 17, 2014 and, on April 24, 2014 issued an Executive Order proclaiming a continued State of Emergency noting drought conditions have persisted for the last three years and authorizing adoption and implementation of emergency regulations.

⁷ A complete listing of member agency meetings and Board of Directors reporting activities is contained in Appendix E: 2014 Review Process and Results.

Section 3: Review of Historical Shortage Plans⁸

The WSAP incorporates key features and principles from the following historical shortage allocation plans but will supersede them as the primary and overarching decision tool for water shortage allocation.

Interruptible Water Service Program

As part of the new rate structure implemented in 1981, Metropolitan's Board of Directors adopted the Interruptible Water Service Program (Interruptible Program) which was designed to address short-term shortages of imported supplies. Under the Interruptible Program, Metropolitan delivered water for particular types of use to its member agencies at a discounted rate. In return for this discounted rate, Metropolitan reserved the right to interrupt delivery of this Interruptible Program water so that available supplies could be used to meet municipal and industrial demands.

Incremental Interruption and Conservation Plan

The ability to interrupt specific deliveries was an important element of Metropolitan's strategy for addressing shortage conditions when it adopted the Incremental Interruption and Conservation Plan (IICP) in December 1990. Reductions in IICP deliveries were used in concert with specific objectives for conservation savings to meet needs during shortages. The IICP reduced Interruptible Service deliveries in stages and provided a pricing incentive program to insure that reasonable conservation measures were implemented.

1995 Drought Management Plan

The 1995 Drought Management Plan (DMP) was a water management and allocation strategy designed to match supply and demand in the event that available imported water supplies were less than projected demands. Adopted by the Metropolitan Board of Directors in November 1994, the 1995 DMP was a short-term plan designed to provide for the 1995 calendar year only. The primary objective of the 1995 DMP was to identify methods to avoid implementation of mandatory reductions. The 1995 DMP included various phases and a step-by-step strategy for evaluating supply and demand conditions and utilizing Metropolitan's available options, with the final phase being implementation of the revised IICP.

1999 Water Surplus and Drought Management Plan

Metropolitan staff began work on the Water Surplus and Drought Management (WSDM) Plan in March 1997 as part of the Integrated Water Resources Plan (IRP), which was adopted by Metropolitan's Board of Directors in January 1996. The IRP established regional water resource targets, identifying the need for developing resource management policy to guide annual operations. The WSDM Plan defined Metropolitan's resource management policy by establishing priorities for the use of regional resources to achieve the region's reliability goal identified in the IRP. In April 1999, Metropolitan's Board of Directors adopted the WSDM Plan.

⁸ A summary of the key elements in the following allocation plan is found in Appendix F: Summary of Historical Shortage Plans.

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The WSDM Plan also included a set of principles and considerations for staff to address when developing specific allocation methods. The WSDM Plan stated the following guiding principle to be followed in developing any future allocation scheme:

“Metropolitan will encourage storage of water during periods of surplus and work jointly with its member agencies to minimize the impacts of water shortages on the region’s retail consumers and economy during periods of shortage.”⁹

This principle reflects a central desire for allocation methods that are both equitable and minimize regional hardship to retail water consumers. The specific considerations postulated by the WSDM Plan to accomplish this principle include the following:¹⁰

- The impact on retail customers and the economy
- Allowance for population and growth
- Change and/or loss of local supply
- Reclamation/Recycling
- Conservation
- Investment in local resources
- Participation in Metropolitan’s interruptible programs
- Investment in Metropolitan’s facilities.

Section 4: Water Supply Allocation Formula

Based on the guiding principle and considerations described in the WSDM Plan, Metropolitan staff and the member agencies developed a specific formula for allocating water supplies in times of shortage. The formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level, and takes into account growth, local investments, changes in supply conditions and the demand hardening¹¹ aspects of non-potable recycled water use and the implementation of conservation savings programs. The formula, described below, is calculated in three steps: base period calculations, allocation year calculations, and supply allocation calculations.¹² The first two steps involve standard computations, while the third section contains specific methodology developed for this WSAP.

Base Period Calculations

The first step in calculating a water supply allocation is to estimate water supply and demand using a historical base period with established water supply and delivery data. The base period for each of the different categories of demand and supply is calculated using data from the fiscal years (July through June) ending 2013 and 2014.¹³

⁹ WSDM Plan, p. 1. Emphasis added.

¹⁰ WSDM Plan, p. 2.

¹¹ Demand hardening is the effect that occurs when all low-cost methods of decreasing overall water demand have been applied (e.g., low-flow toilets, water recycling) and the remaining options to further decrease demand become increasingly expensive and difficult to implement.

¹² Detailed operational elements of these objectives and a numerical example are discussed in Appendix G: Water Supply Allocation Formula Example.

¹³ Exceptions to this methodology are noted in the descriptions of base period calculations.

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Base Period Local Supplies: Local supplies for the base period are calculated using a two-year average of groundwater production, groundwater recovery, Los Angeles Aqueduct supply, surface water production, and other imported supplies. Non-potable recycling production is not included in this calculation due to its demand hardening effect.

Base Period Wholesale Demands: Demands on Metropolitan for the base period are calculated using a two-year average of firm purchases and in-lieu deliveries to long-term groundwater replenishment, conjunctive use, cyclic, and supplemental storage programs.

Base Period Retail Demands: Total retail-level municipal and industrial (M&I) demands for the base period are calculated by adding the Base Period Wholesale Demands and the Base Period Local Supplies. This estimates an average total demand for water from each agency.

Base Period Mandatory Conservation Credit: Metropolitan allows a consultation process that enables member agencies to describe mandatory water use restrictions and/or rationing restrictions that were in place within their service areas during the Base Period. Restrictions may vary among agencies but include restricted water uses, fines, and water budget or penalty based rate structures that are enacted by the governing body of the member agency or retail agency. Following the consultation process, Metropolitan staff will recommend adjustments based on evidence of reduced GPCD. To qualify for an adjustment, GPCD reductions would have to be observed that are beyond those expected from the agency's ongoing conservation efforts and trends.

Allocation Year Calculations

The next step in calculating the water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population or economic growth and changes in local supplies.

Allocation Year Retail Demands: Total retail M&I demands for the allocation year are calculated by adjusting the Base Period Retail Demands for baseline inflation and growth.

Baseline Inflation Adjustment: Baseline inflation occurs when non-potable recycling or conservation is developed after the Base Period. The development of these supplies reduces actual demands for water in the Allocation Year. Because non-potable-recycling and conservation are excluded from the WSAP formula, the actual need for water in the Allocation year is overestimated. The Baseline Inflation Adjustment removes increases in non-potable recycling and conservation annually from the Base Period forward to better reflect the true need for water in the Allocation Year.

Growth Adjustment: The growth adjustment is calculated using the estimated actual annual rate of population growth at the county level, as generated by the California Department of Finance, whenever possible. For years without complete data, the growth rate is calculated using an average of the three most recent years available. Growth will be allocated based on historical per capita water use during the Base Period, with a cap equal to Metropolitan's IRP Target for Water Use Efficiency. For

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allocation years up to and including 2014, the cap will be 163 GPCD, and for allocation years 2015-2020 the cap will reduce linearly from 163 to 145 GPCD. On an appeals basis, member agencies may request that their adjustment be calculated using member agency level population growth. A weighted combination of actual population and actual employment growth rates may also be requested.

Allocation Year Local Supplies: Allocation Year Local Supplies include groundwater production, groundwater recovery, Los Angeles Aqueduct supply, surface water production, seawater desalination, and other imported supplies. Estimates of Allocation Year Local Supplies are provided by the member agencies upon implementation of a WSAP. If estimates are not provided, Metropolitan will use the sum of the Base Period Local Supplies and Base Period In-Lieu Deliveries as a default. Agencies may provide updated estimates at any time during the Allocation Year to more accurately reflect their demand for Metropolitan supplies.

Extraordinary Supplies: Under the WSAP formula, local supply production in the Allocation Year can either be designated as a “planned” supply, or as an “extraordinary” supply.¹⁴ This is an important designation for a member agency because the two types of supplies are accounted for differently in the WSAP formula. Local supplies classified at Extraordinary Supply are only partially included (scaled depending on the WSAP Level) as local supplies. This has the effect of providing significantly more benefit to the member agency in terms of total water supply that is available to the retail customer.¹⁵

Allocation Year Wholesale Demands: Demands on Metropolitan for the allocation year are calculated by subtracting the Allocation Year Local Supplies from the Allocation Year Retail Demands.

Water Supply Allocation Calculations

The final step is calculating the water supply allocation for each member agency based on the allocation year water needs identified in Step 2. The following table displays the elements that form the basis for calculating the supply allocation. Each element and its application in the allocation formula are discussed below.

(a) Regional Shortage Level	(b) Wholesale Minimum Percentage	(c) Maximum Retail Impact Adjustment Percentage
1	92.5%	2.5%
2	85.0%	5.0%
3	77.5%	7.5%
4	70.0%	10.0%

¹⁴ Appendix H: Board Policy Principles on Determining the Status of Extraordinary Supply lists the key Board principles used in determining if a supply qualifies as an Extraordinary Supply.

¹⁵ See Appendix G: Water Supply Allocation Formula Example for specific allocation formulae.

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5	62.5%	12.5%
6	55.0%	15.0%
7	47.5%	17.5%
8	40.0%	20.0%
9	32.5%	22.5%
10	25.0%	25.0%

Regional Shortage Level: The WSAP formula allocates shortages of Metropolitan supplies over ten levels.

Wholesale Minimum Allocation: The Wholesale Minimum Allocation ensures a minimum level of Metropolitan supplied wholesale water service to each member agency.

Maximum Retail Impact Adjustment: The purpose of this adjustment is to ensure that agencies with a high level of dependence on Metropolitan do not experience disparate shortages at the retail level compared to other agencies when faced with a reduction in wholesale water supplies. The Maximum Retail Impact Percentage is prorated on a linear scale based on each member agency's dependence on Metropolitan at the retail level. This percentage is then multiplied by the agency's Allocation Year Wholesale Demand to determine an additional allocation.

Conservation Demand Hardening Credit: The Conservation Demand Hardening Credit addresses the increased difficulty in achieving additional water savings at the retail level that comes as a result of successful implementation of water conserving devices and conservation savings programs. To estimate conservation savings, each member agency will establish a historical baseline Gallons Per Person Per Day (GPCD) calculated in a manner consistent with California Senate Bill SBx7-7.¹⁶ Reductions from the baseline GPCD to the Allocation Year are used to calculate the equivalent conservation savings in acre-feet. The Conservation Demand Hardening Credit is based on an initial 10 percent of the GPCD-based Conservation savings plus an additional 5 percent for each level of Regional Shortage set by the Board during implementation of the WSAP. The credit will also be adjusted for:

- The overall percentage reduction in retail water demand
- The member agency's dependence on Metropolitan

The credit is calculated using the following formula:

$$\text{Conservation Demand Hardening Credit} = \text{Conservation Savings} \times (10\% + \text{Regional Shortage Level Percentage}) \times (1 + ((\text{Baseline GPCD} - \text{Allocation Year GPCD}) / \text{Baseline GPCD})) \times \text{Dependence on MWD Percentage}$$

¹⁶ California Department of Water Resources, February 2011, "Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use. Available at: http://www.water.ca.gov/wateruseefficiency/sb7/docs/MethodologiesCalculatingBaseline_Final_03_01_2011.pdf

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This provides a base demand hardening credit equal to 10 percent of conservation savings and increases the credit as deeper shortages occur, which is when conservation demand hardening has a bigger impact on the retail consumer. The credit also increases based on the percentage of an agency's demand that was reduced through conservation. This accounts for increased hardening that occurs as increasing amounts of conservation are implemented. Lastly, the credit is scaled to the member agency's dependence on Metropolitan to ensure that credits are being applied to the proportion of water demand that is being affected by reductions in Metropolitan supply.

Minimum Per-Capita Water Use Credit: This adjustment creates a minimum per capita water use threshold. Member agencies' retail-level water use is compared to two different thresholds. The proposed minimum thresholds are based upon compliance guidelines established under Senate Bill X7-7.

- 100 GPCD total water use
- 55 GPCD residential water use

Agencies that fall below either threshold under the WSAP will receive additional allocation from Metropolitan to bring them up to the minimum GPCD water use level. If an agency qualifies under both thresholds, the one resulting in the maximum allocation adjustment will be given.¹⁷ To qualify for this credit, member agencies must provide documentation of the total agency level population and the percent of retail level demands that are residential; no appeal is necessary.

Total WSAP Allocation: The allocation to an agency for its M&I retail demand is the sum of the Wholesale Minimum Allocation, the Retail Impact Adjustment, the Conservation Demand Hardening Credit, and the Minimum Per-Capita Water Use Credit.¹⁸

Total Metropolitan Supply Allocations: In addition to the WSAP Allocation described above, agencies may also receive separate allocations of supplies for and seawater barrier and groundwater replenishment demands. Allocations of supplies to meet seawater barrier demands are to be determined by the Board of Directors independently but in conjunction with the WSAP. Separating the seawater barrier allocation from the WSAP allocation allows the Board to consider actual barrier requirements in the Allocation Year and address the demand hardening issues associated with cutting seawater barrier deliveries. According to the principles outlined for allocating seawater barrier demands, allocations should be no deeper than the WSAP Wholesale Minimum Percentage implemented at that time.

The WSAP also provides a limited allocation for drought-impacted groundwater basins based on the following framework:¹⁹

¹⁷ See Appendix J: Per Capita Water Use Minimum Example for specific minimum per-capita water use credit formulae and example.

¹⁸ See Appendix G: Water Supply Allocation Formula Example for specific allocation formulae.

¹⁹ See Appendix L: Groundwater Replenishment Allocation for more information.

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1. Metropolitan staff will hold a consultation with the requesting member agency and the appropriate groundwater basin manager to document whether the basin is in one of the following conditions:
 - a. Groundwater basin overdraft conditions that will result in water levels being outside normal operating ranges during the WSAP allocation period; or
 - b. Violations of groundwater basin water quality and/or regulatory parameters that would occur without imported deliveries
2. An allocation is provided based on the verified need for groundwater replenishment. The allocation would start with a member agency's ten-year average purchases of imported groundwater replenishment supplies (excluding years in which deliveries were curtailed). The amount would then be reduced by the declared WSAP Regional Shortage Level.

Section 5: WSAP Implementation

The WSAP will take effect if a regional shortage is declared by the Board of Directors. The following implementation elements are necessary for administering the WSAP during a time of shortage. These elements cover the processes needed to declare a regional shortage level as well as provide information pertaining to the allocation surcharge.

Allocation Period

The allocation period covers twelve consecutive months, from July of a given year through the following June. This period was selected to minimize the impacts of varying State Water Project (SWP) allocations and to provide member agencies with sufficient time to implement their outreach strategies and rate modifications.

Setting the Regional Shortage Level

Metropolitan staff is responsible for recommending a Regional Shortage Level for the Board of Directors' consideration. The recommendation shall be based on water supply availability, and the implementation of Metropolitan's water management actions as outlined in the WSDM Plan.

Metropolitan staff will keep the Board of Directors apprised to the status of water supply conditions and management actions through monthly reports to the Water Planning and Stewardship Committee. To further facilitate staff in the development of a recommended regional shortage level, member agency requests for local supply adjustments shall be submitted by April 1st.

Metropolitan's Board of Directors, through the Water Planning and Stewardship Committee, is responsible for approving the final Regional Shortage Level at its April meeting. By the April meeting, the majority of the winter snowfall accumulation period will have passed and will allow staff to make an allocation based on more stable water supply estimates. Barring unforeseen large-scale circumstances, the Regional Shortage Level will be set for the entire allocation period, which will provide the member agencies an established water supply level for their planning.

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Exit Strategy

While the Board ultimately has discretion to implement or lift and allocation at any point of time during the year; the WSAP includes a two-part exit strategy that is meant to streamline the WSAP implementation decision making process.

- If the Board decides to implement the WSAP, then any current WSAP allocation would remain in place until the end of the Allocation Year.
- If the Board decides not to implement the WSAP, then any current WSAP allocation would be terminated concurrent with the Board decision.

Allocation Appeals Process

An appeals process is necessary for the administration of any changes or corrections to an agency's allocation. Metropolitan's General Manager will designate, subsequent to a declaration of an allocation by the Board of Directors, an Appeals Liaison as the official point of contact for all information and inquiries regarding appeals. All member agency General Managers will be notified in writing of the name and contact information of the Appeals Liaison. Only appeals that are made through the Appeals Liaison and in accordance with the provisions outlined in Appendix N: Allocation Appeals Process will be evaluated. Basis for appeals claims can include but are not limited to:

- Adjusting erroneous historical data used in base period calculations
- Adjusting for population growth rates
- Determining if a local supply qualifies as Extraordinary Supply

Additional details and a checklist for the appeals process are available in Appendix N: Allocation Appeals Process and Appendix O: Appeals Submittal Checklist.

Allocation Surcharge

Member agency allocations are supported by an Allocation Surcharge. The Allocation Surcharge is charged to water use above the Member Agency allocation and is charged in addition to Metropolitan's standard rates for water service. Allocation Surcharges will only be assessed to the extent that an agency's total annual usage exceeds its total annual allocation. Any revenues collected through the Allocation Surcharge will be applied towards Metropolitan's Water Management Fund, which is used to in part to fund expenditures in dry-year conservation. No billing or assessment of allocation surcharges rates will take place until the end of the twelve-month allocation period.

Allocation Surcharge: The application of the Allocation Surcharge structure is a two tier structure that provides a lower level of Allocation Surcharge for minor overuse of allocations and a higher level of Allocation Surcharge for major overuse of allocations. The structure and applicable Allocation Surcharges are listed in Table 2.

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Table 2: Allocation Surcharge			
Water Use	Base Water Rate ²⁰	Allocation Surcharge ²¹	Total Rate
100% of Allocation	Tier 1	0	Tier 1
Between 100% and 115%	Tier 1	\$1,480	Tier 1 + (\$1,480)
Greater than 115%	Tier 1	\$2,960	Tier 1 + (\$2,960)

Qualifying Income-Based Rate Allocation Surcharge Adjustment:²² Any Allocation Surcharges incurred by a member agency under the WSAP will be adjusted to reflect the extent to which retail customers within a member agency’s service area are served under a “lifeline” or similar qualified discounted rate program based on income or ability to pay (“Income-Based Rate”).

Any member agency who is assessed Allocation Surcharges under the WSAP may submit an acre-foot equivalent of water used by retail customers served under a qualifying Income-Based Rate.²³ This amount of water use would be multiplied by the percentage of retail-level reduction in allocation year demand necessary for that member agency to avoid exceeding its WSAP allocation. The monetary amounts resulting from these acre feet are subtracted from the total monetary amounts incurred by an agency for exceeding its allocation. In the case that the monetary amounts associated with the Income-Based Rate are greater than the total Allocation Surcharges an agency incurs, no Allocation Surcharges will be incurred. The end result of this adjustment is that the member agency will not be subject to Allocation Surcharges for the use of water by their retail customers served under a qualifying Income-Based Rate.

Growth Rate Allocation Surcharge Adjustment: In recognition of member agency differences in geography and climate, a Growth Rate Allocation Surcharge Adjustment will be given to any agency that exceeds its WSAP Allocation. The Allocation Surcharge reduction will be based on the difference in acre-feet between the Growth Adjustment applied at Metropolitan’s IRP planning goal rate, and the greater of the following:

- The IRP planning goal rate adjusted for the member agency’s ETo, or
- The member agency’s certified and documented 20x2020 targeted GPCD

If both of these alternatives result in a lower growth adjustment than the IRP planning goal, no Allocation Surcharge reduction will be made.

²⁰ The base water rate shall be the applicable water rate for the water being purchased. In most cases, it will be the Tier 1 rate (plus Treatment Surcharge for treated water deliveries). However, it is possible that the water being purchased would be in the amount that would put an agency beyond its Tier 1 limit. In that case, the base water rate will be the Tier 2 rate (plus Treatment Surcharge for treated water deliveries).

²¹ Allocation Surcharge is applied to water use in excess of an agency’s WSAP allocation.

²² See Appendix K: Qualifying Income-Based Rate Allocation Surcharge Adjustment Example for specific penalty adjustment formulae and example.

²³ Appropriate documentation and certification will be required.

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Tracking and Reporting

Subsequent to a declared regional shortage by the Board of Directors, Metropolitan staff will produce monthly reports of each member agency's water use compared to its allocations based on monthly delivery patterns to be submitted by the member agency. In order to produce these reports, member agencies are requested to submit their local supply use on a monthly basis and certify end of allocation year local supply use. These reports and comparisons are to be used for the purposes of tracking and communicating potential underage/overage of an agency's annual allocations.

Key Dates for Water Supply Allocation Implementation

The timeline for implementation of an allocation is shown in Table 3. A brief description of this timeline follows:

January to March: Water Surplus and Drought Management reporting occurs at Metropolitan's Water Planning and Stewardship Committee meetings. These reports will provide updated information on storage reserve levels and projected supply and demand conditions.

April: Member agencies report their projected local supplies for the coming allocation year. This information is incorporated in staff analysis of storage reserves and projected supply and demand conditions in order to provide an allocation recommendation to the Board. Metropolitan's Board will consider whether an allocation is needed. A declaration of an allocation will include the level of allocation to be in effect for the allocation year. Likewise, member agencies will report their projected demands and local supplies needed to meet seawater barrier and groundwater replenishment requirements for the allocation year. Metropolitan's Board will consider whether allocations for seawater barrier demands and groundwater replenishment demands are needed independently from the WSAP allocation decision.**July 1st:** If the Board declared an allocation in April, then it will be effective starting July 1st. The allocation level will be held through June 30th, barring unforeseen circumstances. Member agencies will now be requested to submit their local supply use on a monthly basis and certify end of allocation year local supply use. Local production data must be reported to Metropolitan by the end of the month following the month of use (use in July must be reported by the end of August). This information will be combined with Metropolitan sales information in order to track retail water use throughout Metropolitan's service area. Each month Metropolitan will report on member agency water sales compared to their allocation amounts.

June 30th: The allocation year is complete.

July: Member agency local supplies must be certified for the month of June, the last month of the previous allocation year.

August: Metropolitan will calculate each member agency's total potable water use based on local supply certifications and actual sales data for the allocation year of July through June. Allocation surcharges will be assessed for usage above a given member agency's final adjusted allocation (reflecting the actual local supply and imported water use that occurred in the allocation year).

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Table 3: Board Adopted Allocation Timeline						
Year	Month	Year 1 Board Decision	Year 1 Allocation Year	Year 2 Board Decision	Year 2 Allocation Year	
Year 1	January	Declaration *	Effective Period Continuous Tracking of Member Agency Local Supply and Imported Water Use	Declaration *		
	February					
	March					
	April					
	May					
	June					
	July					
	August					
	September					
	October					
	November					
	December					
Year 2	January			Assess	Declaration *	Effective Period Continuous Tracking of Member Agency Local Supply and Imported Water Use
	February					
	March					
	April					
	May					
	June					
	July					
	August					
	September					
	October					
	November					
	December					
Year 3	January				Effective Period Continuous Tracking of Member Agency Local Supply and Imported Water Use	
	February					
	March					
	April					
	May					
	June					

*Member agency projections of local supplies are due on April 1st to assist Metropolitan staff in determining the need for an allocation in the coming allocation year.

Appendix A: Metropolitan Member Agencies

Table 4: Member Agencies		
City of Anaheim	City of Glendale	City of San Marino
City of Beverly Hills	Inland Empire Utilities Agency	City of Santa Ana
City of Burbank	Las Virgenes MWD	City of Santa Monica
Calleguas MWD	City of Long Beach	Three Valleys MWD
Central Basin MWD	City of Los Angeles	City of Torrance
City of Compton	MWD of Orange County	Upper San Gabriel MWD
Eastern MWD	City of Pasadena	West Basin MWD
Foothill MWD	San Diego CWA	Western MWD
City of Fullerton	City of San Fernando	

Source: <http://mwdh2o.com/WhoWeAre/Member-Agencies/>

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Appendix B: Water Supply Allocation Plan Process Timeline

July 2007

- City of Long Beach Water Department staff briefing
- Member Agency Managers/Member Agency Workgroup meeting
- Northern Managers Group meeting
 - Foothill MWD, City of Pasadena, City of Long Beach, Calleguas MWD, City of Los Angeles, West Basin MWD, City of Burbank, Three Valleys MWD, City of Glendale, Upper San Gabriel MWD

August 2007

- Central Basin MWD staff briefing
- Eastern MWD staff briefing
- San Diego CWA staff briefing
- Member Agency Managers/Member Agency Workgroup meeting
- Western MWD staff briefing
- City of Beverly Hills staff briefing

September 2007

- Member Agency Subgroup meetings
 - MWD of Orange County, San Diego CWA, West Basin MWD, Central Basin MWD
- MWD of Orange County staff briefing
- Member Agency Workgroup meeting
- Member Agency Workgroup meeting
- MWD Board of Directors Oral Report

October 2007

- Inland Empire Utilities Agency staff briefing
- Central Basin MWD Caucus Meeting (included sub-agencies)
- Three Valleys MWD staff briefing
- MWD of Orange County staff briefing
- West Basin MWD staff briefing
- MWD Board of Directors Oral Report

November 2007

- West Basin MWD Caucus Meeting (included sub-agencies)
- West Basin Water Users Association presentation
- Walnut Valley MWD staff briefing (sub-agency of Three Valleys MWD)
- Foothill MWD Managers Meeting (included sub-agencies)
- Central Basin MWD staff briefing
- City of Claremont City Council (sub-agency of Three Valleys MWD)
- MWD Board of Directors Information Letter with Draft Proposal

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December 2007

- Northern Managers Group Meeting
- California Department of Public Health staff briefing
- City of Long Beach Water Department staff briefing
- Santa Ana River Watershed Project Authority presentation
- Foothill MWD Managers Meeting (included sub-agencies)
- MWD Board of Directors Oral Report

January 2008

- Northern Managers Group Meeting
- Water Replenishment District Board of Directors presentation
- Three Valleys MWD staff briefing
- Member Agency Conservation Coordinator's Group presentation
- Member Agency Managers/Member Agency Workgroup meeting
- City of Chino Hills presentation (sub-agency of IEUA)
- Member Agency Workgroup meeting
- Hemet/San Jacinto Exchange Club presentation
- MWD Board of Directors Report with Staff Recommended Water Supply Allocation Plan

February 2008

- MWD of Orange County and Irvine Ranch WD staff briefing
- MWD Board of Directors Action Item
- San Gabriel Valley Water Association Meeting
- Orange County Water Policy Meeting
- SCAG Water Policy Task Force Meeting

Appendix C: 12-Month Review Process and Results

January 2010

- WSAP 12-Month Review Process workshop #1
 - Focused discussion of WSAP issues identified by Metropolitan staff and by member agencies since the July 2009 implementation began.

February 2010

- WSAP 12-Month Review Process workshop #2
 - Continuation of focused discussion
- WSAP 12-Month Review Process workshop #3
 - Continuation of focused discussion

March 2010

- WSAP 12-Month Review Process workshop #4
 - Continuation of focused discussion
- MWD Board of Directors information item
 - Review of potential modifications to the WSAP definition of Extraordinary Supply

April 2010

- WSAP 12-Month Review Process workshop #5
 - Recap of identified issues and discussion of Metropolitan staff proposals for adjustments to the WSAP
- Member Agency Managers Meeting
 - Update on the 12-Month Review Process
- WSAP 12-Month Review Process workshop #6
 - Discussion of WSAP issues related to groundwater replenishment
- Member Agency Managers conference call
 - Clarification of WSAP definition for Extraordinary Supply

May 2010

- Member Agency Managers Meeting
 - Discussion of proposed Extraordinary Supply policy principles and WSAP Local Supply certification process.
- Member Agency Managers conference call
 - Discussion of proposed Extraordinary Supply policy principles

June 2010

- MWD Board of Directors action item

July 2010

- MWD Board of Directors information item
 - Review of proposed adjustments to the WSAP developed in the 12-Month Review Process

August 2010

- MWD Board of Directors action item

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Resulting Changes

- Removed references to Gains and Losses of Local Supply
 - Removed references in the WSAP to “gains and losses of local supplies” in order to better facilitate the accounting of historical base year and allocation year local supplies. This change did not affect the WSAP formula or allocations.
- Removed references to the Regional Shortage Percentage
 - Removed references to the “Regional Shortage Percentage” in the WSAP to reduce unintended confusion between calculation factors and shortage amounts. This change did not affect the WSAP formula or allocations.
- Included the Retail Impact Adjustment in all shortage levels
 - Included the Retail Impact Adjustment for Regional Shortage Levels 1 and 2. This change results in additional allocations to Metropolitan-dependent agencies under Level 1 and Level 2 regional shortages.
- Revised the accounting of Extraordinary Supplies
 - Revised the methodology for accounting of Extraordinary Supply in the WSAP formula by:
 - Removing the Base Period Local Supply threshold provision,
 - Removing the sliding-scale sharing mechanism from the formula, and
 - Including the full amount of the Extraordinary Supply in the calculation of the Retail Impact Adjustment.
- Included a Minimum Per Capita Water Use Threshold
 - Developed a minimum water use credit based on two GPCD water use thresholds. Member agencies would receive additional Metropolitan allocation for an acre-foot equivalent of GPCD below the minimum threshold. Member agency water use, on a gallon per capita per day (GPCD) basis, is compared to the following minimum thresholds established under Senate Bill X7-7 (Water Conservation Act of 2009)
 - 100 GPCD total use or
 - 55 GPCD residential indoor use
- Excluded Seawater Barrier from the WSAP Formula
 - Excluded seawater barrier supplies from the WSAP Base Period and Allocation Year local supply calculations. This allows the Board to determine allocations for seawater barrier demands separately from the WSAP.

Appendix D: Three-Year Review Process and Results

February 2011

- WSAP 3-Year Review Process workshop #1
 - Review of the existing WSAP policy formula; review of the process timeline; and focused discussion of WSAP issues identified by Metropolitan staff and by member agencies since the WSAP's adoption in February 2008

March 2011

- WSAP 3-Year Review Process workshop #2
 - Discussion of issues related to local supplies and baseline inflation due to adjustments for recycling in the WSAP formula
- WSAP 3-Year Review Process workshop #3
 - Continuation of prior workshop

April 2011

- WSAP 3-Year Review Process workshop #4
 - Discussion of issues and alternatives related to base period selection and baseline inflation in the WSAP formula
- WSAP 3-Year Review Process workshop #5
 - Discussion of recommendations to address baseline inflation in the WSAP formula

May 2011

- WSAP 3-Year Review Process workshop #6
 - Discussion of issues and alternatives for the growth adjustment methodology in the WSAP formula
- WSAP 3-Year Review Process workshop #7
 - Continuation of prior workshop

June 2011

- WSAP 3-Year Review Process workshop #8
 - Continuation of prior workshop, discussion of WSAP implementation exit strategy
- WSAP 3-Year Review Process workshop #9
 - Continuation of exit strategy discussion, discussion of baseline inflation due to conservation and related conservation demand hardening issues

July 2011

- WSAP 3-Year Review Process workshop #9
 - Continued discussion of baseline inflation and conservation issues, and discussion of sharing allocations between agencies with common local resources

August 2011

- WSAP 3-Year Review Process workshop #10
 - Discussion of WSAP Allocation Year timing vs. Tier 1-Tier 2 rate cycle timing, discussion of approaches for encouraging completion of WSAP local supply certifications
- Review WSAP at Member Agency Managers Meeting
 - Discussion of proposed WSAP adjustments to address baseline inflation issues, revise the growth adjustment methodology, and establish a WSAP exit strategy

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September 2011

- MWD Board of Directors action item

Resulting Changes

- Baseline Inflation Adjustment
 - Removed non-potable recycling and conservation from the WSAP baseline
 - Increases in recycling and conservation will be subtracted annually from the Base Period forward
 - The annual population growth rate will be applied after deducting the annual increases in recycling and conservation
 - If an agency ends up in allocation penalty, a penalty reduction will be applied in an amount equal to the Code-Based and rate Structure conservation savings that were removed from the WSAP baseline
- Changed the Growth Adjustment methodology
 - Growth will be allocated at historical per capita rate capped at the 2010 Integrated Water Resource Plan (IRP) Target for Water Use Efficiency
 - For years up to and including 2014, the cap will be 163 GPCD
 - For years 2015-2020, the cap will reduce linearly from 163 to 145 GPCD
 - If an agency exceeds its allocation, a penalty reduction will be applied based on either:
 - The differential Evapotranspiration (ETo) of its service area compared to the MWD average, or
 - Certified and documented 20 x 2020 targeted GPCD
- Exit Strategy
 - Clarified the course of action for an existing WSAP allocation when Metropolitan's Board makes a declaration decision for the following WSAP year
 - If there is an allocation for the next year, then the current allocation stays in place
 - If there is no allocation for the next year, then the current allocation is lifted concurrent with the April decision

Appendix E: 2014 Review Process and Results

July 2014

- WSAP Workgroup Meeting #1
 - First meeting of the 2014 WSAP Review process; review of the existing WSAP policy and formula; review of the process timeline; began discussion of issues related to base period selection
- WSAP Workgroup Meeting #2
 - Discussion of base period selection

August 2014

- WSAP Workgroup Meeting #3
 - Continuation of prior workshop discussion; comparison of base period alternatives

September 2014

- WSAP Workgroup Meeting #4
 - Discussion of a base period proposal; discussion of replenishment issues in the WSAP; discussion of 2015 water supply scenarios
- Review WSAP at Member Agency Managers Meeting
 - Review of WSAP workgroup process; discussion on issues related to base period, demand hardening, and local resources development
- WSAP Workgroup Meeting #5
 - Review of base period recommendation; discussion of issues regarding agencies in mandatory conservation during a base period; discussion on replenishment in the WSAP

October 2014

- WSAP Workgroup Meeting #6
 - Continuation of prior workshop discussion; discussion of alternative methods for conservation demand hardening credit; discussion of new and existing local supplies
- Review WSAP at Member Agency Managers Meeting
 - Review of WSAP workgroup process; discussion of issues related to base period and demand hardening

November 2014

- WSAP Workgroup Meeting #7
 - Review and discussion of issues and potential methods for base period selection and adjustment, replenishment allocation, and conservation demand hardening credit; review of estimated effects of potential WSAP changes at the regional level
- WSAP Workgroup Meeting #8
 - Review of proposed recommendations for the WSAP based on workgroup discussion
- Review WSAP at Member Agency Managers Meeting
 - Review of proposed recommendations for the WSAP based on workgroup discussion

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Resulting Changes

- Base Period Update to FY2013 and FY2014
 - Changed the WSAP Base Period from calendar years 2004-2006 to fiscal years ending July 2013 and 2014
 - Mandatory Conservation Adjustment
 - Agencies with mandatory conservation in effect during the base period (FY 2013 and/or FY 2014) may qualify for a demand hardening adjustment, adjustment is subject to a consultation process that includes consideration historical demand and GPCD information
- Modify Conservation Demand Hardening Credit
 - Replaced device calculation-based estimates of conservation savings with a GPCD-based method
 - Conservation savings are calculated by comparing GPCD from a historical baseline to the Allocation Year; the difference is converted to acre-feet using the Allocation Year population.
 - Baseline GCPD is 10-year average ending between 2004 and 2010, with gross water, using gross water use minus non-potable recycled water production and documented historical population
 - Replaced formula for calculating the credit for each Regional Shortage Level
 - Conservation Demand hardening credit will be based on an initial 10 percent of GPCD-based conservation savings plus an additional 5 percent for each level of Regional Shortage; the credit will also be adjusted for the overall percentage reduction in retail water demand and the member agency's dependence on Metropolitan.
- Allocation Surcharge
 - Replaced the WSAP Penalty Rate with an Allocation Surcharge based on the estimated cost of Turf Replacement conservation programs

Appendix F: Summary of Historical Shortage Plans

These five elements incorporated into the WSAP have, in four out of five instances, been used in previous shortage plans. Both the IICP and the 1995 DMP used a historical base period calculation, adjusted for growth, made local supply adjustments, and used conservation hardening credits in their formulations. The retail impact adjustment is the only feature of the WSAP that has not been used historically.

Table 5: Historical Shortage Plan Overview			
Plan Element	1991 IICP	1995 DMP	WSAP
Historical Base Period	√	√	√
Growth Adjustment	√	√	√
Local Supply Adjustment	√	√	√
Conservation Hardening Credit	√	√	√
Retail Impact Adjustment			√

Appendix G: Water Supply Allocation Formula Example

The following example gives a step-by-step description of how the formula would be used to calculate an allocation of Metropolitan supplies for a hypothetical member agency. All numbers are hypothetical for the purpose of the example and do not reflect any specific member agency.

Step 1: Calculate Base Period Retail Demand

Base Period Local Supplies: Calculated using a two-year average of groundwater (gw), groundwater recovery (gwr), Los Angeles Aqueduct supply (laa), surface water (sw), seawater desalination (sd), and other non-Metropolitan imported supplies (os). For the purpose of this example, assume that the two year average is 59,000 af.

$$[(gw1+gwr1+laa1+sw1+sd1+os1) + (gw2+gwr2+laa2+sw2+sd2+os2)] \div 2 = 59,000 \text{ af}$$

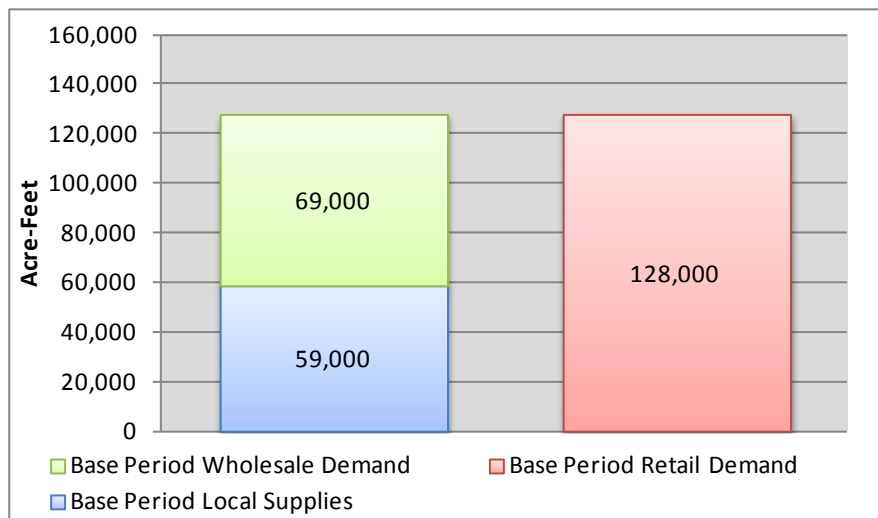
Base Period Wholesale Demands: Calculated using the same two-year time period as the Base Period Local Supplies. The Base Period Wholesale Demands include firm purchases (fp) and in-lieu deliveries to long-term groundwater replenishment (il), conjunctive use (cup), cyclic (cyc), and supplemental storage programs (ss). For the purpose of this example, assume that the two year average is 69,000 af.

$$[(fp^1+il^1+cup^1+cyc^1+ss^1) + (fp^2+il^2+cup^2+cyc^2+ss^2)] \div 2 = 69,000 \text{ af}$$

Base Period Retail Demands: Calculated as the sum of the Base Period Local Supplies and Base Period Wholesale Demand.

$$59,000 + 69,000 = 128,000 \text{ af}$$

Figure 1: Base Period Retail Demand Calculation



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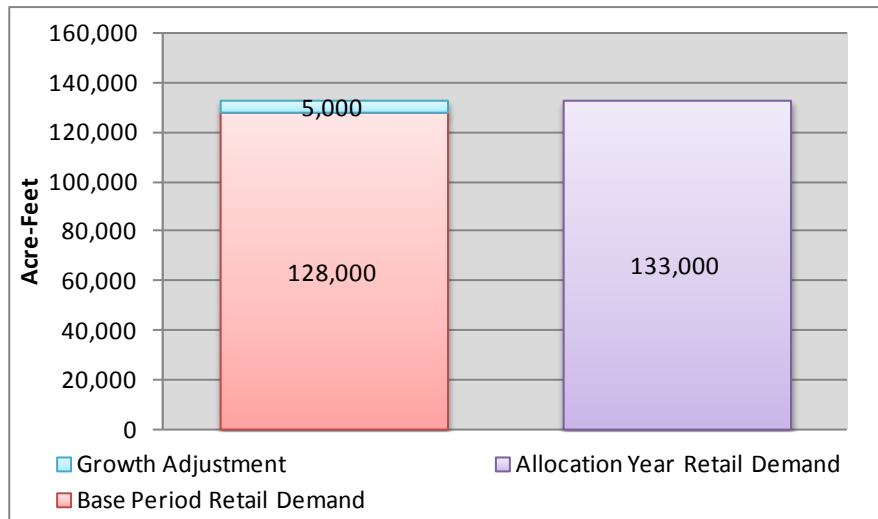
Calculate Adjustment for Base Period Mandatory Rationing (if applicable): The hypothetical agency used in this example is assumed not to qualify for the Base Period Mandatory Rationing Adjustment. A detailed discussion of the adjustment methodology can be found in [Appendix I: Base Period Rationing Adjustment Example](#).

Step 2: Calculate Allocation Year Retail Demand

Allocation Year Retail Demand: Calculated by adjusting the Base Period Retail Demand for any baseline inflation and growth that occurred since the Base Period.

$$128,000 \text{ af} + 5,000 \text{ af (net adjustment to retail demand)} = 133,000 \text{ af}$$

Figure 2: Allocation Year Retail Demand Calculation



Step 3: Calculate Allocation Year Wholesale Demand

Allocation Year Local Supplies: Estimates of Allocation Year Local Supplies are provided by the member agencies upon implementation of a WSAP. If estimates are not provided, Metropolitan will use the sum of the Base Period Local Supplies and Base Period In-Lieu Deliveries as a default. Agencies may provide updated estimates at any time during the Allocation Year to more accurately reflect their demand for Metropolitan supplies. For this example assume that the Allocation Year Local Supplies total 65,000 acre-feet.

$$\text{Allocation Year Local Supplies} = 65,000 \text{ af}$$

For this example assume also that this agency has an additional 5,000 acre-feet of supplies that meet the determinations for Extraordinary Supply. These supplies are withheld from the allocation formula except for in calculating the Retail Impact Adjustment Allocation.

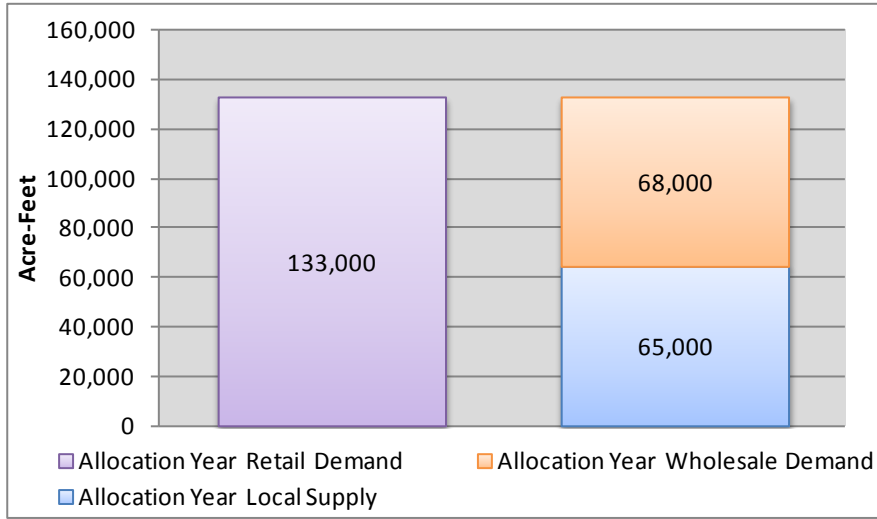
$$\text{Extraordinary Local Supplies} = 5,000 \text{ af}$$

Allocation Year Wholesale Demands: Calculated by subtracting the Allocation Year Local Supplies (65,000 af) from the Allocation Year Retail Demands (133,000 af).

$$133,000 \text{ af} - 65,000 \text{ af} = 68,000 \text{ af}$$

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Figure 3: Allocation Year Wholesale Demand Calculation



Step 4: Calculate the Wholesale Minimum Allocation

Wholesale Minimum Percentage: Calculate from Table 1 for Regional Shortage Level 4.

Table 1: Shortage Allocation Index		
(a) Regional Shortage Level	(b) Wholesale Minimum Percentage	(c) Maximum Retail Impact Adjustment Percentage
4	70.0%	10.0%

Wholesale Minimum Allocation: Calculated by multiplying the agency's Allocation Year Wholesale Demand (68,000 af) by the Wholesale Minimum Percentage (70%) from the Table 1 for Regional Shortage Level 4.

$$68,000 \text{ af} * 70\% = 47,600 \text{ af}$$

Step 5: Calculate the Retail Impact Adjustment Allocation

Maximum Retail Impact Adjustment Percentage: Calculate from Table 1 for Regional Shortage Level 4.

Retail Impact Adjustment Allocation: Calculated first by determining the agency's dependence on Metropolitan by dividing the Allocation Year Wholesale Demand (68,000 af) minus the Extraordinary Supply (5,000 af) by the Allocation Year Retail Demand (133,000 af) and multiplying by 100.

$$[(68,000 \text{ af} - 5,000 \text{ af}) / 133,000 \text{ af}] * 100 = 47\%$$

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Next, this percentage dependence on Metropolitan (47%) is multiplied by the Maximum Retail Impact Percentage for Shortage Level 4 (10%).

$$47\% * 10\% = 4.7\%$$

This percentage is now multiplied by the Allocation Year Wholesale Demand (68,000 af) for the Retail Impact Adjustment Allocation.

$$68,000 \text{ af} * 4.7\% = 3,221 \text{ af}$$

Step 7: Calculate the Conservation Demand Hardening Adjustment

Calculate Baseline GPCD: To estimate conservation savings, each member agency will establish a historical baseline GPCD calculated in a manner consistent with California Senate Bill SBx7-7, using a 10 or 15-year average ending between 2004 and 2010, using gross water use minus non-potable recycle water production and documented historical population. For this example assume that the Baseline GPCD is 154 GPCD

$$\text{Baseline GPCD} = 154 \text{ GPCD}$$

Calculate Allocation Year GPCD: Next, calculate the allocation year GPCD by converting the Allocation Year Retail Demand to GPCD and dividing by the Allocation Year Population from the WSAP. For this example the Allocation Year Retail Demand is 133,000 AF (see Step 2 above) and assume the Allocation Year Population is 905,000 persons. The resulting GPCD is 131 GPCD.

$$\text{Allocation Year GPCD} = 133,000 \text{ af/year} * 325,851 \text{ gallons/af} \div 365 \text{ days/year} \div 905,000 \text{ persons} = 131 \text{ GPCD}$$

Calculate Reduction in GPCD: Subtract Allocation Year GPCD from Baseline GPCD to determine the GPCD Reduction.

$$\text{GPCD Reduction} = 154 \text{ GPCD} - 131 \text{ GPCD} = 23 \text{ GPCD}$$

Calculate Conservation Savings: Convert the GPCD Reduction to the equivalent annual conservation savings in acre-feet, using the Allocation Year Population.

$$\text{Conservation Savings} = \frac{((\text{GPCD Reduction}) \times 365 \text{ days/yr} \times \text{Population})}{325,851 \text{ gallons/af}}$$

$$\text{Conservation Savings} = 23 \times 365 \times 905,000 \div 325,851 = 23,316 \text{ af}$$

Multiply by Regional Shortage Level Percentage: Multiply the Conservation Savings by 10 percent plus an additional 5 percent for each level of Regional Shortage (see Step 4 above). This example assumes a Regional Shortage Level of 4. This scales the hardening credit by the level of regional shortage, thereby increasing the credit as deeper shortages occur when demand hardening has a larger impact on the retail consumer.

$$23,316 \text{ af} \times (10\% + (4 \times 5\%)) = 6,995 \text{ af}$$

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Multiply by Conservation Savings Percentage: Next, multiply by the percentage of an agency's demand that was reduced through conservation. This scales the hardening by the total percentage reduction to recognize that increased hardening occurs as increasing amounts of conservation are implemented.

$$\text{Conservation Savings Percentage} = 1 + ((\text{Baseline GPCD} - \text{Allocation Year GPCD})/\text{Baseline GPCD})$$

$$\text{Conservation Savings Percentage} = 1 + ((154 \text{ GPCD} - 131 \text{ GPCD})/154 \text{ GPCD}) = 115\%$$

$$6,995 \text{ af} \times 115\% = 8,044 \text{ af}$$

Multiply by Dependence on MWD: Next, multiply by the agency's percentage dependence on MWD as shown in Step 5 above. This scales the credit to the member agency's dependence on MWD to ensure that credits are being applied to the proportion of water demand that is being affected by reductions in MWD's supply. For this example, dependence on MWD is 47%.

$$8,044 \text{ af} \times 47\% = 3,781 \text{ af}$$

Summary: The Conservation Demand Hardening Adjustment calculation is summarized by the following formula:

$$\text{Conservation Demand Hardening Adjustment} = \text{Conservation Savings} \times (10\% + \text{Regional Shortage Level \%}) \times (1 + \text{Conservation\%}) \times \text{Dependence on MWD \%}$$

$$\begin{aligned} \text{Conservation Demand Hardening Adjustment} &= 23,316 \text{ af} \times (10\% + (4 \times 5\%)) \times (115\%) \times (47\%) \\ &= 3,781 \text{ af} \end{aligned}$$

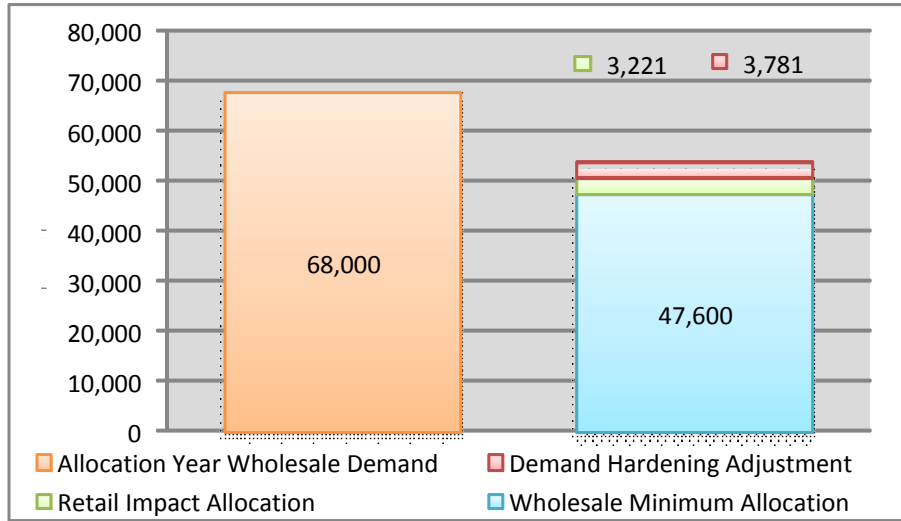
Step 8: Calculate the Low Per-Capita Adjustment Allocation: The hypothetical agency used in this example is assumed not to qualify for the Low Per-Capita Adjustment. A detailed discussion and example of the Low Per-Capita Adjustment calculation can be found in [Appendix J: Per Capita Water Use Minimum Example](#).

Step 9: Calculate the total WSAP Allocation

WSAP Allocation: Calculated by adding the Wholesale Minimum Allocation (47,600 af), the Maximum Retail Impact Adjustment (3,221 af), the Demand Hardening Adjustment (3,781 af), and the Low Per-Capita Adjustment (0 af).

$$47,600 \text{ af} + 3,221 \text{ af} + 3,781 \text{ af} + 0 \text{ af} = 54,602 \text{ af}$$

Figure 4: WSAP Allocation Regional Shortage Level 4



Step 10: Calculate total retail level reliability

Retail level reliability: Calculated by adding the WSAP Allocation (54,602 af), the Allocation Year Local Supply (65,000 af) and the Extraordinary Local Supply (5,000 af) and dividing by the Allocation Year Retail Demand (133,000 af).

$$(54,602 \text{ af} + 65,000 \text{ af} + 5,000 \text{ af}) \div 133,000 \text{ af} = 93.7\%$$

Total Metropolitan Supply Allocations: In addition to the WSAP Allocation described above, agencies may also receive separate allocations of supplies for groundwater replenishment and seawater barrier demands. More information on the groundwater replenishment allocation is located in [Appendix L: Groundwater Replenishment Allocation](#).

Appendix H: Board Policy Principles on Determining the Status of Extraordinary Supply

At the June 8, 2010 Water Planning and Stewardship Committee meeting Metropolitan's Board of Directors adopted the following policy principles to guide staff in determining the Extraordinary Supply status of future member agency supply programs.

No Negative Impacts to Other Member Agencies

A potential Extraordinary Supply for a member agency should not decrease the amount of Metropolitan water supply that would be available to the other member agencies in a WSAP. Programs that utilize Metropolitan supplies as a primary or in-lieu source or as a means of payback or future replenishment may have the effect of decreasing supplies, available to other agencies, if designated as Extraordinary Supply.

Provides Supply in Addition to Existing Regional Supplies

A potential Extraordinary Supply should provide a water supply that increases the overall water supplies that are available to the region in a WSAP. A program that is designed to move existing regional supplies from year to year would not qualify.

Specifically Designed Program or Supply Action

A potential Extraordinary Supply must be intentionally created and operated to provide additional supply yield. Normal variations in existing and planned local supply programs would not qualify.

Intended for Consumptive Use in a WSAP

A potential Extraordinary Supply should be designed with the primary intention to deliver water supply to a member agency only at a time when Metropolitan is allocating supplies. Programs designed to deliver water on a regular basis would not qualify. Exceptions for reasonable use of a supply program for emergency or other extenuating local circumstances should be considered.

Fully Documented Resource Management Actions

A potential Extraordinary Supply should have a full description as to the source, transmission, distribution, storage, and delivery of the water supply.

These principles are intended to identify deliberate actions taken by member agencies to augment supplies only when Metropolitan is allocating supplies through the WSAP. Production from existing local supplies, programs that are operated on an ongoing basis, and incidental increases in water supply would not qualify as Extraordinary Supply. The intent of the Extraordinary Supply designation is to recognize programs and actions that are additive to the total regional water supply as the region continues to confront the water supply challenges from drought and regulatory conditions. To that end, any supply actions taken after the initial implementation of the WSAP in July 2009 that utilize Metropolitan supplies either as a primary source, or to refill or replenish an incurred obligation or deficit at a future date would not qualify as Extraordinary Supply.

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Appendix I: Base Period Mandatory Rationing Adjustment

Agencies that were under mandatory water use restrictions during the Base Period may have water use that is lower due to the mandatory actions already taken. Without adjusting for this, those agencies could be required to enforce even higher levels of restrictions under an allocation than those agencies that had not started mandatory restrictions.

To qualify for a Base Period Mandatory Rationing Adjustment, the member agency must provide Metropolitan staff with the following information:

- Time period when the mandatory conservation was in effect; it must be in effect during the Base Period
- A statement, with documentation, of how drought restrictions comply with the following Mandatory Conservation qualifications:
 - Governing Body-authorized or enacted
 - Includes mandatory demand reduction actions, restrictions or usage limitations including penalty-backed water budgets
 - Enforced by assessing penalties, fines, or rates based upon violating restrictions or exceeding usage limitations
- If the agency in question is a retail subagency, then the retailer's base period water demands during the Base Period in order to determine proportion to the member agency's total demand
- Historical data to construct GPCD base and trend for the consultation

Calculating the Base Period Rationing Adjustment involves following steps:

- Use the Baseline GPCD 10 or 15-year period selected by member agency for the Conservation Demand Hardening Adjustment calculation.
- Interpolate from the GPCD value of the midpoint of the Baseline GPCD period to the average GPCD of the two years preceding the agency's mandatory conservation
- Extrapolate to the WSAP Base Period (FY2013 and FY2014)
- Calculate the difference between estimated and observed GPCD for FY2013 and FY2014
- Convert to Acre-Feet and add to the member agency's Base Period Retail Demands

Appendix J: Per-Capita Water Use Minimum Example

This adjustment creates a minimum per capita water use threshold. Member agencies' retail-level water use under the WSAP is compared to two different thresholds. The minimum water use levels are based on compliance guidelines for total and residential water use established under Senate Bill X7-7.

Total Retail Level Use: 100 GPCD

Residential Retail Level Use: 55 GPCD

Agencies that fall below either threshold under the WSAP would receive additional allocation from Metropolitan to bring them up to the minimum GPCD water use level. To qualify for this credit, member agencies must provide documentation of the total agency level population and the percent of retail level demands that are residential; no appeal is necessary.

The following example gives a step-by-step description of how the Low Per-Capita Water Use Adjustment would be calculated for a hypothetical member agency. All numbers are hypothetical for the purpose of the example and do not reflect any specific member agency. This example was calculated using the following assumptions:

Allocation Year Retail Demand: 50,000 acre-feet

Allocation Year Local Supplies: 25,000 acre-feet;

Allocation Year Wholesale Demand: 25,000 acre-feet

Base Period Conservation: 5,000 acre-feet

Agency Population: 375,000

Percent of Retail Demands that are Residential: 60%

Step 1: Calculate Total Retail-Level Allocation Year Supplies

Table 6 shows the Allocation Year Local Supply, WSAP Allocation, and the total Allocation Year Supplies for the example agency at each Regional Shortage Level. The WSAP Allocation was calculated using the methodology detailed in [Appendix G: Water Supply Allocation Formula Example](#) and the assumptions listed above.

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Table 6: Total Retail Level Allocation Year Supplies			
Regional Shortage Level	Allocation Year Local Supply	WSAP Allocation	Total Allocation Year Supply
1	25,000	23,594	48,594
2	25,000	22,188	47,188
3	25,000	20,781	45,781
4	25,000	19,375	44,375
5	25,000	17,969	42,969
6	25,000	16,563	41,563
7	25,000	15,156	40,156
8	25,000	13,750	38,750
9	25,000	12,344	37,344
10	25,000	10,938	35,938

Step 2: Calculate the Equivalent Total and Residential GPCD

The next step is to calculate the equivalent water use in gallons per capita per day (GPCD) for the Total Allocation Year Supply. The following equation shows the GPCD calculation under Regional Shortage Level 10.

$$35,938 \text{ af} * 325,851 \text{ gallons} \div 375,000 \text{ people} \div 365 \text{ days} = 85.6 \text{ GPCD}$$

The residential per-capita water use is calculated in the same manner. Based on the assumption that 60% of the agency demands are residential, the following equation shows the residential GPCD calculation under Regional Shortage Level 10.

$$35,938 \text{ af} * 60\% * 325,851 \text{ gallons} \div 375,000 \text{ people} \div 365 \text{ days} = 51.3 \text{ GPCD}$$

Step 3: Compare the Total and Residential GPCD to the Minimum Water Use Thresholds

The next step is to compare the total GPCD water use to the 100 GPCD total water use threshold. In a Regional Shortage Level 10, the WSAP results in an allocation that is 14.4 GPCD below the minimum threshold.

$$100 \text{ GPCD} - 85.6 \text{ GPCD} = 14.4 \text{ GPCD}$$

Likewise the residential GPCD water use is compared to the 55 GPCD residential water use threshold.

$$55 \text{ GPCD} - 51.3 \text{ GPCD} = 3.7 \text{ GPCD}$$

Step 4: Determine the Allocation Adjustment in Acre-Feet

The final step is to calculate the acre-foot equivalent of the GPCD that fell below the minimum threshold. In a Regional Shortage Level 10, the adjustment provides 6,068 acre-feet of additional allocation to the agency; the results for Shortage Levels 1-10 are shown in Table 7.

$$14.4 \text{ GPCD} \div 325,851 \text{ gallons} * 375,000 \text{ people} * 365 \text{ days} = 6,068 \text{ acre-feet}$$

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Table 7: Total Per-Capita Water Use Adjustment				
Regional Shortage Level	Allocation Year Supply	Equivalent GPCD	GPCD Below Threshold	Allocation Adjustment
1	48,594	115.7	0	0
2	47,188	112.3	0	0
3	45,781	109.0	0	0
4	44,375	105.6	0	0
5	42,969	102.3	0	0
6	41,563	98.9	1.1	443
7	40,156	95.6	4.4	1,849
8	38,750	92.3	7.7	3,255
9	37,344	88.9	11.1	4,662
10	35,938	85.6	14.4	6,068

Again, this step is repeated for the residential water use. In a Regional Shortage Level 10, the adjustment provides 1,540 acre-feet of additional allocation to the agency; the residential water use results for Regional Shortage Levels 1-10 are shown in Table 8.

$$3.7 \text{ GPCD} \div 325,851 \text{ gallons} * 375,000 \text{ people} * 365 \text{ days} = 1,540 \text{ acre-feet}$$

Table 8: Residential Per-Capita Water Use Adjustment				
Regional Shortage Level	Allocation Year Supply	Equivalent GPCD	GPCD Below Threshold	Allocation Adjustment
1	29,156	69.4	0	0
2	28,313	67.4	0	0
3	27,469	65.4	0	0
4	26,625	63.4	0	0
5	25,781	61.4	0	0
6	24,938	59.4	0	0
7	24,094	57.4	0	0
8	23,250	55.4	0	0
9	22,406	53.3	1.7	697
10	21,563	51.3	3.7	1,540

Agencies that fall below either threshold under the WSAP would receive additional allocation from Metropolitan to bring them up to the minimum GPCD water use level. If an agency qualifies under both thresholds, the one resulting in the maximum allocation adjustment would be given. Under this example the agency would receive 6,068 acre-feet of additional allocation in a Regional Shortage Level 10.

Appendix K: Qualifying Income-Based Rate Allocation Surcharge Adjustment Example

The following example provides a step by step description of how the qualifying income-based rate allocation surcharge adjustment is calculated. To qualify for this adjustment, member agencies must provide documentation showing the amount of retail demands that are covered by a qualifying income-based rate; no appeal is necessary.

The following list summarizes the allocation year demands, local supplies, and allocation as calculated in [Appendix G: Water Supply Allocation Formula Example](#) for a hypothetical agency under a Level 4 Regional Shortage. For detailed instructions on how to calculate these figures, reference [Appendix G: Water Supply Allocation Formula Example](#).

Allocation Year Retail Demand: 133,000 acre-feet

Allocation Year Local Supplies: 68,000 acre-feet;

Level 4 WSAP Allocation: 52,735 acre-feet

Step 1: Allocation Surcharge Calculation

- (a) **Water Use above Allocation:** The first step in calculating the income-based rate Allocation Surcharge adjustment is to calculate the agency’s total Allocation Surcharge under the WSAP. If the agency did not incur any Allocation Surcharge from the allocation year, the income-based rate allocation surcharge adjustment would not apply. For the purpose of this example, the agency used 61,000 acre-feet of MWD supplies in the allocation year. This represents 8,265 acre-feet of use above the water supply allocation.

WSAP Allocation	52,735 af
Actual MWD Water Use	61,000 af
Use Above WSAP Allocation	8,265 af

- (b) **Total Allocation Surcharge:** In this example the agency used 115.7% of its water supply allocation. 7,910 of the 8,265 acre-feet of use above the allocation would be assessed the Allocation Surcharge at an amount of \$1,480 per acre-foot and 354 of the 8,265 acre-feet of use above the allocation would be assessed the Allocation Surcharge at an amount of \$2,960.

Between 100% and 115% of Allocation	7,910 af	\$1,480/af	\$11,706,800
Greater than 115% of Allocation	354 af	\$2,960/af	\$1,047,840
Total	8,265 af		\$12,754,640

Step 2: Effective Income-Based Rate Cutback

- (a) **Calculate Retail Cutback:** The second step in calculating the income-based rate allocation surcharge adjustment is to calculate the amount of supply cutback that would have been expected from qualifying income-based rate customers under the WSAP. Using the water supply allocation that was calculated above, the total retail level impact on the agency can be

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determined. In this example the agency receives a retail level cutback of 15,265 acre-feet, or 11.5% of their retail level demand.

WSAP Allocation + Allocation Year Local Supplies	117,735 af
Allocation Year Retail Demand	133,000 af
Effective Cutback	15,265 af (11.5%)

- (b) Income-based Rate Customer Retail Cutback:** To calculate the effective income-based rate cutback, the amount of demand covered by a qualifying income-based rate is multiplied by the effective retail level cutback. For this example assume that the agency has 10,000 acre-feet of qualifying demands.

Qualifying Income-Based Rate Demand	10,000 af
Effective Cutback Percentage	11.5%
Effective Income-Based Rate Cutback	1,148 af

- (c) Income-based Rate Cutback Allocation Surcharge:** Once the effective cutback has been calculated, the amount of Allocation Surcharge that is associated with qualifying income-based rate customers can be determined.

Between 100% and 115% of Allocation	794 af	\$1,480/af	\$1,175,120
Greater than 115% of Allocation	354 af	\$2,960/af	\$1,047,840
Total	1,148 af		\$2,222,960

- (d) Adjusted Allocation Surcharge Calculation:** Finally, the Allocation Surcharge attributable to qualifying income-based rate customers is subtracted from the total Allocation Surcharge that was calculated above to determine the qualifying income-based rate adjusted allocation surcharge. In the case that the monetary amounts associated with the Income-Based Rate are greater than the total amounts an agency incurs, no Allocation Surcharge will be incurred.

Total Allocation Surcharge	\$12,754,640
Qualifying Income-Based Rate Allocation Surcharge	\$2,222,960
Qualifying Income-Based Rate Adjusted Allocation	\$10,531,680

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Appendix L: Groundwater Replenishment Allocation

Groundwater basins help provide vital local supplies that can buffer the region from short-term drought impacts. Longer droughts can result in reductions to the many sources of water that replenish groundwater basins, resulting in lower basin levels and potential impacts to the overlying consumptive demands. Limited imported deliveries under these conditions may help avoid impacts to the basins that may be drawn out of their normal operating range or subject to water quality or regulatory impacts. To this end, Metropolitan provides a limited allocation for drought impacted groundwater basins based on the following framework:

- a) Staff hold a consultation with qualifying member agencies who have taken groundwater replenishment deliveries since 2010 and the appropriate groundwater basin managers to document whether their basins are in one of the following conditions:
 - i. Groundwater basin overdraft conditions that will result in water levels being outside normal operating ranges during the WSAP allocation period; or
 - ii. Violations of groundwater basin water quality and/or regulatory parameters that would occur without imported deliveries.
- b) Provide an allocation based on the verified need for groundwater replenishment. The allocation would start with a member agency's ten-year average purchases of imported groundwater replenishment supplies (excluding years in which deliveries were curtailed). The amount would then be reduced by the declared WSAP Regional Shortage Level (5 percent for each Regional Shortage Level).
- c) Any allocation provided under this provision for drought impacted groundwater basins is intended to help support and maintain groundwater production for consumptive use. As such, a member agency receiving an allocation under this provision will be expected to maintain groundwater production levels equivalent to the average pumping in the Base Period. Any adjustments to a member agency's M&I allocation due to lower groundwater production would be reduced by deliveries made under this provision.
- d) Agencies for which this allocation does not provide sufficient supplies for the needs of the groundwater basin may use the WSAP Appeals Process to request additional supply (subject to Board approval). The appeal should include a Groundwater Management Plan that documents the need for additional supplies according to the following tenets:
 - i. Maintenance of groundwater production levels;
 - ii. Maintenance of, or reducing the further decline of, groundwater levels;
 - iii. Maintenance of key water quality factors/indicators;
 - iv. Avoidance of permanent impacts to groundwater infrastructure or geologic features; and
 - v. Consideration of severe and/or inequitable financial impacts.

Final amounts and allocations will be determined following the consultations with groundwater basin managers and member agencies.

Appendix M: Water Rates, Charges, and Definitions

Table 9: Water Rates and Charges Dollars per acre-foot (except where noted)			
Rate	Effective 1/1/2014	Effective 1/1/2015	Effective 1/1/2016
Tier 1 Supply Rate	\$148	\$158	\$156
Tier 2 Supply Rate	\$290	\$290	\$290
System Access Rate	\$243	\$257	\$259
Water Stewardship Rate	\$41	\$41	\$41
System Power Rate	161	\$126	\$138
Tier 1	\$593	\$582	\$594
Tier 2	\$735	\$714	\$728
Treatment Surcharge	\$297	\$341	\$348
Full Service Treated Volumetric Cost			
Tier 1	\$890	\$923	\$942
Tier 2	\$1,032	\$1,055	\$1,076
Readiness-to-Serve Charge (millions of dollars)	\$166	\$158	\$153
Capacity Charge (dollars per cubic foot second)	\$8,600	\$11,100	\$10,900

Definitions:

- (1) **Tier 1 Supply Rate** - recovers the cost of maintaining a reliable amount of supply.
- (2) **Tier 2 Supply Rate** - set at Metropolitan's cost of developing additional supply to encourage efficient use of local resources.
- (3) **System Access Rate** – recovers a portion of the costs associated with the delivery of supplies.
- (4) **System Power Rate** – recovers Metropolitan’s power costs for pumping supplies to Southern California.
- (5) **Water Stewardship Rate** – recovers the cost of Metropolitan’s financial commitment to conservation, water recycling, groundwater clean-up and other local resource management programs.
- (6) **Treatment Surcharge** – recovers the costs of treating imported water.
- (7) **Readiness-to-Serve Charge** - a fixed charge that recovers the cost of the portion of system capacity that is on standby to provide emergency service and operational flexibility.
- (8) **Capacity Charge** – the capacity charge recovers the cost of providing peak capacity within the distribution system.

Source: <http://www.mwdh2o.com/WhoWeAre/Management/Financial-Information>

Appendix N: Allocation Appeals Process

Step 1: Appeals Submittal

All appeals shall be submitted to the Appeals Liaison in the form of a written letter signed by the member agency General Manager. Each appeal must be submitted as a separate request, submittals with more than one appeal will not be considered. The appeal request is to include:

- A designated member agency staff person to serve as point of contact.
- The type of appeal (erroneous baseline data, loss of local supply, etc.).
- The quantity (in acre-feet) of the appeal.
- A justification for the appeal which includes supporting documentation.

A minimum of 60 days are required to coordinate the appeals process with Metropolitan's Board process.

Step 2: Notification of Response and Start of Appeals Process

The Appeals Liaison will phone the designated member agency staff contact within 3 business days of receiving the appeal to provide an initial receipt notification, and schedule an appeals conference. Subsequent to the phone call, the Liaison will send an e-mail to the Agency General Manager and designated staff contact documenting the conversation. An official notification letter confirming both receipt of the appeal submittal, and the date of the appeals conference, will be mailed within 2 business days following the phone contact

Step 3: Appeals Conference

All practical efforts will be made to hold an appeals conference between Metropolitan staff and member agency staff at Metropolitan's Union Station Headquarters within 15 business days of receiving the appeal submittal. The appeals conference will serve as a forum to review the submittal materials and ensure that there is consensus understanding as to the spirit of the appeal. Metropolitan staff will provide an initial determination of the size of the appeal (small or large) and review the corresponding steps and timeline for completing the appeals process.

Steps 4-7 of the appeals process differ depending upon the size of the appeal

Small Appeals

Small appeals are defined as those that would change an agency's allocation by less than 10 percent, or are less than 5,000 acre-feet in quantity. Small appeals are evaluated and approved or denied by Metropolitan staff.

Step 4: Preliminary Decision

Metropolitan staff will provide a preliminary notice of decision to the member agency within 10 business days of the appeals conference. The preliminary decision timeline may be extended to accommodate requests for additional information, data, and documentation. The Appeals Liaison will mail a written letter to the member agency staff contact and General Manager, stating the preliminary decision and the rationale for approving or denying the appeal.

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Step 5: Clarification Conference

Following the preliminary decision the Appeals Liaison will schedule a clarification conference. The member agency may choose to decline the clarification conference if they are satisfied with the preliminary decision. Declining the clarification conference serves as acceptance of the preliminary decision, and the decision becomes final upon approval by Metropolitan's executive staff.

Step 6: Final Decision

Metropolitan staff will provide a final notice of decision to the member agency within 10 business days of the clarification conference, pending review by Metropolitan's executive staff. The Appeals Liaison will mail a written letter to the member agency staff contact and General Manager, stating the final decision and the rationale for the decision. A copy of the letter will also be provided to Metropolitan executive staff.

Step 6a: Board Resolution of Small Appeal Claims

Member agencies may request to forward appeals that are denied by Metropolitan staff to the Board of Directors through the Water Planning and Stewardship Committee for final resolution. The request for Board resolution shall be submitted to the Appeals Liaison in the form of a written letter signed by the member agency General Manager. This request will be administered according to Steps 6 and 7 of the large appeals process.

Step 7: Board Notification

Metropolitan staff will provide a report to the Board of Directors, through the Water Planning and Stewardship Committee, on all submitted appeals including the basis for determination of the outcome of the appeal.

Large Appeals

Large appeals are defined as those that would change an agency's allocation by more than 10 percent, and are larger than 5,000 acre-feet. Large appeals are evaluated and approved or denied by the Board of Directors.

Step 4: Preliminary Recommendation

Metropolitan staff will provide a preliminary notice of recommendation to the member agency within 10 business days of the appeals conference. The preliminary decision timeline may be extended to accommodate requests for additional information, data, and documentation. The Appeals Liaison will mail a written letter to the member agency staff contact and General Manager, stating the preliminary recommendation and the rationale for the recommendation. A copy of the draft recommendation will also be provided to Metropolitan executive staff.

Step 5: Clarification Conference

Following the preliminary recommendation the Appeals Liaison will schedule a clarification conference. The member agency may choose to decline the clarification conference if the satisfied with preliminary recommendation. Declining the clarification conference signifies acceptance of the preliminary recommendation, and the recommendation becomes final upon approval by Metropolitan's executive staff.

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Step 6: Final recommendation

Metropolitan staff will provide a final notice of recommendation to the member agency within 10 business days of the clarification conference, pending review by Metropolitan executive staff. The Appeals Liaison will mail a written letter to the member agency staff contact and General Manager, stating the final recommendation and the rationale for the recommendation. A copy of the final recommendation will also be provided for Metropolitan executive review.

Step 7: Board Action

Metropolitan staff shall refer the appeal to the Board of Directors through the Water Planning and Stewardship Committee for approval.

Appendix O: Appeals Submittal Checklist

Appeal Submittal

- Written letter (E-mail or other electronic formats will not be accepted)
- Signed by the Agency General Manager

Mailed to the appointed Metropolitan Appeals Liaison

Contact Information

- | | |
|---|--|
| <input type="checkbox"/> Designated staff contact | <input type="checkbox"/> General Manager |
| <input type="radio"/> Name | <input type="radio"/> Name |
| <input type="radio"/> Address | <input type="radio"/> Address |
| <input type="radio"/> Phone Number | <input type="radio"/> Phone Number |
| <input type="radio"/> E-mail Address | <input type="radio"/> E-mail Address |

Type of Appeal

- State the type of appeal
 - Erroneous historical data used in base period calculations
 - Metropolitan Deliveries
 - Local Production
 - Growth adjustment
 - Conservation savings
 - Exclusion of physically isolated areas
 - Extraordinary supply designation
 - Groundwater Replenishment Allocation
 - Base Period Mandatory Rationing Adjustment
 - Other

Quantity of Appeal

- State the quantity in acre-feet of the appeal

Justification and Supporting Documentation

- State the rationale for the appeal
- Provide verifiable documentation to support the stated rationale
 - Examples of verifiable documentation include, but are not limited to:
 - Billing Statements
 - Invoices for conservation device installations
 - Basin Groundwater/Watermaster Reports
 - California Department of Finance economic or population data
 - California Department of Public Health reports

ATTACHMENT C

Resolution XXXX

RESOLUTION OF THE BOARD OF DIRECTORS OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, the Urban Water Management Planning Act requires urban water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt, in accordance with prescribed requirements, a water shortage contingency plan; an

WHEREAS, the Urban Water Management Planning Act specifies the requirements and procedures for adopting such Water Shortage Contingency Plans;

WHEREAS, the Urban Water Management Planning Act requires urban water suppliers to conduct an annual water supply and demand assessment (Annual Assessment) each year and to include in their water shortage contingency plans the procedures they use to conduct the Annual Assessment;

WHEREAS, the procedures used to conduct an Annual Assessment include, but are not limited to, the written decision-making process that an urban water supplier will use each year to determine its water supply reliability;

WHEREAS, The Metropolitan Water District of Southern California's (Metropolitan's) water shortage contingency plan provides that by June of each year, Metropolitan staff will present a completed Annual Assessment for approval by Metropolitan's Board of Directors or by the Board's authorized designee with expressly delegated authority for approval of Annual Assessment determinations;

and

WHEREAS, the Board of Directors of The Metropolitan Water District of Southern California has duly reviewed, discussed, and considered such Water Shortage Contingency Plan and has determined the Water Shortage Contingency Plan to be consistent with the Urban Water Management Planning Act and to be an accurate representation of the planned actions during shortage conditions for The Metropolitan Water District of Southern California.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of The Metropolitan Water District of Southern California that, on May XX, 20XX, this District hereby adopts this Water Shortage Contingency Plan for submittal to the State of California and expressly authorizes the General Manager of The Metropolitan Water District of Southern California to approve the Annual Assessment each year.

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of a resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California, at its meeting held on May XX, 20XX.

Secretary of the Board of Directors of
The Metropolitan Water District of
Southern California

Attachment H.2 – Water Supply Shortage Memorandum

H.2

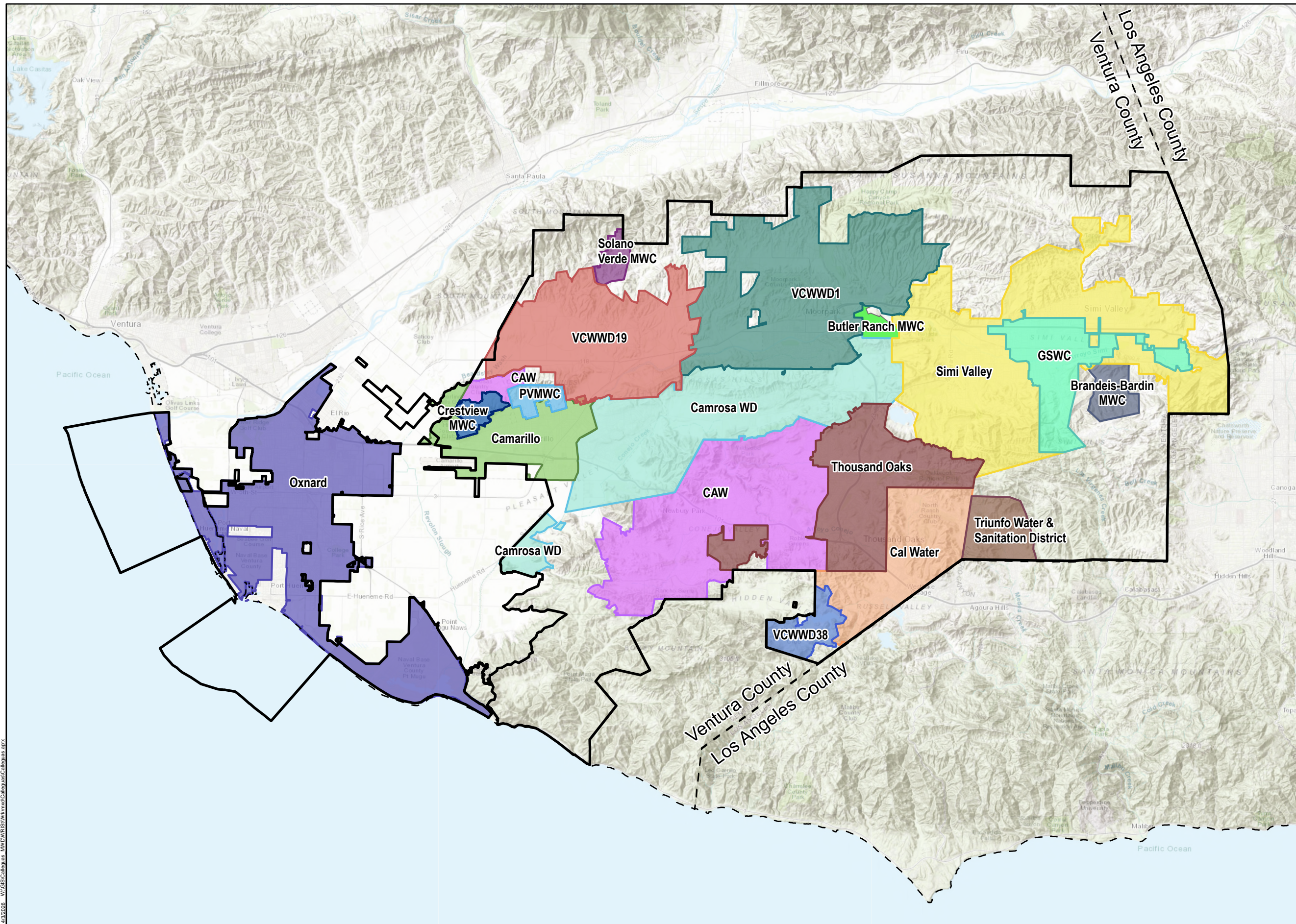
Public Draft Technical Memorandum

Date: 5/6/2026
To: Jennifer Lancaster
Manager of Water Resources
Client Calleguas Municipal Water District
Prepared By: Heather Freed, PE, Cason Roberts, EIT
Reviewed By: Rob Morrow, PE
Project 2025 Urban Water Management Plan and Water Shortage Contingency Plan
Subject: Public Draft Water Shortage Supply Plan

Calleguas Municipal Water District (Calleguas) provides high quality drinking water on a wholesale basis to 19 cities, local water agencies, county waterworks districts, investor-owned utilities, and mutual water companies (known collectively as purveyors) in southeastern Ventura County. The Calleguas service area, shown in Figure 1, spans from the City of Simi Valley in the east to the Cities of Oxnard and Port Hueneme in the west. The purveyors located in the Simi Valley and Thousand Oaks area (known as the Upper Zone), rely on imported water from Calleguas as their primary supply source and have limited to no local supply. Purveyors further west, including those in the Las Posas Valley, Pleasant Valley, and Oxnard Plain, are located in the Lower Zone and use a mix of groundwater and imported water from Calleguas to meet potable demands.

Calleguas receives primarily State Water Project (SWP) supplies from the Metropolitan Water District of Southern California (Metropolitan). Historically, SWP supplies have been reliable until the most recent droughts. The 2012 to 2016 and 2021 to 2022 statewide droughts resulted in severe SWP reductions resulting in significant water shortages to Calleguas and its purveyors. Additionally, Calleguas only has a single direct connection to receive supply from Metropolitan at its East Portal and that water is conveyed into Calleguas's service area via the Santa Susana Tunnel. If there was an earthquake or other disaster that damaged the Santa Susana Tunnel or other critical water supply facilities, Calleguas could lose access to its supply for a period of time.

While Calleguas has made recent investments to improve water supply reliability and resilience in the region and is working toward their strategic goal of "A New Model for Resilience" for the service area, imported water shortages and outages continue to be a risk for the region. A water supply shortage or imported water outage impacts purveyors differently depending on their reliance on imported supplies.



- Legend**
- Calleguas Municipal Water District Service Area
 - County Boundary
 - Retail Water Purveyors**
 - Brandeis-Bardin Mutual Water Company
 - Butler Ranch Mutual Water Company
 - California American Water Company
 - California Water Service Company
 - Camrosa Water District
 - City of Camarillo
 - City of Oxnard
 - City of Simi Valley
 - City of Thousand Oaks
 - Crestview Mutual Water Company
 - Golden State Water Company
 - Pleasant Valley Mutual Water Company
 - Solano Verde Mutual Water Company
 - Ventura County Waterworks District No. 1
 - Ventura County Waterworks District No. 19
 - Ventura County Waterworks District No. 38
 - Triunfo Water & Sanitation District

4/3/2028 W:\GIS\Calleguas_MWD\WRI\BIB\WRI\mxd\Calleguas\Calleguas.aprx

This technical memorandum was prepared to support Calleguas's 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). It describes Calleguas's projected supply reliability during a Normal Year, Single-Dry Year, and a Five Consecutive Dry Year Scenario as required for the UWMP. Additionally, this memorandum describes the impacts to Calleguas and the purveyors during a six-month imported water outage. This is intended to be a planning-level guide that purveyors can use to plan and prepare for water shortages. Calleguas encourages purveyors to reference this in their 2025 UWMP and WSCP updates.

1.0 Water Shortage Condition

As part of the 2025 UWMP, Calleguas coordinated with its purveyors to receive current and projected population, water demand, and water supplies, including imported water supply needs. Many of the purveyors are urban water suppliers and have prepared updated demand and supply projections considering expected population growth, planned investments in local supplies, water use trends, conservation regulations, and climate change. Many of the purveyors who are not urban water suppliers also provided their current projections. For non-urban water suppliers that did not have long term projections available¹, the average supply and demand over the last five years was assumed to be constant through 2050. This volume accounts for 4% of the total projected potable water sales.

Table 1 lists the projected total service area demand, local supplies, imported water sales, replenishment water, and recycled water demands through 2050.

¹ Non-urban water suppliers that did not have long-term projections available include California American Water – Las Posas District, Berylwood Heights Mutual Water Company, Butler Ranch Mutual Water Company, VCWWD No. 19, VCWWD No. 38, and Pleasant Valley Mutual Water Company.

Table 1. Actual (2025) and Projected (2030 – 2050) Demands (Acre-Feet per Year)

Use Type	2025	2030	2035	2040	2045	2050
Total Service Area Demand ^{1,2}	115,680	124,710	124,380	124,180	125,210	125,520
Local Groundwater ^{1,2}	35,320	43,710	41,740	40,720	39,870	39,060
Local Recycled Water ^{1,3}	7,620	8,300	8,560	9,060	9,570	10,070
Calleguas Imported Water Sales^{1,4}	72,740	72,700	74,090	74,380	75,770	76,390
Replenishment Water ^{1,4}	760	650	650	650	650	650
Calleguas Total Potable Demand	73,500	73,350	74,740	75,030	76,420	77,040
Recycled Water Sales ^{1,5}	130	80	80	80	80	80
TOTAL	73,630	73,430	74,820	75,110	76,500	77,120

Notes:

1. All values are rounded to the nearest 10.
2. Local groundwater supply projections provided by purveyors. This includes potable groundwater, desalted groundwater, and non-potable groundwater resources.
3. Local recycled water supply projections provided by purveyors. This includes tertiary treated recycled water, non-potable surface water diverted from Conejo Creek, and future potable reuse.
4. Replenishment water projections are based on the 2021-2025 average net input to Lake Bard to account for evaporative losses.
5. Recycled water sales projections are based on the 2021-2025 average recycled water sales to Simi Valley.

Calleguas also coordinated with Metropolitan for imported water supply availability.

Metropolitan's Draft 2025 UWMP projects it will have reliable supplies during a Normal, Single-Dry, and Five Consecutive Dry Year condition for the Calleguas service area (Metropolitan Water District of Southern California, 2025). However, Metropolitan's 2025 UWMP includes a single outcome approach while their 2020 Integrated Resource Plan (IRP), which is their most recent long-term, comprehensive water resources planning document, includes a wider range of scenarios of conditions than included in their UWMP assessment.

For more conservative planning, Calleguas's water reliability assessment in the 2025 UWMP relies on imported water projections developed for Calleguas's Water Resource Implementation Strategy (WRIS) rather than Metropolitan's 2025 UWMP assessment. The WRIS imported water projections were developed using Metropolitan's 2020 IRP reduced imported supply projections for the Calleguas service area, and incorporated Metropolitan's planned drought action and core supply projects. See Section 7.1.1.3 of Calleguas's 2025 UWMP for more information on the WRIS imported water supply projections used for the water reliability assessment (WSC, 2026).

Based on the projected demand on Calleguas (Table 1) and imported water supply projections developed for WRIS, Calleguas projects it will have reliable water supplies during a Normal Year, Single-Dry Year, and the first four years of a Five Consecutive Dry Year Scenario. In the fifth consecutive drought year, imported water supplies are projected to be insufficient to meet

the projected unconstrained demand. Calleguas would use its WSCP to guide actions to reduce demand ranging from 10% to 15% to match the available supply in the fifth year of a drought. In turn, purveyors would use their own WSCPs to implement the end-user demand management measures they have identified to achieve the required level of conservation. See Section 7.1.4 in the 2025 UWMP for more information on Calleguas’s water reliability assessment.

Table 2 lists Calleguas’s water supply reliability during each year type. The reliability is based on projected imported water demand. For example, for a purveyor with an imported water demand from Calleguas of 1,000 acre-feet per year (AFY), Calleguas projects it could meet 100% of that demand in all years except in the fifth year of a Five Consecutive Dry Year Scenario. In the fifth year of a drought, Calleguas projects it could meet 85% of demand (850 AFY) through 2050. Water supply reliability is projected to increase in the future because new local water supply projects are anticipated to come online to reduce imported water needs.

For the drought risk assessment, which focuses on a near term drought from 2026 through 2030, Calleguas utilizes Metropolitan’s 2025 UWMP projections based on the 1988 to 1992 hydrology representing the driest five-consecutive year historic sequence for its water supply. These projections incorporate current conditions, including Metropolitan’s existing storage balances. Metropolitan projects it will be able to meet Calleguas’s imported water demand without any shortages for their drought risk assessment. See Section 7.2 of the 2025 UWMP for more information on the drought risk assessment.

Table 2. Calleguas Water Supply Reliability

Year Type	Source	2030	2035	2040	2045	2050
Normal Year	WRIS/ Met 2020 IRP Projections, Average imported water supply from 96 projections	100%	100%	100%	100%	100%
Single-Dry Year	WRIS/ Met 2020 IRP Projections, Minimum imported water supply during a single dry year from 96 projections	100%	100%	100%	100%	100%
Five Consecutive Dry Years						
1st Year		100%	100%	100%	100%	100%
2nd Year		100%	100%	100%	100%	100%
3rd Year	WRIS/ Met 2020 IRP Projections, Minimum imported water supply for five consecutive years from 96 projections	100%	100%	100%	100%	100%
4th Year		100%	100%	100%	100%	100%
5th Year		85%	85%	85%	85%	85%

Notes: Water supply reliability percentage is based on projected imported water demand.

2.0 Imported Water Outage Condition

In addition to the water supply assessment scenario required for the 2025 UWMP described above, Calleguas plans for a worst-case condition of a six-month imported water outage. This analysis leverages the Excel-based Projection Tool developed as part of Calleguas's WRIS to evaluate water supply portfolios for the Calleguas service area under varying demand, supply, and outage conditions. The Projection Tool simulates monthly operations during a six-month imported water system outage and balances water supplies and demand on a purveyor, pressure zone region, and service area-wide basis incorporating conveyance constraints and operational priorities. The Projection Tool assumes local supplies, including purveyor groundwater and recycled water supplies, are used first, and imported water or outage supplies during an outage scenario will be used to meet remaining demands. Under water shortage conditions, Calleguas-provided supplies are prioritized to meet minimum health and safety needs, with remaining supplies allocated proportionally across purveyors. During shortage and outage conditions, conservation requirements are quantified at the purveyor level.

The projected local supplies and demand by purveyors (Table 1) were input into the Projection Tool to simulate Calleguas's use of outage supplies and the conservation required under a six-month imported water outage scenario. The outage scenario was evaluated for 2026 and 2030 conditions. Calleguas has made significant investments in recent years to reduce system risk and improve resiliency during an imported water outage. While many outage projects have been completed, many other projects are expected to be completed by 2030. The 2026 condition is the most vulnerable before the completion of future outage projects. Additionally, multiple purveyors are projecting an increase in local supplies by 2030 which will further improve system resilience during an imported outage scenario.

2.1 2026 Outage Scenario

The 2026 outage scenario was developed using 2025 supply and demand provided by each purveyor. Table 3 lists the current Calleguas outage supplies included in the 2026 outage scenario. Calleguas has outage supplies that can supply up to 165.5 cubic feet per second (cfs). However, Lake Bard and the Las Posas Aquifer Storage and Recovery (ASR) Project are both limited by their storage volume.

Table 3. Near Term Outage Scenario- Outage Supplies

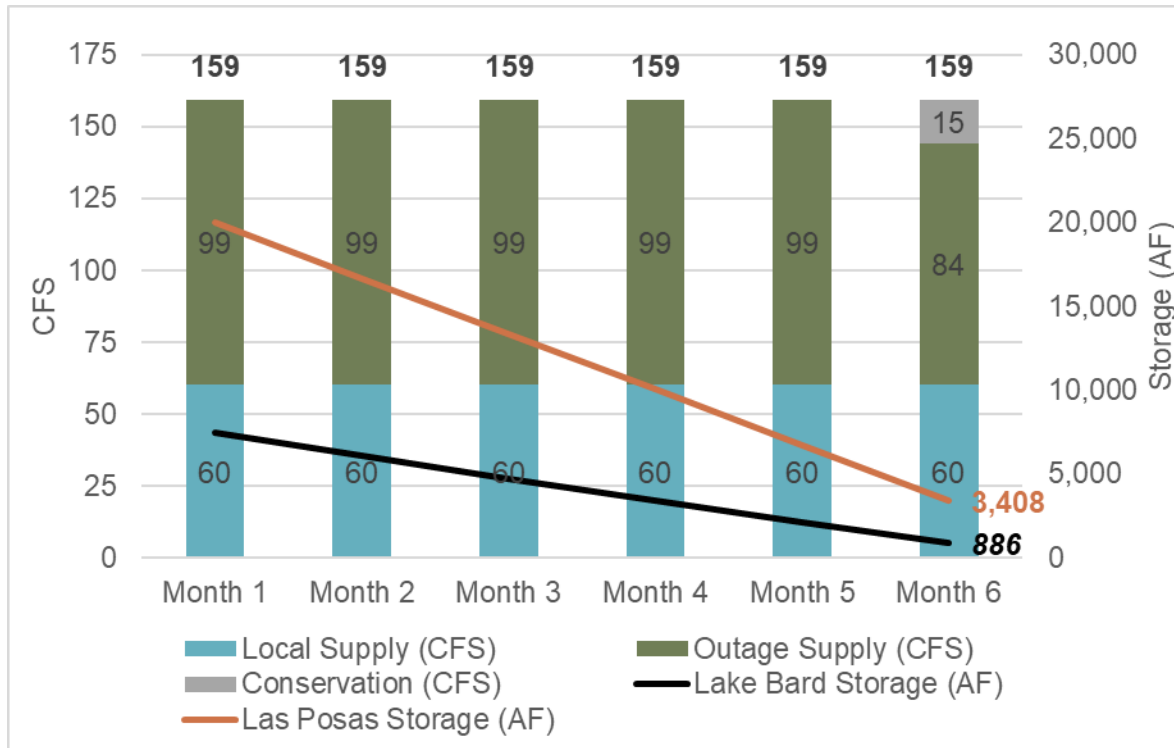
Outage Supply	Supply Capacity, cfs	Storage Volume, AF	Areas that can be served
Lake Bard	95	7,500	Entire System
Las Posas ASR Project	55	20,000	Entire System
Las Virgenes Interconnection	12.5	N/A	Triunfo Water and Sanitation District, Cal Water, and the City of Thousand Oaks and California American Water via the Lindero Reverse Flow Bypass
Crestview Interconnection	3	N/A	Crestview, City of Camarillo, California American Water-Las Posas (Camarillo), City of Oxnard, PHWA
Total	165.5	27,500	

Note: The minimum supply capacity for each outage project is assumed for conservative planning assumptions.

Figure 2 shows how local and outage supplies could be used during a six-month imported water outage in 2026. The figure shows the monthly supply use in cfs, including total local and outage supplies, used to meet the service area’s demand, and the change in storage at Lake Bard and the Las Posas ASR Project as those supplies are used.

As storage volumes decline in Lake Bard and the Las Posas ASR Project, the available supply capacity is reduced to extend use of these supplies over the outage period. While this is not projected to occur for the Las Posas ASR Project, the supply capacity from Lake Bard is modeled to decline in month six due to its low storage volume. The restricted supply capacity from Lake Bard contributes to the reduced outage supply and the need for 15 cfs of conservation in month six shown in Figure 2.

Figure 2. Near Term Imported Water Outage



It is likely that Calleguas would call for conservation ahead of month six of an outage. Because the ability to meet all demands in month six is driven by supply limitations from Lake Bard due to a low storage volume, conservation would need to be sufficient to prevent the emptying of Lake Bard. Using the Projection Tool, it is estimated that Calleguas could meet water demand during a six-month imported water outage with a minimum 10% reduction in the service area’s imported water demand with the existing outage supplies. Purveyors who only use imported water would need to reduce their demand by 10%, while purveyors with local supplies would be less impacted during the outage.

Figure 3 shows the use of supplies during a six-month outage with a 10% reduction in imported water demand (approximately 10 cfs conservation savings per month). Table 4 shows the water conservation required by each purveyor to meet a 10% imported water demand reduction. Purveyors that rely entirely on imported water are shown to need to meet the 10% conservation goal, while purveyors with local supplies have a lower conservation goal depending on their dependence on imported water.

Figure 3. Near Term Imported Water Outage, Mandatory 10% Imported Water Demand Reduction

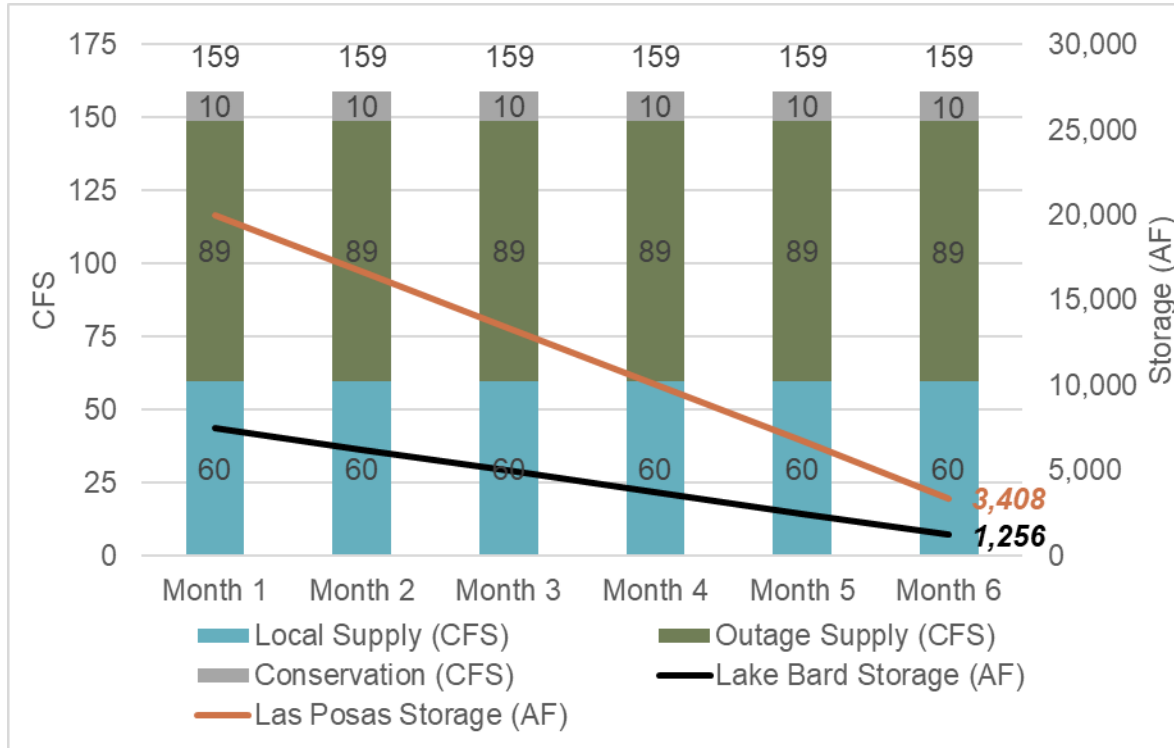


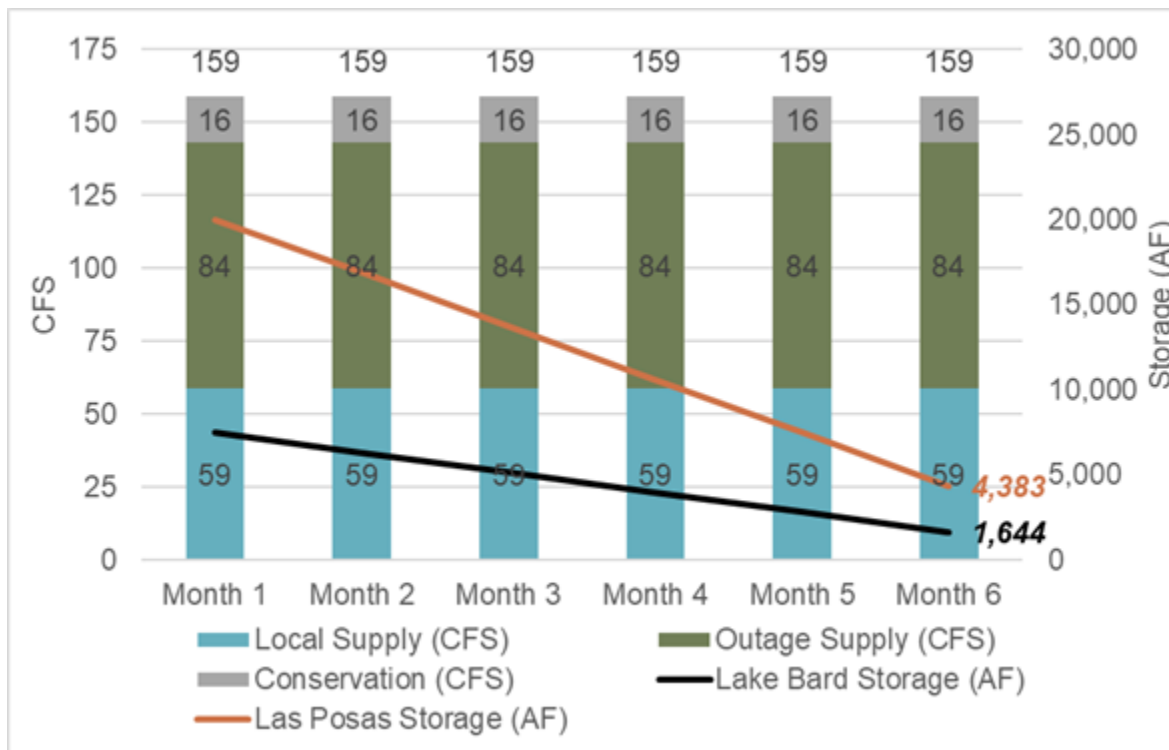
Table 4. Minimum Water Conservation by Purveyor to Achieve a 10% Reduction in Imported Water Demand

Purveyor	Minimum Conservation Needed to meet a 10% Reduction in Imported Water Demand
Berylwood Heights Mutual Water Company	0%
Brandeis-Bardin MWC	10%
Butler Ranch Mutual Water Company	0%
California American Water Company - Las Posas (Camarillo)	10%
California American Water Company - Ventura County District	10%
California Water Service Company (eastern Thousand Oaks)	10%
Camrosa Water District	3%
City of Camarillo	4%
City of Oxnard	4%
City of Thousand Oaks	10%
Crestview Mutual Water Company	1%
Golden State Water Company - Simi Valley	8%
Pleasant Valley Mutual Water Company	3%
Solano Verde Mutual Water Company	10%
Triunfo Water and Sanitation District	10%
VCWWD No. 1	8%
VCWWD No. 19	1%
VCWWD No. 38	10%
Waterworks District No. 8 - Simi Valley	10%
Zone Mutual Water Company	0%

Alternatively, Figure 4 shows the use of supplies with a 10% reduction in total water demand for all purveyors during a six-month outage. This reduction represents approximately 16 cfs of conservation savings on a monthly basis and is applied proportionally to each purveyor’s baseline demand.

This scenario is provided to demonstrate how system operations and supply utilization could change if an overall demand reduction were applied to all purveyors. Calleguas’s actions and any requests for conservation will be evaluated and tailored to the specific imported outage conditions at the time. In evaluating whether and how to seek demand reductions during an outage, Calleguas will consider potential tradeoffs, system flexibility, and the relative impacts to individual purveyors, and how different approaches may affect overall system operations during extended outages.

Figure 4. Near Term Imported Water Outage, Mandatory 10% Total Water Demand Reduction



2.2 2030 Outage Scenario

The 2030 outage scenario uses projected supply and demand for 2030 provided by each purveyor. Many purveyors project their imported water needs will decline by 2030 with investment in new local supplies. Additionally, Calleguas is projecting to have an additional 9.3 cfs (for a total of almost 175 cfs) of outage supplies online by 2030 and to be able to access all of Lake Bard's storage for potable use, as shown in Table 5.

Table 5. Near Term Outage Scenario - Outage Supplies

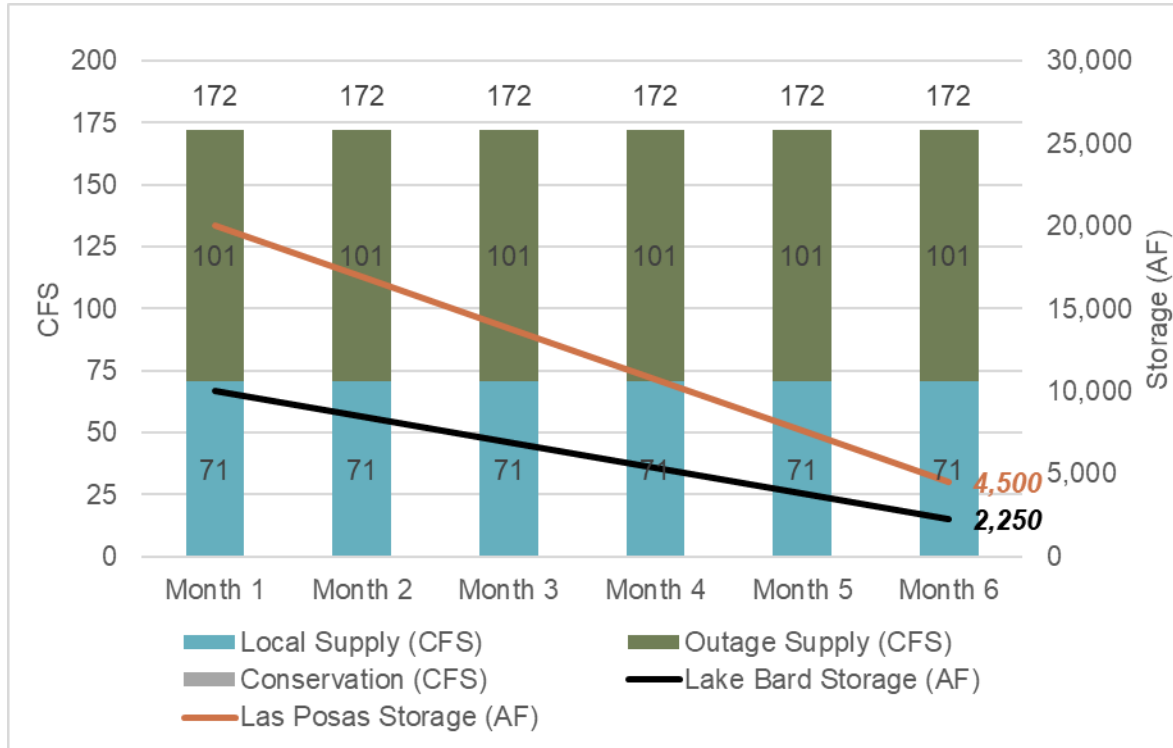
Outage Supply	Supply Capacity, cfs	Storage Volume, AF	Areas that can be served
Lake Bard	95	10,000	Entire System
Las Posas ASR Project	55	20,000	Entire System
Las Virgenes Interconnection	12.5	N/A	Triunfo Water and Sanitation District, Cal Water, and the City of Thousand Oaks and California American Water via the Lindero Reverse Flow Bypass
Crestview Interconnection	3	N/A	Crestview, City of Camarillo, California American Water-Las Posas (Camarillo), City of Oxnard
Ventura Interconnection	5	N/A	City of Oxnard, PHWA
Fairview Well	1.3	N/A	VCWWD No. 1
Total	171.8	30,000	

Note: The minimum supply capacity for each outage project is assumed for conservative planning assumptions.

Figure 55 shows the use of supplies to meet demand during a 2030 imported water outage scenario. The total water demands are projected to increase by 2030 (159 cfs to 173 cfs), but the imported water demand is projected to only increase slightly (99 cfs to 102 cfs in 2030) because purveyor local supplies are projected also to increase (60 cfs to 71 cfs in 2030).

As shown, the model predicts that, with planned local supply projects by the purveyors and Calleguas's planned outage projects, Calleguas could meet projected demands during a six-month imported water outage. The Projection Tool has limitations and may not fully capture infrastructure constraints such as the time it takes to begin using an outage supply, but it does indicate that by 2030 the region will be in a much better position to handle an imported water supply outage due to the investments by Calleguas and its purveyors.

Figure 5. 2030 Imported Water Scenario



Attachment H.3 – Calleguas Municipal Water District Ordinance 12

H.3

ORDINANCE NO. 12

AN ORDINANCE OF CALLEGUAS MUNICIPAL WATER DISTRICT
COVERING THE RULES AND REGULATIONS FOR WATER SERVICE
TO PURVEYORS WITHIN CALLEGUAS MUNICIPAL WATER DISTRICT, AS AMENDED

WHEREAS, Calleguas Municipal Water District ("District") is a public agency and special district created in 1953 by a vote of the electorate and organized pursuant to the Municipal Water District Act of 1911, as amended; and

WHEREAS, the District is a member agency of the Metropolitan Water District of Southern California ("Metropolitan"). Metropolitan is a consortium of 26 cities and water districts which cooperatively plan and manage water supply resources for approximately 19 million people in parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura counties; and

WHEREAS, the District's purpose is to provide a supplemental imported water supply to its service area in order to augment local water supplies for municipal, industrial, and agricultural users; and

WHEREAS, the District serves approximately 366 square miles within the southeast portion of Ventura County, including the cities of Simi Valley, Moorpark, Thousand Oaks, Camarillo, Oxnard, and Port Hueneme as well as the unincorporated areas of Oak Park, Santa Rosa Valley, Bell Canyon, Lake Sherwood, Somis, Las Posas Estates, Camarillo Heights, and Naval Base Ventura County through its Purveyors; and

WHEREAS, the Municipal Water District Act of 1911, as amended, enables the District to establish water rates it charges its Purveyors, for the purposes of paying operating expenses, providing for repairs and depreciation of works, providing a reasonable surplus, and paying interest on bonded debt, among other things; and

WHEREAS, the Board of Directors of the District (the "Board of Directors") by Ordinance No. 12, adopted July 21, 1971, established the rules, regulations and rates for water sold to its Purveyors; and

WHEREAS, the Board of Directors has determined that certain modifications to Ordinance No. 12 are necessary;

WHEREAS, the establishment, modification, and approval of rates or other charges by the District is exempt from CEQA pursuant to Public Resources Code 21080(b)(8)

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE CALLEGUAS MUNICIPAL WATER DISTRICT AS FOLLOWS:

SECTION 1. AUTHORITY. That, subject to all applicable provisions of the Municipal Water District Act of 1911, as amended, the following rules, regulations and rate structures governing the service of water to Purveyors by the District are hereby adopted and shall become effective on the date adopted by the Board of Directors.

SECTION 2. DEFINITIONS.

- (a) "Board of Directors" or "Board" shall refer to the Board of Directors of the Calleguas Municipal Water District.
- (b) "Capacity Charge" is a charge imposed on each Purveyor and designed to recover the cost of infrastructure to meet peaking and emergency demands.
- (c) "Capacity Rate" is the rate at which the Capacity Charge is assessed.
- (d) "District" shall mean the Calleguas Municipal Water District, duly organized under and by virtue of the Municipal Water District Act of 1911, as amended.
- (e) "Domestic and Municipal purposes" shall mean the use of water for all domestic, municipal, commercial, industrial, and recreational purposes, commonly, but not exclusively, served by the water supply of the city, town, or other similar population group.
- (f) "General Manager" shall refer to the General Manager of the Calleguas Municipal Water District.
- (g) "High Flow Charge" is a charge for water, applied when a Purveyor's demand for water at a given service connection exceeds the established maximum rated flow capacity of that particular District service connection.

- (h) "Low Flow Charge" is a charge for water, applied when a Purveyor's demand for water at a given service connection is more than zero but less than 10% of the established rated maximum flow capacity of that particular District service connection.
- (i) "Purveyor" shall mean any city, municipal water district, county water district, county waterworks district, mutual water company, public or private utility and other public corporation, the corporate area of which, in whole or in part, is included in the District as a separate unit.
- (j) "Minimum Maintenance Charge" is a charge intended to cover costs associated with service connection meter reading and processing for inactive service connections.
- (k) "Pumping Charge" is a charge to a Purveyor intended to reimburse the District for electrical service costs incurred for the operation of District pump stations. The charge shall be assessed based on invoices to the District from the electrical service provider or as calculated by the District when the District is the electrical service provider.
- (l) "Readiness-to-Serve Charge" is a charge intended to recover the principal and interest payments on Metropolitan's non-tax supported debt service that had been or would be issued to fund capital improvements necessary to meet the continuing reliability and water quality needs associated with current and projected demands.
- (m) "Service Connection" shall mean all pipes, valves, meters and other necessary or usual appurtenances required for operation and measurement of water delivered from a District transmission pipeline to a Purveyor.
- (n) "Temporary Service Connection" is a service connection for construction or other non-permanent purposes subject to all terms and conditions of a District operating agreement.
- (o) "Temporary Water Rate" is the rate for water supplied to an entity other than a Purveyor at a Temporary Service Connection for construction or other short-term purposes clearly defined and approved in advance in writing by the General Manager.

- (p) "Supply Rate" is a water rate for domestic and municipal water, set to recover supply costs, applicable to all water purchases.

SECTION 3. DOMESTIC AND MUNICIPAL WATER.

- (a) Each Purveyor shall be obligated to pay for all water delivered to the Purveyor by the District at the appropriate rate as established annually by the Board of Directors.
- (b) Not Used
- (c) The Readiness-to-Serve Charge assessed by Metropolitan will be proportionally shared by the Purveyors based on the current 10 fiscal year rolling average of water purchases.
- (d) A Capacity Charge shall be paid by each Purveyor annually based on the calculated total average flow rate that occurred during the Purveyor's peak week of water purchases from May 1 through September 30. The Capacity Charge will be determined in the second quarter of the calendar year during the annual rate setting process and calculated by using the prior calendar year's peak week. Each week shall begin on Tuesday. The charge shall be determined by multiplying the average flow as calculated in cubic feet per second (cfs) by the Capacity Charge as established by the Board of Directors. Payment shall be paid in 12 equal monthly installments starting in January of the following calendar year.
- (e) Pumping charges associated with the delivery of water shall be passed through as a line item on the monthly water bill to the applicable Purveyors. If a District pump station delivers water to more than one Purveyor, the utility bills will be apportioned accordingly by the percentage of water purchased by the applicable Purveyors.
- (f) The billing rate for water supplied to any entity at a Temporary Service Connection for construction or other short-term purposes clearly defined and approved in advance in writing by the General Manager shall be billed at the Temporary Water Rate as established by the Board of Directors. Temporary customers shall deliver to the District an executed copy of the District's "Application for Temporary Water Service" agreement and the deposit amount noted in the agreement prior to the commencement of temporary service. The entity shall be

subject to all terms and conditions as outlined in the agreement, including time and materials charges for installation, monthly maintenance, and removal of temporary service equipment. The deposit may be waived for contractors currently performing work under a contract with the District.

- (g) When a Purveyor's demand for water at a given service connection exceeds the established maximum flow capacity of that particular District service connection, a High Flow Charge calculated at 150% of the rated maximum capacity of the service connection will be assessed for each tenth of an hour of operation over the established maximum flow capacity.
- (h) When a Purveyor's demand for water at a given service connection is more than zero but less than 10% of the established maximum flow capacity of that particular District service connection, a Low Flow Charge calculated at 10% of the rated maximum capacity of the service connection will be assessed for each tenth of an hour of operation between zero and 10% of the established maximum flow capacity.
- (i) A Minimum Maintenance Charge, as established by the Board of Directors, shall be assessed on a monthly basis, in place of monthly water sales, for each service connection with monthly water sales less than the Minimum Maintenance Charge.
- G) The Board of Directors shall have the absolute and sole authority to change the rates specified in this Ordinance, and to implement new rates or pass-through charges imposed on the District. The Board of Directors shall make every reasonable effort to provide 60 days' advance notice to all Purveyors of such rate changes.

SECTION 4. BILLING. Water meters shall be read weekly, on Tuesdays, and on the nearest business day to the last calendar day of each month. As soon after the billing period as practicable, the District will mail or deliver to each Purveyor a statement of its bill for the preceding month. All bills or charges shall be due and payable immediately upon receipt. The following conditions also apply:

- (a) Delinquencies/Penalties. Water service bills shall be delinquent if not paid by the last business day of the month of the date of mailing. Delinquent bills are subject to a penalty of 1% of the outstanding balance which shall be added thereto and charged to and collected from the Purveyor on a monthly basis, including the previous month's penalty. If payment for water service and/or penalty is not received in the District Office within 60 days after such bill has become delinquent, the Board will consider appropriate action including discontinuance of service. Notice of discontinuance of service will be given to the delinquent Purveyor by registered mail at least 10 days prior to the date of discontinuance.
- (b) Cash Deposit. Whenever any Purveyor fails to pay its water bills, the Board of Directors may require as a condition for further service a cash deposit, at an amount determined by the Board, to guarantee the prompt payment of its account in the future. The Board of Directors shall have full power to determine whether or not such deposit shall be made and the amount thereof, and the time when the requirement for deposit by any Purveyor shall be discontinued.
- (c) Application of Deposit. If a Purveyor who has made such deposit fails to pay its delinquent bill or bills, including all added penalties within 30 days after delinquency, its deposit shall be applied on its account and the service discontinued until such time as the deposit is restored by the Purveyor.

SECTION 5. GENERAL TERMS AND CONDITIONS.

- (a) Authorized Distribution of District Supplied Water. The right of any Purveyor to water served by the District's facilities shall be restricted to the amount required for uses within the District's boundaries. Except as required by state law or a wheeling agreement authorized by the District's Board of Directors, no potable water conveyed by the District or produced by a Purveyor shall be delivered or sold for any use outside of the District's boundaries, nor shall water conveyed by the District or produced by a Purveyor be sold or delivered for any use within the District's boundaries in substitution for water used outside the District.

The use of water trucks, or other mobile, temporary, or otherwise non-fixed facilities and equipment to deliver District water shall be limited to short duration uses within the District's boundaries for construction purposes or to meet acute, emergency response needs, as requested by designated public health and safety agencies, including the Ventura County Public Health Department, Ventura County Fire Department, and similar federal, state, and local entities.

Distribution system interconnections between Purveyors are permitted provided that the water delivered remains within the District's boundaries.

- (b) Proof of Annexation. Per the conditions outlined in Section 5.a, a Purveyor may not supply any District sourced water to a new service address until it has received a written confirmation from the District that the address lies within the District's boundaries.

- (c) Violation of Authorized Distribution. Should the District suspect that a Purveyor is in violation of distributing water outside the limits of this Ordinance, the Board of Directors shall provide the Purveyor no less than 15 days to present any pertinent factual evidence and mitigating circumstances regarding the matter; the Board of Directors shall then render a decision that shall be final, conclusive, and definitive. Should it be determined by the Board of Directors that terms of this Ordinance have been, or are being, violated, the Board of Directors may assess fines or fees, request a suspension of service, and impose other actions as deemed appropriate to the Purveyor. Notice of any such determination of the District shall be in writing and mailed to such Purveyor within 10 days of such determination. Should suspension of service be imposed, deliveries shall be resumed only when the Purveyor involved proves to the satisfaction of the District that it has fully complied with the above rules and regulations. Determination of billing amounts shall be based on the retail meter totals or, if retail totals are not available, shall be based on the maximum industry standard for the Southern California region, gallons per capita per day, of use for the type of customer being served.

- (d) Annual Estimate of Demand. Within 30 days of a written request, each Purveyor shall furnish the District with an estimate of its water

requirements by water service type and month for the ensuing five-year period.

- (e) Development Coordination. Purveyors shall not sign and approve any plans for development, public, or other projects that affect District facilities unless those plans are already signed by the District. A project is considered to affect District facilities if any District facilities lie within the project site, are referenced in the project plans or are in the public right-of-way in the vicinity of the project site. If a Purveyor signs plans for a project that affects District facilities and is not already signed by the District, then that Purveyor assumes responsibility for any damage caused to the District's facilities by the project. Purveyors shall not approve plans that do not comply with the more stringent of California Division of Drinking Water (DDW) requirements, American Water Works Association (AWWA) Standards, or District Standard Drawings to ensure proper protection of the District's pipelines and appurtenances.

SECTION 6. AVAILABILITY OF SUPPLY.

- (a) District Responsibility. It is declared that the District was formed primarily to make water available to the people of the District, through distribution systems now established, or which may hereafter be established, as are able to use and distribute water at uniform rates of flow over substantial periods. The District's primary source of supply is from Metropolitan. This water supply may not be adequate or constant. The District assumes no responsibility for quantity, quality, pressure, or constancy of supply. The District will not be liable for interruptions or shortages of supply, nor for any loss or damage occasioned thereby. During times of threatened or actual water shortage, the Board of Directors shall apportion the available water supply among Purveyors in an equitable manner with due regard to public health and safety, and in accordance with the provisions of the Municipal Water District Act of 1911, as amended.
- (b) Operating Conditions. All sales and deliveries of water at the rates established by the Board shall be subject to the ability of the District to sell and deliver such water under operating conditions determined by the General Manager.
- (c) Peak Hourly Demands. The District's system is not designed to serve peak

hourly demands. The District reserves the right to curtail peak hourly deliveries, as necessary, to conform to pipeline capacity and to assure equitable apportionment of available water and of service to all Purveyors.

- (d) Emergency Interruptions. The District shall have the right to interrupt supply of water without prior notice in the event of an emergency.
- (e) Supply Shortages. In the event reduced water supplies cause Metropolitan to impose water allocations among its member agencies and surcharges for deliveries exceeding those allocations, the Board of Directors, at its discretion, may similarly allocate available supplies among District Purveyors and levy any surcharges as deemed appropriate, including those imposed on the District by Metropolitan.

Moreover, under shortage conditions, the Board may, by resolution, impose a moratorium on District annexations and/or the installation of new retail service connections by Purveyors in an effort to extend available supplies among existing water users.

- (f) Interruption of Service. Interruption of service will be necessary from time to time to facilitate routine maintenance, internal inspection, rehabilitation, and improvement projects on District facilities. Whenever maintenance of the District's system requires interruption of delivery of water at any point or points, such delivery may be interrupted, without liability on the part of the District, provided that except in cases of emergency, as determined by the General Manager, notice of such interruption of service shall be given to the affected Purveyor in advance of such interruption. The District standard for such interruption may include all services along four consecutive miles of pipeline for a minimum 72 hour period.
- (g) Required Storage. In order to meet demand fluctuations, emergency interruptions and scheduled interruption of services, Purveyors within the District shall provide adequate storage or alternate supplies, other than from District facilities, to meet their peak daily and hourly demands.

SECTION 7. SERVICE CONNECTIONS.

- (a) Application for Service Connection. A Purveyor wishing to take delivery of

water at a particular location shall submit a written application for a turnout and meter station to the District on a form provided by the District. The decision whether to approve the application shall be solely within the discretion of the District. The Purveyor shall be responsible for all costs associated with building the turnout and meter station at the requested location and connecting it to an existing District transmission pipeline. The Purveyor shall provide the necessary right-of-way to the District for construction, operation, and maintenance of the turnout and meter station. The Purveyor shall deposit an amount equal to the estimated cost of design of the facility prior to initiation of project design by the District and shall deposit an amount equal to the estimated cost of construction (including inspection and construction management) prior to the District's advertising the project for construction. Upon completion of construction, the District will prepare a report summarizing its costs associated with construction of the turnout, meter station, and associated pipelines and will provide an accounting to the Purveyor. In the event the actual cost is less than the deposit, the District will provide a refund. In the event the actual cost exceeds the deposit, such Purveyor shall promptly pay to the District the amount by which the costs shall exceed the deposited amounts. Service shall be initiated once full payment has been received.

- (b) Ownership of Facilities. All service connections, appurtenances, meters, and transmission pipelines installed hereunder shall be and become the property of the District and shall be maintained, repaired, and renewed by the District when rendered unserviceable through normal wear and tear; provided, however, that any replacements, repairs, or adjustments to any meters, or property required because of the act, negligence or carelessness of the Purveyor, its agents or employees, or persons under its control shall be charged against and collected from such Purveyor.
- (c) Operation of Valves. Shutoff valves at service connections, or in transmission pipelines belonging to the District, shall not be operated by the Purveyor, without authorized District consent. Authorized consent can be granted by the General Manager, the Manager of Operations and Maintenance, or a designee of the Manager of Operations and Maintenance.
- (d) Tampering. It shall be unlawful for any person to meddle, tamper with, or operate any facilities, including, but not limited to, service connections, water meters, service pipe, transmission pipelines or valves without authorized

District consent. Authorized consent can be granted by the General Manager, the Manager of Operations and Maintenance, or a designee of the Manager of Operations and Maintenance. It shall be unlawful for any person to tap, break, or damage any District transmission pipeline, service connections, or appurtenances or any other equipment of the District.

- (e) Access and Use of District Facilities. Purveyors shall not enter District distribution facilities, including buildings, cabinets, and vaults, nor use District facilities to support or house Purveyor equipment without approval from the District.
- (f) Communication. Purveyors shall promptly report any leaks, failures of water supply and equipment, security breaches, and other matters requiring timely response of District staff to the District's Control Room. All requests for routine operational assistance may be directed to the District's Control Room or to the appropriate District supervisor. Inquiries about policies and procedures, general information and coordination for project planning should be directed to the Manager of Operations and Maintenance. Requests to initiate new service or modify the rated capacity of existing service connections must be made in writing and filed with the General Manager.
- (g) District Equipment as Billing Meter. District equipment shall be used as the primary billing meter to calculate flow rates, accumulate water use and determine the occurrence and duration of High and Low Flow Charge penalty periods. Purveyor metering data shall only be considered when District equipment is inoperable.
- (h) Metering Equipment Standards. The District's established standard for metering equipment used for Purveyor billing of potable water deliveries shall be restricted to the combination of a venturi and differential pressure transmitter(s). Transmitters shall be configured as an input to a programmable logic controller or flow totalizer to calculate rate of flow and accumulate water use.
- (i) Meter Testing. The District shall calibrate and test all metering components a minimum of once annually to confirm accuracy of $\pm 2.0\%$. A Purveyor may request to have a service connection meter tested by the District whenever the Purveyor suspects inaccuracy. The Purveyor affected shall have the right to witness any such test. In the event that such test shall disclose an error

exceeding $\pm 2.0\%$, an adjustment shall be made in metered charges to the Purveyor affected, covering the known or estimated extent and period of duration of such error up to a six-month period. If such test shall disclose an error exceeding $\pm 2.0\%$ the expenses of such test shall be borne by the District; otherwise, such expenses shall be borne by the Purveyor requesting such test.

- (j) District Provided Controls. The District may install and maintain flow rate signals, pulsed totalizer contacts, valve open and close control inputs, downstream pressure regulation, and rate-of-flow controls at service connections upon the issuance of a purchase order or letter of request and authorization from the Purveyor. All District supplied signals and controls are provided as courtesy to the Purveyor. It is the responsibility of the Purveyor to control their own system demands and maintain operations within the rated capacity of their service connection(s), and any reliance upon District equipment is done so solely at the risk of the Purveyor. The inaccuracy or failure of District provided signals and controls does not constitute cause to avoid payment of High or Low Flow Charges, nor to dispute the receipt of District water or metered totals. All costs for installation and maintenance of requested automation equipment shall be paid by the Purveyor. The District reserves the right to refuse installation and to remove controls if it so desires.

- (k) Float Mode. If a Purveyor does not wish to use open and close control signals or if a Purveyor requests to bypass their open and close control signals at a service connection, the District shall configure the service connection to be in "Float Mode," whereby the connection instantaneously responds to changes in downstream pressure at any rate of flow needed to maintain downstream pressure regardless of the service connection's rated flow range. If Float Mode is requested, either verbally or under the execution of a Float Mode Request Form, the Purveyor understands that operation in this mode will result in the accumulation of Low Flow Charge penalty hours and potentially in High Flow Charge penalty hours, and the Purveyor agrees to pay all charges as assessed.

- (l) Hydraulic Transients. Purveyors shall operate their water distribution systems in a manner which does not cause hydraulic transients or pressure changes at service connections that are greater than 125% of the average pressure delivered to the Purveyor and no less than 50% of the average pressure delivered to the Purveyor or 20 psi, whichever is greater.

SECTION 8. LEGAL CHALLENGES. If any section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional, such decision

shall not affect the validity of the remaining portions of this Ordinance. The Board of Directors hereby declares that it would have passed this Ordinance by section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that any one or more other sections, subsections, sentences, clauses, or phrases be declared invalid or unconstitutional.

SECTION 9. ADMINISTRATION. All water service shall be made in accordance with these rules and regulations unless otherwise approved by the Board of Directors. These rules and regulations may be amended, modified, changed, or repealed by the Board of Directors.

SECTION 10. NOTICES. All notices and communications from agencies to the District relating to the service of water or the administration of these rules and regulations by the District, shall be addressed to the General Manager of the District, 2100 Olsen Road, Thousand Oaks, California 91360.

SECTION 11. PREVIOUS RESOLUTIONS. All Resolutions passed with regard to water rate structures and service connection policies that are in conflict with this ordinance are hereby cancelled.

SECTION 12. EFFECTIVE DATE AND SUNSET. This Ordinance shall be given effect at 12:01 a.m. on March 18, 2026. This Ordinance shall not have a sunset date.

ADOPTED, SIGNED AND APPROVED this eighteenth day of March, 2026



Raul Avila, President Board of Directors

On motion by Director McMillan and seconded by Director Robert, the foregoing ordinance is adopted upon this 18th day of March, 2026, by the following vote:

AYES: Directors Quady, McMillan, Pakala, Robert, Avila

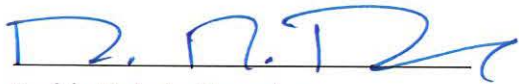
NAYS: None

ABSENT: *None*

ABSTAIN: *None*

I HEREBY CERTIFY that the foregoing Ordinance was adopted at a regular meeting of the Board of Directors of Calleguas Municipal Water District held on March 18, 2026.

ATTEST:



Reddy Pakala, Secretary
Board of Directors

(SEAL)

Attachment H.4 – WSCP Adoption Resolution

H.4

Resolution to be included following adoption.

Appendix I Adoption Resolution



Resolution to be included following adoption.