2025 Urban Water Management Plan

LADWP.com/UWMP

Resolution No. 026 208

WHEREAS, the California Urban Water Management Planning Act (UWMP Act), as codified in Water Code Section 10610, et seq., requires California water suppliers to prepare and adopt an Urban Water Management Plan (UWMP) every five years that describes their historical and future efforts in the area of water resources, and to adopt a Water Shortage Contingency Plan (WSCP); and

WHEREAS, the adoption of a UWMP and WSCP is an eligibility requirement for various water system grant and loan funding opportunities administered by the State of California; and

WHEREAS, the Los Angeles Department of Water and Power (LADWP) has updated the City of Los Angeles' (City) UWMP and WSCP in compliance with the UWMP Act; and

WHEREAS, the 2025 UWMP identifies current and planned supplies to meet all anticipated demands over the 25-year planning period under average, single-dry, and multi-dry year hydrology; and

WHEREAS, the 2025 WSCP identifies six standard water shortage levels and associated shortage response actions to address up to and exceeding 50 percent reduction in water supply, as described in the City's Emergency Water Conservation Plan; and

WHEREAS, as required by the UWMP Act, LADWP encouraged the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the 2025 UWMP and WSCP; and

WHEREAS, LADWP provided a copy of the 2025 UWMP and WSCP for public inspection on its website starting February 12, 2026, and at its in-person public meetings at the Cahuenga Branch Library on February 25, 2026, and North Hollywood Senior Center on March 4, 2026; and

WHEREAS, on February 26, 2026, LADWP issued a notice of UWMP preparation to the Los Angeles County Department of Public Works, and the Cities of Beverly Hills, Burbank, Calabasas, Culver City, Inglewood, Lomita, Lynwood, Santa Monica, and West Hollywood; and

WHEREAS, LADWP held public meetings and provided an opportunity to comment on the 2025 UWMP and the WSCP on February 19, 2026, February 25, 2026, March 4, 2026, and March 14, 2026; and

WHEREAS, LADWP also accepted written comments on the 2025 UWMP and the WSCP from February 12, 2026, to March 16, 2026; and

WHEREAS, LADWP provided notice of a public hearing on the 2025 UWMP and the WSCP on its website, and published notices of the hearing in the *Los Angeles Daily News* and *La Opinión* on April 28, 2026, and May 5, 2026; and

WHEREAS, the Board of Water and Power Commissioners (Board) of the City of Los Angeles held a public hearing on the 2025 UWMP and WSCP on May 12, 2026, and considered all public input.

NOW, THEREFORE, BE IT RESOLVED, having considered the 2025 UWMP and WSCP and all public input, LADWP's 2025 UWMP and WSCP, filed with the Secretary of the Board, are hereby adopted.

BE IT FURTHER RESOLVED that the President, or Vice President, or the General Manager, or such person as the General Manager shall designate in writing, and the Secretary, Assistant Secretary, or the Acting Secretary of the Board are hereby authorized and directed to submit the 2025 UWMP and WSCP for and on behalf of LADWP to the California Natural Resources Agency, Department of Water Resources in accordance with the UWMP Act.

I HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a Resolution adopted by the Board of Water and Power Commissioners of the City of Los Angeles at its meeting held **May 12, 2026**

Shanti L. Mitchell
Secretary

APPROVED AS TO FORM AND LEGALITY
HYDEE FELDSTEIN SOTO, CITY ATTORNEY

APR 15 2026

BY Melanie A. Tory
MELANIE A. TORY
ASSISTANT CITY ATTORNEY

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Glossary of Abbreviations and Terms

AB	Assembly Bill
Action Plan	Water Loss Task Force Action Plan
AF	acre-feet
AFY	Acre-feet per Year
AKWWRF	AK Warren Water Resources Facility
AOP	Advanced Oxidation Process
AVGB	Antelope Valley Groundwater Basin
AWPF	Advanced Water Purification Facility
AWWA	American Waterworks' Association
Bay-Delta	San Francisco Bay and Sacramento-San Joaquin River Delta
BOE	Bureau of Engineering
BOU	Burbank Operable Unit
BOUTF	Burbank Operable Unit Treatment Facility
BWP	Burbank Water and Power
BWRP	Burbank Water Reclamation Plant
CalWEP	California Water Efficiency Partnership
CAMP4W	Climate Adaptation Master Plan for Water
CBWRP	Central Basin Water Rights Panel
CCC	cooperative containment concept
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CII	commercial, industrial, and institutional
City	City of Los Angeles
CLCA	California Landscape Contractors Association
Conservation Ordinance	Emergency Water Conservation Plan
Cr(VI)	hexavalent chromium
CRA	Colorado River Aqueduct
CRB	Colorado River Board
CSLC	California State Lands Commission
CVP	Central Valley Project
CWC	California Water Code
CWP	LA County Water Plan
CY	calendar year
DAC	disadvantaged community
DCTWRP	Donald C. Tillman Water Reclamation Plant
DDW	State Water Resources Control Board Division of Drinking Water
DEOC	Department Emergency Operations Center
DFA	State Water Resources Control Board Division of Financial Assistance
DIM	dedicated irrigation meters

DPR	direct potable reuse
DPR Pilot	LADWP Headworks DRP Pilot
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
ECLWRF	Edward C. Little Water Recycling Facility
EIR	Environmental Impact Report
EMD	Emergency Management Department
EOC	Emergency Operations Center
EOO	Emergency Operations Organization
ERPs	Emergency Response Plans
ESD	explanation of significant differences
ETo	Evapotranspiration Rate
EWCP	Emergency Water Conservation Program
FAT	full advanced treated
FY	fiscal Year
GAC	granular activated carbon
GBUAPCD	Great Basin Unified Air Pollution Control District
GCMs	global climate models
GPCD	gallons per capita per day
gpf	gallons per flush
gpm	gallons per minute
GSA	Groundwater Sustainability Agency
GSIS	Groundwater System Improvement Study
GSP	Groundwater Sustainability Plan
HSG	Hansen Spreading Grounds
HWRP	Hyperion Water Reclamation Plant
IPR	indirect potable reuse
IRP	Integrated Resources Plan
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
kWh/AF	kilowatt hours per acre feet
LA GWR	Los Angeles Groundwater Replenishment
LA River	Los Angeles River
LAA	Los Angeles Aqueduct
LAAFP	Los Angeles Aqueduct Filtration Plant
LACDPH	Los Angeles County Department of Public Health
LACFCD	Los Angeles County Flood Control District
LADWP	Los Angeles Department of Water and Power
LAGWRP	Los Angeles - Glendale Water Reclamation Plant
LAMC	Los Angeles Municipal Code
LARWQCB	Los Angeles Regional Water Quality Control Board
LASAN	Los Angeles Bureau of Sanitation and Environment
LAUSD	Los Angeles Unified School District

LAX	Los Angeles International Airport
LEAP	Landscape Efficiency Assistance Program
LEF	Landscape Efficiency Factor
LORP	Lower Owens River Project
LTWA	Long Term Water Agreement
MAF	million acre-feet
MBR	membrane bioreactor
MCL	Maximum Contaminant Level
mgd	million gallons per day
MOU	memorandum of understanding
MWD	Metropolitan Water District of Southern California
MWELO	Model Water Efficient Landscape Ordinance
MWIP	Manhattan Wellfields Improvement Project
MWOIP	Manhattan Wellfields Operational Improvement Project
NCP	National Contingency Plan
NdN	nitrification/denitrification
NFT	non-functional turf
NHOU	North Hollywood Operable Unit
NHOU-1IR	North Hollywood Operable Unit First Interim Remedy
NL	Notification Level
NOAA	National Oceanic and Atmospheric Association
NPR	non-potable reuse
NRW	non-revenue Water
OLMP	Owens Lake Master Project
Ozone-BAC	ozone and biologically activated carbon
PCE	perchloroethylene
PEIR	Programmatic Environmental Impact Report
PFAS	Poly- and Perfluoroalkyl Substances
PFOA	Perflurooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
ppb	parts per billion
PPIC	Public Policy Institute of California
PRP	potentially responsible parties
R-LAM	Residential Landscape Area Measurement
RO	reverse osmosis
ROD	record of decision
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWA	raw water augmentation
RWQCB	Regional Water Quality Control Board
RY	runoff year
SB	Senate Bill
SCAG	Southern California Association of Governments'
SCMP	Stormwater Capture Master Plan

sf	square foot/feet
SFB	San Fernando Basin
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SMB	Santa Monica Basin
SoCalGas	Southern California Gas Company
SSPs	shared socioeconomic pathways
State	State of California
SWP	California State Water Project
SWRCB	State Water Resources Control Board
TAF	thousand acre-feet
TAP	Technical Assistance Program
TCE	trichloroethylene
TDS	total dissolved solids
TIWRP	Terminal Island Water Reclamation Plant
TOC	total organic carbon
TRDS	Turf Replacement Design Services
TWA	Treated Water Augmentation
TWB2	Tillage with Shallow Flood BACM Back-up
UCLA	University of California, Los Angeles
ULARA	Upper Los Angeles River Area
ULF	ultra low flush
US EPA	United States Environmental Protection Agency
USBR	United States Bureau of Reclamation
UV	Ultraviolet Light
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
UWUO	Urban Water Use Objective
VOCs	volatile organic compounds
WBMWD	West Basin Municipal Water District
WCM	water conservation model
WCPS	Water Conservation Potential Study
WCRU	Water Conservation Response Unit
WECC	Water Emergency Command Center
WELDCP	Water Efficient Landscape Dual Certification Program
WRD	Water Replenishment District of Southern California
WRF	Water Recycling Facility
WSCP	Water Shortage Contingency Plan
WSDM	Water Surplus and Drought Management

Executive Summary

This executive summary satisfies the requirements of California Water Code (CWC) Section 10630.5 to include a simple lay description of the Los Angeles Department of Water and Power's (LADWP) future water supply reliability.

ES.1 Overview and Purpose of Plan

In 1902, the City of Los Angeles (City) established a municipal water system by acquiring title to the Los Angeles City Water Company and affiliate corporations to serve its population of 142,000 residents. In 1925, the City Charter established LADWP. LADWP has since met the City's needs for water resources and supported the City's growth into the nation's second-largest city, with nearly four million residents across 473 square miles of service area. Today, LADWP is the largest municipal water and power utility in the nation, providing clean, reliable water and power and excellent customer service in a safe, environmentally responsible, and cost-effective manner.

Overview

LADWP has a strong record of water resources management and integrated resource planning. Faced with continually evolving water demand trends and multi-year dry periods, LADWP is addressing the challenge of providing a reliable water supply for a growing population by expanding local water supply programs. LADWP continues to make significant investments in local groundwater, recycled water, stormwater capture, water conservation, and water use efficiency to further diversify its water supply portfolio. LADWP is committed to meeting all the City's current and future water needs while increasing supply reliability by continuing to:

- Maintain access to imported supplies
- Diversify LADWP's water supply portfolio through the development of local supplies
- Improve water use efficiency and achieve significant water conservation

Purpose of Plan

The California Urban Water Management Planning Act (UWMP Act) requires that every urban water supplier prepare and adopt an Urban Water Management Plan (UWMP) every five years. Since its enactment in 1983, there have been several amendments. However, no new amendments have been adopted since the publication of LADWP's 2020 UWMP. The main purpose of the UWMP is to forecast future water demands and available water supplies under various hydrologic scenarios, identify future water supply projects and programs, provide a reliability assessment for average, single dry year, and multi-dry years, and assess near term drought risk.

LADWP's 2025 UWMP complies with the requirements of the UWMP Act and details how LADWP plans to meet all the City's water supply goals and objectives while serving customers' projected water needs. The UWMP serves two purposes:

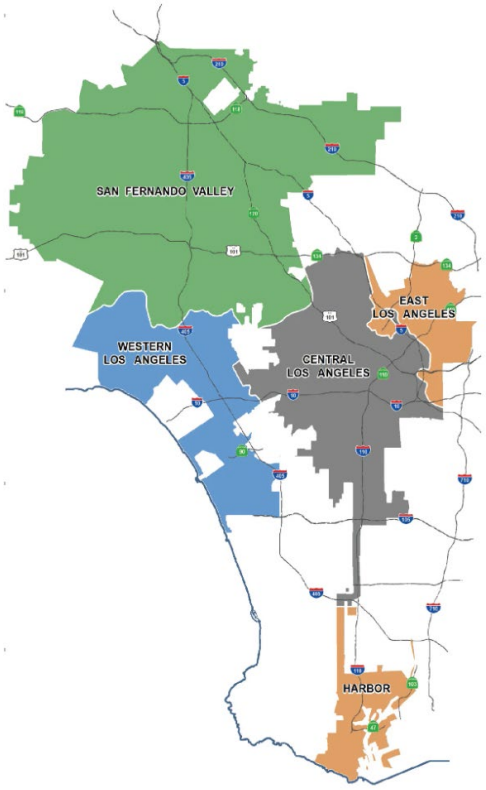
- It identifies long-term strategies for the City's reliable water supply and managing water resources consistent with the City's goals and policy objectives; and
- It provides the information required by the UWMP Act.

ES.2 LADWP's Service Area

Demographics and Climate

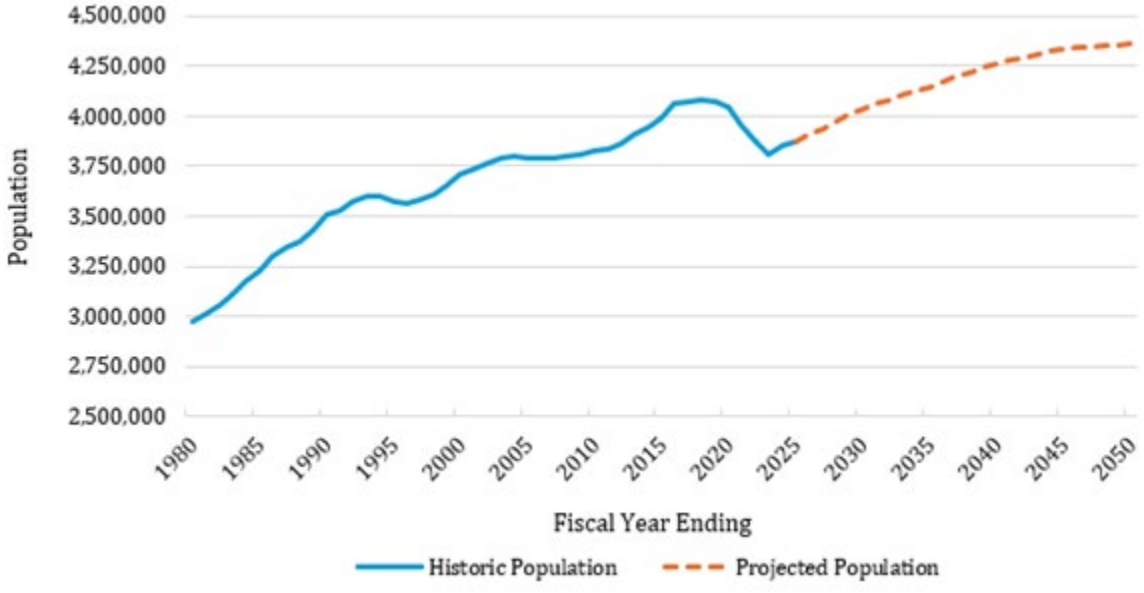
Nearly four million people reside in the LADWP service area, which extends slightly beyond the legal boundary of the City in certain areas. LADWP also provides water to portions of Beverly Hills, Burbank, Calabasas, Culver City, Inglewood, Lomita, Lynwood, Santa Monica, West Hollywood, and unincorporated areas of Los Angeles County, as shown in Exhibit ES-A. In 2025, LADWP's service area had a population of approximately 3.88 million residents and 1.49 million housing units with an average household size of 2.5 persons per household.

Exhibit ES-A
LADWP Service Area



Demographic projections for the LADWP service area are based on the Southern California Association of Governments' (SCAG) demographic growth forecast for their 2024 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The Metropolitan Water District of Southern California (MWD) collaborates with SCAG to aggregate demographic data for each of its 26 member agencies' service areas using service area boundaries. LADWP has adopted these demographic projections, including population, occupied households, household size, and employment, for the water demand forecast contained in its UWMP. Exhibit ES-B summarizes the population projections for LADWP's service area. Based on SCAG's projections, LADWP's service area population is expected to grow over the next 25 years at a rate of approximately 0.5 percent annually. This rate is consistent with the historical 0.7 percent annual growth rate from 1980 to 2020 and projects approximately 475,900 new residents over the next 25 years.

Exhibit ES-B
Population Projections for LADWP's Service Area



The City's climate is predominantly mild, a key characteristic that attracts residents, businesses, and visitors. Due to its relative dryness, this climate is classified as Mediterranean. Exhibit ES-C provides a summary of average monthly rainfall, maximum temperatures, and evapotranspiration readings.

Exhibit ES-C
Average Climate Data for Los Angeles 2000-2025

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Maximum Temperature (°F)[1]	68.67	68.51	70.26	72.48	74.12	77.76	82.99	84.19	83.42	78.98	73.48	67.45	75.19
Average Precipitation (inches)[1]	2.79	3.39	1.93	0.58	0.26	0.01	0.03	0.12	0.16	0.63	0.76	2.82	13.48
Average ETo (inches)[2]	2.28	2.60	3.88	4.78	5.23	5.58	6.34	6.17	4.79	3.55	2.54	1.95	49.68

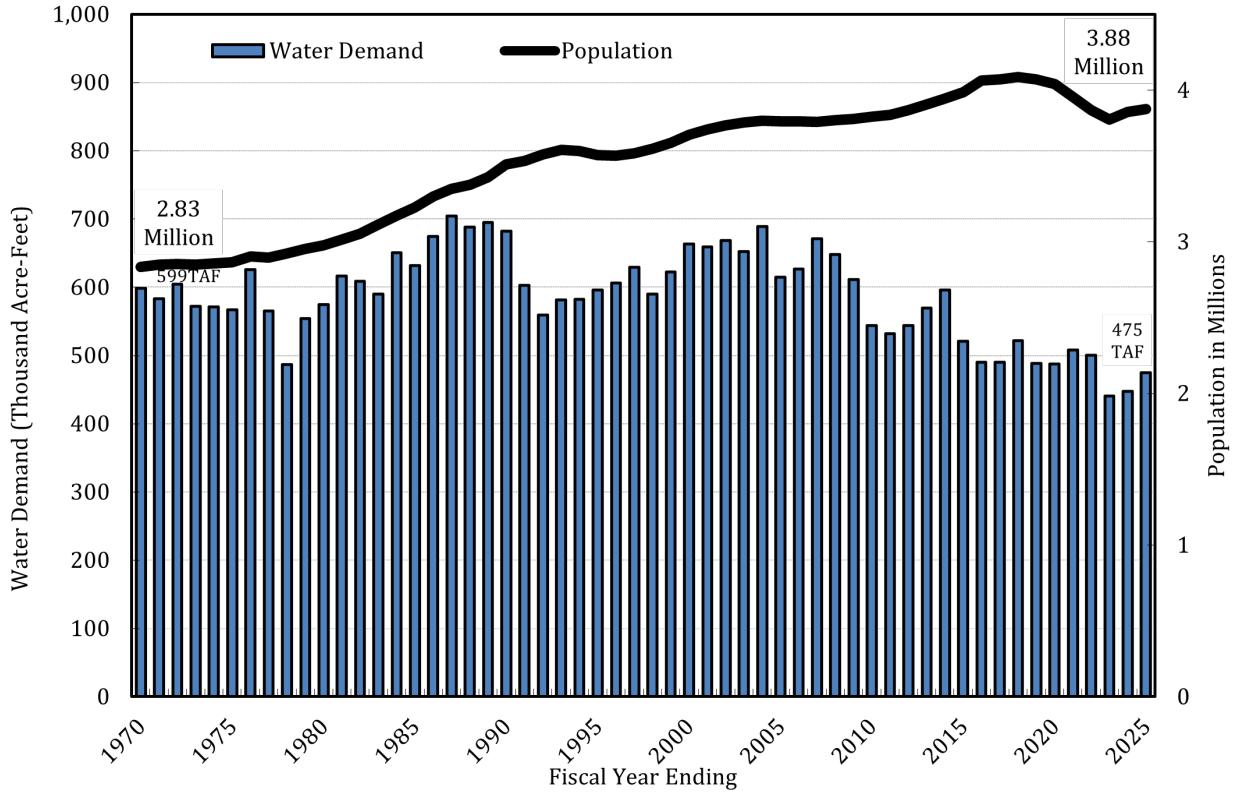
1. FY 2000/01 to FY 2024/25, National Oceanic and Atmospheric Administration Los Angeles Downtown Weather Station, USW00093134
2. cimis.water.ca.gov Average of Santa Monica (Id. 99) and Pomona (Id. 78) from FY 2000/01 to FY 2024/25

In addition to historical observed climate data, potential climate change impacts to the LADWP service area were evaluated in collaboration with the University of California, Los Angeles (UCLA) through global climate modeling (2025 UCLA Study). The 2025 UCLA Study analyzed 12 global climate models (GCMs) under various shared socioeconomic pathways (SSPs). Under SSP 3-7.0, using the 12 GCMs, the projected change in average maximum temperature and average annual precipitation from the 2050 average is an increase of approximately 5 percent and 6 percent, respectively.

ES.3 Historical Water Use

LADWP's historical water demand, as illustrated in Exhibit ES-D, shows that population growth in the City was a primary driver of total demand until 1990. However, LADWP's water demand trends began to deviate from population trends beginning around 1990 as conservation measures helped reduce water demands. As a result, average water demand in recent years is lower than demand observed in 1970, despite the City's population increasing by more than one million residents.

Exhibit ES-D
Historical City of Los Angeles Water Use



The City has long recognized that water conservation is the foundation of multiple strategies to improve water supply reliability for its residents. LADWP has taken a leadership role in managing its demand for water by creating a robust program to reduce water waste, educating its customers in water conservation and efficient water use, incentivizing the installation of water saving devices in homes and businesses, and transforming Angeleno's long-term water use behaviors. Through its investments in hardware-based conservation, it is estimated that more than 150,000 acre-feet per year (AFY) of savings is being achieved.

LADWP has developed many progressive water conservation and use efficiency programs in conjunction with state and local conservation ordinances and plumbing codes to achieve water conservation throughout its service area and customer classes. These include:

- **State laws and City Ordinances** - Such as the Model Water Efficient Landscape Ordinance, installation of efficient fixtures, plumbing retrofit ordinance (LAMC, Article II, Chapter XII), and Emergency Water Conservation Plan Ordinance (LAMC, Article I, Chapter XII)

- **Conservation Pricing** - Use of an ascending tier rate structure that is completely volumetric, which applies a lower first tier rate for water within a specified allocation and higher successive tier rates for every billing unit exceeding the first-tier allocation
- **Water Conservation Outreach Program** - Includes education in schools, public awareness/support campaigns, hands on workshops, and seminars
- **Rebate programs** – Includes financial rebates and incentives for nearly every water using device both indoor and outdoor across every customer class

ES.4 Existing Water Supplies

LADWP's water supply portfolio consists of imported water from the Los Angeles Aqueduct (LAA), local groundwater, recycled water, and purchased supplemental supplies from MWD. MWD supplies are sourced from the State Water Project and the Colorado River. A map depicting the relative location of these sources is shown in Exhibit ES-E. Exhibit ES-F details historical water supplies from fiscal year (FY) 1980/81 to FY 2024/25 and illustrates LADWP's growing reliance on purchased supplemental supplies from MWD over the last 30 years, as supply availability from the LAA has been impacted by hydrologic variability and environmental and regulatory restrictions and local groundwater production became limited due to groundwater contamination.

Exhibit ES-E
LADWP Water Supply Sources

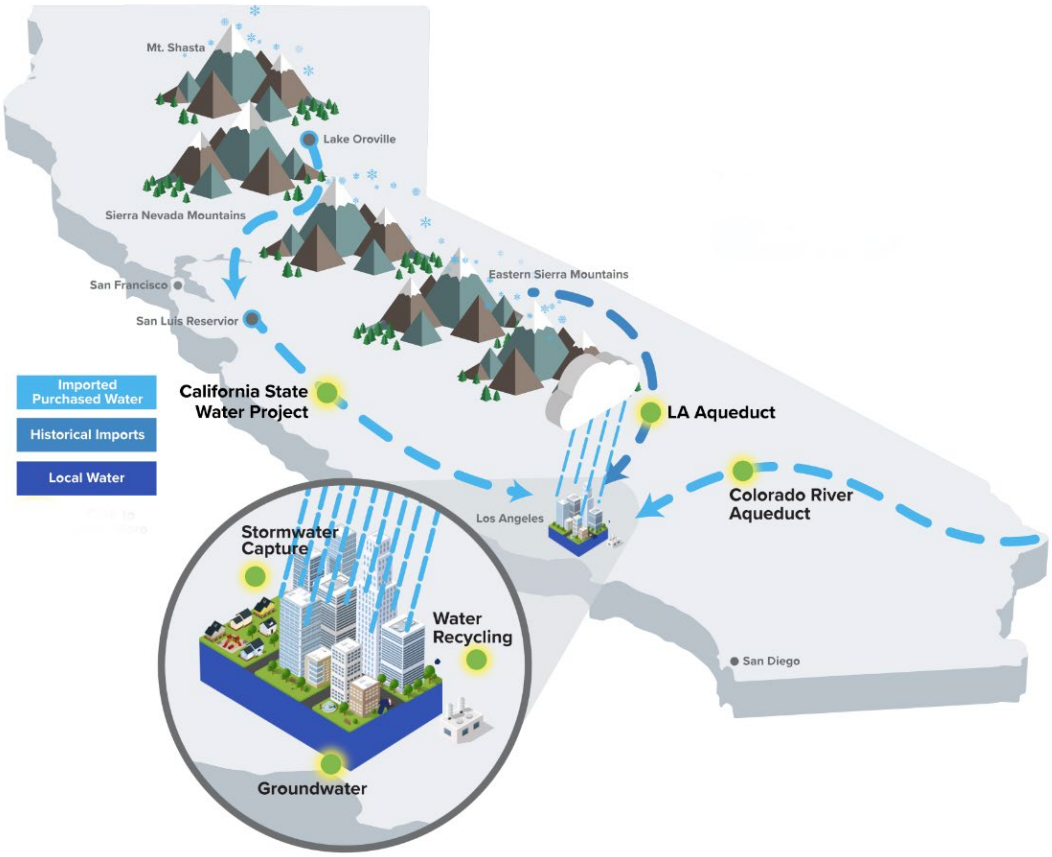
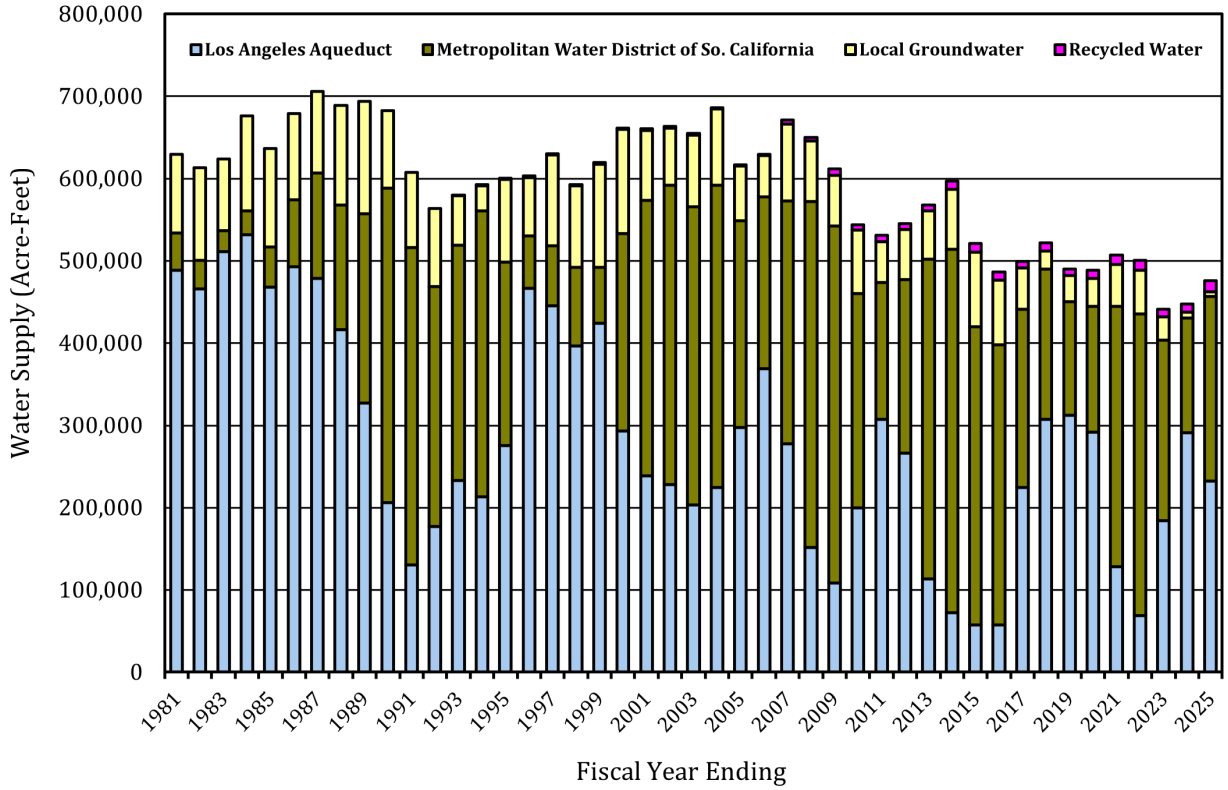


Exhibit ES-F
LADWP Historical Water Supply from FY 1980/81 to FY 2024/25



Los Angeles Aqueduct Supplies

Since its completion in 1913, the LAA has been a foundational supply for the City. The LAA historically supplied the vast majority of water for the City, supplying 531,729 acre-feet (AF) at its peak in FY 1983/84. LAA deliveries are dependent on Eastern Sierra Nevada hydrology, years with abundant snowpack typically yield larger LAA deliveries while dry years yield less. Since 1989, LAA deliveries to the City have been significantly reduced due to environmental enhancement efforts in the Eastern Sierras. Over the most recent 5-year period from FY 2020/21 to FY 2024/25, LAA deliveries averaged 181,022 AFY.

Local Groundwater Supplies

Local groundwater is also foundational to the City's local water supply portfolio. The City holds water rights to produce in the San Fernando, Sylmar, Eagle Rock, Central, and West Coast Groundwater Basins. Each of these basins have been adjudicated by California courts and are governed by judicial decrees. The City's combined adjudicated water rights in these basins totals approximately 109,800 AFY. Over the last five years, local groundwater has provided approximately 28,985 AFY for the City. Groundwater provided 136,376 AF at its peak in FY 1988/89. As demonstrated in Exhibit ES-F, groundwater production has reduced over the last 30 years as the presence of industrial groundwater contamination has significantly impeded LADWP's ability to fully exercise its groundwater rights. LADWP has made significant investments in its groundwater remediation program to address contamination and restore the beneficial uses of the basins.

Recycled Water Supplies

LADWP's water recycling program relies on the City's wastewater treatment and reclamation facilities located within and outside of the City's boundaries. Wastewater in the City is collected and conveyed to four water reclamation plants: the Donald C. Tillman Water Reclamation Plant (DCTWRP), Los Angeles – Glendale Water Reclamation Plant (LAGWRP), Terminal Island Water Reclamation Plant (TIWRP), and Hyperion Water Reclamation Plant (HWRP). The City of Los Angeles Department of Public Works, Los Angeles Bureau of Sanitation and Environment (LASAN) owns and operates these wastewater treatment facilities, with the exception of LAGWRP which is jointly owned by Los Angeles and the City of Glendale. Treated effluent meeting recycled water standards from the City's four water reclamation plants is utilized by LADWP to meet recycled water demands. LADWP's water recycling program also utilizes recycled water sourced from reclamation facilities located outside of the City to supplement its supply. Current uses of recycled water are for non-potable reuse only and, LADWP's use of recycled water has steadily increased over the last 30 years, with peak deliveries of 13,241 AF in FY 2024/25, as shown in Exhibit ES-F.

Metropolitan Water District Supplies

The Metropolitan Water District of Southern California (MWD) is Southern California's regional water wholesaler. MWD is comprised of 26 member agencies with a combined service area of approximately 5,200 square miles, serving a population of approximately 19 million people. MWD imports water from the Colorado River and the State Water Project. As a founding member of MWD, the City, through LADWP, purchases supplemental supplies to meet its demands and maintain reliability, particularly as LAA supplies have been reduced due to increasing environmental mitigation and enhancement requirements and groundwater contamination has limited LADWP's groundwater production. While LADWP plans to improve its water supply reliability through investments in additional local supply development and conservation, the City has made significant investments in MWD and will continue to rely on the wholesaler to meet current and future supplemental water needs.

ES.5 Water Supply Reliability Assessment

Service Area Reliability Assessment

LADWP defined the following three hydrologic conditions based on historic Eastern Sierra Nevada conditions to determine its overall service area reliability in compliance with CWC Section 10635(a):

- Average year (30-year median hydrology from FY 1990/91 to FY 2019/20)
- Single dry year (repeat of the FY 2021/22 hydrology)
- Multiple dry year (repeat of FY 2011/12 to FY 2015/16 hydrology)

These defined hydrologic scenarios are used to forecast the corresponding level of LAA water supply availability, the availability of local supplies, corresponding demands, and resulting need for supplemental MWD supplies. Exhibits ES-G, ES-H, and ES-I detail the service reliability assessment for average year, single dry year, and multiple dry year conditions, respectively. Exhibit ES-I shows the driest year of the multiple dry year sequence to demonstrate projected reliability under the most extreme condition in the five-year sequence. No water supply shortages are anticipated as projected demands are met by the available supplies under all hydrologic scenarios.

Exhibit ES-G
Service Area Reliability Assessment for Average Year

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Average Year (30-year median hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	193,400	193,400	193,400	193,400	193,400
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – Groundwater Replenishment Project (LA GWR)	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	133,900	95,200	100,800	104,700	105,300
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit ES-H
Service Area Reliability Assessment for Single Dry Year

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Single Dry Year (FY 2021/22 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	59,400	58,900	58,300	57,800	57,200
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	267,900	229,700	235,900	240,300	241,500
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit ES-I
Service Area Reliability Assessment for Multiple Dry Years

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Multiple Dry Year (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	62,200	61,600	61,000	60,500	59,900
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	265,100	227,000	233,200	237,600	238,800
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Drought Risk Assessment

In addition to the water supply reliability assessment, LADWP conducted a drought risk assessment in compliance with CWC Section 10635(b). This analysis evaluates anticipated water demands and supplies over a five-year dry period assumed to start in FY 2025/26. As detailed in Exhibit ES-J, the drought risk assessment simulates LAA hydrology from LADWP's driest five-consecutive year sequence on record from FY 2011/12 to FY 2015/16. No water supply shortages are anticipated as projected demands are met by the available supplies under the drought risk assessment.

Exhibit ES-J
Service Area Drought Risk Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Drought Risk Assessment (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2026	2027	2028	2029	2030
Water Demand	**475,900***	**474,100**	**473,400**	**473,000**	**472,500**	**472,300**
Supplies						
Los Angeles Aqueduct	232,200	90,500	71,900	66,800	61,700	184,800
Local Groundwater	6,100	92,300	94,900	94,900	94,900	103,800
Recycled Water – LA GWR	-	-	-	-	22,000	22,000
Recycled Water – Non-potable Use	13,200	13,700	16,100	16,300	17,900	19,200
Metropolitan Water District	224,400	277,600	290,500	295,000	276,000	142,500
Total Supplies	***475,900***	***474,100***	***473,400***	***473,000***	***472,500***	***472,300***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

ES.6 Water Demand and Supply Forecasts

Water Demand Forecast

LADWP has developed a statistical demand forecast model to project demand through 2050. The demand forecast model incorporates various demand drivers including population, housing, employment, land use, and long-term climate projections to estimate demand over the next 25 years. Forecasted results show that demand is projected to increase gradually over the planning horizon prior to accounting for demand reductions due to additional planned conservation savings.

With the addition of planned future conservation savings, overall demand is expected to decrease in the near-term, followed by a gradual increase through 2050. This response is driven by achieving saturation of conservation savings saturations by 2035, followed by increasing demands driven by projected growth. Savings saturations were identified in LADWP's Water Conservation Potential Study, which identified a maximum cost-effective savings potential of approximately 140,000 AFY by 2035 compared to the FY 2013/14 baseline. These projected savings were incorporated into the statistical demand forecast and the resulting demands are presented in Section ES.5.

Supply Forecasts

Los Angeles Aqueduct Supplies

LAA supplies were forecasted based on repeating historical Eastern Sierra hydrologic sequences as described in Section ES.5. Additional adjustments to modeling of historic sequences were made to incorporate current operating conditions and potential climate impacts. Potential climate impacts are based on results from a 2023 Climate Study developed in collaboration with the University of California, Los Angeles. The study results suggest minimal changes to long term availability of LAA supplies under average year conditions, however, intensifying hydrologic extremes may result in reduced supply availability under dry year conditions. As a result, long term availability of LAA supplies under average year conditions remain constant, with a reduction of approximately 0.19 percent annually applied under dry year conditions.

Local Groundwater Supplies

The groundwater production forecasts reflect LADWP's anticipated capacity to pump and treat its annual groundwater entitlements with the following assumptions: (1) groundwater basin elevations can support this level of pumping on a safe yield basis (2) LADWP's planned groundwater treatment facilities will be operational by FY 2025/26; and (3) Sylmar and Central Basin production capacity will increase based on the completion of various wellfield improvement projects.

Stormwater Capture

LADWP continues to prioritize stormwater capture as a core component of its water management strategy through continued investment in both centralized and distributed capture systems to replenish the groundwater basins to support LADWP's ability to produce groundwater on a safe yield basis. Stormwater runoff from urban areas is a valuable yet underutilized local water resource that is crucial to sustaining healthy groundwater basins. Most stormwater runoff in the City is directed into storm drains and ultimately discharged into the ocean. Meanwhile, local groundwater aquifers are receiving less natural recharge due to increased urbanization. Maximizing stormwater capture for groundwater recharge is a fundamental goal of the City's watershed management efforts.

Recycled Water Supplies

LADWP is planning for continued investments into its recycled water program by expanding irrigation and industrial non-potable reuse, groundwater replenishment with indirect potable reuse (IPR), and exploring other IPR and direct potable reuse (DPR) opportunities. Major recycled water initiatives over the UWMP planning horizon include the Los Angeles Groundwater Replenishment Project (LA GWR) to replenish the SFB, and supply the Dominguez Gap Seawater Intrusion Barrier with 100 percent recycled water. Upon completion of these two projects, available wastewater from DCTWRP, LAGWRP, and TIWRP will become fully utilized, resulting in stable projections for future RW production. The Pure Water Los Angeles Program seeks to maximize use of wastewater from HWRP and is discussed further in Section ES.8.

Metropolitan Water District Supplies

Despite facing uncertain hydrological conditions, water quality issues, and operational constraints, MWD's 2025 Urban Water Management Plan indicates that MWD projects to maintain a surplus supply condition for its member agencies through 2050 during average (calendar year (CY) 1922 – 2021 hydrology), single dry (CY 1977 hydrology), and multiple dry years (CY 1988 - 1992 hydrology). The anticipated surplus condition under all hydrologic scenarios is dependent upon MWD's ability to meet the City's supplemental water

demands in LADWP's water supply reliability analysis. Additional information on MWD's water supplies and its UWMP can be found at mwdh2o.com/how-we-plan.

ES.7 Pure Water Los Angeles

The Pure Water Los Angeles Program, formerly known as LADWP's Operation NEXT and LASAN's Hyperion 2035, is the City's largest local water supply and reuse initiative and is being developed through a partnership between LADWP and LASAN. The Pure Water Los Angeles Program aims to maximize potable reuse of wastewater from the HWRP and improve the health of Santa Monica Bay. The Pure Water Los Angeles Program is currently in the pre-planning phase and is supported by two foundational documents: the Program Implementation Plan for Hyperion and Pure Water Los Angeles Master Plan. These plans define the technical and institutional framework for implementation and were developed by LASAN and LADWP. The Pure Water Los Angeles Program may deliver up to potential maximum capacity as outlined in the Program Implementation Plan for Hyperion and Pure Water Los Angeles Master Plan; however, the final capacity is subject to adjustment as the City evaluates the Pure Water Los Angeles Program scale, affordability, operational flexibility, partnerships, and supply reliability.

ES.8 Water Shortage Contingency Plan

As required by CWC Section 10632, LADWP has developed a Water Shortage Contingency Plan (WSCP), which is included as Appendix A. The WSCP establishes six standard water supply shortage levels and corresponding shortage response actions as reflected in Exhibit ES-K. The decision-making process LADWP utilizes each year to determine shortage conditions begins with an assessment of its water demand and availability of water supplies. LADWP's assessment also includes a review of local and regional infrastructure to determine possible limitations to supply availability. If available supplies are sufficient to meet projected demands, then a condition of no shortage will be determined. If a shortage condition is identified, the magnitude of the shortage will determine LADWP's response to the shortage, corresponding to the established standard water shortage levels.

Exhibit ES-K
Summary of LADWP Water Shortage Level Response Actions

Water Shortage Level	Percent Shortage	Emergency Water Conservation Plan Phase	Additional WSCP Actions
No Shortage		Phase 1 & Phase 2	
Shortage Level 1	Up to 10%		Operation Changes
Shortage Level 2	Over 10% and up to 20%	Phase 3	
Shortage Level 3	Over 20% and up to 30%	Phase 3	Supply Augmentation
Shortage Level 4	Over 30% and up to 40%	Phase 4	
Shortage Level 5	Over 40% and up to 50%	Phase 5	
Shortage Level 6	Greater than 50%	Phase 6	

Note: Actions identified under specific shortage levels are cumulative and will encompass all actions identified in preceding shortage levels.

ES.9 Conclusion

LADWP's 2025 UWMP not only meets the current requirements of the UWMP Act but also outlines strategies for water supply and resource management for the next 25 years. It lays out a detailed plan to develop a reliable water supply portfolio that includes maintaining access to existing supplies, diversifying LADWP's water supply portfolio through the development of new local supplies, and improving water use efficiency and achieving significant water conservation by FY 2049/50. In the event of water shortages, LADWP will implement its WSCP and take reasonable actions to balance water demand with limited water supplies. Based on the overall service area reliability assessment in compliance with CWC Section 10635(a), LADWP anticipates all demands can be met by the available supplies under all reliability scenarios.

Chapter 1 Introduction

1.0 Overview

In 1902, the City of Los Angeles (City) established a municipal water system by acquiring title to the Los Angeles City Water Company and affiliate corporations to serve its population of 142,000 residents. In 1925, the City Charter established the Los Angeles Department of Water and Power (LADWP). LADWP has since met the City's increasing needs for water resources and supported the City's growth into the nation's second-largest city, with nearly four million residents across 473 square miles of service area. Today, LADWP is the largest municipal water and power utility in the nation, providing clean, reliable water and power and excellent customer service in a safe, environmentally responsible and cost-effective manner.

LADWP has a strong record of water resources management and integrated resource planning. Faced with increasing water demands and dry periods, LADWP is addressing the challenge of providing a reliable water supply under rapidly changing climate and highly dynamic socio-economic conditions. LADWP continues to make significant investments in local groundwater, recycled water, stormwater capture, and water conservation and use efficiency to further diversify its water supply portfolio. LADWP is committed to meeting all the City's current and future water needs while increasing supply reliability by continuing with the strategy to:

Maintain access to imported supplies by:

- Increasing operational integrity of the Los Angeles Aqueduct (LAA)
- Ensuring continued reliability of the water supplies from the Metropolitan Water District of Southern California (MWD) through active representation of the City's interests on the MWD Board of Directors

Diversify LADWP's water supply portfolio through the development of local supplies including:

- Maximizing and expanding local groundwater production
- Expanding water reuse
- Increasing stormwater capture capacity

Continuing to improve water use efficiency and achieving significant water conservation by:

- Continuing existing and developing new water efficiency and conservation programs
- Reaching the savings targets identified in the 2017 Water Conservation Potential Study (WCPS)
- Meeting the State's Urban Water Use Objectives (UWUO)

1.1 Purpose

LADWP's 2025 Urban Water Management Plan (UWMP) has two purposes: (1) it identifies long-term strategies for the City's reliable water supply and managing water resources consistent with the City's goals and policy objectives, and (2) it fulfills LADWP's obligations under the California Urban Water Management Planning Act (UWMP Act), as codified in California Water Code (CWC) Division 6, Part 2.6, Section 10610, et seq.

UWMP Requirements and Checklist

This 2025 UWMP complies with the UWMP Act, and details how LADWP plans to meet all the City's water supply goals and objectives while serving customers' projected water needs. The UWMP Act became effective on January 1, 1984, and mandates that every urban water supplier that provides municipal and industrial water to more than 3,000 customers (or supplies more than 3,000 acre-feet per year (AFY)) prepare and adopt a UWMP every five years in compliance with state guidelines and requirements.

The UWMP Act was originally developed to address potential water supply shortages throughout California. It required information that focused primarily on water supply reliability and water use efficiency measures. While there have been several amendments to the UWMP Act since its enactment, no amendments have been made since the submission of the 2020 UWMP. A checklist cross-referencing UWMP Act requirement to applicable pages in this UWMP is provided in Appendix A.

With the amendments to CWC Sections 10631 and 10656 (through the passage of SB 610 and SB 221 in 2001 and SB x7-7 in 2009), UWMPs have become more important in supporting developments. SB 610 and SB 221 require counties and cities to consider the availability of adequate water supplies for certain proposed large developments and to have written verification of sufficient water supply to serve them. UWMPs are identified as key source documents for this verification. Based on these statutes, LADWP prepares individual Water Supply Assessments for these qualifying large developments. Excluding certain exceptions, failure to meet adopted targets will result in the ineligibility of a water supplier to receive state grants or loans.

1.2 Service Area

LADWP's demand projections are influenced by demographics, land use, climate, and conservation. The following sections outline these components.

Demographics

Nearly four million people reside in the LADWP service area, which extends slightly beyond the City's legal boundary. LADWP also provides water to portions of Beverly Hills, Burbank, Calabasas, Culver City, Inglewood, Lomita, Lynwood, Santa Monica, West Hollywood, and unincorporated areas of Los Angeles County. The extents of LADWP's service are shown in Exhibit 1A.

The population within LADWP's service area increased from 2.97 million in 1980 to 3.88 million in 2025, representing an average annual growth rate of approximately 0.6 percent. The total number of housing units increased from 1.10 million in 1980 to 1.49 million in 2025, representing an average annual growth rate of 0.7 percent. During this time, average household size decreased from 2.7 persons per household in 1980 to 2.5 persons per household in 2025.

Employment grew by about 0.7 percent annually from 1980 to 1990 but declined from 1990 to 2010 as a result of two economic recessions. The first recession began in 1991 and was followed by another larger recession that began in 2008. Overall, employment decreased by about 0.3 percent annually from 1990 to 2010 and increased between 2010 and 2020 by approximately 1.7 percent, reflecting an improved economy. From 2020 to 2025, employment increased by 0.8 percent annually, reflecting a slowdown from previous growth following the COVID-19 pandemic. Exhibit 1B summarizes the recent historical demographics for the LADWP service area.

Exhibit 1A
LADWP Service Area

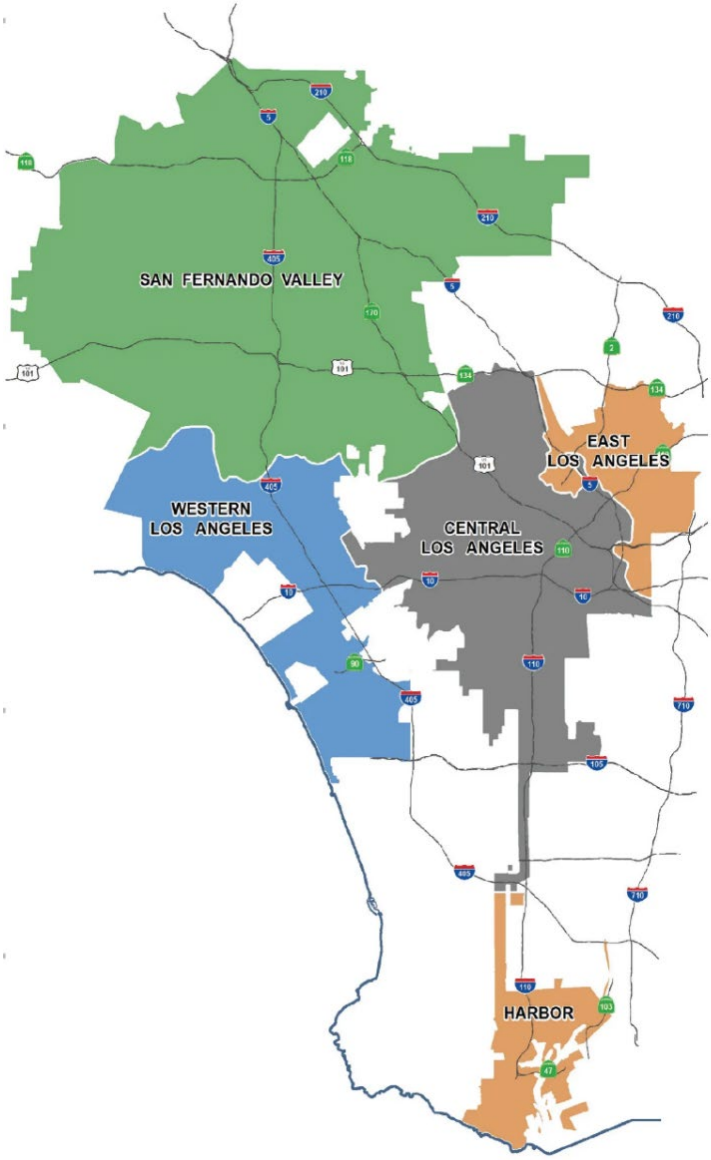
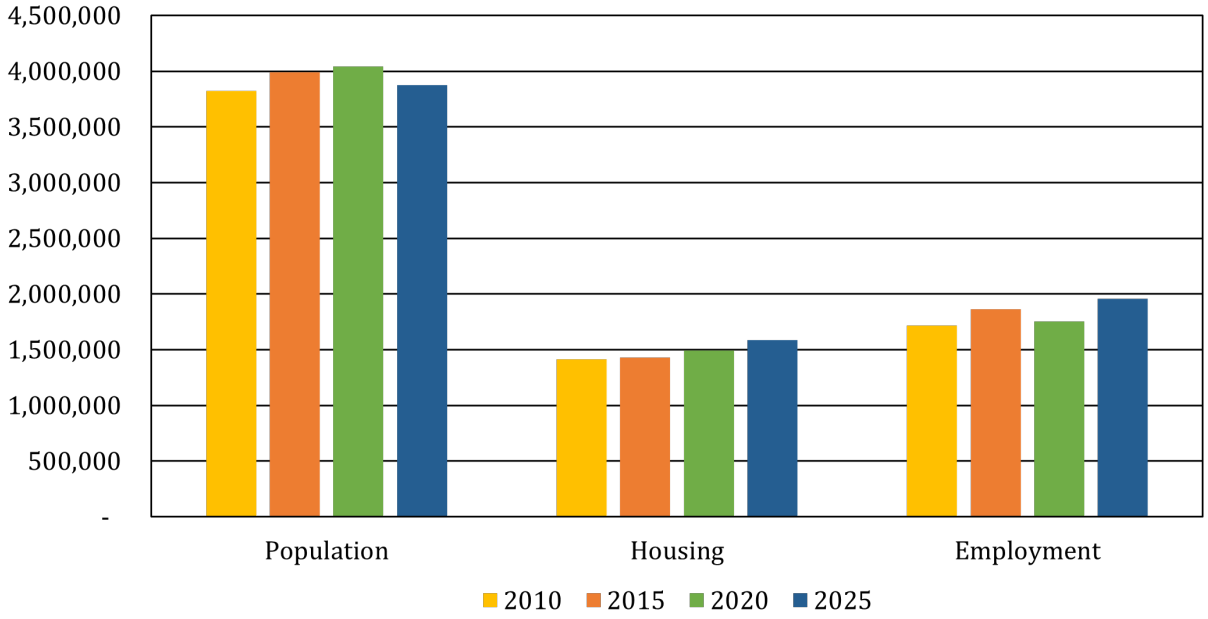


Exhibit 1B
Historical Demographics for LADWP Service Area by Fiscal Year



Source: Latest available estimates from the California Department of Finance and California Employment Development Department.

Demographic projections for LADWP's service area are based on the Southern California Association of Governments' (SCAG) demographic growth forecast for their 2024 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which can be found at scag.ca.gov/connect-socal. MWD collaborates with SCAG to aggregate demographic data for each of its 26 member agencies' service areas using service area boundaries. LADWP and MWD have adopted these demographic projections for water demand forecast in their respective UWMPs. SCAG and other regional California governments are projecting increases in housing over time to address the housing shortage that Southern California has experienced over the last two decades. Projected SCAG 2024 RTP/SCS data reflects these adjustments resulting in a reduction in persons per household seen in Exhibit 1C. The SCAG 2024 RTP/SCS was adopted by SCAG's Regional Council in September 2024.

Based on SCAG's forecast, LADWP's service area population is projected to grow over the next 25 years at a rate of approximately 0.5 percent annually. While this is substantially less than the historical 1.0 percent annual growth rate from 1980 to 2010, it will still lead to approximately 475,900 new residents over the next 25 years. Total housing is projected to grow at a slightly higher rate than population over the next 25 years at 0.9 percent annual growth versus 0.5 percent annual growth for population, and it is anticipated that household size will decline over the forecast period. By 2050, average household size is projected to decrease to 2.29 persons per household. Multi-family housing units are projected to increase at over two times the rate of single-family housing units throughout the forecast period at approximately 1.15 percent annual growth and 0.50 percent annual growth, respectively.

Employment is projected to increase by 0.26 percent annually throughout the forecast period. This growth is primarily driven by the current and long-term opportunities available from the economic base within the five-county metropolitan region of Southern California. The economic base is wide-ranging and includes professional and business services, wholesale and retail trade, manufacturing, public administration, financial service industries, information, transportation, warehousing, utilities, construction, education and health

services, and leisure and hospitality. Over the 25-year forecast period, industrial employment is projected to gradually decline between now and 2050 by 0.36 percent annually. Commercial employment is projected to increase by about 0.28 percent annually.

Exhibit 1C
Demographic Projections for LADWP Service Area

Demographic	2030	2035	2040	2045	2050
Population	4,037,000	4,148,800	4,262,700	4,336,900	4,358,100
Housing (occupied units)					
Single-Family	653,600	671,000	689,300	702,500	710,600
Multi-Family	989,700	1,056,200	1,104,400	1,134,200	1,145,800
Total Housing	*1,643,300*	*1,727,200*	*1,793,700*	*1,836,600*	*1,856,500*
Persons per Household	2.39	2.33	2.31	2.30	2.29
Employment					
Commercial	2,026,800	2,089,600	2,114,900	2,115,900	2,118,000
Industrial	93,100	92,200	90,700	86,300	82,600
Total Employment	*2,119,800*	*2,181,700*	*2,205,700*	*2,202,200*	*2,200,500*

Source: 2024 Regional Transportation Plan/Sustainable Communities Strategy, Southern California Association of Governments

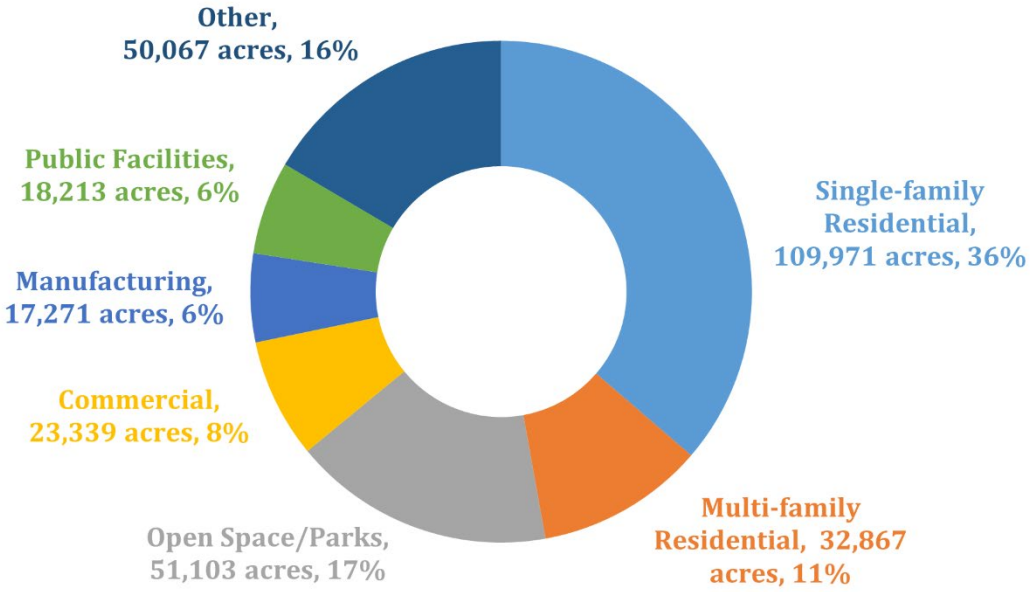
The 2025 UWMP presents higher projections for employment and housing but lower projections for population compared to projections presented in the 2020 UWMP. The 2020 UWMP was based on SCAG's 2020 RTP/SCS while the current 2025 projections incorporate the latest population, households, and employment data from multiple local, state, and federal agencies.

Demographic projections are primary drivers of water demand forecasting. Using the latest available information available is crucial, as projection errors may lead to an overestimate or underestimate of future water demands. The 2025 UWMP water demand forecast, detailed in Chapter 2, *Water Demand*, utilizes the latest available forecast from SCAG's 2024 RTP/SCS.

Land Use

The City is comprised of approximately 302,831 acres. Residential development constitutes approximately 47 percent of the total land use within the City. Single-family residential is the largest category within residential land use, covering approximately 110,000 acres, or 36 percent of the total land use within the City. Multi-family residential is approximately 33,000 acres or 11 percent of the total land use. Open space/parks are the second largest land use within the City at approximately 17 percent. Commercial, public facilities and manufacturing land uses combined account for approximately 20 percent of the total. Public facilities include land uses such as libraries, public schools, and other government facilities. Exhibit 1D provides a breakdown of the land uses within the City. The "Other" category includes City port and airport, transportation, freeways, parking, rights of way, and other miscellaneous areas without a designation. Projected land uses from the SCAG 2024 RTP/SCS were utilized to prepare the demographics projections used for demand forecasting described in Chapter 2, *Water Demand.*

Exhibit 1D
City of Los Angeles Land Uses



Source: planning.lacity.org

1. Includes agriculture use as defined by City of Los Angeles, Department of City Planning
2. Includes specific plans, transportation, freeways, parking, rights of way, and other miscellaneous areas without a designation

Climate

The City's climate is predominantly mild, a key characteristic that contributes to the City's appeal for residents, businesses, and visitors. Due to its relative dryness, this climate is classified as Mediterranean. Exhibit 1E provides a summary of average monthly rainfall, maximum temperatures, and evapotranspiration readings.

The City's average monthly maximum temperature is 75.19 degrees Fahrenheit based on the period of Fiscal Year (FY) 2000/01 through FY 2024/25. This is based on data from the National Oceanic and Atmospheric Administration's (NOAA) Los Angeles Downtown weather station. Total precipitation averages 13.48 inches per year, with over 91 percent of this total amount typically falling from November through April. The standard annual average evapotranspiration rate (ETo) for the City is 49.68 inches per year. ETo measures the loss of water to the atmosphere by evaporation from soil and plant surfaces and transpiration from plants. ETo serves as an indicator of how much water plants need for healthy growth.

Exhibit 1E
Average Climate Data for Los Angeles FY 2000/01 to FY 2024/25

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Maximum Temperature (°F)[1]	68.67	68.51	70.26	72.48	74.12	77.76	82.99	84.19	83.42	78.98	73.48	67.45	75.19
Average Precipitation (inches)[1]	2.79	3.39	1.93	0.58	0.26	0.01	0.03	0.12	0.16	0.63	0.76	2.82	13.48
Average ETo (inches)[2]	2.28	2.60	3.88	4.78	5.23	5.58	6.34	6.17	4.79	3.55	2.54	1.95	49.68

1. FY 2000/01 to FY 2024/25, National Oceanic and Atmospheric Administration Los Angeles Downtown Weather Station, USW00093134
2. cimis.water.ca.gov. Average of Santa Monica (Id. 99) and Pomona (Id. 78) from FY 2000/01 to FY 2024/25

1.3 Water Demand Supply Overview

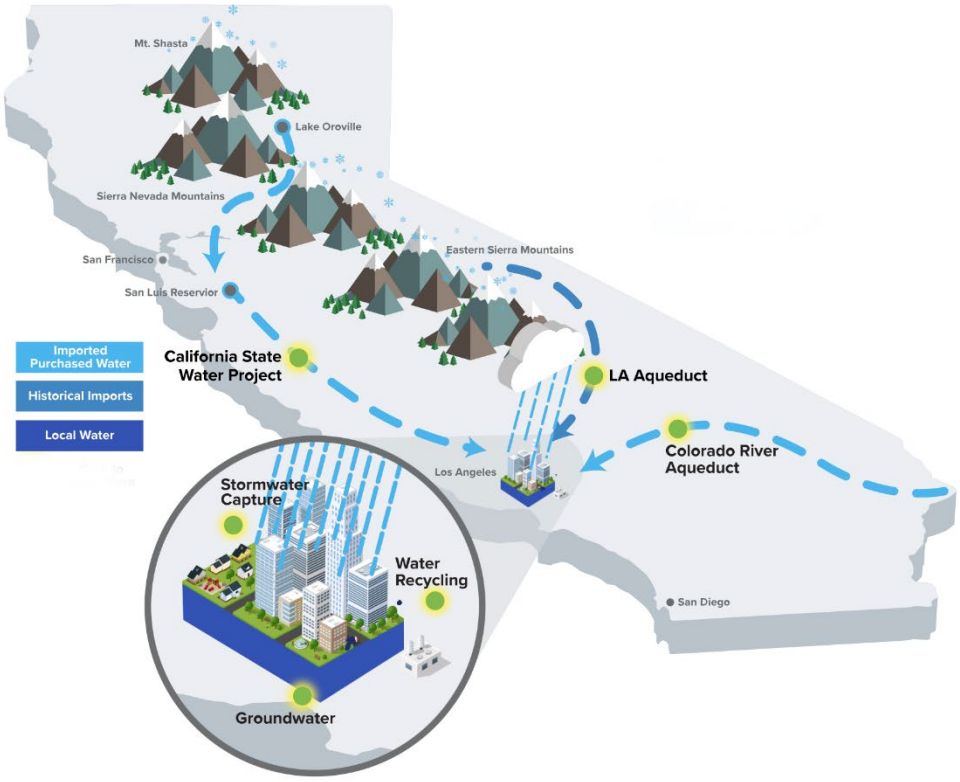
LADWP tracks historical water use data separated into the following sectors: single-family residential, multi-family residential, commercial, industrial, government, and non-revenue water (NRW). Single-family residential water use is the largest category of demand in LADWP's service area, representing about 34 percent on average during the previous five years. Multi-family residential water use is the next largest category of demand, representing about 30 percent on average. Industrial use is the smallest category, representing only 3 percent of the total demand. NRW is the difference between total water delivered to the City and total water sales. Chapter 2, *Water Demand* provides additional discussion of water demand trends and projections through the next 25 years.

Over the past 30 years, the City's water demand has undergone a drastic reduction, from a peak of 689,467 acre-feet (AF) in FY 2003/04 to 474,458 AF in FY 2024/25. Successive multi-year dry periods have reduced supplies and increased conservation efforts and water use efficiency.

Most recently, the start of a three-year dry period in 2020 resulted in diminished LAA supplies and placed a heavier reliance on purchased MWD water. In 2022, MWD implemented their Emergency Water Conservation Program (EWCP) that limited supplies to LADWP and select portions of MWD's service area due to infrastructure limitations in MWD's distribution system. Chapter 8, *Metropolitan Water District* provides additional discussion regarding MWD's water supplies and the EWCP. In response, LADWP implemented Level 3 of its Water Shortage Contingency Plan (WSCP) which restricted outdoor watering to two days per week. These restrictions were deescalated back to Level 2 in July 2023 following a historic wet year. The increased conservation efforts during this period resulted in a record low demand of 440,855 AF in FY 2022/23.

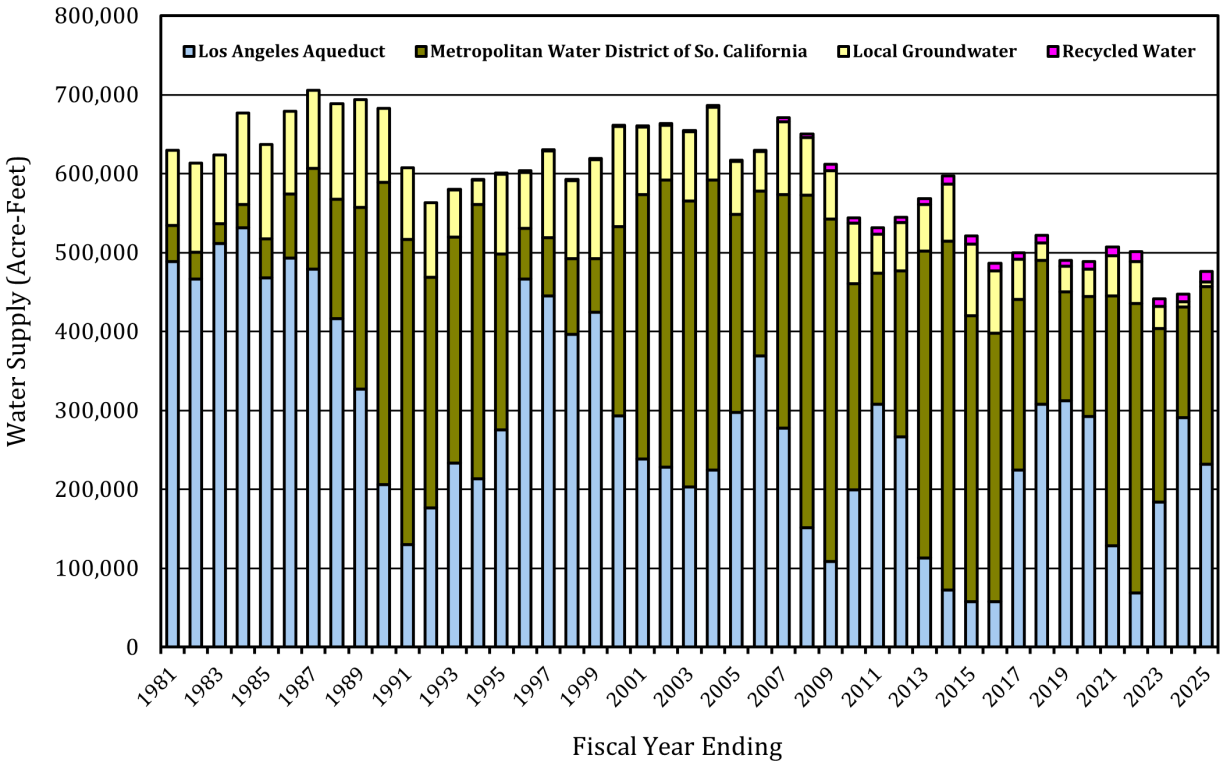
LADWP's supply sources include the LAA, local groundwater, recycled water, and imported supplemental water purchased from MWD. Water from the LAA and MWD are classified as imported because these supplies are obtained from outside LADWP's service area. MWD's supplies are sourced from the California State Water Project (SWP) and the Colorado River Aqueduct (CRA). Groundwater is local and obtained within the service area. Stormwater capture supports local groundwater replenishment and improves supply reliability. Recycled water is another local supply source that is becoming a larger part of LADWP's overall supply portfolio. A map depicting the relative location of these sources is shown in Exhibit 1F.

Exhibit 1F
LADWP Water Supply Sources



Supply sources face growing constraints from hydrologic variability, climate impacts, groundwater contamination, and water reallocation for environmental obligations. Despite these challenges, LADWP remains committed to meeting all of the City's current and future water needs by maintaining existing supplies, diversifying its water supply portfolio, and promoting water conservation and water use efficiency. Exhibit 1G illustrates historical water supplies from FY 1980/81 to FY 2024/25. From FY 2020/21 to FY 2024/25, LADWP's average water supply mix included: 38 percent from the LAA, 6 percent from local groundwater, 54 percent from MWD, and 2 percent from recycled water.

Exhibit 1G
LADWP Historical Water Supply Sources FY 1980/81 to FY 2024/25



Chapter 2 Water Demand

2.0 Overview

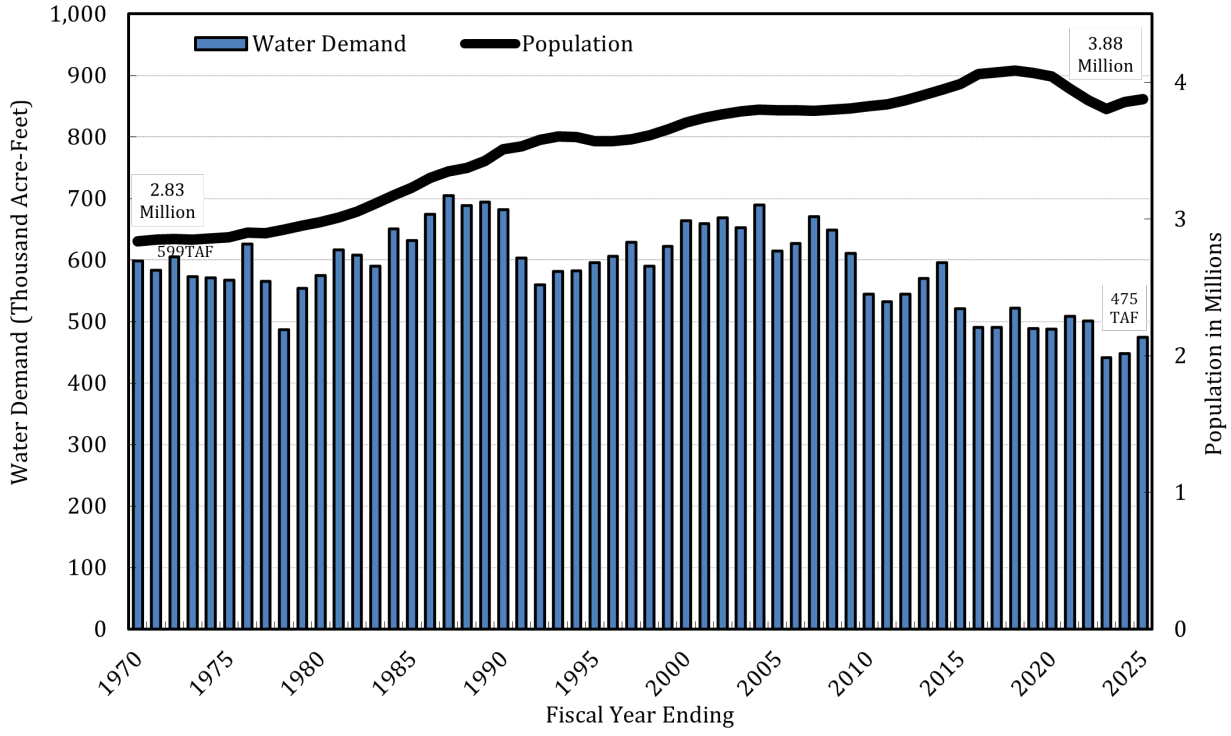
Understanding water demands and the factors that influence them over time is critical to water supply planning. LADWP maintains historical water use data separated into six categories: single-family residential, multi-family residential, commercial, industrial, governmental, and NRW. This categorization of demand allows LADWP to better evaluate water use trends over time and implement more targeted water conservation and water use efficiency measures.

2.1 Historical Use

Prior to 1990, population growth in the City was a strong indicator of total demands, as depicted in Exhibit 2A. During the 1980's, population and water use in the City increased at similar rates. However, LADWP's water demand trends began to deviate from population trends beginning around 1990 as conservation measures helped maintain reduced water usage. As a result, average water demand in recent years is lower than demand in 1970, despite the City's population increasing by more than one million people.

Over time, per capita water use in the City has declined as a result of long-term investments in water conservation. Since the early 1990's, per capita use has continued to trend downward, reflecting the influence of updated plumbing standards, customer conservation efforts, and local and state-wide efficiency initiatives. Recent per capita use levels remain significantly lower than historical levels, demonstrating the lasting effects of these efforts and the shift toward more efficient water use across all customer sectors.

Exhibit 2A
Historical City of Los Angeles Water Use



While historic demand trends demonstrate past trends in water use behavior, historic patterns alone cannot be extrapolated to predict future water use behavior. Water demand forecasts must account for future conditions such as projected population growth, climate change impacts, advancements in water use efficiency, and economic activity to develop more robust projections.

Historical Use by Sector

Exhibit 2B shows the breakdown of average total water use among LADWP's major demand categories and NRW. The breakdown is shown in five-year intervals for the past 25 years. For FY 2020/21 through FY 2024/25, single-family residential water use comprises the largest category of demand in LADWP's service area, representing about 34 percent of the total. Multifamily residential water use is the next largest category of demand, representing about 30 percent of the total. Commercial, Industrial, and Institutional/Governmental (CII) water use combined represents 29 percent of the total. Finally, non-revenue use is the smallest category, representing the remainder of the total demand (about eight percent). Although total water use has varied substantially from year to year, the breakdown in percentage of total demand between the major demand categories has remained relatively consistent.

Exhibit 2B
Historical Water Use by Sector

Fiscal Year Ending Average	Single-Family		Multi-Family		Commercial		Industrial		Government		Non-Revenue[1]		Total
	AF	%	AF	%	AF	%	AF	%	AF	%	AF	%	AF
2021-2025	162,825	34%	141,374	30%	83,638	18%	14,285	3%	34,580	8%	39,782	8%	474,506
2016-2020	170,660	35%	141,088	28%	88,680	18%	14,938	3%	39,628	8%	40,690	8%	495,685
2011-2015	206,652	37%	161,592	29%	96,832	18%	17,855	3%	43,573	8%	26,139	6%	552,768
2006-2010	236,154	38%	180,277	29%	106,964	17%	23,196	4%	42,956	7%	30,617	5%	620,165
2001-2005	239,754	37%	190,646	29%	109,685	17%	21,931	3%	41,888	6%	52,724	8%	656,628
25-Year Average	201,651	36%	162,367	29%	96,855	17%	17,964	3%	40,631	7%	36,627	7%	556,210

Note: Percentages may not add up to 100% due to rounding
1. Calculated using AWWA Water Audit Software

Non-Revenue Water

In addition to tracking water use by customer sector, LADWP also tracks NRW use. LADWP's historical NRW volume is presented in Exhibit 2C. NRW consists of unbilled authorized consumption and water losses. Unbilled authorized consumption is the volume of NRW for uses such as mainline flushing to improve water quality and firefighting. Water losses are broken down into two categories: apparent losses and real losses. Apparent losses include meter inaccuracies and theft while real losses include leakage from distribution system pipelines.

NRW has varied in recent years. In FY 2024/25, NRW was estimated at 8 percent, based on the American Waterworks' Association's (AWWA) Free Water Audit Software. The AWWA Water Audit worksheets for FY 2024/25 are provided in Appendix E. Historically, NRW has averaged 7.7 percent of total water demand over the period FY 2020/21 through FY 2024/25. This consistently low level of NRW over the last 25 years indicates that LADWP has an efficient, well-maintained water system. For planning purposes, the water demand forecast assumes a constant percentage of NRW, consistent with the most recent 5-year average. LADWP is committed to continuing to minimize its water loss percentages through its Water Loss Task Force, as discussed in Chapter 3, *Water Conservation.*

Exhibit 2C
Historical Non-Revenue Water for LADWP

Fiscal Year	Total Potable Water Supplied (AF)	Unbilled Metered and Unbilled Unmetered Volume (AF)	Apparent Loss Volume (AF)	Real Loss Volume (AF)	Non-Revenue Water Volume (AF)	Non-Revenue Water Percentage (%)
2020/21	500,585	3,109	5,945	26,216	35,270	7.0%
2021/22	488,722	3,347	5,005	30,779	39,131	8.0%
2022/23	431,428	4,933	6,561	20,484	31,978	7.4%
2023/24	437,693	3,856	6,654	23,735	34,245	7.8%
2024/25	461,609	8,778	8,080	22,934	39,792	8.6%
5-Year Average	464,007	4,805	6,449	24,830	36,083	7.7%

2.2 Demand Forecast Model Development Methodology

LADWP developed a statistical demand model to forecast long-term water use for each of its sectors of demand. This approach allows for the integration of demographic, economic, and climate factors to produce a more comprehensive forecast that accounts for sector specific water use characteristics. LADWP's demand forecast methodology combines historical data analysis, growth projections, and statistical modeling for robust forecasting.

The modeling process began with identifying candidate drivers of demand (e.g., population, household size, employment, weather, lot size, water rates) and compiling historical data for these drivers and water consumption by sector. Sources of model data include: the United States Census Bureau, California Department of Finance, California Employment Development Department, SCAG, and NOAA. Statistical methods were then applied to determine the statistical significance of each driver in modeling historic consumption. Drivers that were determined to be statistically significant were incorporated into the final demand forecasting model and are summarized in Exhibit 2D.

Forecasting Drivers of Water Demand

Water demand drivers were forecasted using regional projections, historical data, and planning level assumptions for long-term water supply planning. The demand forecast assumes that long-term relationships between water use and key drivers remain consistent over the planning period and that future conditions follow regional growth forecasts and specific climate projections.

Exhibit 2D
LADWP Water Demand Model Drivers

Sector	Demand Drivers
Single-Family Residential	Maximum Temperature Precipitation Household Size Occupied Housing Units Lot size Work From Home Percentage Drought Event Responses
Multifamily Residential	Maximum Temperature Precipitation Household Size Occupied Housing Units Work From Home Percentage Drought Event Responses
Commercial/Governmental	Maximum Temperature Precipitation Commercial and Governmental Employment Commercial, Industrial, and Governmental Water Rate Work From Home Percentage Drought Event Responses
Industrial	Maximum Temperature Precipitation Commercial, Industrial, and Governmental Water Rate Work From Home Percentage Drought Event Responses

Potential climate change impacts to the LADWP service area were evaluated in collaboration with the University of California, Los Angeles (UCLA) through global climate modeling (2025 Climate Study). The 2025 Climate Study analyzed 12 global climate models (GCMs) under various shared socioeconomic pathways (SSPs). SSP2-4.5, SSP3-7.0, and SSP5-8.5 were analyzed to represent an intermediate emission scenario, an intermediate-high scenario, and a very high scenario, respectively. Modeling results for average daily maximum temperature and precipitation are shown in Exhibit 2E and 2F, respectively.

The 2025 UWMP demand forecast considered SSP 3-7.0 to best represent a moderate level of emissions relative to the other models. Under SSP 3-7.0, the projected change in average maximum temperature and annual precipitation from the 12-GCM average is an increase of approximately 5 percent and 6 percent, respectively.

Occupied housing units, household size, and employment projections for LADWP's service area were obtained from MWD and were based on the SCAG 2024 RTP/SCS. Occupied housing units and household size were forecasted separately for single-family and multifamily residential to capture differences in water use patterns between residential sectors. Employment projections were also obtained from the SCAG 2024 RTP/SCS data. Projections of demographic driver variables derived from the SCAG 2024 RTP/SCS are presented in Chapter 1, *Introduction,* Exhibit 1C.

Historic estimated work from home percentages were obtained through American Community Survey data from the US Census Bureau and were forecasted assuming work from home percentages would remain consistent with recent trends throughout the forecast period. Commercial, industrial, and governmental water rates were assumed to increase at a real rate above inflation of 1.0 percent annually.

Drought event response variables were incorporated into the model to capture acute responses to declared drought emergencies in historic water usage. Although these drivers were critical for model development, no additional drought response was assumed for the forecast period.

Exhibit 2E
Climate Change Impacts to Local Average Daily Maximum Temperature
2040-2060 vs Baseline 1950-1970

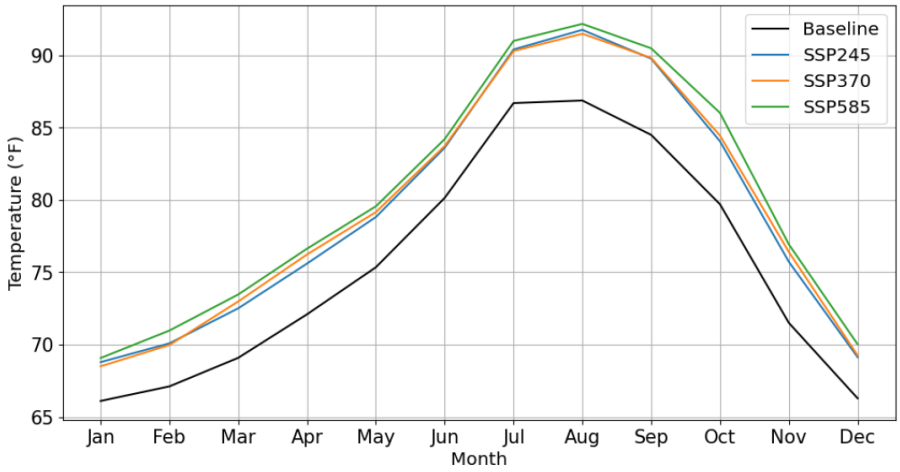
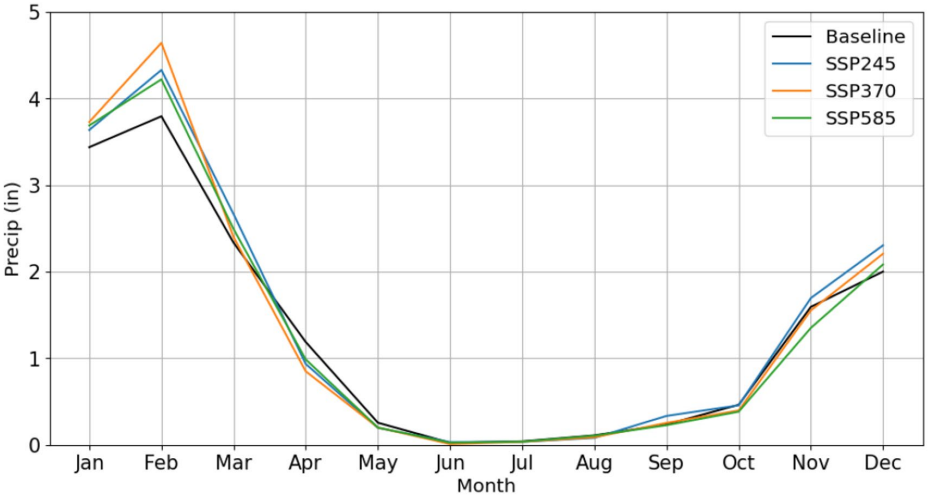


Exhibit 2F
Climate Change Impacts to Local Monthly Precipitations
2040-2060 vs Baseline 1950-1970



Water Demand Forecast Results

Demand forecasting results are summarized in Exhibit 2G. Overall, the demand forecast results reflect the combined influence of demographic and employment growth, declining unit water use across residential and non-residential sectors, reductions in household size, and projected average climate conditions.

Single-family and multifamily residential demands are projected to increase gradually over the planning period, largely driven by the forecasted growth in occupied housing units. However, per unit household use is forecasted to decrease due to declining household size.

Commercial and governmental demands are projected to increase initially over the planning period, which is consistent with projected employment growth. However, as the projected employment growth rate declines in the middle of the planning period, impacts from assumed increasing water rates outpace employment and result in slightly decreased demand. Industrial demands are projected to decrease over the planning horizon, consistent with declining industrial employment.

Total NRW volume is projected to increase gradually over the planning period as overall water demand increases. This is driven by the assumptions of a constant percentage of NRW, consistent with the most recent 5-year average, for the overall forecast.

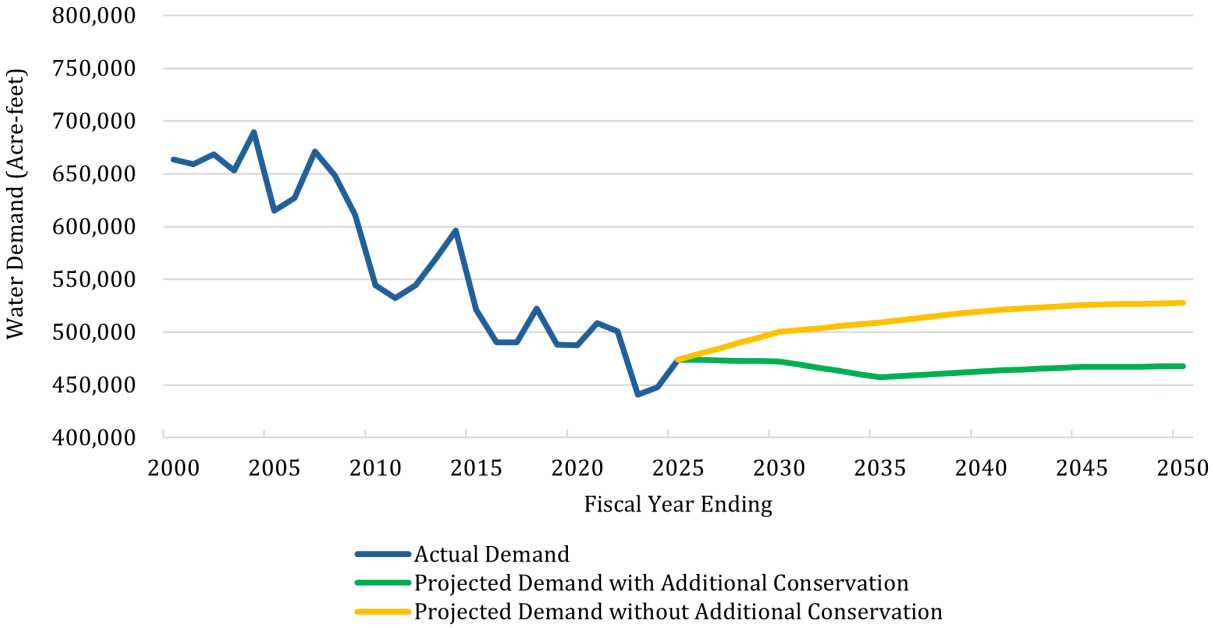
With the addition of planned future conservation savings, overall demand is expected to decrease in the near-term, followed by a gradual increase. This response is driven by reaching savings saturations by 2035 for an initial drop in demands and followed by increasing demands driven by projected growth. Conservation savings are based on the 2017 WCPS and are applied to the water demand forecast results. Additional information on projected conservation savings can be found in Chapter 3, *Water Conservation*.

Exhibit 2H compares historical water demand with projected demand under scenarios with and without additional conservation. Historical demands have shown a general decline from the early 2000's through the mid-2010's, reflecting the combined effects of conservation, with variability driven by weather, economic and demographic conditions. Demand forecast results show a projected increase through 2050 prior to incorporating future planned conservation. After incorporation of additional conservation to the demand forecast, conservation efforts are able to reduce projected demand such that the resulting demand forecast remains relatively stable through 2050.

Exhibit 2G
LADWP Water Demand Projections by Sector

Fiscal Year	Single-Family (AF)	Multifamily (AF)	Commercial/ Government (AF)	Industrial (AF)	NRW (AF)	Additional conservation (AF)	Total (AF)
2029/30	164,131	152,690	136,265	13,169	33,770	27,687	472,337
2034/35	166,020	158,173	139,296	13,015	32,688	51,985	457,206
2039/40	170,517	163,090	140,190	12,864	33,091	56,910	462,841
2044/45	174,058	166,125	139,427	12,716	33,389	58,701	467,014
2049/50	175,987	166,815	138,656	12,671	33,437	59,883	467,683

Exhibit 2H
Comparing Water Demand Forecast with and without Conservation



Low-Income Water Demand Projections

The UWMP projections of water demand for low-income customers was evaluated utilizing the definition of "lower income households" established in California Health and Safety Code Section 50079.5. Under this definition, lower income households are those with incomes that fall below 80 percent of the area median income and are estimated to comprise 40 percent of the residential customer base. The estimated 40 percent is then applied to the single and multi-family sectors and presented in total demand for low-income residential customers in Exhibit 2I.

Exhibit 2I
Water Demand Forecast for Low-Income Residential Customers

	2030	2035	2040	2045	2050
Estimated Low-Income Residential Demand (AFY)	126,728	129,677	133,443	136,073	137,121

Note: Assumes same reduced usage found in low-income single-family residential customers also applies to multifamily homes.

Chapter 3 Water Conservation

3.0 Overview

The City has long recognized that water conservation is the cornerstone of multiple strategies to improve water supply reliability for its residents. LADWP has taken a leadership role in managing its demand for water by creating a robust program to reduce water waste, educating its customers in water conservation and efficient water use, incentivizing the installation of water saving devices in homes and businesses, and transforming Angelenos' mindset on long-term water use behaviors.

LADWP aims to advance water conservation to manage water use demands with two main objectives: water use behavior and water use efficiency. Water use behavior reduces demand through changing long-term behaviors associated with water use to reduce overall water demands (e.g., shorter showers). Water use efficiency reduces demands through upgrading water fixtures to use less water (e.g., replacing 1.8 gallons per minute (gpm) showerhead with a 1.5 gpm showerhead).

The City has obtained the following benefits from its water conservation and water use efficiency programs: (1) improved water supply reliability; (2) deferred water and wastewater system expansions and improvements; (3) lower water bills for customers that reduce their water consumption; (4) reduced site runoff from landscape irrigation and precipitation which in turn increases groundwater replenishment and improves the water quality of local rivers and the Pacific Ocean, and (5) reduced energy use for water treatment, water pumping and conveyance. As water conservation reduces energy demands, it also reduces associated greenhouse gas emissions as an added benefit. Ultimately, the primary beneficiaries are LADWP's water customers and the natural environment.

As demonstrated in Chapter 2, *Water Demand* Exhibit 2A, population has grown from FY 1969/70 to FY 2024/25 by over 1 million people while total water consumption has decreased by 25 percent, indicating the effectiveness of water conservation. Moreso, water demand since 2015 has gradually declined, indicating how customers have adopted water conservation as a way of life, which aligns with California's regulatory initiative to ensure water sustainability.

LADWP continues to invest in cost-effective water conservation programs and water use efficiency measures. Currently, multiple efforts are underway to further promote and expand LADWP's water conservation rebate programs, partnerships, direct installation programs, educational programs, and leak detection programs in the residential sector. LADWP is also increasing its efforts to implement unique programs to improve the water use efficiency of the CII customer sectors.

As LADWP continues advancing these initiatives, future efforts will be shaped by evolving state regulations and water use efficiency standards, including implementation of the California UWUO requirements developed under Senate Bill (SB) 606 and Assembly Bill (AB) 1668 and adopted by the State Water Resources Control Board (SWRCB) in 2024. Meeting these requirements will present both challenges and opportunities, requiring expanded customer engagement, enhanced data tracking, and innovative conservation strategies to sustain long-term water reliability for the City and the State of California (State).

3.1 Historical Development of Water Conservation Efforts

Water conservation efforts in the City began in the early 1900's with the installation of water meters on the highest use water service connections. In the 1902 LADWP annual report, William Mullholland stated "with a closely estimated population of 85,000 we reached the astounding consumption of over 26 million gallons per day, or about 306 gallons per capita … By the application of a few hundred meters the consumption was cut down nearly three million gallons per day." Metering led to reduced consumption of approximately 200 gallons per capita per day (GPCD) in the following year when the population grew to 175,000. This foundational measure resulted in an estimated 30 percent reduction in overall water use.

1976-77 Dry Period

The City has historically increased its water conservation and water use efficiency efforts when faced with prolonged dry periods. During the 1976 to 1977 dry period, the City became one of the first cities in Southern California to invoke mandatory water rationing through the adoption of the first Emergency Water Conservation Plan (Conservation Ordinance). The latest Conservation Ordinance (Los Angeles Municipal Code (LAMC), Article I, Chapter XII), is provided in Appendix B.

Emergency Water Conservation Plan

LADWP has adopted five amendments to the Conservation Ordinance since its inception. The amendments expanded prohibited uses, increased penalties for violating ordinances, added an additional phase, modified water conservation requirements, and deterred unreasonable use of water.

The Conservation Ordinance defines phases of incrementally more stringent water use restrictions which increase water use prohibitions and mandates with each sequential phase. Phase I prohibited use requirements are in effect permanently, regardless of water supply conditions. The Conservation Ordinance is the primary component of LADWP's WSCP, which provides for a sufficient and continuous supply of water in the event of various water supply shortage levels in the service area. LADWP's WSCP can be found in Appendix A.

1987-92 Dry Period

Another dry period, which occurred from 1987 to 1992, lasted much longer and left a permanent imprint on LADWP water customers. In response to the water shortages caused by this dry period, LADWP utilized multiple ordinances as a tool to reduce water waste, created an extensive public awareness campaign, and expanded its voluntary water use efficiency program.

Plumbing Retrofit and Retrofit on Resale Ordinance

Beginning in 1988, the City adopted its first version of a plumbing retrofit ordinance to reduce water waste and promote water use efficiency (LAMC, Article II Chapter XII). The ordinance mandated installation of water-efficient devices in all existing residential and commercial properties. Toilets were required to use less than 3.5 gallons per flush (gpf), urinals less than 1.5 gpf, and showerheads less than 2.5 gpm. Customers with three acres or more of turf were required to reduce water consumption by 10 percent from 1986 levels or face a 100 percent surcharge on their water bills.

The ordinance was later amended in 1998 requiring the installation of Ultra Low Flush (ULF) toilets and water saving showerheads prior to the close of escrow, this ordinance became known as Retrofit on Resale. This progressive requirement is now being implemented with the help of local real estate professionals.

Water Conservation Rebate Program

In the early 1990s, LADWP launched several foundational water conservation initiatives, beginning with the distribution of free low-flow showerheads and the ULF Toilet Rebate Program, which incentivized the replacement of high-volume toilets to 1.6 gpf in homes and businesses. This early effort paved the way for what would become the LADWP Water Conservation Rebate Program.

In 1992, the program expanded to the ULF Toilet Distribution Program, and by 2003 LADWP began offering free installation service which included free water-saving showerheads, faucet aerators and replacement toilet flapper valves. These hardware improvements, coupled with additional water conservation related habits lessened the severity of the water shortage, and set a precedent for actively managed water conservation programs at LADWP. Today, distribution of free faucet aerators and showerheads are continually available for all single family, multi-family, and commercial customers.

In 2008, MWD initiated the region-wide SoCal Water$mart Program to streamline and standardize water use efficiency rebates across its service area, which includes the City. This program replaced LADWP's previous individual rebate offerings by providing a centralized clearinghouse for processing rebates throughout MWD's service area. LADWP voluntarily supplements MWD's baseline rebate amounts to offer higher incentive levels to further encourage customer participation and maximize regional water savings.

Tiered Rate Structure

In 1993, LADWP replaced its older flat rate structure with a tiered water-rate volumetric pricing system. This tiered system was designed to promote conservation and align with California's water-rate reform by increasing the unit cost with higher consumption.

LADWP's water rates were restructured in 2016 to incorporate and further reinforce foundational water conservation, water use efficiency, and financial principles. The rates, approved by the City Council on March 15, 2016, were first proposed to the Board of Water and Power Commissioners in July 2015, and were followed by five months of extensive community outreach at over 890 neighborhood council, community, business and civic meetings and webinars.

LADWP's rate design is influenced by a variety of factors, including the importance of additional conservation and water use efficiency in response to more frequent dry periods facing California and the need to comply with legal and regulatory requirements. LADWP established its rate structure to include the following primary objectives:

- Minimizing individual bill impacts for low water usage customers
- Complying with all legal requirements, including Proposition 218
- Designing rates based on water cost of service study
- Aligning water supply costs to sources of supply
- Retaining marginal cost-based rate structure and conservation principles
- Achieving full recovery of costs (without over-billing) in a cost causative manner
- Implementing symmetrical decoupling mechanism for base rate revenue
- Simplifying where possible
- Making bills easier to understand
- Considering implications for LADWP's customer care and billing system

2007-10 Dry Period

The 2007 to 2010 drought period was a critically dry episode that affected the City and much of the State. In response, the State incorporated many actions, one of which led to amendments to the UWMP Act, and LADWP amended its ordinances including the Emergency Water Conservation Ordinance in 2009 to include phased restrictions on outdoor watering, limits on water waste, and enforcement mechanisms such as fines for non-compliance. These measures were intended to reduce water demand during the drought while maintaining reliability for essential services.

High Efficiency Plumbing Fixture Ordinance

In the late 2000s, AB 715 (2007), SB 407 (2009), and the CALGreen Building Standards required indoor plumbing fixtures to be high efficiency for residential and non-residential customers, required disclosure of non-water efficient fixtures during property sales, and required high water use efficiency fixtures on all new construction. The City responded by updating its water efficiency mandates in 2009 with the adoption of the High Efficiency Plumbing Fixture Ordinance (LAMC, Article V, Chapter XII). This ordinance establishes water efficiency requirements for new developments and renovations of existing buildings by requiring installation of high efficiency plumbing fixtures in all residential and commercial buildings.

Water Conservation Act – 20 Percent Water Use Reduction by 2020

In November 2009, SB X7-7, the Water Conservation Act of 2009, stipulated that water agencies achieve a 20 percent reduction in urban per capita water use by December 31, 2020 (20x2020). Based on 95 percent of the applicable State hydrologic region target, LADWP had an interim 2015 target of 148 GPCD, and a final 2020 target of 142 GPCD. LADWP's actual GPCD in 2015 was 115 GPCD and 106 GPCD in 2020.

2012-16 Dry Period

The 2012 to 2016 dry period was one of the most severe in California's history both in intensity and duration. In response, the City expanded its Water Conservation Outreach Programs and updated the Conservation Ordinance to include enforceable water waste provisions and mandatory outdoor watering restrictions. In response to this prolonged dry period, local and State government offices enacted requirements to avoid future water shortage crises. The provisions enacted included: (1) the California Governor set a statewide water use reduction target of 25 percent (from 2013 levels); and (2) then-Mayor, Eric Garcetti, released an executive directive in to enact water use reduction goals in collaboration with LADWP.

Water Loss Control

In 2015, SB 555 was adopted to establish performance standards for real water loss volumes for urban retail water suppliers. The real loss performance standard for LADWP is set at 34.9 gallon per connection per day with a five gallon per connection per day buffer amount above the standard. An urban retail water supplier must meet the standard in any year between 2025 and 2027 by 2028. After 2028, the standard must be met using the three-year average of real losses per connection per day. LADWP had been proactive in addressing water system losses before the adoption of SB 555, having established a dedicated Water Loss Task Force to identify, monitor, and reduce distributed system losses. Further details are described in Section 3.2.

Statewide Water Use Efficient Standards and Water Efficient Landscaping

On April 8, 2015, the California Energy Commission approved new standards for urinals not to use greater than 0.125 gpf, pursuant to Governor Brown's Executive Order (EO B-29-15). Also included were new standards reducing the flow of bathroom faucets to 1.2 gpm. In the same year, the State revised the Model Water Efficient Landscape Ordinance (MWELO) to establish a new statewide standard for irrigation of urban

landscapes by increasing water efficiency standards for new landscaping and retrofits via more efficient landscape irrigation systems, graywater systems, and onsite stormwater capture. MWELO also placed limits on total turf areas allowed on site, along with more stringent landscape design parameters such as reduced reference evapotranspiration factors and limits on use of plants with high water use factors. The threshold size for applicability subject to MWELO was set to 500 square feet (sf) for new residential, commercial, industrial and institutional projects and the previous threshold size of 2,500 sf was maintained only for retrofit projects.

In response, LADWP initiated updates to the City's High Efficiency Plumbing Fixture Ordinance in 2016 to include the MWELO standards as well as other fixture efficiency levels. Exhibit 3B summarizes the current minimum requirements for new construction and replacement of fixtures in existing buildings. Leading by example, LADWP retrofitted all its facilities with efficient water fixtures and completed upgrading its 600 buildings with water efficient faucets, toilets, urinals, and showerheads in 2019. LADWP also repaired leaks, malfunctioning flush valves and faulty pressure reducing valves.

Exhibit 3B
Water Efficiency Requirements Ordinance Summary

Device	Requirement
High Efficiency Toilets	1.28 gpf
Urinals	0.125 gpf
Faucets	
Indoor Faucets (Maximum)	2.2 gpm
Private Lavatory Faucets	1.2 gpm
Public Use Lavatory Faucets[1]	0.5 gpm
Kitchen Faucets (Residential)	1.5 gpm
Pre-rinse Spray Valve	1.6 gpm
Showerheads	1.8 gpm
Dishwashers	
Commercial Dishwashers	0.54 to 1.16 gallons per rack (depending on type)
Domestic Dishwashers	4.25 gallons per cycle
Cooling Towers	5.5 cycles of concentration
Single-Pass Cooling Systems	Prohibited[2]

1. Metering faucets shall not deliver more than 0.25 gallons per cycle.
2. Single pass cooling systems are prohibited unless installed for health and safety purposes.

Emergency Water Conservation Plan Ordinance - Update

In 2016, then Governor Brown signed into law SB 814, which provides that, in times of limited water supplies, residential customers, such as single-family and multi- family housing customers, are prohibited from excessive water use. SB 814 also requires that urban water retail suppliers identify high water consumers and develop methods to discourage excessive water use, which may include the establishment of water use ordinances that apply penalties for excessive water use. In response to this and other local conditions, LADWP amended the City's Conservation Plan to clarify prohibited uses, added an additional phase to include limits for outdoor watering two days a week, and defined and enabled fines for unreasonable uses of water (LAMC, Article I, Chapter XII).

LA City's Water Use Reduction Targets

In response to the historic dry period, then-Mayor Eric Garcetti issued Executive Directive No. 5 in October 2014 to address extreme drought conditions. Among other things, it established a target of 20 percent reduction in per capita potable water use by 2017, tied to a 2014 baseline. LADWP has met the initial 20 percent water use reduction target and the subsequent reduction target of 22.5 percent. Moreover, LADWP

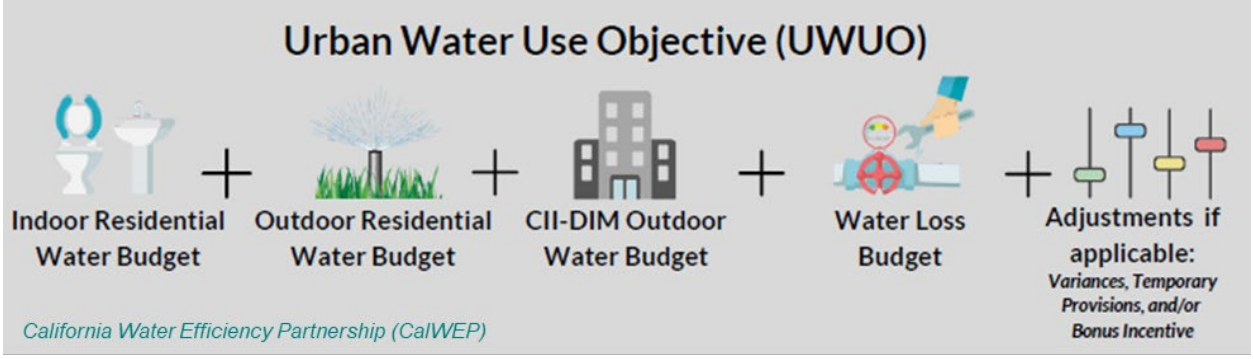
plans to achieve the reduction target of 25 percent by 2035, as outlined in Mayor Karen Bass' Climate Action Plan, published in April 2026.

Urban Water Use Objective

In March 2016, then-Governor Brown's Executive Order (EO) B-37-16 charged the SWRCB and the California Department of Water Resources (DWR) with developing new efficient water use targets, paving the way for AB 1668 and SB 606 in May 2018. AB 1668 and SB 606 regulations, also known as the "Making Conservation a California Way of Life" framework, became effective on January 1, 2025. It set standards for efficient indoor and outdoor residential water use, and efficient outdoor use for CII properties with dedicated irrigation meters (DIMs), incorporated a supplier's real water loss budget, and established performance measures for the CII indoor and mixed-use sectors. These components of AB 1668 and SB 606 are summated to develop an agency's UWUO at the service area level, or an overall target for efficient water use.

AB 1668 and SB 606 were enacted in 2018, UWUO regulations and performance measures were formally adopted in 2024, and made effective in 2025, with the intent to prepare the state for future long-term drought conditions. SB 606 mandates that starting in 2024, urban retail water suppliers annually calculate a multi-faceted annual UWUO, which is essentially a service area level efficient water use budget. UWUO calculation components are illustrated in Exhibit 3C. AB 1668 required the SWRCB to adopt standards for various water use objectives, which are described in the following sections.

Exhibit 3C
UWUO Calculation Components



Residential Indoor Water Use

AB 1668 included volumetric standards for residential indoor water use and were subsequently modified to the values shown in Exhibit 3D in September 2022 with the approval of SB 1157. The residential indoor budget is calculated by multiplying the respective indoor water use rate by the supplier's service area population, and number of days in a year. This calculation must be completed every year as part of the UWUO and reported to the SWRCB. DWR and the SWRCB, as part of SB 1157, were also tasked with evaluating the 2030 standard of 42 GPCD and recommending any changes based on impacts to both upstream water systems and downstream wastewater systems, including recycled water flows. A summary of the findings from this study is due to the Legislature by October 1, 2028.

Exhibit 3D
Residential Indoor Water Use Standards

Indoor Water Use Rate	Compliance Date
55 GPCD	Until December 31, 2024
47 GPCD	January 1, 2025 to December 31, 2029
42 GPCD	Starting January 1, 2030

Residential and CII with Dedicated Irrigation Meters Outdoor Use

The formal adoption of AB 1668 and SB 606 established supplier-specific outdoor water use budgets for both residential and CII sectors. The residential outdoor budget is based on a supplier's Residential Landscape Area Measurement (R-LAM), the service area's spatially weighted reference ETo and effective precipitation provided by DWR, and a Landscape Efficiency Factor (LEF) established by the SWRCB. Similarly, AB 1668 and SB 606 require outdoor irrigation budgets for CII properties with DIMs, calculated using the same parameters—CII-DIM Landscape Area Measurement, ETo, effective precipitation, and CII-DIM LEF. The LEF is scheduled to decrease over time to promote continued water use efficiency and reduce outdoor water use budgets using the factor shown in Exhibit 3E.

Exhibit 3E
Outdoor Water Use Landscape Efficiency Factors

Compliance Date	Residential Outdoor Water Use LEF	CII Outdoor Irrigation with Dedication Meters LEF
Until June 30, 2035	0.80	N/A
July 1, 2028 to June 30, 2035	N/A	0.80
July 1, 2035 to June 30, 2040	0.63	0.63
Beginning July 1, 2040	0.55	0.45
	1.0 for Special Landscaping Areas[1]	1.0 for Special Landscaping Areas[1]
	0.55 for Newly Constructed Landscape Areas	0.45 for Newly Constructed Landscape Areas

1. Special landscape areas include, but are not limited to pools, spas, areas dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, ponds or lakes that help sustain wildlife, etc.

Variances and temporary provisions allow suppliers to modify their UWUO to reflect special water uses within their service area, such as residential indoor use from evaporative coolers, seasonal population fluctuations, or residential and CII-DIM outdoor uses including livestock, wildlife-supporting ponds, high total dissolved solids (TDS) recycled water irrigation, emergency responses (excluding drought), and irrigation of existing trees or misclassified agricultural landscapes. Suppliers must submit requests to the SWRCB and meet all eligibility criteria for variances to be approved.

SB 606 also provides a bonus incentive to recognize suppliers delivering potable reuse water from augmented sources such as groundwater basins, reservoirs, and direct potable reuse. This incentive increases a supplier's UWUO by the volume of potable reuse water from augmented sources which is delivered to residential and CII irrigation customers. The adjustment is limited to 15 percent of the UWUO for existing facilities and 10 percent for new facilities producing water after January 1, 2022, promoting the adoption of recycled water while supporting conservation objectives.

Finally, CII performance measures establish qualitative compliance requirements that supplement the UWUO. While not numeric targets, these measures ensure that suppliers implement water efficiency practices in the CII sector. Suppliers must classify all CII accounts using ENERGY STAR Portfolio Manager categories, maintain at least 95 percent classification accuracy annually, identify and convert large landscapes with mixed-use meters to DIMs or implement best management practices, and target top water users with conservation programs incorporating multiple best management practices. Additionally, suppliers must provide water use data for all disclosable buildings upon owner request.

The reporting for the UWUO began in 2024 through the SWRCB Annual Conservation report. LADWP's UWUO budgets and actual uses for 2024 and 2025 reporting year are listed by sector in Exhibit 3F.

Exhibit 3F
LADWP UWUO Budgets and Actuals

FY	Res-Indoor[1] (AF)	Res-Outdoor[2] (AF)	CII-DIM Outdoor[3] (AF)	Real Losses (AF)	Total UWUO (AF)	Total Reported Use (AF)
2023/24	238,214	97,446	25,988	29,485	391,134	334,715
2024/25	221,543	113,764	31,690	29,485	396,483	352,871

1. Residential indoor uses the January 1st population for the LADWP service area for the respective year.
2. Residential outdoor uses R-LAM based on 2018 aerial imagery.
3. CII-DIM outdoor values are actual usage until 2028 when the SWRCB LEF of 0.8 takes effect.

2020-22 Dry Period

During the most recent dry period from 2020 to 2022, California experienced another extreme dry period, resulting in a statewide emergency declaration. Due to unfavorable hydrology and limited carryover storage in State reservoirs, SWP dependent member agencies within the MWD, including LADWP, were placed on severe restrictions and limited purchase to human health and safety deliveries from the SWP (see Chapter 8, *Metropolitan Water District* for additional details). In response, LADWP elevated its Conservation Ordinance implementation from Phase II to Phase III. Ultimately, LADWP was able to reduce its rolling 12-month average water usage from 113 GPCD at peak dry period in 2021 to 101 GPCD in 2024.

AB 1572 Non-Functional Turf

In 2023, AB 1572 was adopted prohibiting the use of potable water for irrigation of non-functional turf (NFT) on CII and common areas of properties of homeowner's associations. AB 1572 requires suppliers to incorporate the NFT irrigation ban into their regulations, governing policies, and ordinances by January 1, 2027. Furthermore, AB 1572 phases in compliance with the NFT irrigation ban starting from 2027 through 2029.

3.2 Current Water Conservation Programs

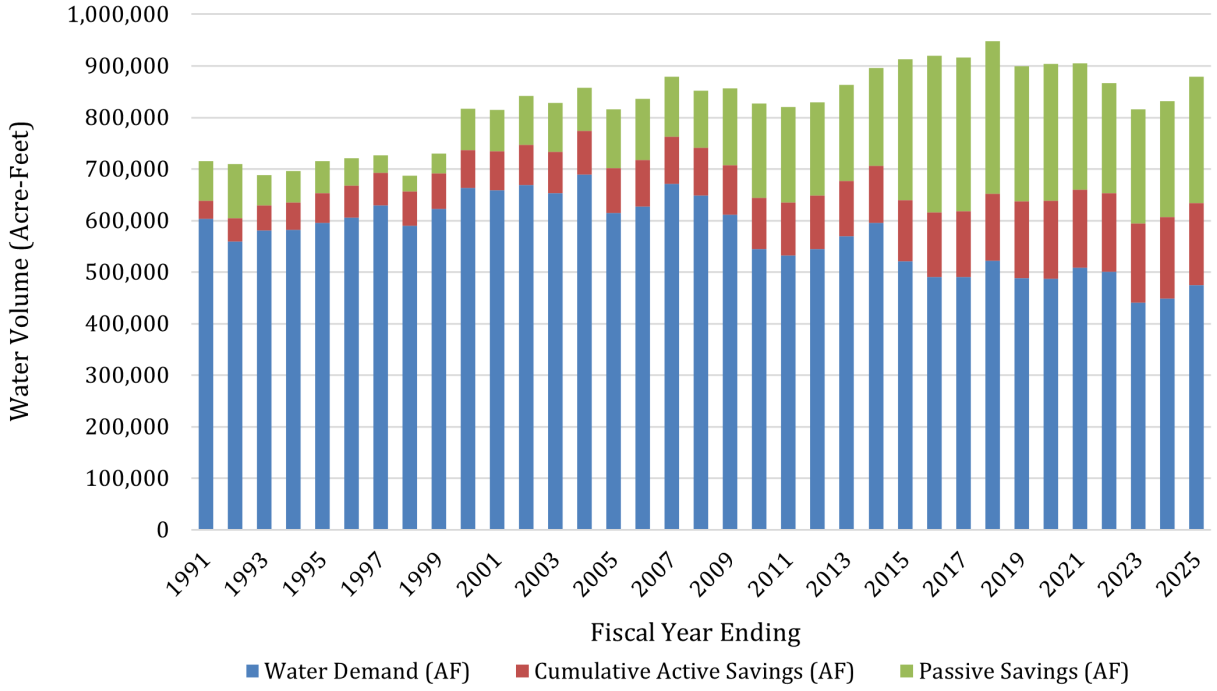
LADWP operates a multifaceted water conservation program focused on reducing water demand, improving water use efficiency, and compliance with state mandated water use requirements. Program initiatives are designed to maximize water savings and cost effectiveness, but more importantly seek to normalize water-saving behaviors by empowering City residents to incorporate water efficient practices into their everyday lives. Dedicated environmental experts, engineers, utility service and marketing specialists are staffed to manage these efforts, stay up to date with the latest water efficiency innovations, and participate in California Water Efficiency Partnership (CalWEP). Outside of LADWP offices, field staff perform onsite work and customer outreach, and the Water Conservation Response Unit (WCRU) investigates claims of water waste, educates customers about prohibited water uses, and issues citations for water waste when warranted.

LADWP has implemented active water savings measures by incentivizing LADWP customers to install water-saving technology in their homes and businesses. These active water demand management measures include rebates for the installation of efficient devices, direct installation programs, and tailored incentive programs for the CII sector. The water savings resulting from active savings measures are estimated by tracking the number of incentivized device installations and calculating the cumulative savings over the useful life of the specific device. In addition, LADWP has invested heavily in educational and public awareness and support campaigns to empower customers to become advocates for water use efficiency. These indirect conservation efforts, or passive savings programs, include developing codes, ordinances, and standards and enforcing these requirements to instill the concept of everyone becoming stewards of water conservation. The cultural

shift towards water saving behaviors began during dry periods and has grown over time to account for the majority of the water savings observed in the City. More recently, when compared to previous dry periods, the lasting effect of this shift in behavioral changes has become ingrained as customers have adapted to using water efficiently in both dry and wet periods. In effect, water conservation has truly become a way of life in the City.

Exhibit 3G shows historical conservation savings from FY 1990/91 through FY 2024/25 based on the estimated annual savings achieved through LADWP and MWD rebate programs, as well as the savings achieved through codes, ordinances, and behavior changes contributed from customer outreach and educational programs. The cumulative annual water savings from Water Conservation Rebate and Free Device Programs since the inception of LADWP's conservation program through FY 2024/25 totals 159,483 AFY are classified as active savings. Additional water savings that are achieved through non-rebated conservation savings due to codes, ordinances, and changes in customer behavior via outreach and educational programs are classified as passive savings. Together, active and passive savings represent the total water conservation achieved through both efficient technologies and sustained customer water-use practices.

Exhibit 3G
Total Water Demand with Conservation Breakdown



Water Loss Task Force

Water loss control consists of the management and reduction of NRW, apparent losses, and real losses. NRW consists of various categories of water loss, along with authorized consumption that was not billed. Apparent losses are losses that occur due to customer meter inaccuracies, data handling errors, and water theft. Real losses are physical water losses such as leaks, breaks, and overflows. Real losses can be further characterized as reported leaks (leaks that are reported and repaired), unreported leaks (leaks that are uncovered through proactive leak detection), and background leaks (volume lost through continuously running seeps and drips).

Maintaining water system infrastructure reduces water waste and allows for greater accountability. Infrastructure maintenance is a high priority for LADWP. LADWP maintains continuous leak response operations to repair known leaks and major blowouts. Additional ongoing programs such as pipeline replacement, meter replacement, pressure management, and leak detection preserve the operational integrity of LADWP water facilities and reduce water losses.

In 2013, LADWP completed a Water Loss Audit and Component Analysis study that included a full-scale assessment of LADWP's infrastructure and resulted in the development of the Water Loss Task Force Action Plan (Action Plan) in 2014. The Action Plan serves as a strategic guide that in parallel with the ongoing infrastructure replacement program, addresses meter inaccuracies, database management, equipment testing, leak detection and prevention, and improved tracking of water balance volumes. In addition, the recommendations from the Action Plan assist in meeting California's SB 555 requirements, requiring urban retail water suppliers to submit annual validated water loss audits to DWR, which started in 2016, and meet real water loss performance standard of 34.9 gallons per connection per day in 2028; this standard was adopted by the SWRCB. Based on its most recent water loss audit, LADWP has met the standard, with real losses of 27.1 gallons per connection per day. For additional information on LADWP's historic water loss audit results, please see Chapter 2, *Water Demand*.

Water Conservation Rebate Programs

LADWP's water conservation rebate programs began in the early 1990s with residential offerings, and later expanded to CII customers, broadening the range of eligible water-saving fixtures and equipment. These programs eventually merged with the SoCalWater$mart program through partnership with MWD, a regional platform that provides customers with a centralized website for rebate information and management.

The SoCalWater$mart Program consists of two components: the Residential Rebate Program, serving residential properties with four or less dwelling units, and the CII Rebate Program, serving businesses and multifamily properties with five or more dwelling units.

Since the 2020 UWMP (FY 2020/21 to FY 2024/25), LADWP's Residential and CII Rebate Programs have achieved an additional estimated annual savings of 13,188 AFY, including in-house initiatives and partnership programs. While participation levels have varied, LADWP continues to adapt; most notably by increasing the turf replacement rebate from $3/sf to $5/sf in July 2022 for both residential and CII customers, and by introducing new incentives such as flow monitoring devices (i.e. Flume) for single-family homes and food defrosters for CII customers.

Current rebate offerings and program details are available at ladwp.com/wc.

Other Programs

- **My Water Insights** - In July of 2023, LADWP expanded implementation of the customized home water use report pilot known as the My Water Insights Program to nearly all single-family residential customers. Customers receive a bi-monthly water use report with comparison of their water usage to other households in the neighborhood with similar characteristics. Customers also receive targeted information about water conservation rebates and incentives based on their water use patterns to help further conservation. The initial pilot from 2015 to 2022 resulted in roughly 4 percent customer water savings amongst approximately 73,000 participants, and the full launched program now reaches roughly 475,000 households.

- **Flume Direct Distribution Program** - In an additional effort to raise awareness of water use patterns and trends for customers, LADWP launched a pilot program in July 2022 offering single-family residential customers the Flume Smart Home Water Monitoring Device at a significantly reduced cost. The Flume device provides real-time leak detection, detailed insights on water use, and easy installation, enabling customers to take greater control of their household water consumption and identify areas they can conserve more. While the retail price of the Flume device is $249, LADWP customers are eligible to purchase it for just $24 plus shipping and taxes. Between July 2022 and June 2025, over 30,000 customers have participated in the program.
- **Southern California Gas Company (SoCalGas) Partnerships** - Since 2012, LADWP has partnered with SoCalGas to jointly deliver energy and water efficiency solutions to their mutual residential customers located within the greater Los Angeles region through various customer-focused joint programs and services. More information on these joint programs can be found at socalgas.com/savings.
- **Los Angeles Unified School District (LAUSD) Memorandum of Understanding (MOU) "Securing a Resilient and Sustainable Future for Our Kids"** - Through MOUs, the program provides direct installation and incentives for energy and water efficient fixtures, education and awareness, and pilot of new technologies. Incentives are provided for installation of water efficient fixtures including showerheads, faucet aerators, toilets, and urinals. This MOU is effective from October 2025 to April 2030.
- **Cooling Tower and Water Fixture Assessments** - In 2021, LADWP offered a limited time assessment program for commercial customers to better understand the operational efficiency of their cooling towers and commercial water fixtures. Customized surveys were sent to commercial customers to identify those interested. Subsequently, a qualified contractor conducted a site visit assessment of cooling towers and water dispensing fixtures on the premises. After the assessment, LADWP provided customized recommendations for efficiency upgrades and assistance in demonstrating return on investment in upgrading their systems. The program concluded in June 2023. A total of 122 assessments were completed as part of the program.
- **CalConserve Loan Program** - In September 2017, LADWP was awarded a $3 million CalConserve Water Use Efficiency Loan from DWR. This zero-interest loan is intended to provide up-front funding for customers to assist in implementing their water use efficiency retrofits and will be distributed to interested City Departments. Loans are provided via the Proposition 1 CA Water Use Efficiency Revolving Fund Loan Program and will be paid back by City Departments based on a combination of bill savings from reduced water use and through LADWP's existing incentive programs. Based on the results from the program effectiveness with other City entities, LADWP will explore the potential for expansion to the entire CII sector.
- **Technical Assistance Program (TAP)** - Established in 1992, the program was created to provide customized incentives for retrofitting water-intensive equipment in the CII or multi-family customer sector. TAP encourages site-specific, innovative projects, and the incentives are based on a given project's water savings. LADWP recently increased the rebate payments for this program to $7.00 per 1,000 gallons saved over a two-year period with a cap not to exceed whichever is less of the actual cost of the installed product, or $2,000,000 to help spur increased participation. Projects must save a minimum of 150,000 gallons over a two-year period and operate for a minimum of five years. Some of the past innovative solutions

include cooling tower controller upgrades, x-ray processor recirculation systems, and groundwater recycling systems.

Awareness and Support Measure Programs

Awareness and support measures play a critical role in sustaining a culture of water conservation across Los Angeles. These measures can be direct or indirect. Direct measures include full metering of water use, volumetric sewer charges based on water usage, and tiered rate structures that promote efficient use. Indirect measures include educational programs, community presentations, customer hotlines, and a wide range of information distributed through LADWP's website, direct mail, email, public advertising, and partnerships with community-based organizations to inform broad audiences. Together, these efforts provide the foundation for long-term conservation awareness, program visibility, and community engagement.

LADWP's water conservation outreach program is the cornerstone of these awareness efforts. The program aims to make water conservation a social and cultural norm in Los Angeles through innovative marketing strategies and targeted community outreach. Strategies include earned media opportunities through timely news releases and interviews; social media campaigns across platforms such as X, Facebook, Instagram, NextDoor, and YouTube; branded print materials for community events; and paid advertising across television, radio, online, and outdoor venues. LADWP also regularly participates in community workshops, neighborhood council meetings, and school programs, and collaborates with elected officials, the LAUSD, and non-profit partners to amplify conservation messaging.

The outreach efforts continue to evolve to maintain public engagement. LADWP conducted hands-on workshops in 2019 through 2023, and these provided residents with practical experience in turf removal, drip irrigation installation, and native plant installation instructions. The intent of these workshops was to not only educate do-it-yourself customers on how to properly create a sustainable landscape to ensure it thrives once established but also demonstrate how to comply with the turf replacement rebate terms and conditions.

In response to dry conditions, in 2022, LADWP launched a drought awareness campaign highlighting updated watering restrictions, conservation tips, and enhanced program incentives, including the Turf Replacement Rebate increase to $5/sf and the introduction of the Flume Smart Water Use Monitoring Device. Promotion of the rebate program continued into 2023 with the addition of the Turf Replacement Design Library to the LADWP California Friendly Landscaping website and the expansion of the My Water Insights program to all single-family residential customers.

In 2024, LADWP introduced the "Lawn to Garden" campaign to guide customers through the process of transforming lawns into sustainable gardens. The campaign was rolled out in phases to first educate customers on free design resources, followed by promoting free landscape conversion classes, and culminating in rebate participation. Social media videos and a dedicated webpage supported customer engagement throughout the process.

Additionally, the Community Partnership Grant Program continues to strengthen LADWP's connection with local communities by funding non-profit organizations to deliver creative, water-focused education and outreach. Partners such as the Theodore Payne Foundation, TreePeople, Mujeres de la Tierra, SELVA International, the Los Angeles Beautification Team, LA Waterkeeper, and the Los Angeles Community Garden Council have implemented projects ranging from native plant maintenance workshops and bilingual environmental plays to gardener certification programs and conservation-focused mobile apps. Feedback from these initiatives informs the design of future outreach and education efforts, ensuring LADWP's programs remain effective, inclusive, and community driven.

Sustainable CA Friendly Landscaping

LADWP recognizes that a substantial amount of water is used outdoors for irrigation and offers a variety of resources to assist customers in transforming traditional, high-water-use landscapes into water-efficient, sustainable landscapes while providing educational opportunities to promote these transformations. Beyond promoting efficiency, LADWP emphasizes a more holistic, "Watershed Approach" to landscape sustainability, which goes beyond water-use efficiency to deliver multiple benefits, including abatement of dry-season runoff, onsite retention of stormwater, embedded energy savings, reduced green waste generation, lower greenhouse gas emissions, minimized pesticide application, and enhanced urban wildlife habitat. This approach is intended as a system-wide upgrade to the urban landscape environment, integrating water efficiency with broader environmental and sustainability objectives. The following programs incorporate sustainable landscaping:

- **Turf Replacement Design Services (TRDS)** - The TRDS program launched in 2020 and offered services to develop free professionally designed California Friendly landscapes to customers at no cost. A total of 1,120 customers received free landscape design plans that could be used to apply for a rebate through the Turf Replacement Program. An online library of all TRDS designs was created and can be accessed for free by all customers at ladwp.cafriendlylandscaping.com/LibraryScan/designs.php.
- **California Friendly Landscape Training classes** - LADWP's California Friendly Landscape Training classes offer fundamental information about the benefits of using California Friendly plants and outdoor best management practices that result in lower water usage. Participants learn about soil composition, site design, plant selection, efficient irrigation and landscape transformation, including turf removal techniques, rain barrel installation, rainwater capture features, and healthy soil construction. Classes are available online for all customers.
- **California Friendly Landscaping website** - LADWP also offers its California Friendly Landscaping Website (ladwp.cafriendlylandscaping.com) to provide resources to residents interested in replacing turf with California Friendly Landscaping. The California Friendly Landscaping website is an interactive tool that allows customers to take virtual tours of California Friendly gardens, search for climate appropriate plants, and create shopping lists of plants for easy reference when visiting nurseries. Customers can also access planting templates created for the City's regional climates. The templates can be used by the homeowner or provided to a contractor for installation of a California Friendly landscape.
- **Water Efficient Landscape Dual Certification Program (WELDCP)** - In 2025, LADWP in partnership with MWD and the California Landscape Contractors Association (CLCA), hosted the WELDCP. The WELDCP certification classes were offered for free and combined the CLCA Water Management Certification program with the Qualified Water Efficient Landscaper program to offer landscape professionals the ability to obtain two nationally recognized United States Environmental Protection Agency (US EPA) WaterSense Professional Certifications. Landscape professionals were able to learn about landscaping fundamentals about landscape water and irrigation to increase their knowledge and make their business more marketable.
- **Demonstration Garden** - Leading by example, LADWP has implemented a program to retrofit outdoor landscaping at LADWP's own facilities to California Friendly and native plantings with efficient irrigation systems. To demonstrate the beauty and appeal of a water efficient landscaping, LADWP's John Ferraro Building's California Friendly Garden was redesigned in 2015 to showcase a variety of plants used primarily in Mediterranean and

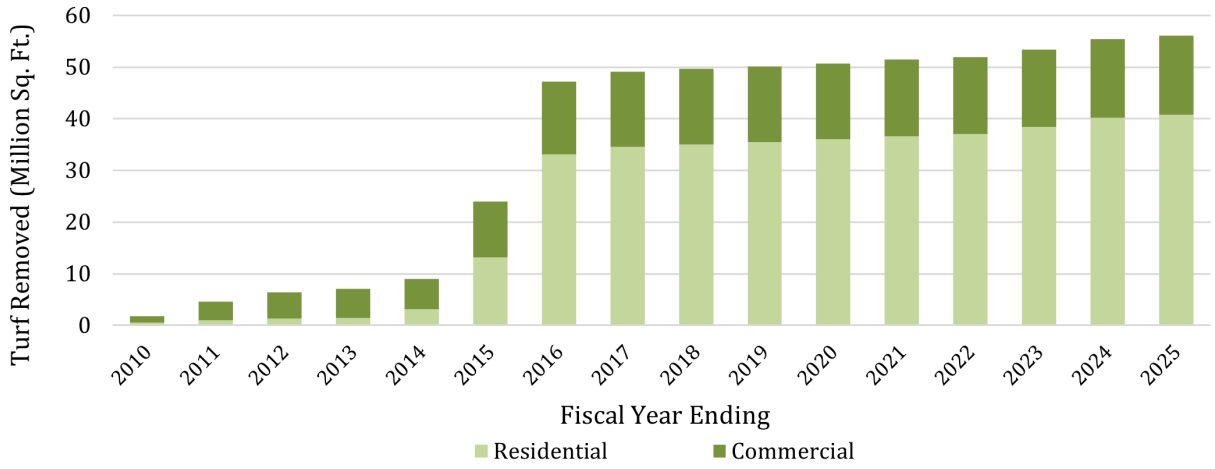
Southwestern landscape designs. The garden includes educational signage explaining the benefits of introducing California Friendly plants and displays smartphone scannable QR (quick response) codes which conveniently display specific plant information on a mobile device. Currently, there are plans to revitalize the garden and add more California native and pollinator friendly plants to further promote and increase biodiversity within the City.

Public engagement is an important component in advancing the water efficient landscaping paradigm. Partnerships with non-profits and community-based organizations afford LADWP the opportunity to reach large numbers of customers. In efforts to promote sustainable landscaping, LADWP has worked closely with non-profit organizations to offer a variety of outreach and educational opportunities.

In April 2024, the LADWP Board of Commissioners approved a motion integrating biodiversity initiatives and nature-based solutions throughout LADWP's operations. LADWP will continue to advance environmental stewardship initiatives and promote equity and conservation by increasing stormwater capture, planting shade trees, habitat restoration and enhancement projects, biodiversity monitoring and research, and integrating vegetation management practices. While adopting these changes, LADWP will ensure all approaches take water use efficiency into account.

Building on this integrated approach, LADWP's Turf Replacement program has demonstrated long-term success since its inception in 2009, removing over 56 million sf of turf in the last 16 years as shown in Exhibit 3H. Over time, the program has evolved to improve both environmental sustainability and habitat development. LADWP surveyed customers and they noted landscape design was one of the primary barriers to participation, which led LADWP to introduce the Turf Replacement Design Service program, as noted in Section 3.2, to assist customers in developing plans compliant with the updated rebate terms and conditions.

Exhibit 3H
Cumulative Residential and Commercial Square Feet of Turf Removed by Fiscal Year



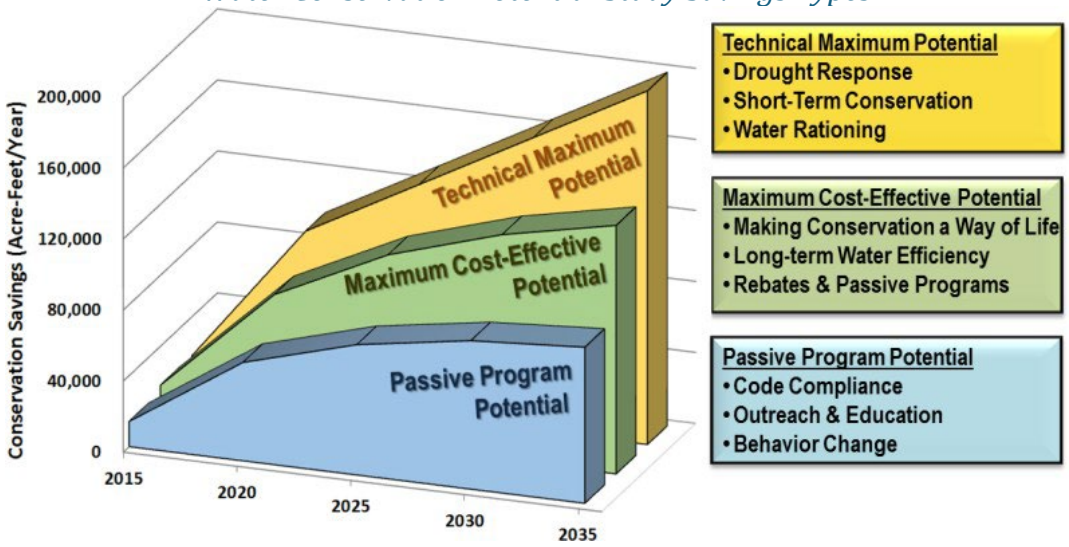
3.3 Water Conservation Potential Goals and Progress

LADWP completed the country's largest and most comprehensive WCPS in 2017, which provided a better understanding of how historical investment efforts have impacted existing water use efficiency and device saturation levels. The overarching goal of the WCPS was to help LADWP prioritize future water conservation and water use efficiency investments in the City by understanding the remaining potential water savings for its service area. Exhibit 3I shows the different types of potential savings. The remaining potential was

identified for each customer sector: single-family residential, multi-family residential, commercial, industrial, institutional, and City. The results from the WCPS helped LADWP develop a targeted strategy to maximize water savings going forward.

Central to the WCPS was the development of a robust Water Conservation Model (WCM) to project water savings potentials for the City into the future. In determining the WCPS future savings levels, the WCM considers baseline water use, demographic growth projections, and program data for each customer sector. The WCM also incorporates projected savings attributable to existing codes, standards, and ordinances, which are reflected as passive savings in the overall conservation potential estimates.

Exhibit 3I
Water Conservation Potential Study Savings Types



The WCPS utilized FY 2013/14 as its baseline to forecast the water conservation and water use efficiency potentials through FY 2034/35, which are displayed in Exhibit 3J. The results show that LADWP has the maximum cost-effective potential to reach a total water savings of 140,000 AFY by FY 2034/35.

Exhibit 3J
Water Conservation Potential Study Projected Savings by FY (AFY)

	2019/20	2024/25	2029/30	2034/35
Maximum Cost-Effective Potential	77,000	107,000	127,000	140,000

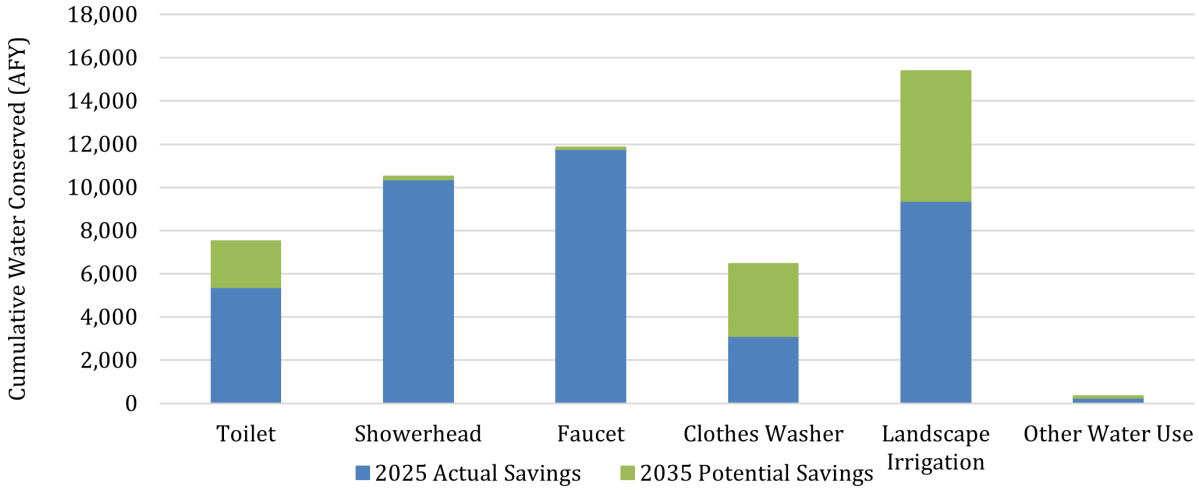
In addition to the potentials identified in Exhibit 3I, the WCM allows LADWP to evaluate annual participation levels across all the incentive and direct install programs, allowing for program adjustments as necessary to further drive potentials where available, and scale back others that have either reached full potential or where market factors have begun to drive participation on their own.

Single-Family Residential Sector

Exhibit 3J presents the remaining conservation potential by fixtures in the single-family sector as of 2025 and the maximum cost-effective remaining potential in FY 2034/35. Notable gains include near maximum savings in ultra-conserving showerheads and faucets, as well as improvements in high efficiency clothes washers, likely due to the rebate increase from $400 to $500 in February 2022. Landscape irrigation has the largest remaining potential water savings, followed by high efficiency clothes washers and toilets. Achieving the additional water savings will come from increased investments in both active and passive programs. Many

efforts are in place to promote efficient landscape transformations such as the Landscape Efficiency Assistance Program (LEAP) as well as continuing educational programs. LADWP maintains rebate programs for indoor fixtures such as high efficiency clothes washers and toilets and will consider additional program investments to progress towards the remaining potential water savings identified in Exhibit 3K.

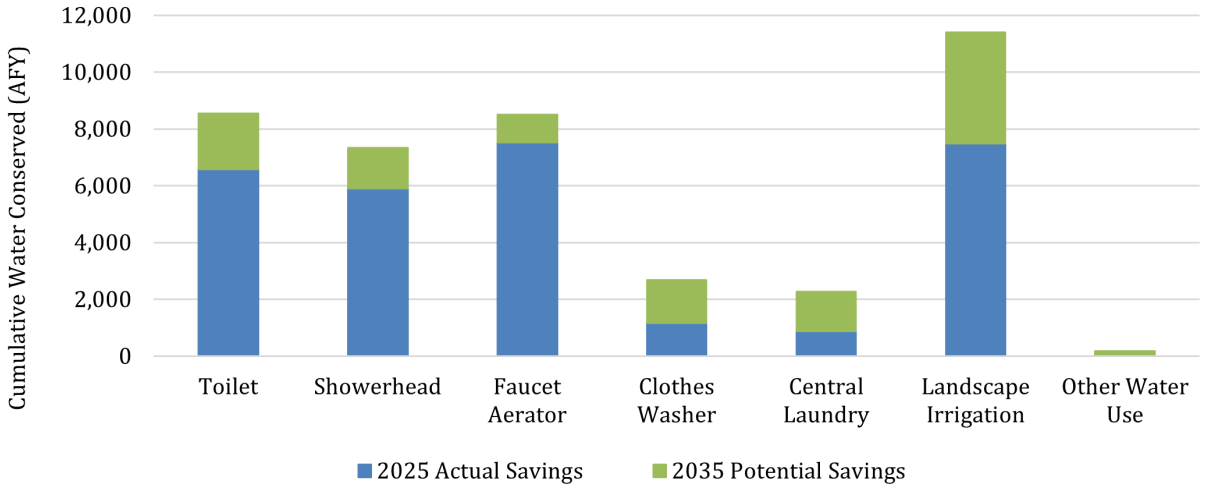
Exhibit 3K
Single-Family Sector FY 2034/35 Maximum Conservation Potential = 52,000 AFY



Multifamily Residential Sector

Exhibit 3L presents the remaining conservation potential by fixtures in the multifamily sector as of 2025 and the maximum cost-effective remaining potential in FY 2034/35. Like the single-family sector, achieving the remaining water savings potential in the multifamily sector will require a combination of active and passive program investments. In October 2023, LADWP launched its first dedicated incentive program for vented clothes washers in the multi-family sector. This program targets central laundry facilities commonly found in multi-family buildings. Eligible LADWP customers who are within the service territories of SoCalGas and MWD may qualify for combined rebates of up to $675 per unit. This new offering fills a critical gap in LADWP's portfolio of multifamily conservation programs and supports continued water savings in common-area laundry systems. LADWP will continue to support fixture upgrades and evaluate additional program enhancements as new technology develops in order to meet the long-term conservation potentials.

Exhibit 3L
Multi-Family Sector FY 2034/35 Maximum Conservation Potential = 40,500 AFY

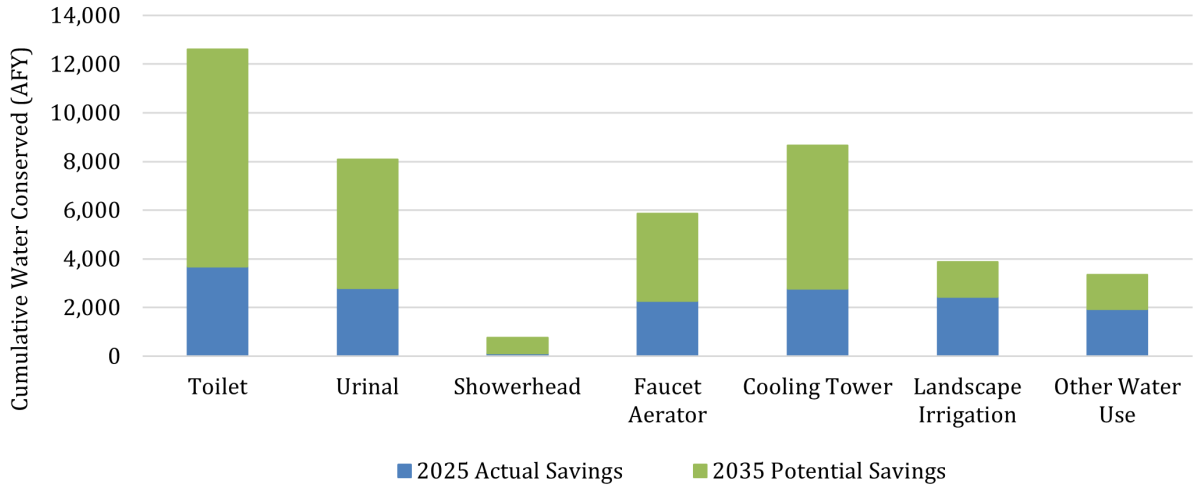


Commercial, Industrial, and Institutional Sector

Participation in CII programs between 2020 and 2025 was lower than anticipated, which limited the pace of retrofits during this period. Exhibit 3M presents the remaining conservation potential by fixtures in the CII sector, including City facilities, as of 2025 and the maximum cost-effective remaining potential in FY 2034/35. Several factors contributed to the decline, including access restrictions due to the COVID-19 pandemic, and staffing constraints that reduced the number of on-site audits and installations. A major factor was the widespread shift to telecommuting work during and after the pandemic. The shift resulted in lower office occupancy, which led to fewer occupants and decline in water use. The reduced water use extended the payback period for these water-efficient fixture upgrades, making some projects less financially attractive. Due to these changes, many customers may have deferred their water conservation improvement projects.

Despite the slower participation in this period, significant cost-effective potential remains in the CII sector. Toilets are identified to have the highest water savings potential. Achieving the water savings potentials will come from a combination of increased investments in active and passive programs. Future CII programs to help increase water savings are discussed later in Section 3.4.

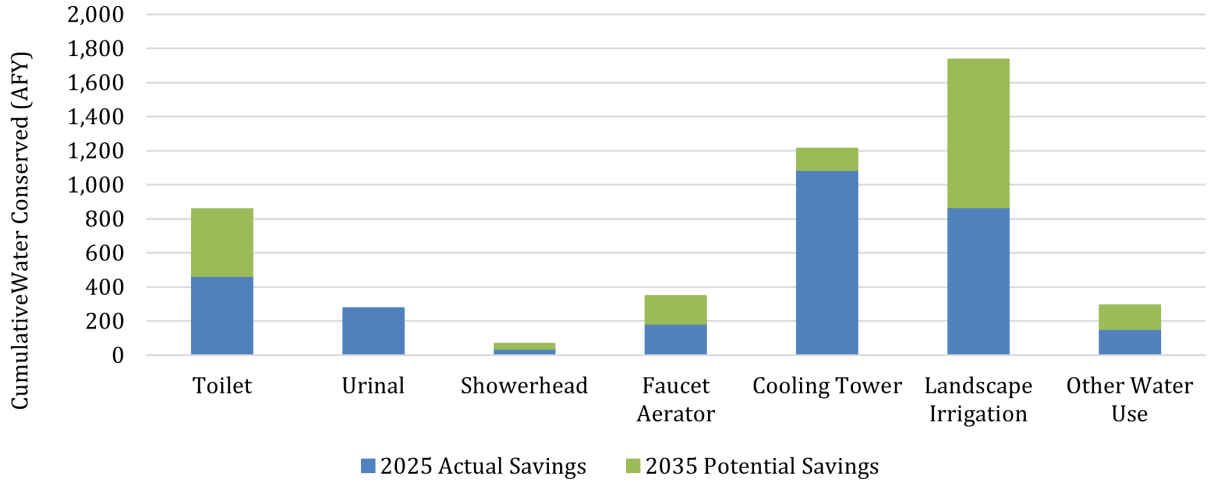
Exhibit 3M
CII (Including City) Sector FY 2034/35 Maximum Conservation Potential = 43,000 AFY



City-Owned Sector

Other City Departments continue to implement conservation measures, and their progress is reflected through estimated values based on historical project activities and expected adoption patterns. While these values are estimates, the water use data indicates that the City sector has reduced its total water consumption by 8 percent between FY 2019/20 to FY 2024/25. By comparison, the Commercial sector achieved a 7 percent reduction which suggests that the City sector is on a strong trajectory towards its water conservation efforts. These results reflect the City's growing accountability in water stewardship and broader commitment to sustainable water management.

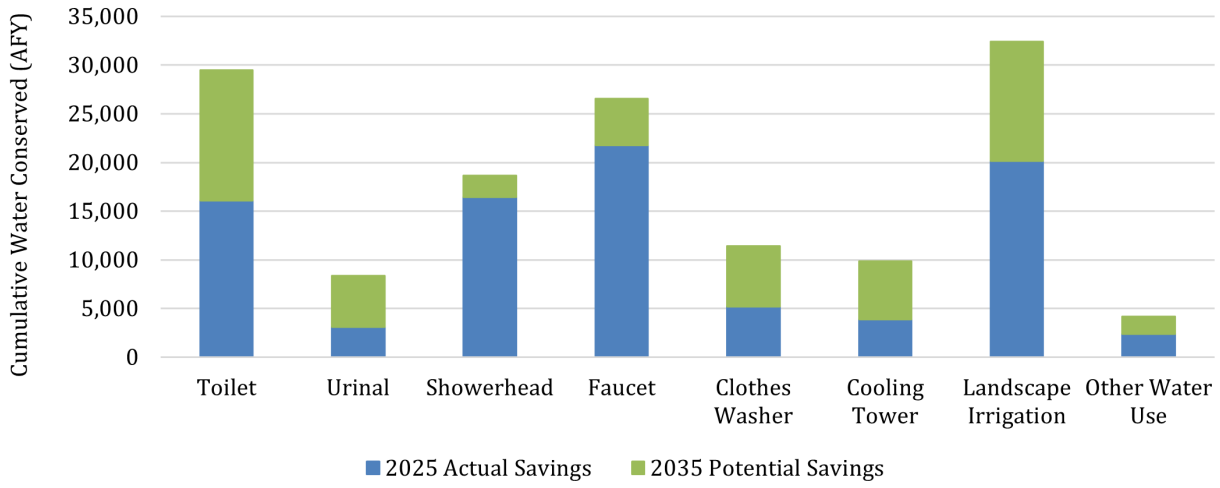
Exhibit 3N
City-Owned Sector FY 2034/35 Maximum Conservation Potential = 4,500 AFY



Water Savings

LADWP is continuing towards the maximum cost-effective potential water savings by FY 2034/35. Exhibit 3O presents the water conservation potentials for each fixture type as identified from the WCM, as well as the estimated progress of the total water conserved. LADWP needs to achieve an additional 51,985 AFY to reach the maximum cost-effective savings potential identified in the WCPS. These conservation savings are applied to the demand forecast results that can be found in Chapter 2, *Water Demand*. The WCPS also identified conservation potentials beyond what is shown in Exhibit 3O (referred to as the Technical Maximum Conservation Potential in Exhibit 3I); however these potentials were determined to be cost-prohibitive. LADWP has also obtained more precise indoor and outdoor residential water end-use data through the Flume Direct Distribution Program, which is currently being studied to identify further efficiency opportunities. These data sources and studies will allow LADWP to better estimate remaining conservation potential. As such, the WCPS forecasts will be updated in the coming years to re-estimate remaining conservation potential and saturation levels by sector.

Exhibit 3O
WCPS Progress FY 2034/35 Maximum Conservation Potential =140,000 AFY



3.4 Future Programs, Practices, and Technology

LADWP remains committed to advancing water efficiency through the development and implementation of innovative programs, partnerships, and technologies. Future initiatives will focus on expanding access, improving performance across all sectors, and addressing equity by removing participation barriers. These initiatives are designed to build on existing successes while adapting to emerging conservation needs and regulatory requirements. The following programs and strategies reflect a forward-thinking approach that supports continued efforts towards a water efficient future.

Single-Family Residential Future Programs

- **LEAP** - LEAP is a grant-funded direct installation program available to eligible LADWP customers located within Disadvantaged Communities (DAC) as defined by DWR. High upfront construction costs for turf replacement pose barriers for homeowners interested in removing their turf and installing sustainable landscaping, especially those in DACs. To reduce these barriers and improve accessibility to its outdoor efficiency programs, LADWP launched LEAP in August 2025. The program

provides free services for turf removal, CA friendly landscape planting, installation of stormwater capture features, conversion of existing sprinkler systems to drip irrigation, and installation of a smart home water monitoring device. The program is funded by a $14.625 million grant awarded to LADWP through DWR's Urban Community Drought Relief Grant Program. LADWP expects to transform approximately 700 to 1000 single family residential lawns, ranging between 1,000 to 3,000 sf per project.

- **Updated Water Energy Kits** - LADWP has previously partnered with SoCalGas to provide residential customers with water-energy kits at no cost to reduce water and natural gas consumption. Moving forward, plans are in development to send out additional water-energy kits that contain high efficiency irrigation nozzles with a goal to highlight outdoor water savings programs and opportunities.

Multi-Family Residential Future Programs

- **Direct Install Partnership Expansions** - LADWP plans to continue its partnerships with other utilities to take advantage of direct installation programs already underway in the multi-family sector. LADWP and SoCalGas also expanded their Energy Savings Assistance Program to include additional measures for qualifying customers such as thermostatic shower valves. The partnership agreement with SoCalGas expired July 2025, and LADWP is working to renew the program due to its effectiveness. In addition, LADWP in partnership with SoCalGas was awarded a $2 million Water and Energy Efficiency Grant for "Los Angeles Multifamily Affordable Housing Direct Install Project" by the United States Bureau of Reclamation (USBR). The grant will fund the replacement of high efficiency showerheads, bathroom faucet aerators, kitchen faucet aerators, thermostatic shower valves, toilets, irrigation controllers, turf replacement and leak detection devices.

CII and City-Owned Future Programs

- **Restaurant Water-Energy Kits Program** - LADWP is partnering with SoCalGas to implement a new program aimed at providing free water-energy kits to customers operating restaurants or commercial kitchens. Eligible customers may sign up for the program and receive no-cost kits that include water-saving and energy-saving equipment. This program aims to assist CII customers in reducing their natural gas and water consumption.
- **CII Water Use Efficiency Educational Classes** - LADWP is partnering with CalWEP and SoCalGas to offer no-cost trainings for commercial customers on water and energy efficiency best practices and LADWP programs. Two-hour classes will be offered to target customer segments including hotels, commercial kitchens, and restaurants to educate on indoor water use efficiency, improving landscape irrigation efficiency, and CII best management practices
- **SoCal Water$mart Program Expansion** - In partnership with MWD So Cal WaterSmart rebate program, as new studies and new technologies develop, new CII devices are being added to the rebate program that show significant water savings. Examples of such devices include flow monitoring devices, irrigation water master valves, irrigation flow sensors, and kitchen defrosters. These new water saving devices will help LADWP continue to reach its water savings goals.
- **Targeted CII Outreach Campaigns** - Plans are also being developed to focus on specific commercial sector groupings, such as food services companies, that have high water usage. Also, with the new NFT irrigation ban regulation, outreach efforts will also be made to target customers that have NFT and promote the turf replacement incentive program.
- **Cooling Tower Optimization Program** - As confirmed by the WCPS, cooling towers make up a large percentage of LADWP's total water usage in the CII sector. To help customers reduce their water

usage, LADWP is working towards developing a Cooling Tower Optimization Program to help customers save water through efficient management and control of their cooling tower operations.

- **TAP** - LADWP currently offers the TAP to CII customers. LADWP is developing a more streamlined approach for TAP incentives, including an approach to calculate incentives based on water savings performance to further encourage customer participation, including projects that improve operational efficiency but may not involve the installation of a physical device or system.

City-Wide Practices

- **Retrofit on Resale Ordinance Update** - As part of a broader effort to strengthen water conservation, the City is planning to update the Retrofit on Resale Ordinance, also known as Plumbing Retrofit Ordinance, with a particular focus on incorporating new measures for outdoor irrigation. Previously amended in 1998, the ordinance currently does not address outdoor water use. The updated requirements will ensure the installation of efficient indoor and outdoor fixtures prior to the transfer of properties to new owners. By targeting both indoor and outdoor water efficiency at the time of resale, the ordinance will accelerate the replacement of older, high-water-use fixtures and landscapes, support the City's long-term water conservation goals.

These programs and practices represent a multi-faceted approach to ensure LADWP achieves its goals for efficient water use throughout Los Angeles. Collectively, these initiatives are designed to expand participation while directly addressing common barriers. For example, DAC customers have historically faced financial constraints that limited their ability to invest in turf replacement, while commercial customers, (e.g., restaurants) are reluctant to adopt water-efficient technologies like food defrosters due to its prolonged return-on-investment. By addressing these specific challenges through initiatives such as the LEAP and SoCal Water$mart's new food defroster rebate, LADWP is positioned to expand access to conservation programs to achieve the water savings identified in the WCM and maintain compliance with California's UWUO.

Chapter 4 Los Angeles Aqueduct

4.0 Overview

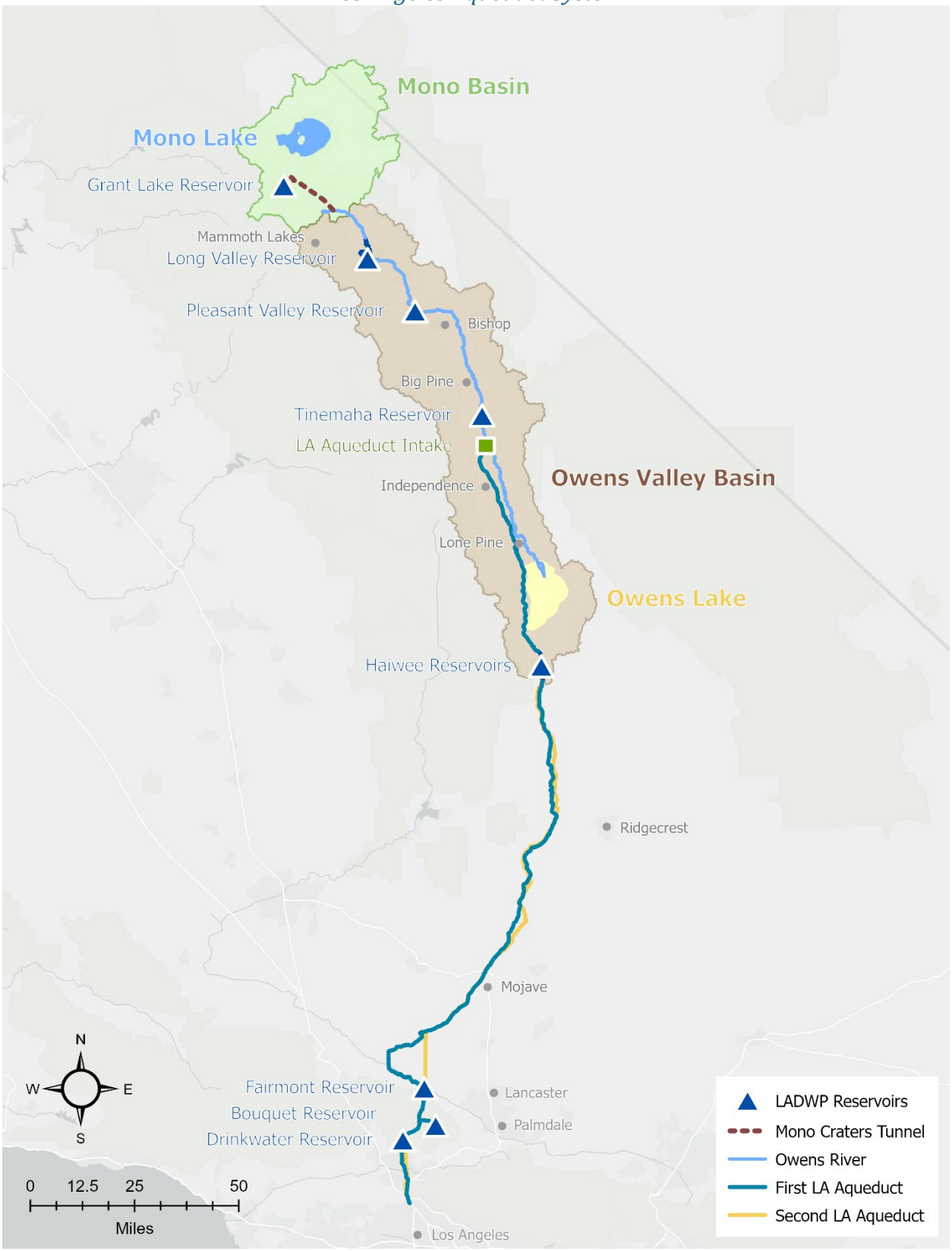
Local water supplies have been an integral part of the City's history. The City's population and economy were initially supported through a combination of local surface flows, primarily from the Los Angeles River (LA River), and local groundwater pumping, primarily from the San Fernando Basin. When it became apparent that the local groundwater supply and local surface flows were insufficient to meet the future water needs of the City, the residents of Los Angeles, under the leadership of William Mulholland, approved by a 10 to 1 margin a $23 million bond measure to construct the First Los Angeles Aqueduct in 1907. This investment was equal to 12 percent of the entire City's assessed valuation at that time. Construction of the First Los Angeles Aqueduct was completed in 1913. Then, in 1940, an additional $40 million was invested to extend the first aqueduct 40 miles north from the Owens River to Mono Basin. Exhibit 4A provides an overview of the LAA System.

To meet the additional water needs of the City's population, a second barrel of the LAA was constructed, later to become known as the Second LAA. Construction of the Second LAA was completed in 1970. The second LAA increased the City's capacity to deliver water from the Mono Basin and the Owens Valley to the City from 485 cubic feet per second (cfs) to 775 cfs. The value of the City's historical investment in the LAA System is substantial. For over a century, the City has benefited from this investment into its foundational water supply through the delivery of high-quality, cost-effective water supplies from the Eastern Sierra Nevada.

At its peak in FY 1983/84, the LAA delivered 531,729 AF to the residents of the City. The City has since reallocated approximately 70 percent of the LAA water supply to other uses within the Owens Valley and Mono Basin due to environmental concerns. The last major reallocation was implemented in 2007, setting a new reality for LAA deliveries to the City. Between 2007 and 2025, the City provided approximately 174,000 AFY of LAA water to supply a variety of environmental projects and uses throughout the Eastern Sierra Nevada, including water releases to Mono Lake. As indicated in Exhibit 4B, LAA deliveries to the City account for 31 percent of the total water runoff from the Eastern Sierra Nevada in an average year, from runoff year (RY) 2007/08 to RY 2024/25. A RY is measured from April 1st to March 31st of the following year. Approximately 70 percent of the total water supply (rainfall, runoff, pumped groundwater, and flowing groundwater) in the Eastern Sierra Nevada now remains in the Mono Basin, Owens River, and Owens Valley Basin, supplying environmental and other uses.

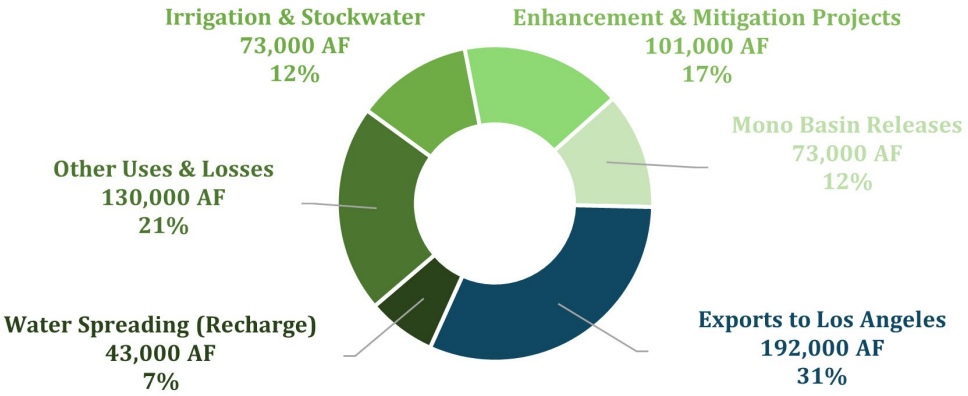
Within the Owens Valley, the primary framework that governs LADWP groundwater pumping is the Long Term Water Agreement (LTWA). The LTWA is a stipulated court order between Inyo County and LADWP, issued in 1991, which established an overall goal for managing groundwater resources within Inyo County. The intent is "to avoid certain described decreases and changes in vegetation, and to cause no significant effect on the environment which cannot be acceptably mitigated, while providing a reliable supply of water for export to the City and for uses in Inyo County." The LTWA does not impact LADWP's surface water rights, but manages LADWP's groundwater pumping, and groundwater use within Inyo County. The LTWA also requires LADWP to implement and maintain a variety of "Enhancement/Mitigation Projects."

Exhibit 4A
Los Angeles Aqueduct System



In the Mono Basin, LADWP historically diverted water from four tributary streams feeding Mono Lake. Between 1970 and 1988, LADWP averaged approximately 85,000 AFY of exports from the Mono Basin. Following the landmark California Supreme Court decision in *National Audubon Society v. Superior Court* in 1983, the SWRCB was required to reconsider LADWP's water rights licenses. In 1994, the SWRCB issued Decision 1631, which established flow requirements for streams tributary to Mono Lake and other environmental protections. In balancing the public trust, the SWRCB acknowledged the importance of ongoing water deliveries and established export criteria based on the lake level. LADWP's amended water rights licenses allow it to export up to 16,000 AFY, as discussed in detail in Section 4.3. Since 1994, LADWP's average Mono Basin export has been 13,000 AFY. The various reductions in water deliveries to the City from the LAA has resulted in increased dependence on imported water supplies from MWD.

Exhibit 4B
Mono Basin and Owens Valley Water Use Allocations[1]



1. The average shown for the period RY 2007/08 to RY 2024/25

4.1 Historical Deliveries

Annual LAA deliveries to the City are dependent on snowfall in the Eastern Sierra Nevada. Years with abundant snowpack result in larger water deliveries from the LAA and typically reduce purchases of supplemental water from MWD. Conversely, low LAA deliveries in dry years increase the demand for supplemental water from MWD.

The impact to LAA water supplies due to fluctuating hydrology in the Mono Basin and Owens Valley is amplified by the requirements to release supply water for environmental enhancement efforts in the Eastern Sierra Nevada. Since 1989, the City's water exports from Mono Basin have been significantly reduced to comply with SWRCB orders to enhance the Mono Basin's ecosystem. The cyclical nature of hydrology is exhibited best by LAA deliveries over the last 30 years, as shown in Exhibit 4C.

A long-term perspective of the general cycle of wet and dry years for the Owens Valley is evident in Exhibit 4D. This graph shows Eastern Sierra Nevada runoff as a percent of normal, where 60 percent of the years are below average. As illustrated, reliance solely on one water supply source is not practical. Therefore, the City relies on the foundational LAA in combination with supplies from MWD sourced from the CRA and the SWP as the City's primary imported water sources. These imported sources, combined with local sources such as groundwater, stormwater, and recycled water, make up the City's total water supply portfolio. This portfolio of water resources is fundamental to LADWP's ability to deliver safe and reliable water supply to meet the needs of the City's roughly 4 million residents.

Exhibit 4C
Historical Los Angeles Aqueduct Deliveries

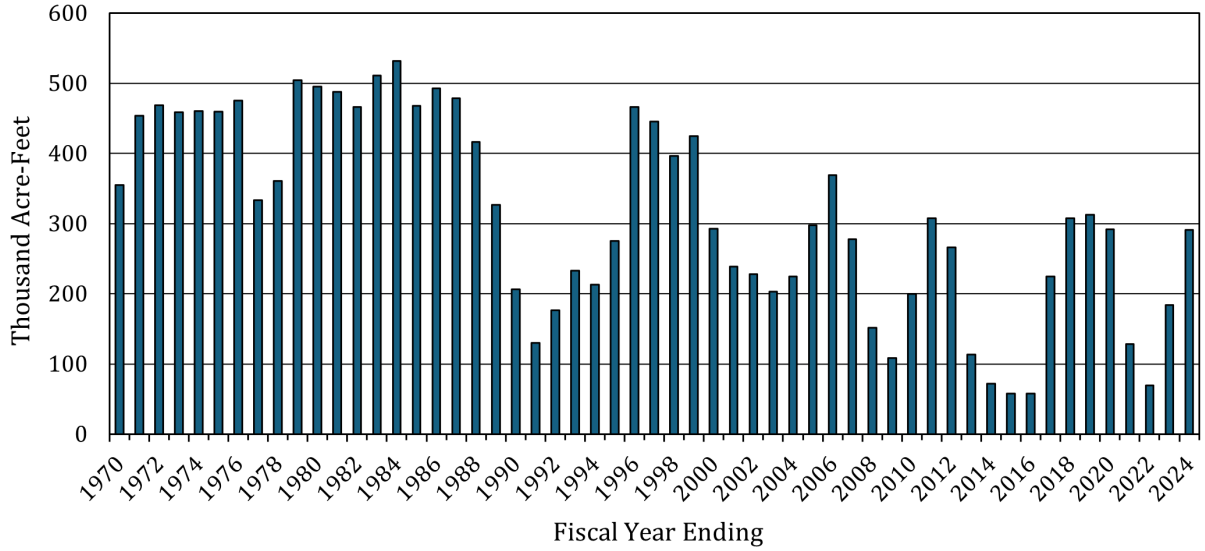
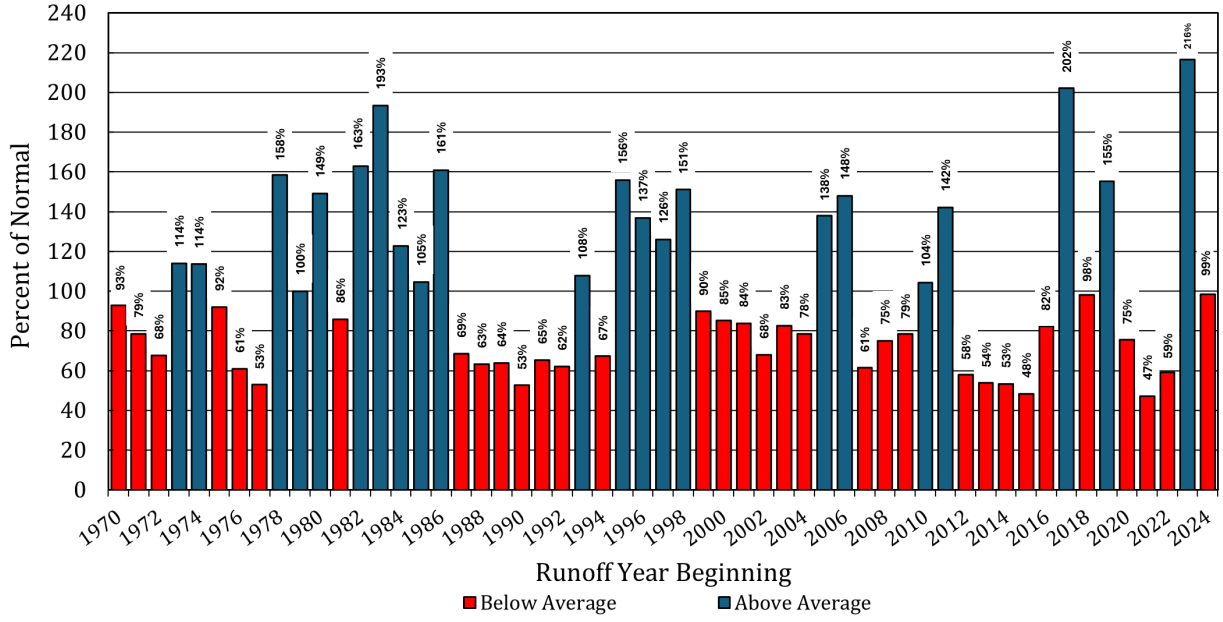


Exhibit 4D
Eastern Sierra Nevada Runoff Owens Valley – Percent of Normal



4.2 Mono Basin and Owens Valley Supplies

Surface runoff from snowmelt in the Eastern Sierra Nevada Mountains is the primary source of supply for the LAA. The LAA System extends approximately 340 miles from the Mono Basin to the City, where water is conveyed the entire distance by gravity alone through the First and Second LAAs. LADWP regulates deliveries to the Los Angeles Aqueduct Filtration Plant (LAAFP) utilizing regulatory storage at nine reservoirs. Six reservoirs are used for storage: Grant Lake, Long Valley, Tinemaha, North Haiwee, South Haiwee, and Bouquet Reservoirs. The remaining three reservoirs are used to regulate flow for hydroelectric power plant generation, which include Pleasant Valley, Fairmont, and Drinkwater Reservoirs. The total combined reservoir storage capacity of the system is 311,000 AF. Hydroelectric power is generated at 12 power plants along the LAA with a combined maximum capability of 215 megawatts. Additional infrastructure includes hundreds of miles of canals and ditches. Runoff reaches its peak in the late spring and early summer, after most of the year's precipitation has already occurred. The snowpack in the Eastern Sierra Nevada provides natural storage for the LAA system. This snowpack storage is essential due to relatively limited storage capacity along the LAA system.

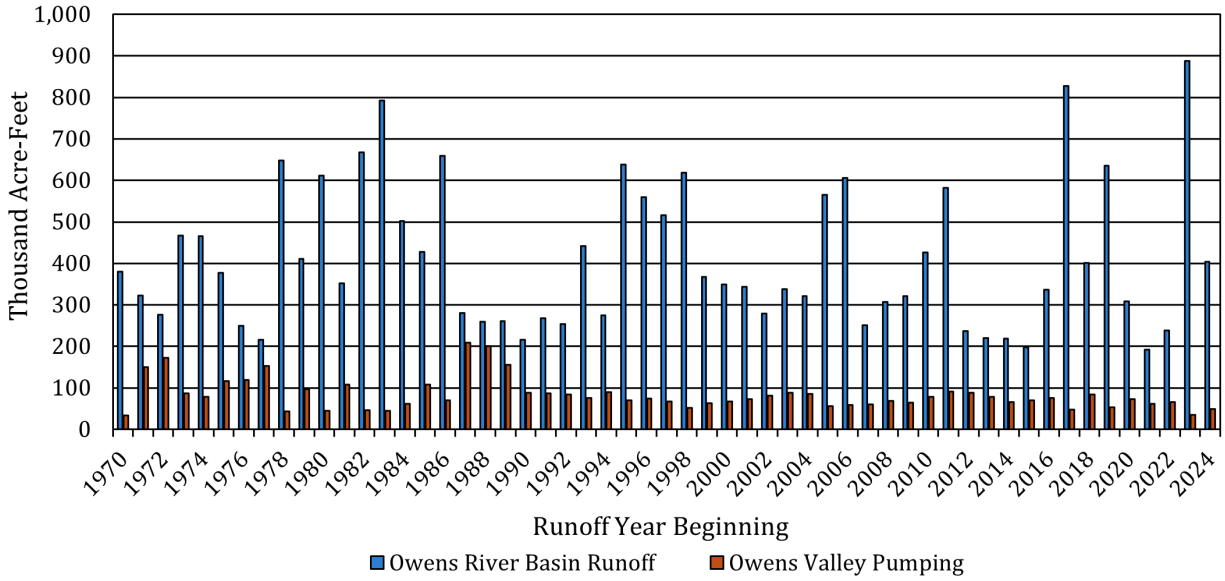
Water Rights

The City's water rights in the Eastern Sierra Nevada are comprised of riparian rights, pre-1914 appropriations, and post-1914 appropriation licenses held on various streams in the Mono Basin and Owens Valley. Riparian rights are for streamflow used on land adjacent to a stream. Appropriations by the City based on post-1914 water rights are made pursuant to licenses issued by the SWRCB. Most of the City's water rights are pre-1914 water rights established prior to enactment of the State Water Commission Act. The most significant basis for export of surface water from the Eastern Sierra Nevada is an appropriation claim filed in 1905. This filing was for the diversion of up to 50,000 miner's inches (1,250 cfs) from the Owens River at a location approximately 15 miles north of the town of Independence into the LAA for transport to the City. The City files annual supplemental statements (for riparian and pre-1914 water rights) and licensee reports (for post-1914 water rights) of water diversion and use with the SWRCB.

The City's water right licenses in the Mono Basin were amended by the SWRCB in 1994 following Decision 1631, and again in 2021 as part of an agreement to provide new flow regimes to Lee Vining Creek and Rush Creek to enhance stream ecosystem habitats. As of RY 2024/25, the Mono Lake water level was above the Decision 1631 trigger elevation of 6,380 feet, allowing up to 16,000 AF of water exports from Mono Basin for RY 2025/26.

The City's primary groundwater rights in the Owens Valley are based on majority ownership of land in Owens Valley (approximately 252,000 acres) and the appurtenant water rights within this acreage. Management of the groundwater supply in the Owens Valley is governed by the LTWA. Groundwater pumping is regulated under the LTWA by assessing the existing vegetation's water demand and the available soil moisture to determine whether groundwater wells can be pumped. Groundwater is pumped from nine Owens Valley wellfields and began in 1970 after completion of the Second LAA. Since 1991, the average pumping has been approximately 70,000 AF compared to 107,000 AF from 1974 to 1990, as shown in Exhibit 4E.

Exhibit 4E
Owens River Basin Runoff and Owens Valley Groundwater Pumping

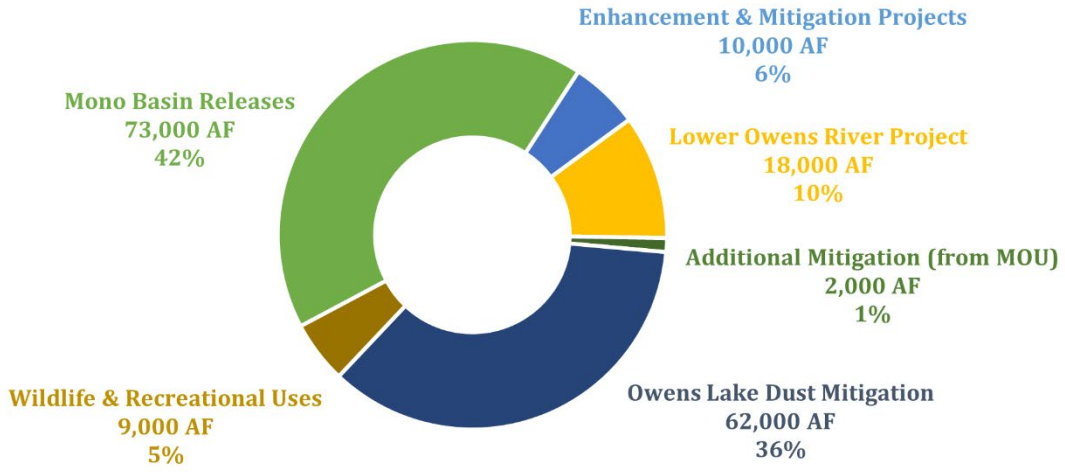


4.3 Environmental Enhancement and Mitigation

Over time, an increasingly larger portion of LAA water supply has been reallocated to Owens Valley environmental projects and uses. As a result, the City's average supply for environmental enhancement in the Owens Valley and Mono Basin has amounted to 174,000 AFY. LADWP has compensated for this loss of foundational LAA water supplies by increasing purchases of supplemental supplies from MWD.

Exhibit 4F illustrates the breakdown of LAA water supply by category. The environmental enhancement and mitigation projects that have been implemented as part of the City's commitment under the LTWA are also shown as part of Exhibit 4F. Among the environmental projects, LADWP is diverting 9,000 AFY for wildlife and recreational uses, 73,000 AFY for Mono Basin releases, 62,000 AFY for Owens Lake Dust Mitigation, 18,000 AFY for the Lower Owens River Project (LORP), 10,000 AFY of water from the LAA for Owens Valley environmental enhancement and mitigation projects, and 2,000 AFY for additional mitigation pursuant to a 1997 MOU among LADWP, the County of Inyo, the California Department of Fish and Game, the California State Lands Commission (CSLC), the Sierra Club, and the Owens Valley Committee (1997 MOU).

Exhibit 4F
Mono Basin and Owens Valley Environmental Enhancement Commitments[1]



1. Average shown for the period RY 2007/08 to RY 2024/25

Mono Basin

Exhibit 4G displays the maximum export levels from the Mono Basin allowed under the conditions defined in the SWRCB Decision 1631. Prior to 1994, the recent historic long-term average of Mono Basin exports was approximately 85,000 AFY. After export conditions were implemented in 1994, exports managed under the transition phase were reduced by an estimated 72,000 AFY, resulting in an average export of approximately 13,000 AFY post-1994. The Mono Lake annual average elevation reached 6,383 feet in RY 2024/25, which sets LADWP's allowable Mono Lake exports at 16,000 AF for RY 2025/26. Once Mono Lake reaches an elevation of 6,391 feet, exports will be managed under the conditions outlined for the post-transition phase.

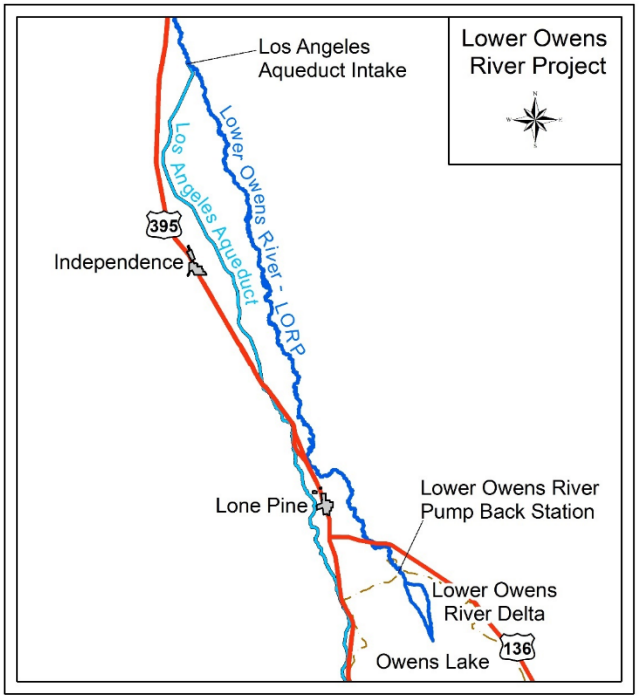
Exhibit 4G
SWRCB Decision 1631 Mono Lake Elevation and Exports Conditions

Phase	Mono Lake Elevation (feet)	Export Allowance (AFY)
Transition	< 6,377	0
	6,377 - 6,380	4,500
	6,380 - 6,391	16,000
	≥ 6,391	Enter Post-Transition Phase
Post-Transition (Begins when Mono Lake elevation reaches 6,391 ft)	< 6,388	0
	6,388 - 6,391	10,000
	> 6,391	Export all runoff less minimum streamflow requirements and restoration flows

Lower Owens River Project

In December 2006, the LORP, depicted in Exhibit 4H, was implemented to establish a warm water fishery along a 62-mile stretch of the Owens River. The LORP releases water near the LAA intake facility and a pump back station located downstream returns flows to the LAA and/or to Owens Lake for dust control measures. In accordance with the 1997 MOU and the approved Environmental Impact Report (EIR), annual monitoring reports are prepared to measure project success. The LORP EIR describes requirements for LORP flows. It is estimated that the long-term use and transit losses from the project are approximately 18,000 AFY.

Exhibit 4H
Lower Owens River Project Area



4.4 Owens Lake Dust Mitigation Program

Historically, the Owens River was the primary source of water for Owens Lake. Diversion of water from the river, first by farmers in the Owens Valley and then by the City, contributed to the lake being reduced to a small brine pool. Regulators concluded that the exposed lakebed became a major source of windblown dust, resulting in the US EPA classifying the southern Owens Valley as a serious non-attainment area for particulates (dust), also known as PM_{10} emissions, in 1991. The PM standard includes Particulate Matter with a diameter of 10 micrometers or less (0.0004 inches or one-seventh the width of a human hair). US EPA's health-based national air quality standard for PM_{10} is below 50 microgram per cubic meter for an annual mean and below 150 microgram per cubic meter for daily concentration.

The US EPA required California to prepare a State Implementation Plan (SIP) to bring the region into compliance with Federal air quality standards by 2006. In July 1998, LADWP and the Great Basin Unified Air Pollution Control District (GBUAPCD) entered into a Memorandum of Agreement that: 1) delineated the dust producing areas on the lakebed to be controlled; 2) specified what measures could be used to control the dust; and 3) outlined a timetable for implementation of the control measures.

The Memorandum of Agreement was incorporated into a formal air quality control SIP by the GBUAPCD, and the plan was approved by the US EPA in October 1999. The regulators approved only three methods of dust control: Shallow Flooding, Managed Vegetation, and Gravel Cover. Two of these methods require significant water use and, while gravel cover is a waterless method and requires low maintenance, its widespread use is limited because the CSLC believes gravel does not promote public trust values by preserving the natural landscape and aesthetics for public use.

In addition, starting with the 1998 SIP, the GBUAPCD issued multiple SIPs and dust control orders over the years, which significantly expanded LADWP's obligations from the original 16.5 square mile dust control area to 48.6 square miles with implementation of the 2016 SIP. The 2016 SIP incorporated provisions from the 2014 Stipulated Judgment including an upper limit of 53.4 square miles and allowing LADWP to implement new waterless dust control measures, such as tillage, on Owens Lake as detailed in the next section.

In July 2021 and July 2023, the GBUAPCD ordered installation of supplemental contingency dust controls on adjacent 34-acre and 90-acre areas, respectively. In June 2024, LADWP completed both orders well ahead of their three-year regulatory deadlines. The reduced scale of these recent orders is a clear indicator that anthropogenic dust sources have been addressed, and that the Owens Lake dust mitigation program has achieved its air quality goals. Exhibit 4I provides a summary of the square miles of dust mitigation ordered by the SIPs.

Exhibit 4I
Owens Dust Mitigation Area Ordered by SIPs

SIP	Total Area Mitigated (Square Miles)
1998	16.5
2003	29.8
2008	43
2013	45
2016	48.6

2014 Stipulated Judgment

In 2011, a dispute arose between LADWP and GBUAPCD regarding GBUAPCD's requirements for LADWP to control dust from additional areas at Owens Lake, beyond those areas identified in the 2008 SIP, followed by a series of appeals to the California Air Resources Board. This dispute occurred concurrently with one of the most severe dry periods in California history, causing major water supply reliability concerns. After extensive negotiations, LADWP and GBUAPCD reached a historic settlement agreement. The settlement agreement was memorialized by the Sacramento County Superior Court in a case entitled *City of Los Angeles v. California Air Resources Board*, Sacramento Superior Court, Case No. 34-2013-80001451-CU-WM-GDS (Stipulated Judgment) on December 30, 2014. The Stipulated Judgment set an upper limit of 53.4 square miles, defined by the regulatory shoreline at 3,600 feet above sea level, that the City could potentially be ordered to mitigate dust from Owens Lake lakebed by the GBUAPCD.

Furthermore, the Stipulated Judgment allows LADWP to implement new waterless dust control measures on Owens Lake lakebed and includes a commitment by the GBUAPCD to collaboratively work with LADWP to develop other water-efficient and non-water dust control methods for use on Owens Lake. The GBUAPCD has also agreed to support LADWP in securing the necessary approvals, right-of-way, leases, and permits for installation of approved water efficient and waterless dust control measures from regulatory and oversight

agencies such as the CSLC and the California Department of Fish and Wildlife (CDFW). As a result, LADWP succeeded in getting GBUAPCD's approval to expand the Shallow Flood Best Available Control Measure to include water-efficient dust control options. Exhibit 4J provides a description of the Best Available Control Measures.

Owens Lake Dust Mitigation Program Water Use

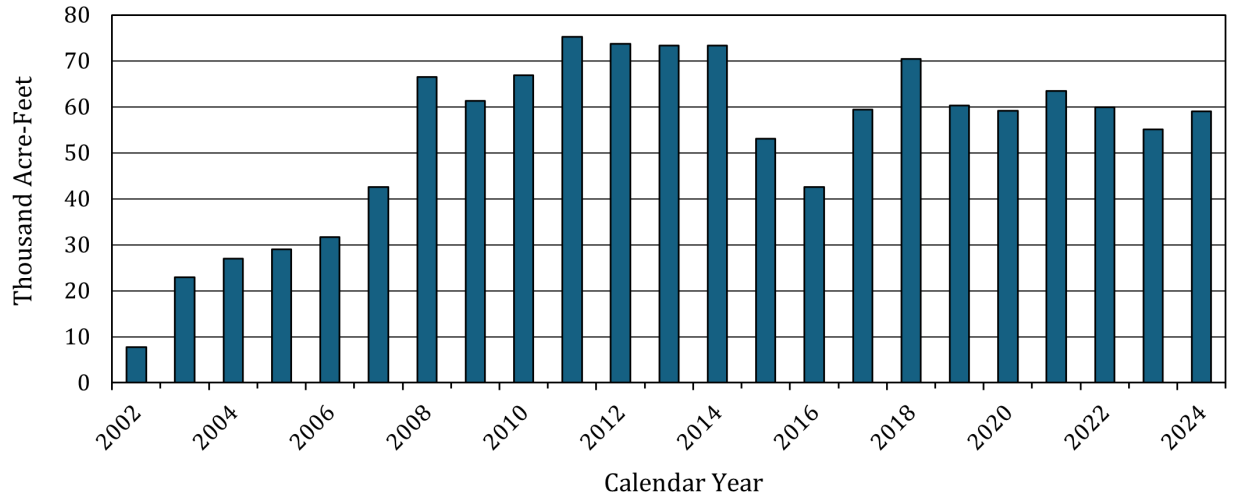
Since 2001, LADWP has diverted water from the LAA for the Owens Lake Dust Mitigation Program to supply water-using dust control measures, such as shallow flooding ponds and managed vegetation. Over the years, annual water use for Owens Lake significantly increased as a result of additional dust control orders, eventually exceeding 75,000 AFY. However, due to the water conservation measures in the 2014 Stipulated Judgment, LADWP has been able to slowly decrease water use by implementing new water-efficient dust control measures in recent years.

Exhibit 4K summarizes annual water use for the Owens Lake Dust Mitigation Program. It should be noted that water use on Owens Lake decreased between 2014 and 2016, due to a record setting dry period in California that significantly impacted snowpack in the Owens Valley and strained water supplies. In addition, during that period, three square miles of existing shallow flood ponds were taken out of service to allow for construction of the Phase 7a Project, and an additional four square miles of existing shallow flood ponds were taken out of service for construction of the of a water conservation project known as Tillage with Shallow Flood BACM Back-up (TWB2), see Exhibit 4J for a description of TWB2. Following this, in March 2017, the City's then-Mayor Eric Garcetti declared a local State of Emergency to protect lands and communities along the LAA from flooding. Consequently, overall water use increased from the previous calendar year (CY) due to increased water spreading activities necessary to mitigate the potential impacts of excess snowmelt runoff. Since completion of the Phase 9/10 Project and recent contingency projects, Owens Lake water use has remained steady at approximately 60,000 AFY.

Exhibit 4J
Dust Control Mitigation Best Available Control Measures

Dust Control Measures		Description
Shallow Flooding	Sheet Flooding (Lateral)	Releases water from arrays of low-flow water outlets spaced at intervals of between 60 and 100 feet along pipelines laid along lakebed contours. Pipelines are spaced between 500 and 800 feet apart. This arrayed configuration of water delivery creates large, very shallow sheets of braided water channels. Water depths in sheet flooded areas are typically at most a few inches deep. The lower edge of sheet flooded areas has containment berms to capture and pond excess flows. The water slowly flows across the typically flat lakebed surfaces downhill to tail-water ponds where pumps recirculate the water back to the outlets. To maximize the project's water use efficiency, flows to sheet flow areas are regulated at the outlets so that only sufficient water is released to keep the soil wet. Any water that does reach the lower end of the control area is collected and recirculated back through the water delivery system.
	Shallow Flooding (Pond)	Water containment berms that allow ponds to be formed that submerge the emissive lakebed areas. These ponds are up to four feet deep. The containment berms are typically rock-faced to protect them from delivery to the pond area until the pond reaches a size and depth sufficient to submerge the required amount of emissive water. Water delivery then ceases until evaporation reduces the pond size to a set minimum.
	Dynamic Water Management	An operational modification of shallow flooding that allows for later start dates and/or earlier end dates to reduce water use in areas that have had historically low PM_{10} emissions.
	Tillage with Shallow Flood BACM Back-up (TWB2)	TWB2 consists of soil tilling within all or a portion of Shallow Flooding areas where sufficient shallow flood infrastructure and available water supply exists. Tilling involves running a plow through the Owens Lake lakebed to create deep furrows which reduce wind velocity and thereby dust emissions.
	Brine Shallow Flooding	Brackish water containment berms that allow ponds to be formed that submerge the emissive lakebed areas. These ponds are up to four feet deep. The containment berms are typically rock-faced to protect them from delivery to the pond area until the pond reaches a size and depth sufficient to submerge the required amount of emissive water. Brackish water delivery then ceases until evaporation reduces the pond size to a set minimum.
Managed Vegetation		Control measure consists of creating a farm-like environment from barren lakebed. The saline soil must first be reclaimed with the application of relatively fresh water and then planted with salt-tolerant plants that are native to the Owens Lake basin. Thereafter, soil fertility and moisture inputs must be managed to encourage rapid plant development and maintenance. Existing Managed Vegetation areas are irrigated with buried drip irrigation tubing and a complex network of buried drains to capture excess water for reuse on the Managed Vegetation area or in Shallow Flooding areas. Managed Vegetation is sustainable at Owens Lake only if salt from the naturally occurring shallow groundwater is prevented from rising back into the rooting zone.
Gravel Cover		Two to four-inch layer of coarse gravel laid on the surface of the Owens Lake lakebed will prevent emissions by preventing the formation of efflorescent evaporate salt crusts, because the large pore spaces between the gravel particles disrupt the capillary movement of saline water to the surface where it can evaporate and deposit salts. The gravel also creates a surface that has a high threshold wind velocity so that direct movement of the large gravel particles is prevented and the finer particles of the underlying lakebed soils are protected. Gravel Blankets are effective on essentially any type of soil surface.

Exhibit 4K
Yearly Water Use on Owens Lake



Owens Lake Master Project

LADWP's Owens Lake Master Project (OLMP) has been a 15-year ongoing effort to research multiple options that are cost-effective and optimize multiple benefits. Development of the OLMP has been a collaborative effort with governmental and non-governmental organizations.

The primary objective of the OLMP is to implement a flexible and adaptive management approach that:

- Mitigates dust emissions in compliance with governing air quality regulations;
- Conserves water usage on Owens Lake to the greatest extent possible; and
- Maintains habitat and protects cultural resources.

Other major considerations incorporated into developing the OLMP include:

- Optimizing operational efficiency and flexibility;
- Adding infrastructure redundancy to decrease consequences of failure;
- Replacing aging and failing infrastructure to reduce the probability of failure; and
- Maintaining public trust values, improving public access, and reducing LAA water used for dust mitigation by utilizing sustainable amounts of groundwater from beneath Owens Lake.

4.5 Water Quality

The City owns approximately 315,000 acres of land in Inyo and Mono Counties, most of which are leased for agricultural purposes. LADWP has imposed strict limitations on the extent of development to protect the integrity of these City-owned watersheds. Snowmelt from the Eastern Sierra Nevada is a high-quality water source, containing very low concentrations of total organic carbon (TOC), bromide, and other constituents that can form disinfectant byproducts during the water treatment process. LADWP routinely monitors all its water supplies for over 170 constituents and contaminants, over 100 of which have enforceable standards.

In 2010, LADWP adopted the Owens Valley Land Management Plan to address potential impacts to the LAA's water supply and quality. The plan identifies best management practices for recreation and range management that have been implemented to protect water quality in the Owens Valley. LADWP continues to

use adaptive management practices, working with its lessees to ensure water quality objectives outlined in the Owens Valley Land Management Plan are achieved.

The LAA supply is the main source of natural arsenic in LADWP's water supply. The Owens River flows through volcanic formations and receives arsenic input from geothermal springs throughout the Owens Valley, however, most of the arsenic inputs originate from Hot Creek in Long Valley. Geothermal springs in these areas have arsenic concentrations of around 200 parts per billion (ppb). Concentrations are dramatically reduced as the water mixes with snowmelt and other pristine water sources in the area. Historic untreated LAA water arsenic concentrations have ranged from 10 to 74 ppb. From 2020 to 2024, routine compliance monitoring showed that the average post-treatment arsenic level at the Cottonwood Treatment Plant was 7.9 ppb, and for LAAFP, it was 2.5 ppb. Meanwhile, the average arsenic concentration in LADWP's distribution system was 2.2 ppb. These figures are well below the current drinking water standard of 10 ppb, established in 2000 by the US EPA.

In anticipation of more stringent arsenic regulations in the future, LADWP is taking a proactive approach in addressing this issue by investigating and planning enhanced treatment. LADWP completed an evaluation and preliminary design report for sedimentation basins at the Fairmont Reservoir site in December 2019 to address current and future water quality regulations, including arsenic. LADWP's Fairmont Sedimentation Plant Project was approved by the LADWP Board of Commissioners in 2024 and is currently in the design phase. The project will serve as a pretreatment facility to the LAAFP and will support addressing current and future water quality regulations and is expected to be in service by 2031.

4.6 Projected Deliveries

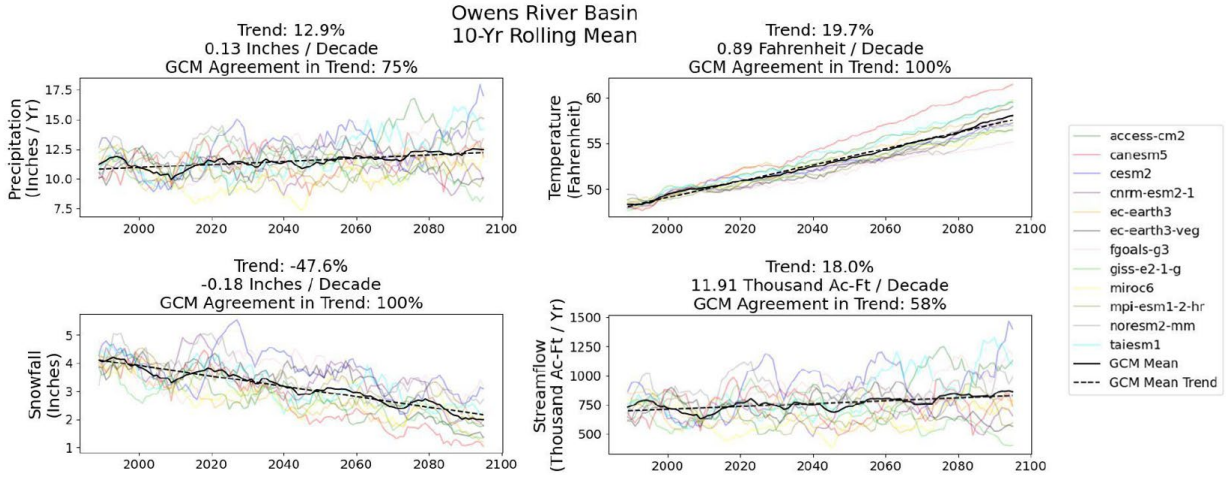
Projected LAA deliveries are forecasted utilizing LADWP LAA modeling tools and considerations of input hydrology, antecedent conditions, and Owens Valley uses. LADWP forecasting methodology considers average hydrologic conditions to reflect 30-year median hydrology. The 30-year period considered in the median currently covers the period FY 1990/91 through FY 2019/20 and is reevaluated every five years. A single dry year considers the driest hydrologic conditions on record in the Eastern Sierras during FY 2021/22. The multiple-dry year scenario considers the driest consecutive five-year period in the Eastern Sierras, which occurred over the period of FY 2012/13 through 2016/17.

In addition to historically observed hydrologic conditions, projected LAA deliveries also incorporate climate change considerations. LADWP has conducted several studies in recent years to evaluate potential climate impacts in the Eastern Sierra watershed and resulting impacts to deliveries from the LAA system. In 2011, LADWP completed a climate study (2011 Climate Study) that utilized a set of GCMs and various greenhouse gas emission scenarios to model potential climate impacts in the Eastern Sierras. The results from the 2011 Climate Study suggested future climate conditions show an increase in temperature, reduction in precipitation, reduction in snowpack volumes, increased ratios of precipitation as rain to snow, and shifts in snowmelt timing that ultimately resulted in a reduction in projected runoff.

Recognizing the significant advancements in global climate modeling that have been achieved since 2011, LADWP collaborated with UCLA to complete subsequent studies in 2020 (2020 Climate Study) and 2023 (2023 Climate Study) to reevaluate potential climate impacts on the Eastern Sierra watershed. The 2020 Climate Study analyzed data generated from 12 GCMs to determine potential changes to temperature and precipitation in the Eastern Sierra watershed through 2099. Furthermore, the 2023 Climate Study modeled projected potential changes to Eastern Sierra runoff through 2099, utilizing the findings from the 2020 Climate Study. All GCM modeling was conducted under SSP 3-7.0. SSP 3-7.0 was selected to best represent a moderate level of greenhouse gas emissions relative to other models.

Results from the 2023 Climate Study found the model average temperature and precipitation increased by 19.7 percent and 12.9 percent, respectively, between the historical reference period of 1984 through 2014 and the forecasted end of century values, which resulted in an increase in average streamflow of 18 percent. Although average streamflow is projected to increase, the 2023 Climate Study found potential seasonal changes to runoff patterns, likely driven by the change of precipitation in the form from snow to rain. This change is expected to cause runoff to start earlier in the season and decrease in the summer. These seasonal shifts may pose operational challenges for supply management that are not considered in this UWMP. A summary of results from the 2023 Climate Study is presented in Exhibit 4L.

Exhibit 4L
Summary of 2023 Climate Study Findings



LADWP conducted further analysis to project LAA deliveries for consideration in the UWMP reliability analysis scenarios. Results from this analysis showed that on average, runoff under average year conditions experienced minimal changes through 2050, despite a larger projected increase of runoff at end of century. To provide a conservative estimate for average year projections, average year deliveries are projected to remain constant for the reliability analysis. An analysis of dry year conditions found that dry periods are expected to intensify through the end of century, resulting in an estimated 0.19 percent annual reduction in dry year deliveries through 2050.

Taking the foreseeable climate change driven factors discussed earlier in this chapter into consideration, the expected annual long-term LAA delivery over the next 25 years, using the 30-year median hydrology from FY 1990/91 through FY 2019/20, is approximately 193,000 AFY for average years. Deliveries for a consecutive five-year period, assuming a repeat of FY 2011/12 through FY 2015/16 hydrology, are expected to range from approximately 62,000 AFY to 187,000 AFY. A single dry year of approximately 60,000 AFY is expected with a repeat of FY 2021/22 hydrology. An annual reduction factor of 0.19 percent per year due to climate impacts is applied to single dry and multiple dry years periods to capture projected intensifying dry periods, while no factor is applied to average year conditions. Detailed projections of LAA deliveries by year are provided in Chapter 9, *Water Supply Reliability*.

Chapter 5 Local Groundwater

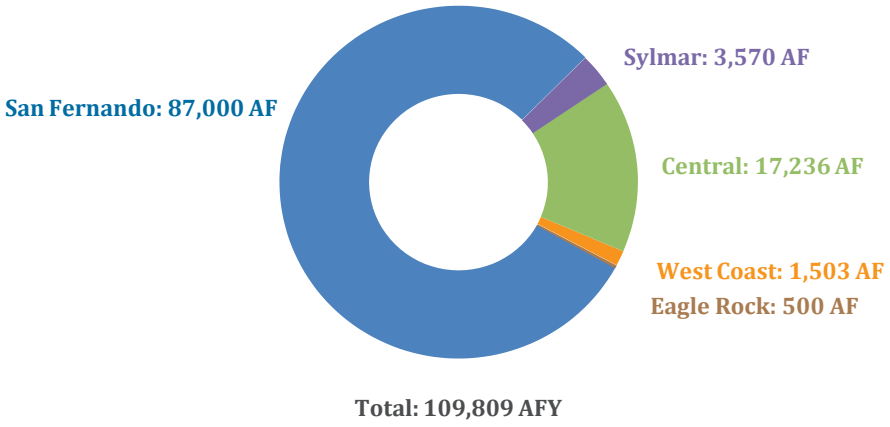
5.0 Overview

Local groundwater is a critical component of the City's local water supply portfolio. Over the last five years, local groundwater has provided approximately 8 percent of the total water supply for the City, and since 1970 has provided up to 23 percent of the total water supply during extended dry periods when availability of imported supplies was reduced.

Of the Los Angeles area groundwater basins, shown in Exhibit 5B, the City holds water rights in the San Fernando, Sylmar, Eagle Rock, Central, and West Coast Basins. Each of these basins have been adjudicated by California courts and are governed by judicial decrees. The Upper Los Angeles River Area (ULARA) watershed, which includes the San Fernando Basin (SFB) and Sylmar Basin, is the principal groundwater resource where the City recharges and extracts local groundwater. The City also owns and extracts its local groundwater rights from the Central Basin and is entitled to produce water from the neighboring West Coast Basin.

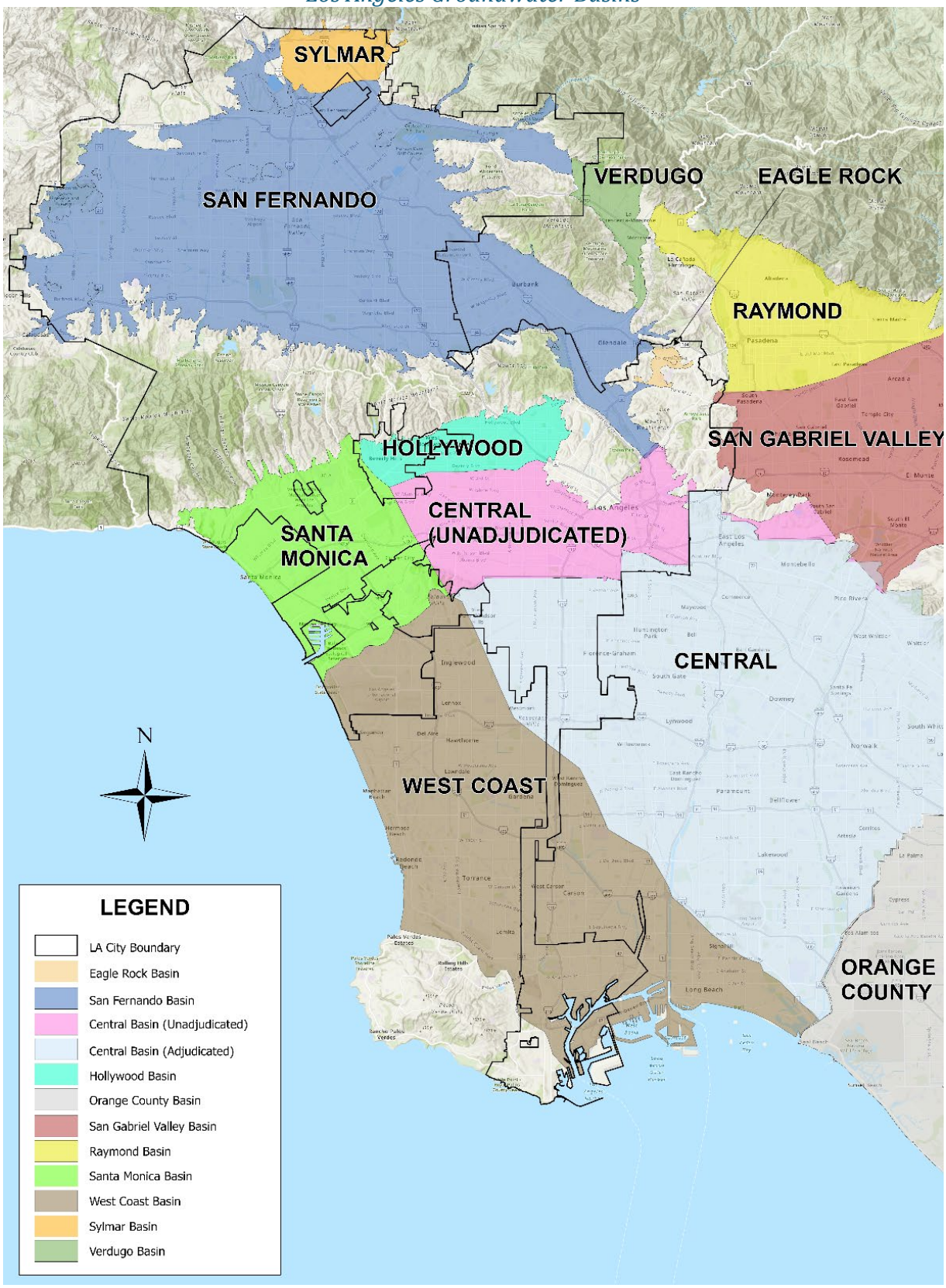
The City's combined adjudicated water rights in these basins are about 109,800 AFY, with approximately 87,000 AFY in the SFB, 500 AFY in the Eagle Rock Basin, 3,570 AFY in the Sylmar Basin, 1,503 AFY in the West Coast Basin and 17,236 AFY in the Central Basin. Exhibit 5A graphically depicts the City's annual local groundwater entitlements by basin. The unadjudicated Hollywood, Santa Monica, and northern Central Basins are other local groundwater resources that do not currently provide groundwater to the City, though there may be opportunity to develop water supplies from these groundwater basins in the future.

Exhibit 5A
Annual Local Groundwater Entitlement



Total: 109,809 AFY

Exhibit 5B
Los Angeles Groundwater Basins



5.1 Historical Groundwater Production

On average over the past five years, about 91 percent (26,316 AFY) of the City's local groundwater supply was extracted from ULARA groundwater basins, while the Central Basin has provided the remaining 9 percent (2,564 AFY). LADWP's Central Basin and Sylmar Basin production has been greatly reduced over the last five years due to ongoing construction of projects that will improve wellfield operations and water quality. Exhibit 5C summarizes the City's local groundwater production by basin over the last five years.

LADWP utilizes conjunctive use strategies to optimize available surface water and groundwater to balance supplies with demand. Through conjunctive use, the timing of groundwater pumping can be altered to meet varying demands under different hydrologic conditions. During consecutive dry-year periods, groundwater can be pumped at an elevated rate to meet demands. Pumping is then lowered to allow for increased surface water use during wet years to facilitate groundwater basin replenishment. This strategic pumping serves to meet dry year needs while also preventing overdraft of the City's groundwater basins.

Most recently, LADWP responded to the 2012 to 2016 dry period and resulting reduction in available supplies by increasing groundwater pumping. This response is reflected in the increased volumes pumped across all basins from 2014 to 2016. However, these increases were limited due to the presence of groundwater contaminant plumes in the vicinity of LADWP production wells. Following the wet winter of 2017, LADWP temporarily reduced groundwater production to accommodate increased deliveries from the LAA and to facilitate groundwater basin replenishment. These events highlight the need for operational flexibility to adjust groundwater pumping and utilize various basins for groundwater storage.

Groundwater contamination in the SFB has greatly limited LADWP's ability to strategically pump, replenish, and store groundwater. As the contamination is remediated and beneficial uses are restored, LADWP will be able to use the basin more effectively to maintain water supply reliability.

Exhibit 5C
Local Groundwater Basin Supply in AF

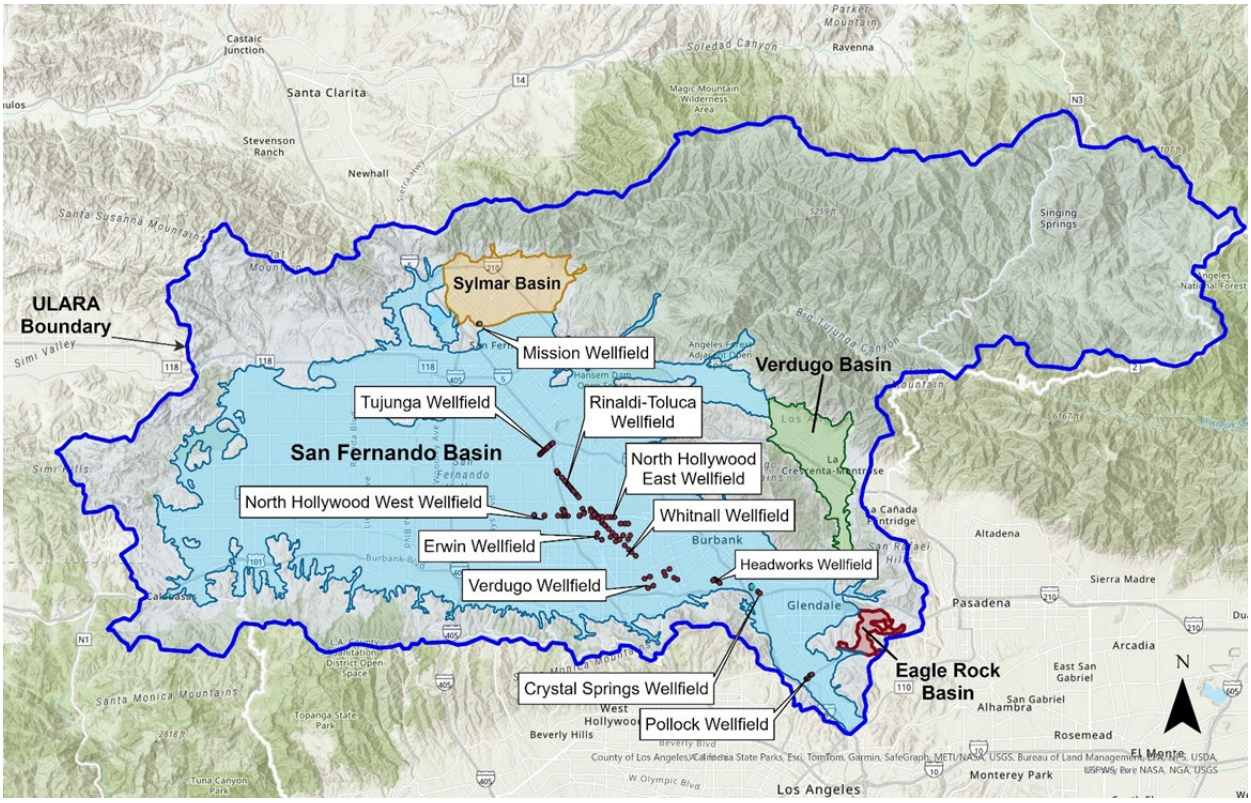
Groundwater Basin	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	Average	Percentage
San Fernando	51,070	45,395	23,013	6,521	6,107	26,316	91%
Sylmar	0	2,862	1,638	0	0	900	3%
Central	0	4,799	3,519	0	0	1,664	6%
Total	51,070	53,056	28,170	6,521	6,107	28,880	100%

5.2 ULARA Groundwater Basin Adjudication

The ULARA watershed encompasses four primary groundwater basins: San Fernando, Sylmar, Verdugo, and Eagle Rock Basins, as shown in Exhibit 5D. DWR Bulletin 118 identifies the ULARA watershed, in its entirety, as basin number 4-012. The City's groundwater rights in these basins are recognized in the judgment entered by the Los Angeles Superior Court in *The City of Los Angeles v. City of San Fernando* in 1979 (Case No. 650079) (ULARA Judgment) and the subsequent Sylmar Basin Stipulations (Sylmar Stipulation).

The ULARA Judgment requires safe yield operations for each of the basins to ensure groundwater extractions over the long term do not cause overdraft. Basin management in the ULARA is achieved by collective efforts of a court-appointed Watermaster and ULARA Administrative Committee, which is comprised of representatives from five public water supply agencies overlying the ULARA Basins: the City of Burbank, City of Glendale, City of Los Angeles, City of San Fernando, and Crescenta Valley Water District. Reports furnished by the ULARA Administrative Committee members enable the ULARA Watermaster to publish annual reports that account for actual and projected groundwater extractions, water imports and exports to and from each basin, natural and artificial groundwater recharge, generation and reuse of recycled water, changes in groundwater elevations and storage, and groundwater quality. The ULARA Administrative Committee members have made significant contributions toward ensuring sustainable management of the ULARA basins. These efforts include operation of groundwater remediation systems, use of an extensive network of groundwater monitoring wells, routine reporting on groundwater elevations and water quality, management and mitigation of urban runoff water quality, and development of enhanced stormwater recharge and groundwater replenishment.

Exhibit 5D
ULARA Watershed and Basins



5.3 San Fernando Basin

The City's primary source of local groundwater is the SFB, which has provided 91 percent of the City's groundwater supply over the past five years, ranging from 5,581 AFY to 51,070 AFY. The SFB is the largest of four groundwater basins in the ULARA, spanning 112,000 acres. This basin is bounded on the east by the Verdugo Mountains; on the north by the Little Tujunga Syncline and the San Gabriel and Santa Susana Mountains; on the west by the Simi Hills; and on the south by the Santa Monica Mountains.

LADWP's SFB wellfields were generally installed over a 65-year period between 1924 to 1991 with the most recent being the Rinaldi-Toluca wellfield, established in 1988, and the Tujunga wellfield, established in 1991. LADWP wells span across 10 major wellfields within the SFB, comprising a total of 93 wells, although a significant number of these wells have become inoperable or restricted, mostly due to contamination. As of June 2025, LADWP has 38 operable wells from seven wellfields in the SFB: Tujunga, Rinaldi-Toluca, North Hollywood West, North Hollywood East, Erwin, Verdugo, and Pollock. While LADWP has a relatively high pumping capacity in the SFB, sustained yearly pumping at full capacity may be limited by water rights, available stored water credits, groundwater levels, and existing contamination.

Groundwater Rights

As recognized by the ULARA Judgment, the City has a prior and paramount right to utilize the surface waters of the LA River and all native groundwater within the SFB, which represents the Pueblo Water Right of the City of Los Angeles. The City also has the right to recapture Import Return Water, i.e., groundwater derived from percolation attributable to delivered imported water. This Import Return Water is calculated each year by the ULARA Watermaster based on 20.8 percent of water LADWP delivered to customers overlying the SFB, including delivery of recycled water. Native safe yield has been determined as 43,660 AFY and Import Return Water averages approximately 43,000 AFY; therefore, the City's estimated water right in SFB is 87,000 AFY. The ULARA Judgment allows groundwater to be stored within the basin when the City pumps less than its annual water right, and stored water credits may be pumped in future years to supplement the City's water supply. The direct spreading or injection of both imported surface water and recycled water for groundwater replenishment by the City increases the water rights by an equal amount. As of October 1, 2020, the City had accrued 675,731 AF of stored water credits.

Water Quality

During the 1980s, testing of water supply wells in the SFB revealed elevated levels of the contaminants trichloroethylene (TCE), perchloroethylene (PCE), and other volatile organic compounds (VOCs). The presence of these contaminants is due to past improper chemical handling and disposal practices by industries in the San Fernando Valley. Additionally, in the 1990s hexavalent chromium (chromium VI or Cr(VI)) and perchlorate were detected in various wells within the SFB. Nitrate concentrations have also been detected in an increasing trend since the 1990s as a result of agricultural activities across the San Fernando Valley. Since early 2000s, 1,4-dioxane has become an emerging chemical of concern with an increasing trend of concentration.

The presence of industrial contamination in groundwater has impeded LADWP's ability to fully exercise its groundwater rights in the SFB. Various contaminants have been recorded in 47 wells at concentrations exceeding the Maximum Contaminant Level (MCL) or Notification Level (NL) established by State and Federal regulatory agencies. Among these contaminants of concern are VOCs (TCE, PCE, and carbon tetrachloride), nitrates, 1,4-dioxane, and perchlorate. Cr(VI) has also been detected in some of LADWP's wells. However, LADWP is bringing remediation facilities online to remediate groundwater and restore the SFB to its full

beneficial uses. All water pumped from the SFB is treated to ensure it complies with all State and Federal safe drinking water standards.

LADWP established its two largest wellfields, Rinaldi-Toluca and Tujunga, in areas that were at the time of their development believed to have been located away from known contamination areas. Since that time, these important wellfields have been significantly impacted by contamination. LADWP has developed various programs to restore the beneficial use of the groundwater basin. These include: the comprehensive Groundwater System Improvement Study and monitoring well installation program, response actions to address contamination in the vicinity of the Rinaldi-Toluca, Tujunga and North Hollywood West Wellfields, LADWP cooperation with the US EPA response actions in the North Hollywood Operable Unit (NHOU), and other collaborative efforts with State and Federal regulatory agencies to investigate sources of contamination and identify potentially responsible parties (PRPs). In addition, Poly- and Perfluoroalky Substances (PFAS) are a group of synthetic (man-made) chemicals. This category of manufactured chemicals that have been used in industry and consumer products since the 1940s have characteristics that make them useful in a variety of products, including nonstick cookware, waterproof clothing, and firefighting foam, as well as in certain manufacturing processes. Studies indicate potential health consequences from exposure to significant levels of PFAS. Health effects may include high cholesterol, liver and thyroid cancer risks, immunotoxicity, pregnancy-induced hypertension, low birth weights, and decreased fertility. More information is available on the US EPA's website on Perflurooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) health advisories.

LADWP continues to monitor its groundwater sources for PFAS since it began testing in 2013 and has analyzed hundreds of samples utilizing US EPA approved testing methods. Although PFAS have been detected in some individual wells in the SFB; that well water is blended and diluted with large volumes of surface water before it is served to customers. LADWP has not detected any PFAS compounds regulated by the State or the US EPA in samples taken at entry points to the distribution system. LADWP's ongoing monitoring program and commitment to water quality and safety ensure that LADWP's water meets or exceeds all regulatory standards. For more information on water quality, please visit ladwp.com/waterquality.

Agency Cooperation of SFB Remediation

LADWP actively coordinates with the State Water Resources Control Board Division of Drinking Water (DDW), the Los Angeles Regional Water Quality Control Board (LARWQCB), the California Department of Toxic Substances Control (DTSC), and US EPA to pursue protective and remedial measures for the SFB. DDW, LARWQCB, and DTSC are the three state regulatory agencies with enforcement responsibilities within the SFB. The LARWQCB and the DTSC issue enforcement directives for polluted sites and guide the development and implementation of remediation of groundwater sites. DDW oversees the quality of potable water from groundwater sources. US EPA administers the Superfund Program in the SFB.

LADWP completed the Remedial Investigation of Groundwater Contamination in the San Fernando Valley (Remedial Investigation) in 1992 which included installation of monitoring wells to monitor contamination plumes of TCE, PCE, nitrates and emerging contaminants in the SFB and the development of a groundwater flow model (Flow Model).

The Flow Model is a three-dimensional computer simulated model of the SFB based on the modular finite-difference flow model (MODFLOW) program code that was developed by the United States Geological Survey. It consists of four layers that represent the various depth zones of the SFB. Geologic and hydrogeologic data for the basin, generated through field investigations, were analyzed to develop the physical site characterization of the basin for the MODFLOW Flow Model. The Flow Model produces simulated groundwater levels, gradients, and their fluctuations as a function of time and is updated annually with actual

extraction and recharge data. LADWP uses the Flow Model to prepare the Annual Watermaster Report, the Annual Pump and Spreading Report, and to evaluate all groundwater remediation projects and recycled water recharge projects that are ongoing or proposed in the SFB.

San Fernando Basin Groundwater Remediation

The remediation programs LADWP is implementing will help restore the beneficial uses of the SFB. Remediation of contamination present in the SFB is a prerequisite to being able to fully utilize LADWP's groundwater rights in the SFB and the storage capacity of the SFB. The remediation programs being pursued by LADWP are described next.

Groundwater System Improvement Study

In response to the continued degradation of water quality within the SFB, LADWP initiated the SFB Groundwater System Improvement Study (GSIS), a six-year study completed in 2015. LADWP compiled the data acquired from the GSIS and included it in the GSIS Remedial Investigation Update Report. The Remedial Investigation Update Report summarizes investigative results from the GSIS as well as other data sources and updates the conceptual understanding of the SFB. Specifically, it presents LADWP's updated understanding of the groundwater basin physical characteristics, nature and extent of contamination, fate and transport characteristics, and the contaminants' risk to human health and the environment. This report serves as an update to the 1992 Remedial Investigation Report for the San Fernando Valley because many of the findings from that report form the basis of the updated Hydrogeologic Conceptual Site Model.

After the completion of the GSIS Remedial Investigation Update Report in 2015, LADWP conducted individual investigations/studies for each of the three interim response actions described in the next section. Following public comment and other extensive outreach efforts, LADWP selected three interim remedial actions, described below. LADWP is now in the process of completing permitting, construction, and startup of these response actions in substantial compliance with the National Contingency Plan (NCP). The NCP provides the organizational structure and procedures for responding to releases and threatened releases of hazardous substances, pollutants, and contaminants. Complying with the NCP is important as it ensures that the public is informed and engaged in the process and can lead to holding PRPs accountable for the contamination.

Groundwater Remediation Facilities

North Hollywood West Response Action

On July 2017, LADWP selected a response action for North Hollywood West area following an extensive study and public outreach process, consistent with the NCP. On August 1, 2017, the selected response action for North Hollywood West was approved by the Board of Water and Power Commissioners and is the first of several projects that aims to respond to releases of hazardous substances and restore the beneficial use of the SFB in the vicinity of the North Hollywood West Wellfield. The treatment system will remove 1,4-dioxane, which was historically used as a solvent in industrial and laboratory applications, and other contaminants from the North Hollywood West Wellfield's groundwater. Implementation of this response action by LADWP will help protect public health and the environment. It will also help to restore the beneficial use of groundwater by capturing groundwater contamination in the capture zone of the North Hollywood West Wellfield.

The North Hollywood West response action became operational in August 2024 and is expected to operate at approximately 13,000 AFY during the first two years. LADWP will operate three existing wells to capture the plume of 1,4-dioxane and treat the extracted water using an ultraviolet AOP and liquid phase granular activated carbon (GAC) vessels for peroxide quenching. After contaminants are removed through this

process, the water will be sent to the distribution system. The operation of the three remedial wells, together with other elements of the remedial program, is intended to enable other wells in the wellfield to be operated without the need for additional treatment. After the first two years of operation, LADWP is expected to have additional flexibility to operate two additional wells for a capacity of up to 21,000 AFY. This response action is partially funded by the State's Proposition 1 Water Quality, Supply, and Infrastructure Improvement Act of 2014. LADWP works in close coordination with the State Water Resources Control Board Division of Financial Assistance (DFA), DDW, DTSC, US EPA and the LARWQCB on its implementation.

Tujunga Response Action

In December 2018, LADWP selected a response action for Tujunga Wellfield area following an extensive study and public outreach process, consistent with the NCP. On January 22, 2019, LADWP's selected response action for the Tujunga Wellfield was approved by the Board. Studies have identified the presence and/or threat of 1,4-dioxane and VOC contamination in the vicinity of most of the Tujunga Wellfield. Due to groundwater contamination, pumping of some of the wells is currently restricted, and these wells are not used to produce drinking water. The goal of the Tujunga Wellfield Response Action Treatment Facility is to address the contamination present in groundwater at the wells by capturing the groundwater plume, protect public health and the environment, and restore the beneficial use of the groundwater and operation of the full wellfield. Among other things, the response action involves constructing and operating treatment equipment capable of removing the groundwater contamination. Like the North Hollywood West response action, treatment equipment includes the use of an AOP and liquid phase GAC vessels for groundwater remediation.

Construction for the Tujunga Wellfield response action was completed in June 2024 and is expected to become operational by 2026. The facility is expected to have a treatment capacity of approximately 43,000 AFY for the first two years of operation, which can then increase to approximately 55,000 AFY once additional wells are brought online. The operation of the remedial wells, together with other elements of the remedial program, is intended to enable other wells in the wellfield to be operated without the need for additional treatment. This response action is partially funded by the State's Proposition 1 Water Quality, Supply, and Infrastructure Improvement Act of 2014. LADWP coordinates closely with DFA, DDW, DTSC, US EPA and the LARWQCB on its implementation.

North Hollywood Central Response Action

In December 2018, LADWP selected a response action for North Hollywood Central Wellfield area, following an extensive study and public outreach process, consistent with the NCP. On December 11, 2018, LADWP's selected response action for North Hollywood Central was approved by the Board of Water and Power Commissioners. The North Hollywood Central response action will address the releases of hazardous substances in the vicinity of the Rinaldi-Toluca Wellfield. Studies have identified the presence and threat of 1,4-dioxane and VOC contamination in the capture zone of the Rinaldi-Toluca Wellfield and pumping of some of the wells is currently restricted. The goal of the response action is to address the contamination present in groundwater at the wells by capturing the groundwater plume, protecting public health and the environment, and restoring the beneficial use of the groundwater and operation of the full wellfield. This project involves constructing and operating treatment equipment capable of removing the groundwater contamination, including the use of an AOP and liquid phase GAC vessels.

Construction of the North Hollywood Central response action was completed in June 2024 and the facility is expected to become operational by 2026. The facility is expected to have a capacity of approximately 28,000 AFY. The operation of the remedial wells, together with other elements of the remedial program, is intended to enable other wells in the wellfield to be operated without the need for additional treatment. This response action is partially funded by the State's Proposition 1 Water Quality, Supply, and Infrastructure Improvement

Act of 2014. LADWP works in close coordination with DFA, DDW, DTSC, US EPA and the LARWQCB on its implementation.

North Hollywood Operable Unit

The North Hollywood Operable Unit First Interim Remedy (NHOU-1IR), located in the North Hollywood Wellfield, was completed in December 1989 to contain the contamination from various potentially PRPs, including Honeywell International, Inc. (Honeywell) and Lockheed Martin Corporation (Lockheed). The NHOU-1IR was designed to extract up to 4.5 cfs of groundwater utilizing an Aeration Facility. The NHOU-1IR was designed to focus on the most concentrated part of the contamination plume. However, in 2005, it was determined by the US EPA that NHOU-1IR was not able to fully contain the contamination, and the plume continued to migrate towards LADWP production wells. In September 2009, US EPA issued a record of decision (ROD) for the NHOU-2IR, which expanded the response action for that area. US EPA issued an amendment to the ROD in January 2014, which would allow for reinjection of treated groundwater, rather than the serving of the treated water. In February 2018, US EPA issued an explanation of significant differences (ESD), which concludes that increased groundwater extraction would be more effective in attaining the NHOU-2IR remedial action objectives and protecting various LADWP production wells. That ESD allowed for the implementation of the NHOU-2IR in two components: one on the eastern side and another on the western side.

In October 2018, LADWP entered into a settlement with Lockheed (the "Lockheed Settlement Agreement"), which will enable Lockheed to implement the eastern portion of the NHOU-2IR. Pursuant to that agreement, Lockheed will cause two North Hollywood Extraction wells (NHE-7 and NHE-8), together with two new production wells to be installed by Lockheed, to be operated to remove contamination from the eastern portion of the NHOU. Pursuant to that agreement, Lockheed will cause 4,670 AFY of treated groundwater (meeting applicable drinking water standards) to be placed into the City's distribution system, through a separate agreement with Burbank. Burbank will operate the treatment plant pursuant to obtaining a permit from DDW.

In December 2019, LADWP and Honeywell entered into a Settlement Agreement (the "Honeywell Settlement Agreement"), which will enable the implementation of the western portion of the NHOU-2IR. That settlement establishes a partnership to enhance and expedite remediation of contamination and support restoration of beneficial uses of groundwater within the NHOU through a program referred to as the cooperative containment concept (CCC). Under US EPA oversight, Honeywell will design the CCC to capture and treat various contaminants, including VOC's, Cr (VI), and 1,4-dioxane. The first phase of the CCC, with a capacity to pump and treat 1,000 AFY, was brought online in 2025. The final phase of the CCC is expected to be operational by 2027, which together with the first phase will be designed to pump and treat 8,500 AFY. LADWP is expected to receive the NHOU-2IR final permit by 2027. Honeywell will construct and test the treatment and collection systems. LADWP will operate and maintain the CCC, with Honeywell paying the costs of such operation and maintenance.

Pollock Wells Treatment Plant

Groundwater in the SFB naturally flows across the basin in a southeasterly direction toward the LA River Narrows. Groundwater becomes shallow in this area, tending to rise into an unlined reach of the LA River where it can emerge as flow within the river channel. Subsurface groundwater also flows southward from this same locality leaving the SFB. The operation of the Pollock Wellfield allows LADWP to extract groundwater to intercept potential outflow losses from the SFB.

The Pollock Wells treatment facility was constructed with LADWP funds and placed into service in 1999. The plant treats groundwater pumped from two extraction wells using four liquid-phase GAC vessels at a total

design flow of 5.3 cfs. The Pollock Wells Treatment Plant was designed to treat for TCE and PCE and restore a critical wellfield used to contain and reduce the loss of groundwater flowing out of SFB through the LA River Narrows.

Los Angeles-Burbank Interim Interconnection Pipeline

In 2015, the City of Los Angeles and the City of Burbank, through each of their respective Department of Water and Power agencies, entered into an agreement to construct and operate the Los Angeles-Burbank Interim Interconnection (Interim Interconnection). The Interim Interconnection is a water service connection pipeline between the two cities' water supply systems. The pipeline can transfer up to 3,200 gpm of potable water to LADWP's distribution system. In compliance with federal, state, and local laws and regulations concerning water quality, the potable water consists of an approximate 80/20 ratio blend of SFB groundwater treated at the Burbank Operable Unit (BOU) and imported supply from the MWD. Both agencies have agreed that water deliveries will be on a rolling basis with a minimum of 500 AF transferred each Water Year (October 1 to September 30) until 2027.

LADWP has been unable to fully produce its annual entitlement to groundwater from the SFB due to groundwater contamination, which has impaired and restricted the use of many of LADWP's groundwater production wells. Burbank does not have the potable water demand year-round to utilize the maximum 9,000 gpm capacity of BOU groundwater production mandated by the US EPA. LADWP and Burbank share the common goal of remediating the SFB to maintain a healthy groundwater supply. The Interim Interconnection will therefore mutually benefit both cities by optimizing the use of the BOU and maximizing the mass removal of contaminants from the SFB. In August 2019, Burbank Water and Power (BWP) initiated conveyance of the blended water into LADWP's system via the new interconnecting pipeline and as of FY 2022/23, 2,000 AF has been transferred.

Separately, BWP will treat the NHOU Eastern Plume at the Burbank Operable Unit Treatment Facility (BOUTF) through an agreement with Lockheed. BWP will provide 4,670 AFY of treated groundwater to LADWP via a permanent intertie on a fixed two-year basis per a separate agreement between LADWP and BWP. Construction on the BOUTF is expected to be completed by 2031.

Expanded San Fernando Basin Remediation Strategies

Pursuant to recommendations provided by the GSIS and considering the current remediation at the three primary SFB well fields (Tujunga, Rinaldi-Toluca, and North Hollywood), LADWP conducted a Remedial Investigation study in the southeast region of the SFB surrounding the Headworks, Pollock, Erwin, Whitnall, and Verdugo well fields. The objective was to characterize the extent of contamination and address hydrogeological data gaps not covered by the GSIS. The results of this study have filled data gaps of the basin's hydrogeologic properties and the extent of contamination found in SFB groundwater. At this time, LADWP will continue to monitor the effectiveness of the ongoing remedial efforts in the northern well fields. Additional remedial actions in the southern SFB well fields have not yet been determined.

New Groundwater Development

Saugus Formation Exploration and Test Wells

In 2015, LADWP constructed two exploratory test wells at LADWP's Van Norman Complex to investigate hydrogeology, water quality, and potential yield for groundwater production from this region of the Saugus Formation. Short-term aquifer tests performed in 2015 and later in 2017 yielded pumping in excess of 1,000 gpm and water quality tests indicated water produced from both test wells is of acceptable water quality, complying with all safe drinking water standards. Construction to further develop the wells began in 2022 and is scheduled to be completed by 2026. Additional aquifer testing will then begin to estimate potential yield of the wells, support recommendations for long-term use, and help determine the feasibility of expanding the wellfield.

5.4 Sylmar Basin

The Sylmar Basin has provided approximately 3 percent of the City's local groundwater during the recent five-year period, providing as much as 2,862 AF during FY 2021/22, see Exhibit 5C. The Sylmar Basin is in the northern part of ULARA and spans 5,600 acres. This basin is bounded on the north and east by the San Gabriel Mountains; on the west by a topographic divide in the valley fill between the Mission Hills and the San Gabriel Mountains; and on the south by the Little Tujunga syncline, which separates it from the SFB.

Groundwater Rights

Water rights in the Sylmar Basin were originally established by the ULARA Judgment, which recognized prior overlying rights of two private landowners and appropriative rights of the cities of San Fernando and Los Angeles. The ULARA Judgment also recognized the City's right to store water within the basin and recapture Import Return Water, calculated as 35.7 percent of imported water delivered.

On August 26, 1983, the ULARA Watermaster reported to the Los Angeles Superior Court that the Sylmar Basin was in a condition of overdraft. In response, in 1984, the Los Angeles Superior Court approved a stipulated agreement, limiting total pumping to 6,210 AFY, divided equally between the two cities. In 1996, the ULARA Watermaster recommended, and ULARA Administrative Committee approved, increasing the safe yield to 6,510 AFY for a 10-year period. In 2006, the ULARA Watermaster re-evaluated the safe yield and recommended a subsequent increase to 6,810 AFY, which the Los Angeles Superior Court approved, subject to various conditions. The conditions included requiring the two cities to install groundwater monitoring wells to assist in determining basin outflows and storage capacity. In 2012, the ULARA Watermaster completed an updated re-assessment of safe yield that resulted in a temporary and conditional increase in safe yield to 7,140 AFY, allowing each City the right to produce 3,570 AFY. The Court approved a new stipulated agreement in 2013, consistent with the ULARA Watermaster's assessment.

Stored water credits accumulated in the basin are determined by the Watermaster pursuant to the ULARA Judgment and subsequent stipulations. As of October 1, 2020, the City had accrued 9,014 AF of stored water credits in the Sylmar Basin.

Mission Wells Facilities Improvement Project

The Mission Wellfield is the only groundwater production facility LADWP operates in the Sylmar Basin. The wellfield consists of two wells constructed before 1961, and five wells constructed between 1961 and 1977. The Mission Wellfield facility has been undergoing continued improvements since the early 2000's and was removed from service in June of 2016. In 2009, LADWP installed a new water storage tank, as part of Phase I

of the Mission Wellfield Improvement Project. Phase II of the project was completed in 2021 and included the construction of three new replacement production wells and other facility improvements, which increased LADWP's Sylmar Basin production capacity to 8.3 cfs. However, the Mission Wellfield remains out of service due to the ongoing replacement of a nearby trunk line.

Water Quality

Groundwater quality issues in the Sylmar Basin related to TCE contamination has impaired production at LADWP's Mission Wellfield. LADWP has removed the impaired wells from service to ensure groundwater produced from the wellfield surpasses State and Federal safe drinking water standards. Installed replacement wells have shown the presence of Cr(VI), detected at trace levels, and TCE above the MCL in one of the three wells. LADWP is evaluating appropriate actions to address the release and threatened release of hazardous substances in this area. LADWP has also installed three off-site monitoring wells to evaluate water quality near the wellfield.

5.5 Other ULARA Basins

Eagle Rock Basin

The Eagle Rock Basin is the smallest of the four basins and located in the southeast corner of ULARA spanning only 800 acres. Eagle Rock Basin is bounded by the San Rafael Hills on the north and west, by the Repetto Hills on the east and south, and a small alluvial area to the southeast consisting of a topographic divide.

The safe yield of Eagle Rock Basin is derived from imported water delivered by LADWP, which is approximately 500 AFY. LADWP has the right to produce the entire safe yield from the basin but has not established groundwater production facilities there. Currently, one private party pumps groundwater and compensates the City for such pumping in accordance with the ULARA Judgment.

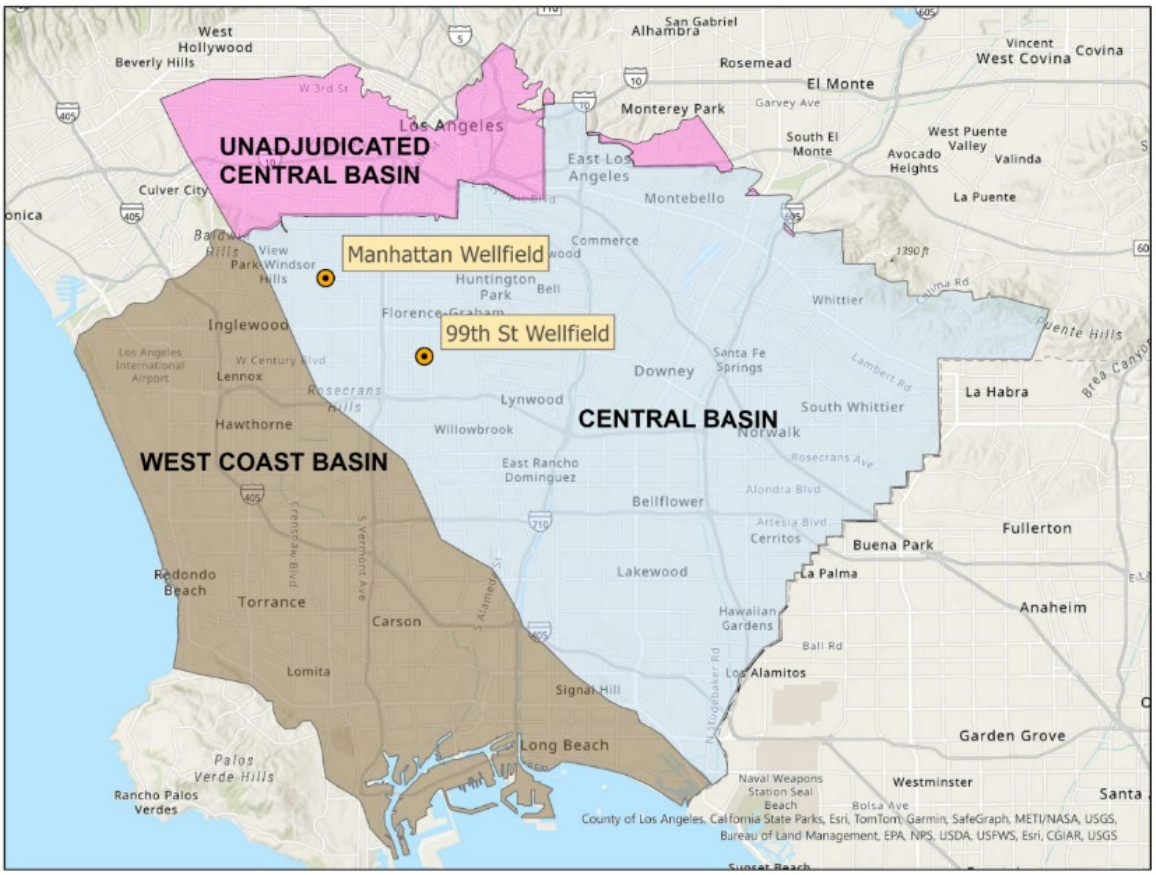
Verdugo Basin

The City may have a right to recapture its delivered (imported) water in the Verdugo Basin upon application to the Watermaster and on subsequent order after a hearing by the Court pursuant to Judgment. There are no storage rights for any party in the Verdugo Basin based on the Judgment.

5.6 Central and West Coast Basin Adjudication

The first Central Basin Judgment was finalized and signed in 1965, and it appointed DWR as the Watermaster. The first West Coast Basin Judgment was finalized and signed in 1961 and initially appointed DWR as the Watermaster. Since the inception of both Judgments, they have been amended numerous times to provide more clarity and detail to storage rights, carryover rights, exchange pool/water rights transfers, and to clearly define the role of the Watermaster. The most recent amendment to the Central Basin Judgment was finalized on December 23, 2013. The most recent amendment of the West Coast Basin Judgment was on December 5, 2014. For the first time, the Court allowed water rights holders to have direct input on how both Judgments should be administered and enforced. Both Judgments confirmed the retirement of DWR as the Watermaster in 2013 and created three separate bodies to assist the Court in the administration and enforcement of the provisions of the Judgments.

Exhibit 5E
Central and West Coast Basins



5.7 Central Basin

LADWP produces groundwater in the Central Basin from the Manhattan and 99th Street Wellfields. In the previous five-year period, both wellfields have undergone facility improvements, which limited groundwater production. The Central Basin has provided approximately 6 percent of the City's local groundwater supply over the last five years, with production up to 4,799 AFY during FY 2021/22, see Exhibit 5C. Known as sub-basin number 4-11.04 in DWR Bulletin 118, the Central Basin Watermaster service area overlies about 227 square miles of the Central Basin in the southeastern part of the Los Angeles Coastal Plain in Los Angeles County, as depicted in Exhibit 5E. The Central Basin Watermaster service area is bounded by the Newport-Inglewood Uplift on the southwest, the Los Angeles-Orange County line on the southeast, and an irregular line that approximately follows Stocker Street, Martin Luther King Boulevard, Alameda Street, Olympic Boulevard, the boundary between the City and unincorporated East Los Angeles, and the foot of the Merced and Puente Hills on the north. Twenty-three incorporated cities and several unincorporated areas are within the Central Basin Watermaster service area. Groundwater within the basin provides a large portion of the water supply needed by overlying residents and industries. The Central Basin Watermaster Service Report for FY 2024/25 indicates 117 parties with rights to groundwater in the Central Basin.

Groundwater Rights

Prior to the creation of a formal governing organization in 1959, groundwater overdraft and declining water levels in the Central Basin threatened the area's groundwater supply and caused seawater intrusion in the southern part of the Central Basin. However, timely legal action and adjudication of the water rights halted the overdraft and prevented further damage to the Central Basin. Today, groundwater use in the Central Basin is restricted to Allowed Pumping Allocations set by the Superior Court Judgment and is monitored by a court-appointed Watermaster. The Central Basin Judgment was amended for the third time in December 2013, and major changes include new provisions to allow parties to augment and store groundwater, and to appoint a new Watermaster Panel. The Watermaster consists of three separate arms with different functions:

- The first arm is the Administrative Body, to administer the Watermaster accounting and reporting functions. This role is performed by the Water Replenishment District of Southern
- California (WRD).
- The second arm is the Central Basin Water Rights Panel (CBWRP), which enforces issues related to pumping rights defined in the adjudication. The CBWRP is made up of seven elected water rights holders.
- The third arm is the Storage Panel, which is comprised of the CBWRP and the WRD Board of Directors.

Annually, the Watermaster prepares a Watermaster Service Report indicating groundwater extractions, replenishment operations, imported water use, recycled water use, finances of Watermaster service, administration of the water exchange pool, and significant water-related events in the Central Basin. The City's 15,000 AFY initial water right entitlement was established by judgment of the Los Angeles Superior Court in *Central and West Basin Water Replenishment District v. Adams* (Case No. 786,656 – Third Amended Judgment). The City purchased an additional 46 AF and 1,500 AF of pumping rights through two separate transactions in 2014, and then 690 AF in a third transaction in 2015, bringing the total annual pumping right in the Central Basin to 17,236 AF.

In addition to its annual entitlement, the Central Basin Judgment allows for carryover and storage of unused water rights, up to a maximum of 60 percent of a purveyor's pumping right, generally closer to 20 percent in subsequent years. The City has utilized these storage provisions allowed under the judgment, accruing a total of 22,900 AF of stored water as of December 2025. The Central Basin Judgment has an extraction limitation of no more than 140 percent of a purveyor's annual entitlement. This allows the City to utilize its carryover storage right for operational flexibility and conjunctive use and underscores the benefit of acquiring additional water rights.

Water Quality

Groundwater produced from the 99th Street Wellfield and the Manhattan Wellfield does not currently contain industrial contaminants above the MCLs. In addition to manganese, iron is another naturally occurring constituent found in the groundwater. While iron concentrations remain well under the secondary MCLs, they can cause water discoloration. These two constituents do not pose a risk to human health at existing concentrations; however, they do affect the aesthetic qualities of the groundwater such as taste, color, and odor. As a result, the wellfields have been taken out of operation.

Wellfield Improvement Projects

In the previous five-year period, both wellfields have undergone necessary upgrades or new construction to rehabilitate the wellfields to reach groundwater supply availability and water quality goals. To restore

pumping capacity in the Central Basin, LADWP completed the Manhattan Wellfields Improvement Project (MWIP) and is currently implementing the Manhattan Wellfields Operational Improvement Project (MWOIP) and the 99th St. wellfield Improvements, discussed in the following sections.

99th St. Wellfield Improvement Project

Improvements to the 99th St. Wellfield were initiated to address water quality issues and include the construction of a chloramination station and filtration plant. The 99th Street Chloramination Station is in its final stages of construction and will disinfect water produced from the wellfield. To treat the iron and manganese present in the groundwater, the construction of a filtration plant began in 2020 and is expected to be completed by 2028. Both facilities have a design treatment capacity of 10.9 cfs.

Manhattan Wellfield Improvement Project

Multiple wells in the Manhattan Wellfield have reached the end of their useful life and experienced water quality issues and mechanical deterioration, which limited their pumping capacity. LADWP completed the MWIP and is currently implementing the MWOIP to restore pumping capacity. The MWIP was completed in 2022 and included construction of four production wells, one groundwater monitoring well, and related facility infrastructure. Together with the two older wells, these six wells will have a total capacity of 23.9 cfs. The MWOIP is currently in the planning phase and will consider improvements to the distribution system and other facility updates including the construction of a new forebay, upgrades to pump infrastructure, and installation of iron and manganese treatment. The MWOIP is estimated to be online by 2035.

5.8 West Coast Basin

Due to localized groundwater contamination issues and deterioration of water quality, LADWP discontinued operating its West Coast Basin Lomita Wellfield and has been unable to pump its entitlement since 1980. Referred to as sub-basin number 4-11.03 by DWR Bulletin 118, the West Coast Basin underlies 160 square miles in the southwestern part of the Los Angeles Coastal Plain in Los Angeles County. The West Coast Basin is bounded on the west by Santa Monica Bay, on the north by Ballona Escarpment, on the east by the Newport-Inglewood Uplift, and on the south by San Pedro Bay and the Palos Verdes Hills. Twenty incorporated cities and several unincorporated areas overlie the West Coast Basin.

Groundwater Rights

In 1945, when seawater intrusion caused by declining groundwater levels threatened the quality of the groundwater supply, legal action was taken to halt the overdraft and prevent further damage to the West Coast Basin. In 1955, the Los Angeles Superior Court appointed DWR as the Watermaster to administer an Interim Agreement. In 1961, the Court retained DWR as the Watermaster of the West Coast Basin Judgment entered in *California Water Service Company v. City of Compton* (Case No. 506,806 – Amended Judgment). Similar to the Central Basin, an annual Watermaster Service Report is prepared. The West Coast Basin Judgment affirmed the City's right to produce 1,503 AFY of groundwater from this basin. In 2014, the West Coast Basin Judgment was amended in a manner similar to the Central Basin Judgment. The Watermaster for the West Coast Basin consists of the Administrative Body (handled by WRD, as in the Central Basin), the West Coast Basin Water Rights Panel, and the Storage Panel. Parties will also be able to store specified quantities of water in the West Coast Basin, and certain parties (including the City) are able to pump up to 5,000 AFY of unused West Coast Basin rights out of the Central Basin, per the Central Basin Judgment.

Water Quality

Groundwater quality problems in the West Coast Basin were previously related to high levels of TDS, hydrocarbons, and chlorides. LADWP halted operations in the basin in September of 1980, with closure of the Lomita Wellfield.

5.9 Antelope Groundwater Basin

In addition to local groundwater basins, the City also has the right to pump 3,975 AF of native groundwater from the Antelope Valley Groundwater Basin (AVGB) and to store water it imports into the basin for future export. Native safe yield entitlements may only be used locally within the basin. However, water imported and stored in the AVGB can be exported for use in the City. Identified in DWR Bulletin 118 as sub-basin number 6-44, the AVGB underlies 1,580 square miles of an extensive alluvial valley in the western Mojave Desert. The elevation of the valley floor ranges from 2,300 to 3,500 feet above sea level. The basin is bounded on the northwest by the Garlock Fault Zone at the base of the Tehachapi Mountains and on the southwest by the San Andreas Fault Zone at the base of the San Gabriel Mountains. The basin is bounded on the east by ridges, buttes, and low hills that form a surface and groundwater drainage divide and on the north by Fremont Valley Groundwater Basin at a groundwater divide approximated by a southeastward-trending line from the mouth of Oak Creek through Middle Butte to exposed bedrock near Gem Hill, and by the Rand Mountains farther east.

Groundwater Rights

Declining groundwater levels and concerns about the availability of groundwater became more pronounced as public water suppliers, including the City, increased pumping for municipal supply. Litigation over Antelope Valley groundwater rights began in October 1999, with certain private landowners filing complaints and public water suppliers responding with cross complaints. After more than a decade of litigation, four trial phases, and various attempts to comprehensively adjudicate the water rights, litigation concluded on December 23, 2015. The Antelope Valley Groundwater Adjudication settlement was entered in the Antelope Valley Groundwater Cases (Los Angeles Superior Court Case No. JCCP4408, and Santa Clara Superior Court Case No, 1-05-CV-049053). The Court determined the native safe yield as 82,300 AFY and total safe yield inclusive of import return flows as 110,000 AFY.

The United States government asserted a paramount federal reserved right to 11,000 AFY for Edwards Air Force Base. The Court found the basin to be in overdraft since at least 1951 and has estimated current pumping to be between 130,000 and 150,000 AFY. The City's entitlement to pump 3,975 AFY may only be used on Los Angeles World Airports owned land in the Antelope Valley. Settlement provisions also allow parties to carryover and store unused annual entitlements in AVGB, and ability to transfer entitlements (purchase/sell) between parties in the Antelope Valley. The City's right to store imported water in AVGB allows for later recovery and export to the City, subject to any irretrievable losses that may be determined by the Watermaster.

The right to store imported water is of broader interest to LADWP. LADWP is exploring opportunities that would allow for it to import water from various sources, temporarily store these supplies within the AVGB, and recover the water for export to Los Angeles at times when it is necessary to manage seasonal peak demand or augment supplies during dry periods, emergencies, or natural disaster. The LAA and State-owned California Aqueduct are facilities that may be used to convey imported supplies into the AVGB for storage. Additional facilities, such as percolation basins or injection wells, are necessary to physically place water into storage. Pumping facilities are also needed to recover stored water from AVGB for conveyance to the City.

Agencies who own storage and extraction facilities may become potential partners to facilitate the City's use of underground storage in AVGB.

Water Quality

Overall, water quality within the AVGB is suitable for domestic, agricultural, and industrial uses. However, elevated levels of fluoride, boron, nitrate, and arsenic have been detected in portions of the AVGB. Additional testing to characterize specific potential well sites will be required prior to development.

5.10 Sustainable Groundwater Management Act (SGMA) and Unadjudicated Basins

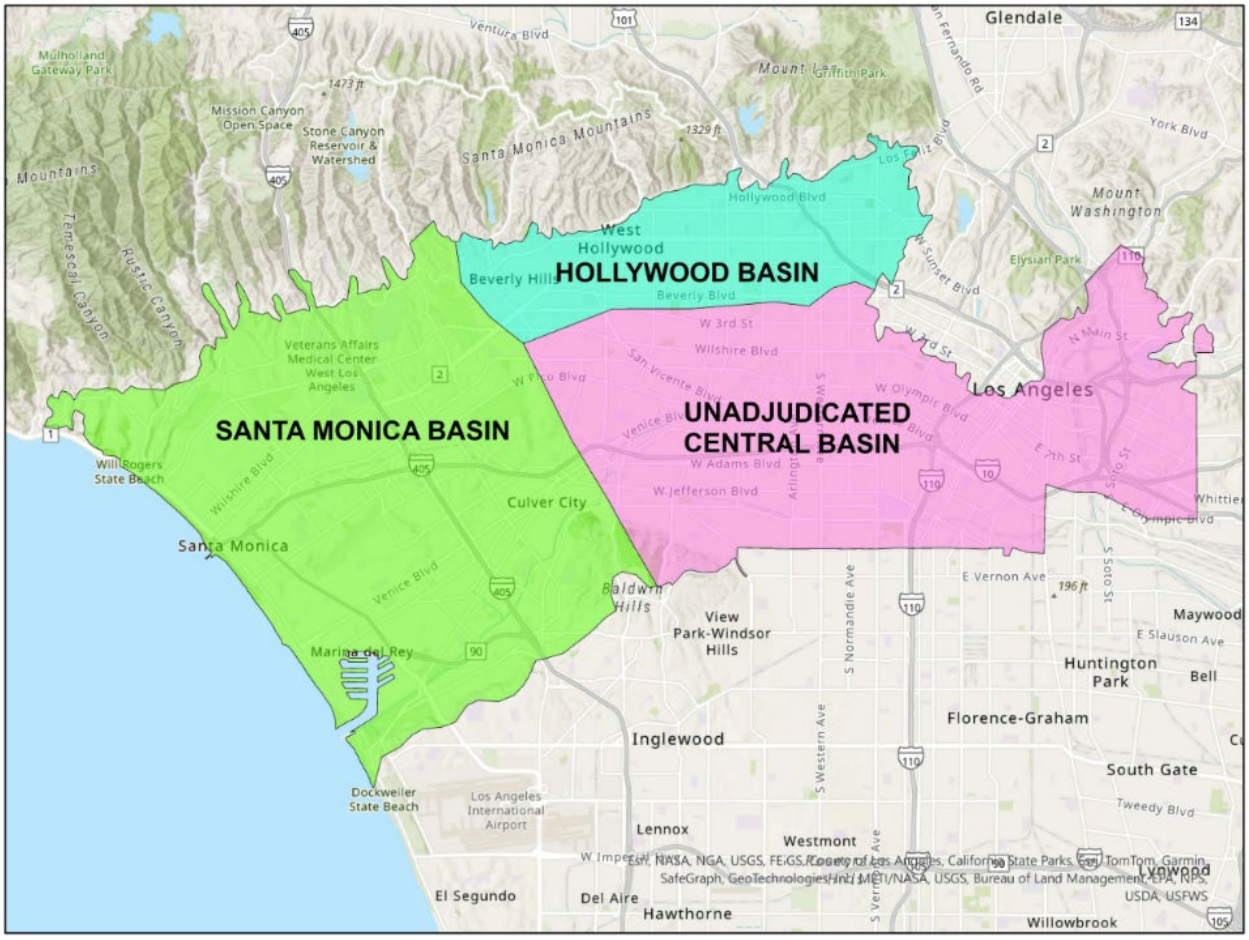
The State Legislature enacted landmark groundwater management legislation known as SGMA, which took effect on January 1, 2015. With SGMA, the State focused upon equipping and empowering local agencies with tools needed to manage high-and medium-priority groundwater basins in a sustainable manner. Actions necessary to achieve sustainability vary by basin, but SGMA generally required local government and water agencies to form Groundwater Sustainability Agencies (GSAs) by January 30, 2017, and requires them to develop and implement Groundwater Sustainability Plans (GSPs) and monitor and report status of groundwater conditions of high- and medium-priority basins. GSPs for critically over-drafted high- and medium-priority basins were due to DWR by January 31, 2020. GSPs for the remaining high- and medium-priority basins were due to DWR by January 31, 2022. The State seeks to mitigate and prevent the occurrence of adverse effects caused by unreasonable use of groundwater, such as groundwater storage depletion, land subsidence, seawater intrusion, water quality degradation, critical overdraft basin conditions, and surface water depletions.

Throughout the development of SGMA there was broad public consensus that adjudicated basins are well managed, subject to Court jurisdiction, and should not be the primary focus for SGMA. The new law only requires managers of adjudicated basins to file a copy of their adjudications with DWR and provide annual reports that document basin conditions. However, the City overlies both adjudicated and unadjudicated basins. The Central and West Los Angeles areas of the City overlie the Hollywood Basin, Santa Monica Basin (SMB), and the northerly area of Central Basin located outside of the adjudicated basin boundary. The unadjudicated Hollywood, Santa Monica, and Central Basins are depicted in Exhibit 5F.

LADWP has been working with regional partners towards implementing SGMA for the applicable unadjudicated basins. The Hollywood Basin was classified as low priority and not mandated to develop a GSA/GSP. Similarly, areas associated with adjudicated basins, like the northern area of Central Basin, were eventually characterized as lower priority and exempt by DWR. In September 2017, DWR approved the formation of the SMBGSA as the exclusive GSA in the SMB. The GSA includes five agencies: the City of Los Angeles, the City of Beverly Hills, the City of Santa Monica, the City of Culver City, and the County of Los Angeles. In November 2019, the SMBGSA initiated the development of a GSP for the SMB. The final GSP was approved by DWR in October 2023.

Although the potential for utilizing these basins for groundwater supply may present challenges related to water quantity and quality, LADWP continues to explore opportunities to develop groundwater resources in each of these basins in a manner that is locally sustainable and in cooperation with its regional partners.

Exhibit 5F
Unadjudicated Local Groundwater Basins



5.11 Managing Emerging Contaminants of Concern

LADWP addresses emerging contaminants on many levels by:

- Encouraging the development of standardized testing to enable early detection and supporting the regulatory framework by providing early occurrence data;
- Advocating good science and a balanced approach to risk assessment;
- Seeking to gain a risk perspective with other existing contaminants to, where applicable, manage the emerging contaminants in the absence of regulations;
- Supporting early interpretation of emerging contaminants in collaboration with research and regulatory agencies; and
- Supporting the research to develop cost-effective treatment for the removal and management of these emerging contaminants.

LADWP is currently engaged with other agencies and associations through workgroups and task forces to address emerging contaminants. As new research, science, and information becomes available, LADWP will develop monitoring technology and support programs to address emerging contaminants.

An increasing number of LADWP's North Hollywood wells have 1,4-dioxane contamination above the 1 ppb NL set by DDW. Several of LADWP's North Hollywood wells were removed from service due to the

increasingly compromised water quality and critical need for plume management. Construction has been completed on four large-scale groundwater treatment plants to effectively remove contamination, including 1,4 dioxane.

More recently detected contaminants of concern are PFAS. They are a group of manmade chemicals that have been manufactured in the United States since the 1940s. Although PFAS have been detected in some individual wells, that well water is blended and diluted with large volumes of surface water before it is served to customers. LADWP has not detected any PFAS compounds regulated by the State, or the US EPA, in samples taken at entry points to the distribution system.

Another recent group of emerging contaminants are pharmaceuticals and personal care products that are emerging in rivers, lakes, and waterways which receive wastewater discharges. Concerns exist regarding the occurrence and effects of endocrine disrupters, hormone-shifting compounds, and pharmaceuticals. Technology now allows the detection of compounds down to the parts per trillion levels, thus some of these previously invisible compounds are now being detected in water supplies.

LADWP will be incorporating appropriate treatment processes into future groundwater treatment facilities. LADWP has and will continue to solicit input from stakeholders to carefully plan and develop processes for removal and treatment of emerging contaminants.

5.12 Groundwater Management

LADWP utilizes various strategies to respond to hydrologic variability to maintain supply reliability for the benefit of its customers. One of these strategies, known as conjunctive use, is storing supplies when available to help minimize the impacts of water shortages during future dry periods. Since the 1930's, LADWP has recognized the greater operational flexibility provided by a storage program. LADWP has operated its groundwater resources conjunctively by reducing groundwater pumping and diverting water from the LAA into the Tujunga and Pacoima Spreading Grounds. This strategy allows for greater replenishment to the local groundwater basins during wet and normal periods and prevents conditions of severe overdraft when groundwater pumping is increased during dry periods. The California Supreme Court recognized the City's right to use the SFB for temporary storage of its water by means of artificial recharge and subsequent recapture in *The City of Los Angeles v. City of San Fernando*,14 Cal.3d 199 (1975), which is reflected in the ULARA Judgment.

Various other water rights judgments also enable conjunctive use strategies through provisions allowing water rights holders to pump less than their annual entitlements and accumulate groundwater storage credits. Parties may then produce this stored groundwater in subsequent years, such as during dry periods. Certain provisions of the water rights judgments also allow temporary increases in pumping while requiring equivalent reductions in pumping in subsequent years. This provides flexibility for parties who may have no accumulated groundwater in storage. LADWP utilizes these judgment provisions and has accumulated stored groundwater within each of its operating basins to provide supplemental water during dry periods, natural disasters, and emergencies.

In the future, as more extreme climate variability impacts the City's water resources, LADWP will continue to explore and develop storage opportunities to help improve the management of the City's supplies. In addition to increasing conjunctive use locally, LADWP is evaluating groundwater storage programs during wet years in the Owens Valley and along the LAA, between South Haiwee Reservoir and LADWP's LAAFP. Additional storage through banking will help reduce the variability of imported water supply from Eastern Sierra and allow excess supply to be stored in wet years and recovered to meet demands during dry years.

5.13 Local Groundwater Production Forecast

Exhibit 5G presents LADWP's forecast for local groundwater production from each basin through FY 2049/50. The projection accounts for projects that restore capacity of LADWP's existing wellfields and the implementation of expanded basin remediation in SFB. The local groundwater production forecasts reflect LADWP's anticipated capacity to pump and treat available groundwater supplies up to annual entitlements. The figures provided include anticipated pumping of additional volumes in conjunction with enhanced groundwater replenishment using purified recycled water as presented in in Chapter 7, *Recycled Water*.

Exhibit 5G
Local Groundwater Production in AFY for FY 2029/30 to FY 2049/50

Basin	2029/30	2034/35	2039/40	2044/45	2049/50
San Fernando[1]	109,000	127,000	127,000	127,000	127,000
Sylmar	3,128	3,570	3,570	3,570	3,570
Central	13,683	18,739	18,739	18,739	18,739
Total[2]	125,811	149,309	149,309	149,309	149,309

1. SFB remediation facilities are expected to be operational in 2026. Use of groundwater storage credits and groundwater augmentation allows for increased pumping above the annual safe yield. Augmentation from the LA GWR project expected to produce 22,000 AFY starting FY 2028/29 and to increase to 40,000 AFY in FY 2030/31.
2. Local groundwater production forecasts are based on the assumptions that: (1) groundwater basin elevations can support the level of pumping on a safe yield basis (2) LADWP's planned groundwater treatment facilities will be operational by FY 2025/26; and (3) Sylmar and Central Basin production capacity will increase based on the completion of various wellfield improvement projects.

Chapter 6 Watershed Management

6.0 Overview

Historically, the floodplains of the San Fernando Valley naturally recharged the SFB aquifers with large volumes of stormwater. However, as urban development expanded in the City, many floodplains were channelized, reducing their ability to support recharge. In response, LADWP and the Los Angeles County Flood Control District (LACFCD) partnered to manage and operate five regional spreading grounds near key LA River tributaries to replenish the local groundwater and improve flood control capacity.

Stormwater runoff from urban areas is a valuable yet underutilized local water resource. In the City, most runoff is directed into storm drains and ultimately discharged into the ocean. Meanwhile, local groundwater aquifers that could be replenished from this runoff are receiving less recharge due to increased urbanization.

The City's primary purpose of stormwater capture is to recharge local groundwater basins and improve downstream water quality. When stormwater is used for groundwater recharge, natural filtration through the soil helps improve the quality of the water eventually entering the aquifer. Many stormwater capture projects use pretreatment systems such as sedimentation basins, screening devices, hydrodynamic separators, and vegetated swales to remove debris and pollutants before stormwater is infiltrated. These pretreatment systems improve recharge effectiveness and protect groundwater quality. Stormwater capture provides additional community benefits such as increasing water conservation, enhancing recreational spaces and wildlife habitats, improving flood control, and boosting social and economic value.

During years of average or below-average precipitation, the spreading ground facilities are highly effective at capturing runoff from their respective tributaries. However, in wet years, storm flows often exceed facility capacity. Climate change is expected to intensify these fluctuations between dry and wet periods, which increases both the urgency and complexity of watershed and stormwater management.

Some areas of the City are not in tributaries that could feed into existing spreading grounds facilities. In such areas, decentralized or distributed stormwater capture infrastructure may be necessary to retain and reuse runoff at a more focused scale. These distributed systems complement the larger centralized facilities by targeting locations where large-scale infrastructure, such as spreading grounds, is less feasible.

To address these needs, LADWP initiated stormwater capture project development in 2008 to expand centralized stormwater capture capacity and implement distributed projects across the City. In 2015, LADWP completed the Stormwater Capture Master Plan (SCMP), a comprehensive 20-year strategic roadmap to augment City's capacity to retain and reuse urban runoff. The plan outlined a range of projects, policies, and initiatives designed to increase stormwater capture capacity by 2035. Since, LADWP has implemented numerous SCMP projects to support the City's goal of increasing local water supply reliability.

Despite the forward progress, there are many challenges associated with stormwater capture projects, including changing climate conditions, aging infrastructure, limiting infiltration due to nearby landfills, continued encroachment into historic floodplains, conflicting substructure, and funding availability. Each of these factors can limit the City's ability to implement projects to capture, store, and reuse stormwater effectively.

LADWP continues to prioritize stormwater capture as a core component of its water management strategy through continued investment in both centralized and distributed stormwater capture systems. LADWP

stormwater initiatives are designed to strengthen local water reliability and protect environmental health for the future.

6.1 Managing the City's Watersheds

Effective management of stormwater is critical to sustaining a healthy groundwater basin. In the City, decades of urbanization have significantly increased impervious surfaces, reducing the natural infiltration of runoffs into local aquifers. The City's stormwater infrastructure was originally built with the primary focus on flood control. As a result, stormwater that once percolated into the ground is now rapidly conveyed across paved surfaces and concrete-lined channels, which discharge into the LA River and ultimately the Pacific Ocean.

Maximizing stormwater capture for groundwater recharge is a fundamental goal of the City's watershed management efforts. Groundwater recharge could increase an aquifer's water levels through percolation of surface water. Within LADWP's service area, the SFB offers the greatest opportunity for stormwater capture. The City holds a prior and paramount pueblo right to all of the surface water of the LA River and native groundwater of the SFB, which includes stormwater. The SFB is ideal for recharge due to its favorable hydrogeologic conditions, including predominantly sandy soils that allow for effective infiltration. In the SFB, this process occurs primarily through infiltration of natural rainfall and captured stormwater. LADWP also regularly utilizes LAA supplies to support conjunctive use in the SFB by spreading LAA supplies during wet years for later use during dry years.

In contrast, other groundwater basins within LADWP's service area have been determined to have limited or no practical opportunities for stormwater recharge due to unfavorable soil conditions and the presence of confined aquifers. These basins include the Central, West Coast, Hollywood, Santa Monica, Main San Gabriel, Sylmar, Verdugo, and Eagle Rock Basins.

Recharging SFB with stormwater provides benefits such as increasing stored groundwater, helping maintain the basin's safe yield, and supporting long-term reliability of the City's local water supply. By focusing on recharge efforts in the SFB, LADWP aims to improve the sustainability of its groundwater resources.

6.2 Stormwater Capture Opportunities

The City develops stormwater capture capacity through centralized and distributed capture systems. Both are essential to supporting groundwater recharge, improving water quality, and building a more reliable local water supply.

Centralized Stormwater Capture

Centralized stormwater capture refers to large-scale infrastructure designed to intercept and infiltrate significant volumes of runoff during and following storm events. Centralized facilities, such as dams, basins, and diversion structures, are typically located in areas that can capture or divert large stormwater flows for subsequent groundwater recharge at spreading grounds.

LADWP coordinates closely with LACFCD to operate its centralized facilities effectively. LACFCD owns and manages the Branford, Hansen, Lopez, and Pacoima Spreading Grounds, while the Tujunga Spreading Grounds are owned by LADWP and operated by LACFCD. In addition to these spreading grounds, LACFCD also owns and operates the Pacoima, Lopez, and Big Tujunga dams. These dams can retain runoffs during storms, allowing this water to be spread into downstream spreading basins later through controlled release.

This coordinated management approach enhances the efficiency of stormwater capture and maximizes groundwater recharge.

Flood control infrastructure, such as diversion structures and channels, is essential for directing native runoff into these centralized facilities. The locations and connections of these spreading grounds are detailed in Exhibit 6A and Exhibit 6B.

Exhibit 6A
SFB Spreading Grounds Operations Data

Facility	Location	Annual Spreading[3]	
		Average[1]	Historic High[2]
Branford	Sun Valley, CA	439	1,448
Hansen	Pacoima, CA	10,745	35,345
Lopez	Sylmar, CA	855	5,513
Pacoima	Arleta, CA	5,290	24,164
Tujunga	Arleta, CA	7,934	42,817
Total		25,263	109,287

Source: Los Angeles County Public Works, Stormwater Engineering Division

1. Historic Water Year Average from first use through June 2025
2. Historic high at each facility was determined independently, from first use through June 2025
3. Data for Water Year 2024/25 through June 2025 is preliminary

Distributed Stormwater Capture

Distributed stormwater capture focuses on collecting and managing localized runoff from storm events across smaller, decentralized sites. This approach is crucial in areas where centralized infrastructure cannot expand due to space constraints. Unlike traditional storm drain systems that were designed primarily for flood protection, distributed stormwater capture systems retain, pretreat, and infiltrate or reuse stormwater near its source. Distributed stormwater capture is implemented for both infiltration and direct use.

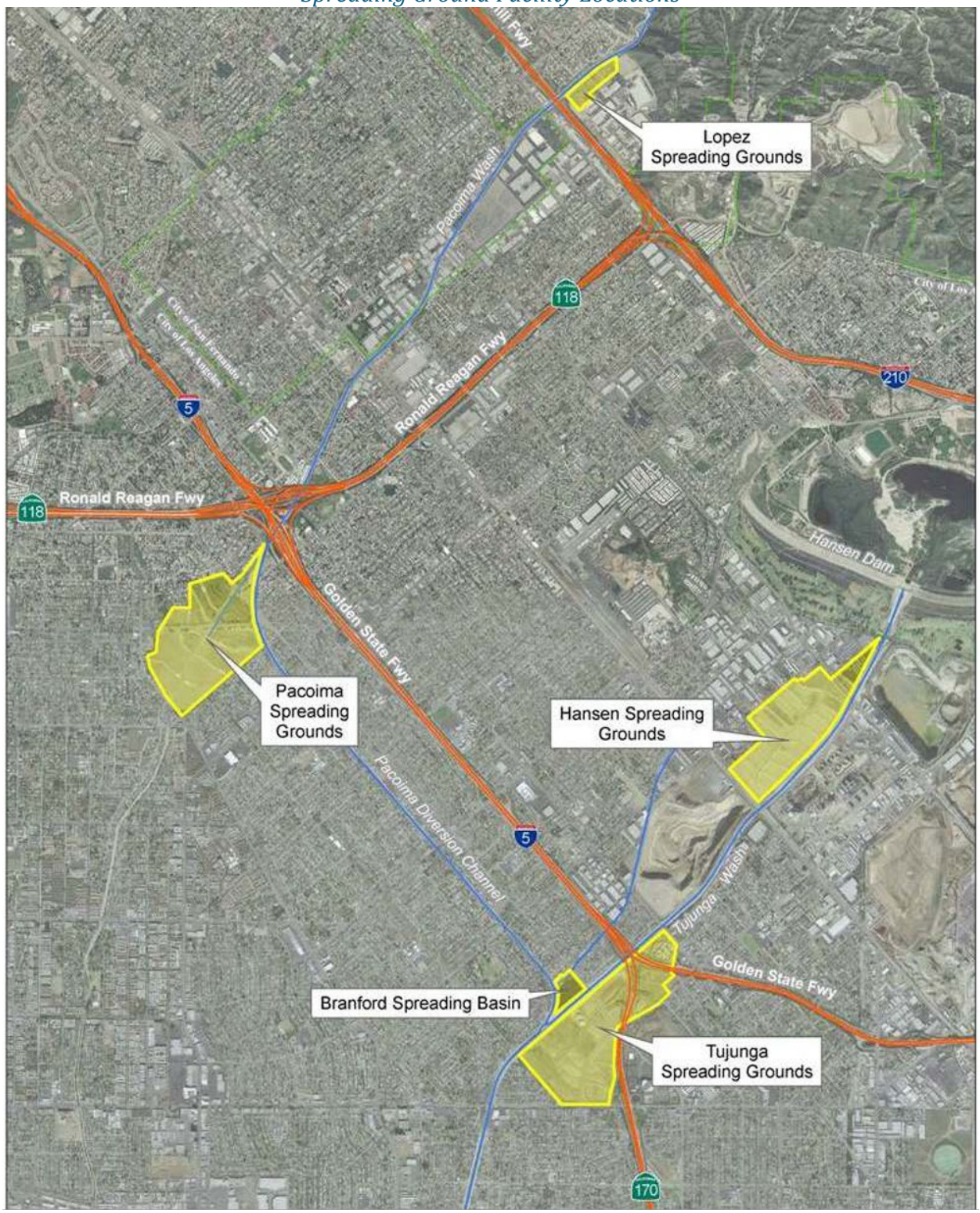
Infiltration

Infiltration-based distributed projects allow stormwater to percolate into the ground and consist of subregional, green street, and onsite applications. Subregional infiltration projects divert flows from storm drains or channels into subsurface systems that allow pretreatment and infiltration without disrupting above-ground land use. Green street programs retrofit urban streetscapes with features such as bioswales and dry wells to facilitate infiltration in highly impervious areas. Onsite infiltration systems capture runoff from rooftops or paved surfaces and redirect it to pervious areas on the same property.

Direct Use

Direct use distributed projects store captured stormwater for non-potable applications, such as irrigation. Subregional direct use systems collect stormwater from a drain or channel and store it in a tank for offsite use, often with specialized treatment. Onsite direct use systems, such as rain barrels and cisterns, store water for immediate irrigation use on the property where it is collected, thereby offsetting demand for potable water.

Exhibit 6B
Spreading Ground Facility Locations



Stormwater Capture Outlook

As opportunities for new centralized projects become increasingly limited, the City has shifted focus toward distributed stormwater management. Distributed systems often integrate nature-based solutions that rely on natural processes, vegetation, and soils to manage runoff close to its source. These systems can be installed in a variety of urban settings, including parks, schools, residential neighborhoods, commercial developments, and within public rights-of-way.

Even small-scale interventions, such as replacing turf with pervious soils and native vegetation, can increase natural infiltration for groundwater recharge. Distributed capture offers flexibility and scalability, making it a vital component of the City's overall stormwater capture strategy.

While centralized systems remain essential for capturing large volumes of runoff in the SFB, distributed systems allow for widespread implementation throughout the City's dense urban landscape. Together, these complementary approaches form the foundation of a resilient and sustainable stormwater management program.

6.3 Stormwater Capture Efforts

The City continues to implement stormwater capture projects and programs to support its long-term goals of increasing local water supplies and improving groundwater reliability. Since the adoption of the SCMP in 2015, LADWP has expanded its implementation strategy to include a broader range of projects, such as upgrades to existing spreading grounds and the development of the multi-phase Stormwater Capture Parks Program. In alignment with the SCMP, LADWP continues to explore regional partnerships and projects that will enable its stormwater capture program to achieve 150,000 AF of capture capacity.

Spreading Grounds Improvement Projects

LADWP and LACFCD continue to collaborate on several projects that enhance the stormwater capture and recharge capacity of existing spreading grounds, particularly in the eastern portion of the SFB. Various improvements across multiple spreading grounds include, but not limited to:

- Deepening and consolidating spreading basins to increase capacity
- Removal of sediment and low-permeability layers to improve infiltration
- Construction of slurry walls to prevent seepage
- Intake improvements to maximize efficiency of stormwater intake
- Upgrades to intake canals and diversion systems
- Installation of telemetry to improve operational efficiency
- Landscape and recreational enhancements such as bike paths, walking paths, vegetation, and educational signage

These improvements enhance stormwater capture and recharge capacity across the region while advancing multi-beneficial infrastructure that supports both water supply and community needs. As an example, the Tujunga Spreading Grounds Enhancement Project was completed in Fall 2021. This project consolidated and deepened the existing spreading basins, added two high-flow intakes with rubber dams, installed telemetry equipment, and established landscaping enhancements around the facility. Passive recreational and educational features, including a walking path and outdoor classroom, were also constructed. The upgrades doubled the facility's annual average stormwater capture capacity to approximately 16,000 AFY.

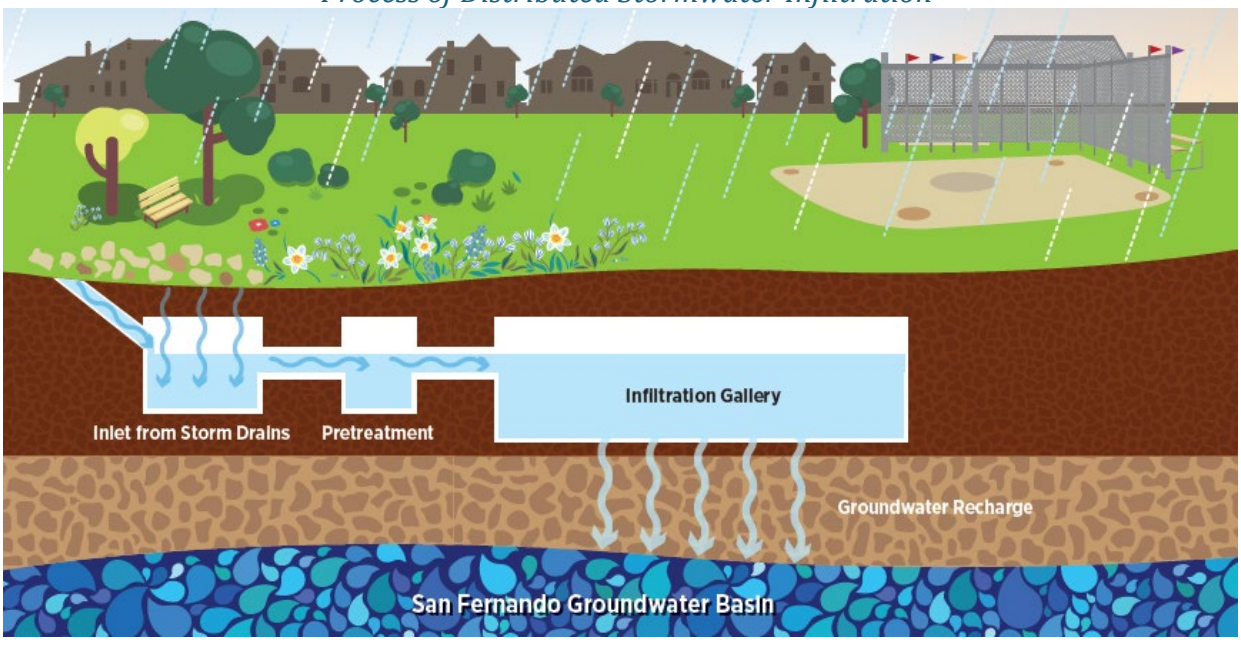
6.4 Stormwater Capture Parks Program

LADWP's Stormwater Capture Parks Program focuses on using City-owned parkland to support groundwater recharge. Nine parks in the San Fernando Valley have been identified as suitable sites for stormwater capture. These projects are designed to divert runoff from the Tujunga Wash Central Branch storm drain to underground infiltration systems located within the parks.

The total tributary area for these stormwater parks program is 5,626 acres, with a combined projected annual average stormwater capture capacity of 2,974 AFY. In addition to recharging the SFB, the program will improve water quality in the LA River, reduce localized flooding, restore biodiversity and enhance public green spaces. Each park project incorporates stormwater diversion, pretreatment, and infiltration features. Each project's main feature, an infiltration gallery, is an underground concrete chamber designed to capture, store, and slowly release stormwater to recharge groundwater. Each project also includes a diversion structure (diverts stormwater from a storm drain), storm pipes (conveys stormwater), hydrodynamic separator (pretreats stormwater t oil, trash, and debris), desilting basin (removes sediment from stormwater), flow measurement device (monitors overall stormwater capture), and educational signage. Some projects may also include a pump station (allows increased stormwater diversion) and catch basins (catches stormwater runoff from the street). Exhibit 6C displays the general configuration of a stormwater capture project.

LADWP is currently considering other park sites to expand the use of public green spaces for stormwater capture while providing multiple benefits, including improved water quality, flood mitigation, and enhanced recreational amenities. These projects are being identified and developed in collaboration with stakeholder and community input.

Exhibit 6C
Process of Distributed Stormwater Infiltration



Chapter 7 Recycled Water

7.0 Overview

The City's water recycling program enhances LADWP's water supply reliability by increasing the supply of recycled water to offset and supplement potable demands. LADWP is advancing recycled water use across a range of applications, including both non-potable and potable reuse. Recycled water applications have increased with growing public acceptance of recycled water as a safe alternative to traditional potable supplies.

Recycled water delivery in the City began in 1979 when LADWP first delivered non-potable recycled water from the Los Angeles - Glendale Water Reclamation Plant (LAGWRP) to the City of Los Angeles Department of Recreation and Parks for irrigation of various areas in Griffith Park. This service was later expanded to include Griffith Park's golf courses and, in 1984, to freeway landscape adjacent to the park. In 1992, LADWP began delivering recycled water to non-governmental customers through the completion of the Los Angeles Greenbelt Project, supplying non-potable recycled water from the LAGWRP to Universal Studios, Forest Lawn Memorial Park, Mount Sinai Memorial Park, and the Lakeside Golf Club of Hollywood to offset potable demands.

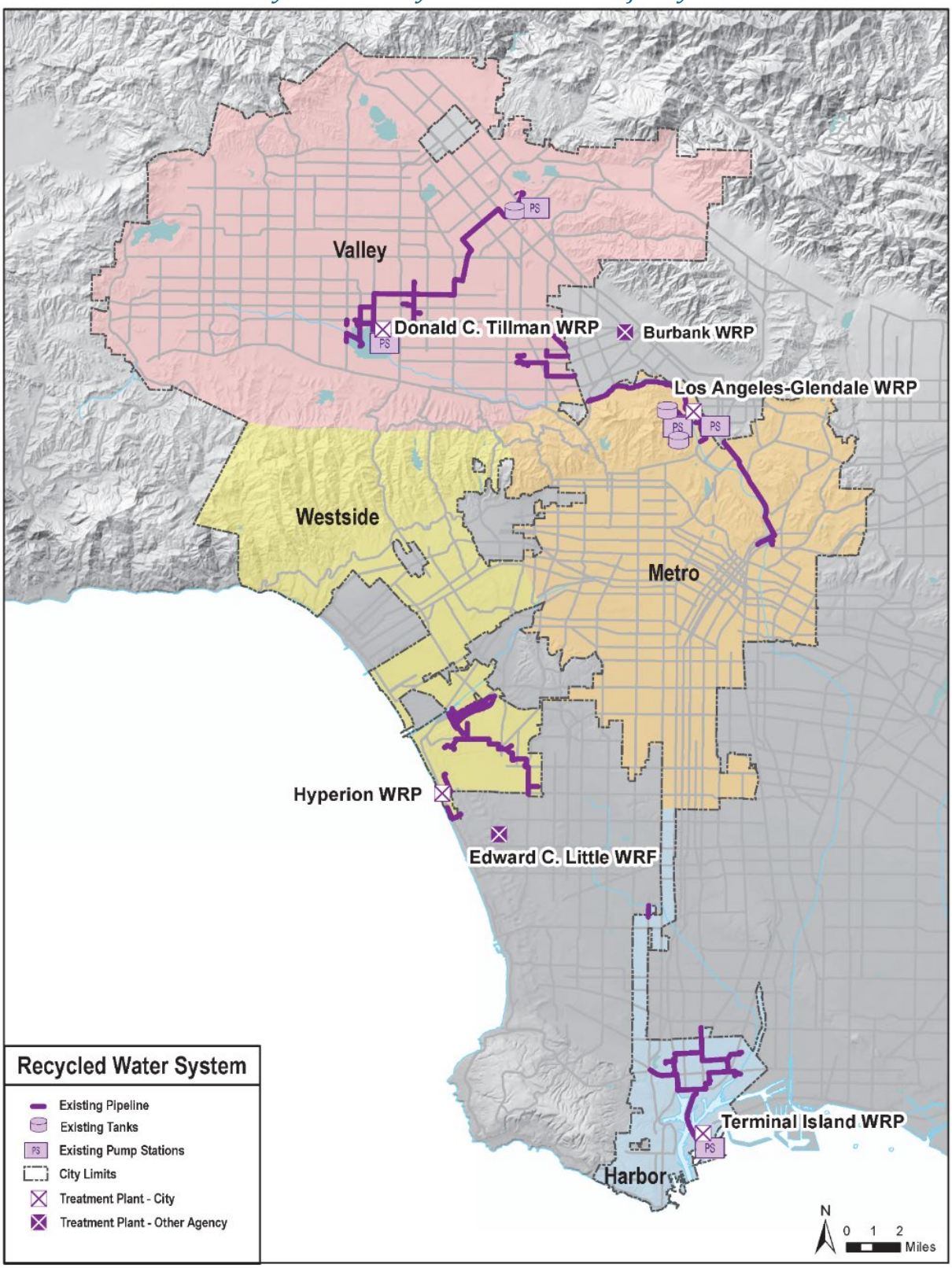
In 2009, Phase 1 of the Playa Vista Development began receiving non-potable recycled water, marking the first planned development in the City to utilize recycled water for all landscape irrigation. Through continued recycled water infrastructure developments, LADWP currently serves 179 sites in the City with recycled water for irrigation and industrial uses.

LADWP's water recycling program relies on the City's wastewater treatment and reclamation facilities located within and outside of the City's boundaries. Wastewater in the City is collected and conveyed to four water reclamation plants, as shown in Exhibit 7A: the Donald C. Tillman Water Reclamation Plant (DCTWRP), LAGWRP, Terminal Island Water Reclamation Plant (TIWRP), and Hyperion Water Reclamation Plant (HWRP). The City of Los Angeles Department of Public Works, Bureau of Sanitation (LASAN) owns and operates these wastewater treatment facilities, except for LAGWRP which is jointly owned by the City and the City of Glendale. The City's wastewater system serves the City and 29 non-City agencies through contract services. LADWP utilizes treated effluent meeting standards from the City's four water reclamation plants to meet recycled water demands.

LADWP's water recycling program also utilizes water reclamation facilities located outside of the City to supplement its supply. The HWRP provides a portion of its secondary treated effluent to West Basin Municipal Water District's (WBMWD's) Edward C. Little Water Recycling Facility (ECLWRF), where it undergoes further treatment to meet tertiary recycled water standards. A portion of product water from the ECLWRF is returned to LADWP to support the City's recycled water needs. Burbank Water Reclamation Plant (BWRP), owned and operated by the City of Burbank Department of Public Works, supplies recycled water to parts of the City in the North Hollywood area.

Future recycled water projects will build on the success of past initiatives while adapting to evolving regulations to expand the use of recycled water to potable reuse. This chapter highlights key projects driving recycled water advancement throughout the City. More information regarding the Pure Water Los Angeles Program is discussed in Chapter 11, *Pure Water Los Angeles*.

Exhibit 7A
LADWP Recycled Water System and Sources of Recycled Water



7.1 Regulatory Requirements

Recycled water use is governed by federal, state, and local laws and regulations. California has established regulations for three applications of recycled water: Non-Potable Reuse (NPR), Indirect Potable Reuse (IPR), and Direct Potable Reuse (DPR). As required by CWC Sections 13550 – 13557, non-potable recycled water currently served by LADWP meets or exceeds all the following conditions:

- The source of recycled water is of adequate quality for reuse.
- The recycled water may be furnished for these uses at a reasonable cost to the user.
- The use of recycled water from the proposed source will not be detrimental to public health.
- The use of recycled water will not adversely affect downstream water rights or degrade water quality.

Title 22 of California's Code of Regulations outlines treatment requirements and approved uses for non-potable and potable reuse based on several factors including the permitted end use and post-treatment water quality. The City's responsibilities for recycled water include complying with all LARWQCB permits for the wastewater treatment plants and production of recycled water, approving recycled water use sites, conducting post-construction inspections, and periodically inspecting use areas and site supervisor records.

LADWP customers are permitted to use recycled water when service is available per City Ordinance No. 170435 (subsequently amended by Ordinance No. 182047 in 2012). Customers expressing interest in recycled water deliveries must enter into an agreement with LADWP, subject to approval of the Los Angeles Board of Water and Power Commissioners. Users are responsible for the operation and maintenance of their recycled water systems up to the connection point with LADWP. Users are also required to use recycled water in accordance with Titles 17 and 22 regulations and the "Recycled Water Urban Irrigation User's Manual". If the users fail to follow these regulations, LADWP may cease delivery of recycled water.

Recycled Water Outreach

In addition to the compliance of recycled water regulations, effective outreach to key stakeholders and the general public is critical for the success of the City's recycled water program. LADWP employs a wide range of outreach strategies, including neighborhood council briefings, presentations to secondary and post-secondary institutions, engagement with non-governmental organizations, and inter-city agency communication. In addition, LADWP participates in project-specific outreach efforts to ensure transparency, foster inclusivity, and build public confidence in the safety and reliability of recycled water. LADWP staff actively engage in recycled water industry organizations and conferences to share updates on program progress, exchange insights with other utilities, and incorporate lessons learned into ongoing program development.

Non-Potable Reuse Regulations

NPR refers to the use of treated wastewater for purposes other than drinking, commonly including irrigation and various industrial processes. NPR regulations in the City are governed by the SWRCB, LARWQCB and the Los Angeles County Department of Public Health (LACDPH).

State Water Resources Control Board and Los Angeles Recycled Water Quality Control Board

Criteria and guidelines for the production and use of recycled water were established by the SWRCB and can be found in California Code of Regulations, Title 22, Division 4, Chapter 3. Title 22, also known as the Uniform

Statewide Recycling Criteria, establishes the required wastewater treatment levels and recycled water quality levels dependent upon the end use of the recycled water.

Additionally, Title 22 also establishes recycled water reliability criteria to protect public health. Water recycling permits for each of the City's applicable wastewater treatment plants engaged in water recycling are issued by the LARWQCB. These requirements specify end-users of recycled water, enforce treatment, and use area requirements. Higher quality water has a wider variety of applicable uses than lower quality water. At a minimum, non-disinfected secondary treatment is required for non-potable recycled water use. However, in the City, all non-potable recycled water undergoes tertiary treatment with additional disinfection. The reliability of the treatment process and the quality of the product water must meet Title 22 requirements specified for each allowable treatment level. Exhibit 7B provides a summary of the approved NPR water uses.

Sites that use recycled water must comply with regulatory requirements. Title 22 stipulates use area requirements to protect public health. Use area regulations include requirements for recycled water application methods and requirements for addressing runoff near domestic water supply wells, drinking fountains, residential areas and dual-plumbed recycled water systems. These systems must meet additional reporting and testing requirements. The SWRCB continues to develop regulations and guidance for recycled water for NPR. Title 17 requires water suppliers to implement both cross-connection control programs and backflow prevention systems. Draft regulations for Cross Connection Control, first released in 2005, were finalized by the SWRCB in 2024.

Los Angeles County Department of Public Health

In Los Angeles County, Titles 17 and 22 water use regulations are enforced by the LACDPH, Environmental Health Division. LACDPH has published "A Guide to Safe Recycled Water Use, Pipeline Construction and Installation" requiring compliance with Title 22, SWRCB and LARWQCB requirements. Once SWRCB approves the plans and specifications, and the City establishes a recycled water service agreement with the customer, LACDPH reviews and approves all plans and specifications before the start of construction.

After construction, LACDPH inspects the systems and conducts cross-connection, pressure, and back-flow prevention device tests. Recycled water use must comply with the Los Angeles County Recycled Water Advisory Committee's "Recycled Water Urban Irrigation User's Manual". Each site must also have a site supervisor responsible for recycled water use.

Exhibit 7B
Allowable NPR Water Uses

Irrigation Uses	Food crops where recycled water contacts the edible portion of the crop, including all root crops	Ornamental nursery stock and sod farms where no recycled water use occurs 14 days prior to harvesting, retail sale, or access by the public
	Parks and playgrounds	Pasture for milk animals for human consumption
	School yards	Non-edible vegetation with access control to prevent use as park, playground or school yard
	Residential landscaping	Orchards with no contact between edible portion and recycled water
	Unrestricted and restricted access golf courses	Vineyards with no contact between edible portion and recycled water
	Any other irrigation uses not prohibited by other provisions of the California Code of Regulations	Non-food bearing trees, including Christmas trees not irrigated less than 14 days before harvest
	Food crops, surface irrigated, above ground edible portion, and not contacted by recycled water	Fodder and fiber crops and pasture for animals not producing milk for human consumption
	Cemeteries	Seed crops not eaten by humans
	Freeway landscaping	Food crops undergoing commercial pathogen destroying processing before consumption by humans
Supply for Impoundment Uses	Non-restricted recreational impoundments, with supplemental monitoring for pathogenic organisms in lieu of conventional treatment	
	Restricted recreational impoundments and publicly accessible fish hatcheries	
	Landscape impoundments without decorative fountains	
Supply for Cooling or Air Conditioning	Industrial or commercial cooling or air conditioning involving cooling tower, evaporative condenser, or spraying that creates a mist	
	Industrial or commercial cooling or air conditioning not involving cooling tower, evaporative condenser, or spraying that creates a mist	
Other Uses	Dual plumbing systems (flushing toilets and urinals)	Industrial process water that will not come into contact with workers
	Priming drain traps	Industrial boiler feed
	Industrial process water that may contact workers	Nonstructural fire fighting
	Structural fire fighting	Backfill consolidation around non-potable piping
	Decorative fountains	Soil compaction
	Commercial laundries	Mixing concrete
	Consolidation of backfill material around potable water pipelines	Dust control on road and streets
	Artificial snow making for commercial outdoor uses	Cleaning roads, sidewalks and outdoor work areas
	Commercial car washes, not heating the water, excluding the general public from washing process	Flushing sanitary sewer

Indirect Potable Reuse Regulations

IPR involves the introduction of highly treated recycled water into an environmental buffer, such as an aquifer or reservoir, where it is retained for a specified period of time for later reuse. After extraction, water undergoes additional treatment to meet all drinking water standards before being delivered to the potable water system.

DDW, which regulates public drinking systems, also regulates IPR projects under Title 22 regulations. Project sponsors work with DDW to obtain a recommendation from the responsible Regional Water Quality Control Board (RWQCB) to issue a permit for the respective project.

The IPR regulations include criteria for groundwater recharge via surface spreading, groundwater replenishment via subsurface injection, and surface water augmentation (SWA). SWA is defined as the planned placement of recycled water into a surface water reservoir upstream of conventional filtration process to be used as a source of domestic drinking water supply. IPR for groundwater recharge is defined in the CWC as the planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system.

Groundwater Replenishment – Surface Application

Regulations for groundwater replenishment via surface application are detailed in Title 22, sections 60320 through 60320.130. Title 22 outlines general requirements, public hearing, lab analysis, response times, and monitoring, among other requirements. Permits for groundwater replenishment are issued by the RWQCB in coordination with DDW.

At a minimum, recycled wastewater applied for spreading is required to be disinfected tertiary recycled water. Title 22 regulations should be referenced for specific requirements. The City is currently implementing the Los Angeles Groundwater Replenishment (LA GWR) Project, which will replenish the City's groundwater supplies via surface application. The LA GWR Project will utilize full advanced treated (FAT) recycled water beyond the minimum required disinfected tertiary recycled water.

Groundwater Replenishment – Subsurface Application

Regulations for groundwater replenishment via subsurface application are located in Title 22 sections 60320.200 through 60320.230. Title 22 outlines general requirements, advanced treatment criteria, public hearing, lab analysis, response times, and monitoring, among other requirements. Permits for groundwater replenishment are issued by the RWQCB in coordination with DDW.

In addition to the different point of application, one of the main distinctions between surface and subsurface application is the treatment level of recycled water used. Subsurface application requires the use of FAT water. FAT includes reverse osmosis (RO), ultraviolet light (UV) disinfection and an advanced oxidation process (AOP).

The LA GWR Project will utilize FAT that meets the regulations for subsurface application however the initial operations will utilize surface spreading at the Hansen Spreading Grounds (HSG). For operational flexibility, LADWP is evaluating the feasibility of subsurface application.

Direct Potable Reuse Regulations

DPR is the introduction of recycled water either directly into a public drinking water system or into a raw water supply upstream of a drinking water treatment plant.

California's Title 22 DPR regulations, which went into effect in October 2024, establish detailed guidelines for safely integrating advanced treated recycled water directly into municipal drinking water supplies. California is one of the first states to establish DPR regulations, a landmark step in supporting local and resilient water supply development for the region.

DPR consists of two principal methods: raw water augmentation (RWA), where recycled water is blended upstream of a conventional drinking water treatment facility, and treated water augmentation (TWA), in which recycled water is introduced directly into a potable water distribution system.

To meet mandated water quality standards, DPR treatment facilities must demonstrate significantly greater pathogen removal than what is required for IPR treatment. Treatment process producing DPR quality water are required to include advanced, multi-barrier treatment methods, comprised of secondary wastewater treatment, pretreatment with ozone and biologically activated carbon (Ozone-BAC), followed by FAT. Alternative treatment approaches may be approved by state regulators if demonstrated to provide equivalent or better protection of public health.

Rigorous and continuous monitoring of source and product water quality indicators is essential in ensuring compliance under these regulations. Key parameters such as turbidity, UV dose, and total organic carbon concentrations must be constantly tracked, alongside regular pathogen and chemical analyses. Automated control systems must be installed to halt water distribution immediately in the event of contamination, treatment failures, or deviation from established quality thresholds. The regulations also mandate robust operational controls, including highly trained and certified plant operators, redundancy in treatment processes to mitigate risks of failure, and comprehensive emergency response planning. Additionally, proactive source control programs are required to minimize the introduction of contaminants at the wastewater origin, ensuring suitable influent into DPR treatment systems.

LADWP's Headworks DPR Pilot Project (DPR Pilot), located at the Tom LaBonge Headworks Water Complex, is a critical step in advancing DPR in Los Angeles. Originally launched to align with the development of California's DPR regulations, the DPR Pilot is designed to evaluate the performance and reliability of the prescribed treatment train that includes Ozone-BAC followed by FAT. The DPR Pilot is also evaluating alternative treatment trains that could meet or exceed the DPR treatment requirements, which may offer benefits such as reduced footprint and energy usage, and increased flexibility in future program planning.

Building on the results of the DPR Pilot, LADWP is planning a 1-million gallons per day (mgd) DPR Demonstration Facility that will treat tertiary effluent produced from LAGWRP to meet DRP standards. The facility will begin with a period of validation testing to demonstrate performance, reliability, and regulatory compliance, with the eventual goal of becoming the City's first permitted DPR facility. It will also serve as an operator training hub and a public education center to foster transparency and community support for DPR.

7.2 Recycled Water Sources and Quality

Recycled water supply relies on treated wastewater obtained from the City's wastewater treatment plants as well as those operated by neighboring agencies, as shown in Exhibit 7A. The City's wastewater treatment consists of a series of processes designed, at a minimum, to remove solids to a level sufficient to meet regulatory water quality standards for the intended purposes. A depiction of the varying levels of treatment is shown in Exhibit 7C. Wastewater treatment includes preliminary, primary, secondary, and potentially tertiary and advanced treatment processes, each removing progressively finer solid particles and impurities. Preliminary treatment removes grit and large debris using grit removal basins and screens. Primary treatment relies on sedimentation to remove smaller solids. Secondary treatment uses biological processes

and additional sedimentation to break down organic matter into harmless byproducts and further remove solids. Finally, tertiary treatment filters and chemically disinfects the water to eliminate further impurities.

All recycled water used within the City undergoes tertiary treatment and disinfection at a minimum to meet Title 22 standards for NPR. Exhibit 7D summarizes the treatment levels, capacity, and FY 2024/25 wastewater flows at the four City plants and the two plants outside the City that provide recycled water to the City.

Exhibit 7C
Recycled Water Treatment Levels

Recycled Water Facilities within Los Angeles

Donald C. Tillman Water Reclamation Plant

In service since 1985, DCTWRP has a design flow of 80 mgd, and, on average, treats approximately 45 mgd of wastewater to produce 32 mgd of recycled water. DCTWRP produces tertiary recycled water with nitrification/denitrification (NdN) to meet Title 22 standards for NPR. DCTWRP maximizes wastewater reuse for irrigation and industrial uses, in-plant uses, and environmental uses. Environmental uses include the Japanese Garden, Wildlife Lake, and Lake Balboa, which were developed as part of environmental mitigation under the California Environmental Quality Act (CEQA) for the construction of DCTWRP. All recycled water produced from the facility is used within the LADWP service area.

The LA GWR Project will transform current treatment at DCTWRP to convey advanced purified recycled water meeting IPR standards for groundwater replenishment. The project is a partnership between LADWP and LASAN to construct an advanced water purification facility (AWPF) that is projected to produce 22,000 AFY of recycled water by FY 2028/29 and up to 40,000 AFY by FY 2030/31 subject to regulatory approvals.

Los Angeles-Glendale Water Reclamation Plant

LAGWRP is co-owned by the City and the City of Glendale and operated and maintained by LASAN. LAGWRP began treating wastewater in 1976 as the City's first water reclamation plant. LAGWRP has capacity to treat 20 mgd and currently treats approximately 16 mgd of wastewater to produce about 13 mgd of tertiary recycled water. The City and Glendale are both entitled to 50 percent of the plant's capacity. LAGWRP achieves tertiary treatment to meet Title 22 standards for NPR. All of LADWP's portions of recycled water are used within its service area.

LADWP is evaluating DPR feasibility within its water system, with LAGWRP playing a central role. The Headworks DPR Pilot sources tertiary recycled water from LAGWRP and will evaluate further advanced treatment processes to validate LAGWRP's recycled water would comply with the DPR requirements.

Exhibit 7D
Sources of Recycled Water Summary

Sources of Recycled Water	Wastewater Collection/ Treatment Agency	Treatment Type(s)	Discharge Method	Wastewater Treatment Capacity (AF)	Treated Wastewater FY 24/25 (AF)	Recycled Water Served to LA FY 24/25 (AF)	Other Uses FY 24/25 (AF)	Discharged Treated Wastewater FY 24/25 (AF)
Located within City of Los Angeles								
DCTWRP[1]	LASAN	Tertiary with NdN	Recycling and Pacific Ocean via LA River	89,600	29,000	3,024	In-plant: 5,712 Environ-mental Use: 19,490	0
LAGWRP[1]	LASAN	Tertiary with NdN	Recycling and Pacific Ocean via LA River	22,400	14,000	2,688	In-plant: 1,008 Outside LA: 1,344	0
TIWRP[1]	LASAN	Advanced: MF/RO/UV-AOP	Recycling and Pacific Ocean via Outfall in Los Angeles Harbor	33,600	15,000	6,160	In-plant: 896	6,500
HWRP[1]	LASAN	Secondary	Conveyance to ECLWRF for Recycling and Pacific Ocean Outfall	504,000	289,000	0	In-plant: 33,044[3] Outside LA: 33,940	255,100
Located Outside City of Los Angeles								
ECLWRF[1,2]	WBMWD	Tertiary; Nitrification; MF/RO; or MF with double-pass RO	Recycling	44,800	N/A	761	Outside LA: 29,456	N/A
BWRP[1]	City of Burbank Department of Public Works	Tertiary with NdN	Recycling	11,200	6,232	18	Outside LA: 6,215	N/A

1. Sources: DCTWRP, LAGWRP, TIWRP, and HWRP - Department of Public Works - Bureau of Sanitation Recycled Water Table FY 2024/25; ECLWRF and Carson Facility – West Basin staff; BWRP - Burbank Water and Power Staff; Recycled Water Served to LA – LADWP customer meters
2. Tertiary treated recycled water from ECLWRF is treated at WBMWD's Carson Facility. Amounts should not be double counted when totaled.
3. All in-plant reuse flows are routed back to the plant streams and thus available for reuse. Reuse flows are eventually discharged to (5-Mile outfall) ocean.

Terminal Island Water Reclamation Plant

Originally built in 1935, TIWRP has been providing secondary treatment since the 1970s with a flow capacity of 30 mgd. In 1996, tertiary treatment system upgrades were installed at TIWRP, providing recycled water to the City's harbor service area. Building upon the increased treatment at TIWRP, an AWPF was constructed in 2002 and expanded in 2016 to meet updated State discharge requirements. The AWPF consists of MF, RO, and UV-AOP and has the capacity to produce up to 12 mgd of advanced treated recycled water. LADWP is planning and investing in new recycled water conveyance projects and connections, including a second connection to the Dominguez Gap Seawater Intrusion Barrier, to fully utilize the available TIWRP supply by FY 2028/29.

The TIWRP AWPF was developed jointly by LADWP, LASAN, the City of Los Angeles Department of Public Works, and Bureau of Engineering (BOE). Operation and maintenance of the AWPF is provided by LASAN with reimbursement from LADWP. Deliveries of advanced treated recycled water began in 2006 to the Dominguez Gap Seawater Intrusion Barrier. Today, TIWRP supplies recycled water to three main users: the Water Replenishment District for the Dominguez Gap Barrier, which reduces seawater intrusion into groundwater aquifers, and two local refineries for industrial processes. The remaining TIWRP effluent, approximately 2.1 mgd, is discharged to the Los Angeles Harbor.

Hyperion Water Reclamation Plant

Operating since 1894, HWRP is the oldest and largest of the City's wastewater treatment plants. Since its upgrade in 1999, HWRP is capable of full secondary treatment. The flow capacity of HWRP is 450 mgd, with an average wastewater flow of 260 mgd. Most of the treated water is discharged through a five-mile outfall into the Santa Monica Bay. The remaining flow, approximately 35 mgd, is either used at HWRP or sold to WBMWD for further reuse. Additional details regarding future planned improvements at HWRP and reuse opportunities are provided in Chapter 11, *Pure Water Los Angeles*.

Recycled Water Facilities Outside Los Angeles That Serve the City

Edward C. Little Water Recycling Facility – West Basin Municipal Water District

WBMWD operates the ECLWRF, which has a capacity of 50 mgd. ECLWRF produces five different recycled water qualities: tertiary recycled water for irrigation, nitrified water for cooling towers, pure RO water and ultra-pure RO water for refinery boiler feed water, and softened MF/RO water with disinfection (advanced treated water) for groundwater injection into the West Coast Basin Groundwater Barrier to reduce seawater intrusion.

On average, WBMWD purchases approximately 35 mgd of secondary treated effluent from HWRP and treats this source water to Title 22 standards and above as necessary for non-potable reuse at their ECLWRF. WBMWD and the City signed an agreement allowing WBMWD to purchase secondary treated effluent water from HWRP through 2026. Discussions regarding potential extensions or alternative arrangements are ongoing to ensure continued reliability of recycled water supplies. In FY 2024/25, WBMWD purchased approximately 29,456 AF of secondary-treated effluent from HWRP.

Treated water is used to meet non-potable recycled water demands in WBMWD's service area, with a portion purchased by LADWP for irrigation and industrial uses in its service area in West Los Angeles. In FY 2024/25, LADWP purchased approximately 761 AF of recycled water from WBMWD for distribution in the LADWP service area. The remaining recycled water not purchased by LADWP is sold by WBMWD to users within their service area.

Burbank Water Reclamation Plant – City of Burbank

Built in 1966, BWRP was established to serve Burbank's growing wastewater and sewer needs, which were previously handled by the City. Initially built to treat 6 mgd, the plant was upgraded to treat 9 mgd in 1971, with further improvements in 2000 and 2002 to meet water quality standards for tertiary treatment and ammonia removal. LADWP receives recycled water from BWRP for NPR to satisfy the irrigation demands in its North Hollywood service area. In FY 2024/25, BWRP provided LADWP with 18 AF of tertiary recycled water.

7.3 Existing and Projected Recycled Water Deliveries

Expansion of recycled water allows the City to offset and supplement potable water demands with recycled water supplies while achieving water reuse goals. As shown in Exhibit 7E, LADWP's total recycled water use for FY 2024/25 was 33,294 AFY. The majority of deliveries support environmental reuse (20,053 AFY), followed by the seawater intrusion barrier (6,234 AFY), irrigation (5,329 AFY), and industrial uses (1,678 AFY). Further detail on service area boundaries and project descriptions is provided in Exhibit 7A and in the following subsections describing Harbor, Metro, San Fernando Valley, and Westside service areas. For the latest information on upcoming recycled water projects, please refer to ladwp.com/recycled-water.

Exhibit 7E
Recycled Water Use FY 2024/25 by Service Area

Use Type	Harbor Area (AF)	Metro Area (AF)	San Fernando Valley Area (AF)	Westside Area (AF)	Total by Use Type (AF)
Irrigation	77	2,755	1,809	688	5,329
Industrial	518	-	1,160	-	1,678
Environmental	-	-	20,053	-	20,053
Seawater Intrusion Barrier	6,234	-	-	-	6,234
Total By Area	6,829	2,755	23,022	688	33,294

Harbor Area

LADWP's Harbor Recycled Water System is primarily served by TIWRP, with supplemental deliveries from WBMWD sourced from ECLWRF. Current uses include both industrial demands and the Dominguez Gap Seawater Intrusion Barrier. Since 2016, LARWQCB has authorized TIWRP to supply the Seawater Intrusion Barrier with 100 percent recycled water, replacing the prior 50/50 blend with imported supplies. LADWP has since expanded recycled water service to key industrial customers in the Harbor area, including Air Products & Chemicals and the Valero Wilmington Refinery, for use in refinery operations and cooling towers. In FY 2024/25, recycled water demands for the Harbor Area totaled 6,829 AFY, as shown in Exhibit 7E.

To expand recycled water use, LADWP is planning and investing in new recycled water infrastructure. A second connection supplying up to 9,500 AFY to the Dominguez Gap Seawater Intrusion Barrier is scheduled to be completed in 2028. By FY 2028/29, the Harbor area is expected to fully utilize the available 12 mgd of TIWRP recycled water for beneficial reuse, supporting full utilization of advanced treated recycled water production.

LADWP and LASAN are also evaluating additional recycled water sources, including the Carson Water Recycling Facility (WRF) and AK Warren Water Resources Facility (AKWWRF) to increase supply reliability. The Carson WRF currently treats tertiary water from ECLWRF into advanced recycled water for industrial uses outside the City. It has the potential to be expanded and connected to LADWP's Harbor Recycled Water System to increase supply volume and reliability. The AKWWRF is owned by LA County Sanitation and a key facility for MWD's Pure Water Southern California Program. AKWWRF is located near LADWP's Harbor Recycled Water System and could potentially be connected to increase supply volume and reliability to LADWP's existing and future recycled water customers.

Metro Area

LADWP's Metro Recycled Water System is supplied by LAGWRP, with the majority of recycled water serving irrigation uses and a smaller portion serving industrial uses including Griffith Park, North Atwater Park, Forest Lawn, and the Metro Division Bus Yard. Unutilized effluent from LAGWRP is discharged to the LA River, averaging approximately 9 mgd. In FY 2024/25, recycled water demands for the Metro area totaled 2,755 AFY, as shown in Exhibit 7E.

San Fernando Valley Area

LADWP's San Fernando Valley Recycled Water System receives water from DCTWRP and BWRP. BWRP provides LADWP with recycled water for irrigation, while DCTWRP provides recycled water for irrigation, industrial, and environmental uses, with excess effluent discharged to the LA River.

For irrigation uses, DCTWRP supplies 19 irrigation sites and BWRP supplies three. Irrigation uses include golf courses, parks, churches, schools, sports fields, a ranch, and LADWP electrical distribution stations. In FY 2024/25, recycled water demands for irrigation use in the San Fernando Valley totaled 1,809 AFY.

Industrial use at LADWP's Valley Generating Station has relied on recycled water supplies since 2008. In FY 2024/25, recycled water demands for industrial use In the San Fernando Valley totaled 1,160 AFY.

Recreational and environmental uses have been supported with recycled water since the mid-1980s, starting with the Japanese Garden in 1985, followed by Lake Balboa in 1990, and Wildlife Lake in 1991. Over the most recent five-year period (FY 2020/21 to FY 2024/25), the Japanese Garden, located at the Sepulveda Dam Recreation Area, received an average of approximately 3,707 AFY of recycled water. Lake Balboa, the centerpiece of Anthony C. Beilenson Park in the Sepulveda Dam Recreation Area, received an average of approximately 15,299 AFY. Wildlife Lake, located in the Sepulveda Basin Wildlife Reserve, received an average of approximately 3,841 AFY.

In FY 2024/25, recycled water deliveries in the San Fernando Valley for environmental uses totaled approximately 20,053 AFY. Environmental plus irrigation and industrial uses resulted in a total recycled water demand of 23,022 AFY in the San Fernando Valley in FY 2024/25, as shown in Exhibit 7E.

To expand recycled water use, LADWP and LASAN have initiated construction of the LA GWR Project, with completion anticipated by 2028. The LA GWR Project is one of the largest potable reuse projects in the state and will introduce indirect potable use of recycled water in the San Fernando Valley Recycled Water System. The LA GWR Project is projected to produce 22,000 AFY by FY 2028/29 and up to 40,000 AFY by FY 2030/31 of advanced treated recycled water, subject to regulatory approvals, to convey to the HSG. At HSG, the water will percolate and replenish the SFB and later be extracted through LADWP's existing groundwater production facilities. Key components of the project include an AWPF using MF, RO, and UV-AOP; a new equalization facility at DCTWRP to stabilize source water flows to AWPF; and HSG upgrades to support monitoring and control of spreading purified water. Native stormwater capture and recharge operations will

continue at HSG in conjunction with the LA GWR Project to replenish the SFB. A detailed discussion of the SFB and existing recharge operations is provided in Chapter 5, *Local Groundwater*, and Chapter 6, *Watershed Management*.

Westside Area

LADWP's Westside Recycled Water System is supplied by WBMWD via the ECLWRF, which provides recycled water for both irrigation and industrial uses. Irrigation users include parks, street medians, a golf course, LADWP's Scattergood Generating Station, Loyola Marymount University, Los Angeles International Airport (LAX), the Parking Spot, HWRP, and various sites in Playa Vista. At HWRP and Playa Vista, recycled water can also supply dual-plumbed commercial facilities for industrial uses. In FY 2024/25, recycled water demands in the Westside totaled 688 AF, as shown in Exhibit 7E.

Comparison of 2020 Projections Versus Actual Use

The 2020 UWMP projected municipal and industrial recycled water use in FY 2024/25 to be approximately 17,300 AF; however, actual use was lower than projected, as shown in Exhibit 7F. The lower than projected use of municipal and industrial use is due to delays in securing agreements with other municipal users. Environmental use of recycled water varies slightly with lake levels with the historical 5-year average at 24,464 AFY. In FY 2024/25, recycled water deliveries for environmental uses totaled 20,053 AF, contributing to a total recycled water use of 33,294 AFY.

Exhibit 7F
2020 UWMP Recycled Water Projections for FY 2024/25 Versus Actual Use

Programs	2020 UWMP Projected Use FY 2024/25 (AFY)	FY2024/25 Actual Use (AFY)
Municipal and Industrial Uses	17,300	7,007
Environmental Use[1]	26,600	20,053
Seawater Intrusion Barrier (Dominguez Gap)	7,500	6,234
Indirect Potable Reuse (Groundwater Replenishment)	7,000	0
Total	50,900	33,294

1. 5-year average water use is 24,464 AFY and is ultimately discharged to the Los Angeles River.

7.4 Recycled Water Projected Supplies

The City is continuously expanding its recycled water program to enhance supply reliability. LADWP is pursuing recycled water initiatives such as constructing the LA GWR Project to replenish the SFB and adding connection to the Dominguez Gap Seawater Intrusion Barrier to utilize 100 percent of recycled water from TIWRP. Recycled water use projections are available in five-year increments beginning in FY 2029/30 through 2049/50 in Exhibit 7G. With the completion of LA GWR Project, LADWP's recycled water use is projected to reach 86,300 AFY through the end of the projection period with environmental reuse expected to remain relatively constant at approximately 26,600 AFY. For more information regarding potential future supplies from Pure Water Los Angeles, refer to Chapter 11, *Pure Water Los Angeles.*

Exhibit 7G
Recycled Water Use Projections

Use Type	Projected Use (AFY)				
	FY 29/30	FY 34/35	FY 39/40	FY 44/45	FY 49/50
Municipal and Industrial Uses	19,200	19,300	19,400	19,600	19,700
Indirect Potable Reuse (LA GWR)	22,000	40,000	40,000	40,000	40,000
Subtotal	41,200	59,300	59,400	59,600	59,700
Environmental Use	26,600	26,600	26,600	26,600	26,600
Total	67,800	85,900	86,000	86,200	86,300

Chapter 8 Metropolitan Water District

8.0 Overview

As a founding member agency of the MWD, the City, through LADWP, purchases supplemental water from MWD on an as-needed basis to meet demands. MWD is the largest water wholesaler for domestic and municipal uses in California, providing over 19 million people with an average of 1.5 billion gallons of water per day to a service area of approximately 5,200 square miles. MWD was formed by the MWD Act and exists pursuant to this statute, which was enacted by the California Legislature in 1927. In 1928, MWD was incorporated as a public agency following a vote by residents in 13 cities of Southern California, including the City of Los Angeles.

MWD owns and operates the CRA, is a contractor for water service from the SWP, manages and owns surface storage facilities, stores groundwater via contracts, engages in groundwater storage, and facilitates water transfers to provide additional supplies for its member agencies. Today, MWD has 26 member agencies consisting of 11 municipal water districts, one county water authority, and 14 cities, including the City.

This chapter describes MWD's governance, major supply sources, associated reliability challenges, and storage and management programs that support the City's long-term water supply reliability. Additional information on MWD's water supplies and its UWMP can be found at mwdh2o.com/how-we-plan.

History

Initially formed to import water into the Southern California region from the Colorado River, MWD's first project was to build the CRA. The City provided the capital investment to initiate and complete land surveys of all proposed routes for infrastructure for the CRA. Construction was financed through $220 million in bond sales that were approved in 1931. Colorado River water reached Southern California for the first time in 1941.

In 1960, MWD contracted with DWR for almost half of the SWP's water supplies to meet increasing water demands in the Southern California region. These supplies are delivered from the San Francisco Bay and Sacramento-San Joaquin River Delta (Bay-Delta) region into Southern California via the California Aqueduct. Construction of the California Aqueduct was financed as part of the $1.75 billion bond measure passed by the Burns-Porter Act in 1960. Deliveries of SWP water were first received in 1972.

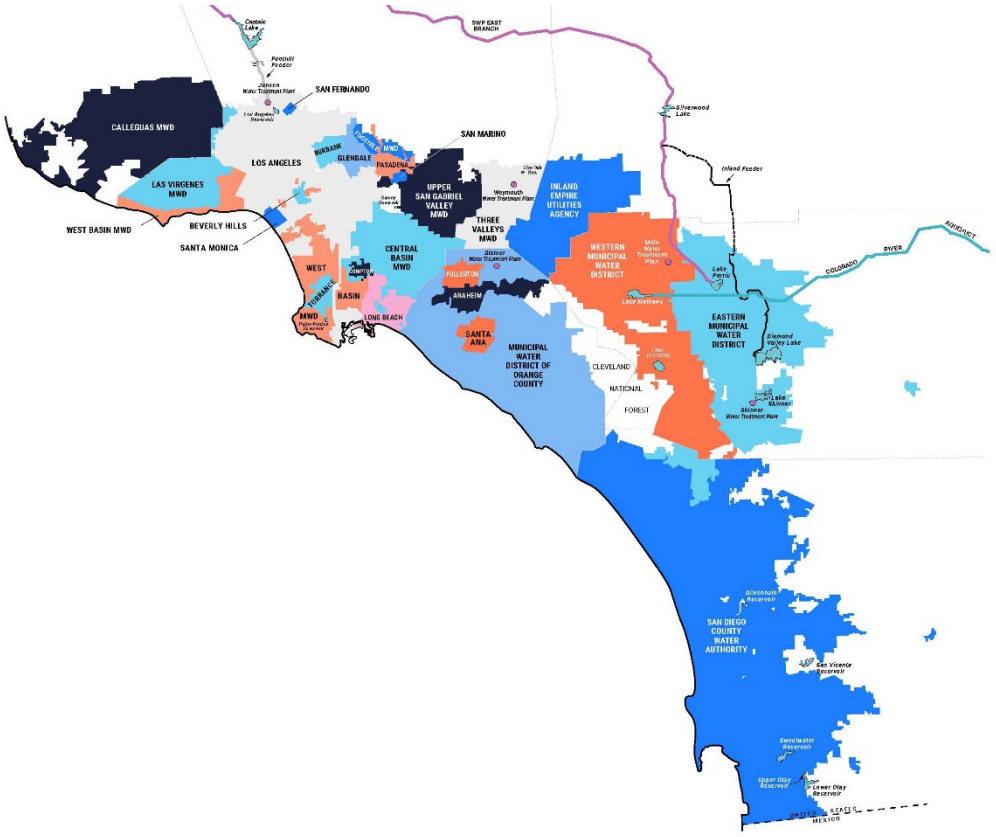
Governance

MWD is governed by a Board of Directors composed of 38 member agency representatives with a minimum of one representative from each of MWD's 26 member agencies. The allocation of directors and voting rights are determined by each agency's assessed valuation. The City is represented by five directors, and as of the latest valuation in August 2025, it holds 20.43 percent of the total voting power on the MWD Board.

Service Area

MWD's service area covers portions of Los Angeles, Ventura, Orange, Riverside, San Bernardino, and San Diego counties as depicted in Exhibit 8A. MWD member agencies are comprised of wholesale, retail, or a combination of wholesale and retail water suppliers that serve a total of 152 cities and 89 unincorporated communities.

Exhibit 8A
MWD Service Area



8.1 Supply Sources

MWD's water supply comes from the Colorado River, SWP, water transfers, and storage and exchange programs, which together provide water to meet demands across MWD's service area. While the City is capable of receiving MWD supplies sourced from both the Colorado River and SWP, the City primarily receives water sourced from the SWP.

Colorado River

MWD imports water from the Colorado River through its CRA. MWD maintains the 242-miles of canals, tunnels, and siphons as well as five pumping plants and two reservoirs along the CRA. The interests of MWD, the City, and the State are represented by the Colorado River Board (CRB), a Governor appointed Board that engages in discussions and negotiations with Colorado River Basin States. The CRB is comprised of 10 members representing LADWP, MWD, San Diego County Water Authority, Palo Verde Irrigation District, Coachella Valley Water District, Imperial Irrigation District, DWR, CDFW, and two public members.

The Law of the River

Colorado River water rights are governed by a complex collection of federal laws, state laws, a treaty with Mexico, Supreme Court decrees, contracts with the Secretary of the U.S. Department of the Interior, interstate compacts, and administrative actions at the federal and state levels. Collectively, these documents and associated interpretations are commonly referred to as the "Law of the River".

The Colorado River Compact of 1922 apportioned 7.5 million acre-feet (MAF) each to the Colorado Lower Basin and Upper Basin annually. California is within the Lower Basin along with Arizona and Nevada. The Boulder Canyon Project Act of 1928 stipulates that California is required to limit Colorado River water use to 4.4 MAF annually plus one-half of the excess water that remains unapportioned.

Colorado River Supply Reliability Challenges

From 2000 to 2004, the Colorado River Basin experienced severe dry conditions. In response to ongoing drought conditions, decreasing storage, and growing demands for Colorado River water, the 2007 Interim Guidelines were developed to provide operational strategies to coordinate releases from Lake Powell and Lake Mead based on reservoir elevation tiers. Dry conditions in the Colorado River Basin have persisted for the past two decades, with below average precipitation and runoff in two out of every three years. Lake Powell and Lake Mead's long-term outlook indicates continued decline in reservoir levels, which could reduce the amount of Colorado River water available to California. The 2019 Colorado River Basin Drought Contingency Plans were implemented to reduce risks from ongoing drought and require states to contribute defined volumes of water when reservoir elevations drop below defined tiers. Through the plans, the Lower Basin states commit to reducing the amount of water withdrawals from Lake Mead during times of shortage.

The 2007 Interim Guidelines are set to expire in 2026, and negotiations among Colorado River Basin states regarding post-2026 operational guidelines are ongoing at the time of LADWP's 2025 UWMP preparation. The effects of the outcome of these negotiations on water supply are highly uncertain at this time. Thus, MWD has utilized the latest available information and assumes a continuation of the current operating agreements through their planning horizon to project their Colorado River supplies for their 2025 UWMP.

Water Quality Issues

Water quality issues for Colorado River supplies include high salinity levels, perchlorate, nutrients, uranium, and chromium VI. High salinity levels present the most significant issue and the only foreseeable water quality constraint for the Colorado River supply. MWD expects its source control programs for the CRA to adequately address other water quality issues, including constituents of emerging concern such as N-Nitrosodimethylamine, pharmaceuticals, personal care products, microplastics, per- and PFAS, and 1,4-Dioxane. MWD has also bolstered its water security measures across all its operations since 2001, including an increase in water quality tests.

State Water Project

MWD began receiving water from the SWP in 1972 and is the largest of the 29 SWP contractors. Variable hydrology, environmental concerns, and regulatory restrictions in the Bay-Delta have periodically reduced the quantity of water that the SWP exports from the Bay-Delta and ultimately deliveries to MWD. A majority of the supplies the City receives from MWD is sourced from the SWP.

Major State Water Project Facilities

The SWP is owned by DWR and delivers water to two-thirds of the population of California and 750,000 acres of farmland. The SWP system consists of over 700 miles of aqueduct, 36 storage facilities including reservoirs and lakes, and 26 power and pumping plants. SWP facilities originate in Northern California at Lake Oroville on the Feather River. Water released from Lake Oroville flows into the Feather River, proceeds downstream to its confluence with the Sacramento River, and then travels into the Bay-Delta. Water is then pumped from the Bay-Delta region to contractors in areas north and south of the San Francisco Bay and south of the Bay-Delta. In addition to delivering water to its contractors, the SWP is operated to improve water quality in the

Bay-Delta region, control flood waters, and provide recreation, power generation, and environmental enhancement.

MWD receives SWP water at three locations: Castaic Lake in Los Angeles County, Devil Canyon Afterbay in San Bernardino County, and Box Springs Turnout at Lake Perris in Riverside County. In addition, MWD has flexible storage rights at Lake Perris at the terminus of the East Branch of the SWP and at Castaic Lake at the terminus of the West Branch.

Contract Allocations

Contract allocations, also known as entitlements, for SWP contractors are provided by DWR in a table commonly referred to as "Table A". Allocations are based on the original projected SWP maximum yield of 4.173 MAF. Table A is a tool used by DWR to allocate fixed and variable SWP costs and yearly water entitlements to the contractors. Table A contract amounts do not reflect actual deliveries a contractor should expect to receive. MWD has a Table A contract amount of 1.912 MAF per year, or 46 percent of the SWP's original projected maximum yield of 4.173 MAF.

DWR annually approves the amount of contract allocations SWP contractors will receive. The contract allocation amount received by contractors varies based on contractor demands and projected available water supplies. Contractors' requests for portions of their entitlements cannot always be met. Variables impacting projected water supplies include snowpack in the Sierra Nevada, available capacity in reservoirs, operational constraints, and demands of other water users. Operational constraints include pumping restrictions related to fish species listed as threatened or endangered under the federal or state Endangered Species Acts.

DWR publishes the State Water Project Delivery Reliability Report bi-annually to provide contractors with current and projected water supply availability for the SWP. In December 2025, DWR released the draft 2025 State Water Project Delivery Capability Report. The draft 2025 Delivery Capability Report provides State Water Project delivery capabilities in various scenarios factoring in climate change, sea level rise, current regulations, and water use assumptions upstream of the Delta. Additionally, in May 2025, DWR issued an addendum to the previous 2023 Report focusing on the potential impacts to SWP operation and capacity because of ongoing subsidence. MWD utilized the Draft 2025 SWP Delivery Capability Report to estimate available SWP supplies for their 2025 UWMP.

SWP Supply Reliability Challenges

Bay-Delta Issues

The Bay-Delta is a major waterway at the confluence of the Sacramento and San Joaquin rivers. Water from the Bay-Delta serves multiple purposes, which can be exacerbated during dry years when available water to meet the needs of both people and the environment is in short supply. Approximately two-thirds of Californians receive at least a portion of their water from the Bay-Delta. Almost all water delivered via the SWP to Southern California must pass through the Bay-Delta. Runoff from more than 40 percent of the state is also conveyed through the Bay-Delta forming the eastern edge of the San Francisco Bay's estuary. A large portion of the Bay-Delta region lies below sea level and is protected by more than 1,100 miles of levees to prevent flooding. Deterioration of the Bay-Delta ecosystem coupled with infrastructure concerns, hydrologic variability, climate change, litigation, regulatory restrictions, and previously discussed water quality issues have resulted in supply reliability challenges for SWP contractors who depend upon the Bay-Delta for water supplies.

MWD Infrastructure Limitations

California experienced extremely dry conditions from 2020 to 2022, leading to historically low deliveries from the SWP. Although MWD retained record storage reserves at the time, limitations on MWD's infrastructure capabilities resulted in an inability to deliver stored supplies to several member agencies. The areas within these member agency service areas that could not receive stored supplies became known as the SWP Dependent Areas. In response, MWD adopted their EWCP in April 2022 and declared a Water Shortage Emergency Condition for the member agencies within the SWP Dependent Areas. A portion of the City is within the SWP Dependent Area and was thus impacted by MWD's EWCP. This program imposed outdoor irrigation limits to one day per week or monthly water supply allocation limits to affected member agencies. MWD's EWCP concluded in March 2023 after wet conditions throughout early 2023 provided adequate water supplies to MWD to meet SWP Dependent Area demands.

The 2020 to 2022 drought highlighted the limitations of MWD's conveyance infrastructure to reliably supply SWP Dependent Areas with supplies retained in MWD's storage reserves during years of low SWP allocation. In response to these conditions, the MWD Board adopted a resolution affirming MWD's commitment to regional reliability for all its member agencies in August 2022. This resolution included a call to action to identify projects and programs to improve MWD's ability and infrastructure capacity to provide equivalent water supply reliability to all its member agencies. MWD has identified a series of projects to address and improve supply reliability for SWP Dependent Areas, several of which are currently undergoing further evaluation through MWD's Climate Adaptation Master Plan for Water (CAMP4W) process. Additional information on CAMP4W is discussed in Section 8.2.

Water Quality Issues

Water quality issues for SWP supplies include disinfection byproduct precursors such as TOC, bromide, low alkalinity arsenic, and nutrient levels. Other constituents of emerging concern include N-Nitrosodimethylamine, pharmaceuticals personal care products, microplastics, PFAS, and 1,4-Dioxane. TOC and bromide in SWP water present the greatest water quality issues as they can form disinfection byproducts during water treatment and have periodically limited MWD's use of SWP water. Agricultural drainage to the Bay-Delta and seawater commingling with Bay-Delta supplies increases these contaminants. Ozone disinfection combined with pH control and chloramines is a very effective treatment to control for bromate. MWD has upgraded treatment processes to ozone disinfection at its treatment plants to reduce formation of disinfection byproducts and lift potential restrictions on SWP water usage. MWD requires low salinity levels of SWP water to meet blending requirements for CRA water, and therefore, any increase in salinity levels in SWP supplies is a concern to MWD. Additionally, LADWP purchases untreated SWP water for treatment at its LAAFP which uses chloramine and UV disinfection to control bromate formation.

MWD has supported expanding DWR's Municipal Water Quality Investigations Program beyond its Bay-Delta core water quality monitoring and studies to include enhanced water quality monitoring and forecasting for the Delta and SWP. MWD is utilizing its water supply portfolio options to conduct water quality exchanges to reduce TOC and bromide. MWD has stored SWP water during periods of high-water quality in groundwater storage basins for later use when SWP is at a lower water quality. These storage programs were initially designed to provide water during dry SWP conditions, but a few of these programs are now operated for dual purposes.

Since 2020, there have been increased detections of quagga mussels (Dreissena bugensis) and new detections of golden mussels (Limnoperna fortunei) within the SWP system. Invasive mussels have the potential to rapidly spread and impede operations across critical water conveyance infrastructure. MWD developed a Quagga Mussel Control Program in 2007 to address the presence of mussel larvae in the Colorado River and

will use similar actions to protect infrastructure and limit the impacts of quagga and golden mussels in the SWP system.

Storage Facilities

Storage facilities play a key role in maintaining MWD's reliability during droughts, imported water curtailments, and emergency outages. These storage facilities consist of surface reservoirs and contracted groundwater basin storage. Conjunctive use of surface reservoirs and groundwater basins was first initiated by MWD in the 1950s. Long-term storage goals for storage facilities were established in MWD's Water Surplus and Drought Management (WSDM) Plan, which provides storage for hydrology fluctuations, water quality management, and SWP and CRA operational issues.

MWD has established emergency regional storage requirements of 750,000 AF based on a major earthquake scenario that could potentially cut off all imported supplies for six months from all aqueducts serving the region: the CRA, both SWP branches, and LADWP's LAA. Under this scenario, MWD would maintain deliveries by suspending interruptible deliveries, implementing mandatory water use reductions of 25 percent of normal-year demands, utilizing available water from surface reservoir and groundwater supplies stored as part of MWD's interruptible supply program, and implementing full local groundwater production. MWD's emergency storage requirement is based on projected demands and may change over time.

Surface Reservoirs

MWD owns and operates seven surface storage reservoirs in the Southern California region. Four of the reservoirs, Live Oak, Garvey, Palos Verdes, and Orange County, are used for regulatory purposes and do not provide drought or emergency storage. The remaining three reservoirs, Lake Mathews, Lake Skinner, and Diamond Valley Lake can store water for emergency and drought needs. Two additional reservoirs, Copper Basin and Gene Wash, are located along the CRA for system regulation purposes. MWD also has 1.5 MAF of storage rights in Lake Mead on the Colorado River pursuant to its intentionally created surplus agreement with the USBR. MWD also has storage rights in DWR's SWP terminal reservoirs, Lake Perris and Castaic Lake. MWD's effective storage capacity is approximately 1.67 MAF.

750 thousand acre-feet (TAF) of MWD's storage capacity is designated as emergency storage. Approximately 369 TAF is projected to be stored in MWD's facilities and the balance of 381 TAF in DWR's facilities. More information on MWD's surface storage is available in their UWMP.

Contracted Groundwater Basin Storage

To improve reliability, MWD engages in contracted groundwater basin storage. MWD has worked with local water agencies to increase groundwater storage and has implemented conjunctive water use through various programs. Groundwater storage occurs using the following methods:

- Direct delivery – Water is delivered directly by MWD to local groundwater storage facilities using injection wells and spreading basins.
- In-lieu delivery – Water is delivered directly to a member agency's distribution system, and the member agency uses the delivered water and forgoes pumping, allowing water to remain in storage.

MWD engages in two main types of storage programs: cyclical and conjunctive use. These programs are designed to deliver water to agencies prior to the actual need for the demands, allowing MWD to store supplies for use in dry years. Since 2007, MWD has used these programs to address SWP shortages. MWD

provides financial incentives and funding to assist agencies with developing storage programs. As of January 2025, MWD's conjunctive use storage balance was approximately 84 TAF.

Groundwater Storage and Water Transfers

MWD also engages in groundwater storage and water transfers outside of the Southern California region to increase the reliability of SWP dry-year supplies. Groundwater storage and water transfers were initiated by MWD in response to concerns that MWD's supply reliability objectives could not be met by the SWP. Groundwater storage and transfer programs were developed to allow MWD to reach its SWP reliability goal. All groundwater storage and water transfer programs are located within the vicinity of the SWP or Central Valley Project (CVP) facilities to ensure the delivery of water to MWD. Groundwater storage programs involve agreements allowing MWD to store its SWP contract Table A water in excess of MWD demands and to purchase water for storage. MWD calls for delivery of the stored water during dry years. Water transfers involve MWD purchasing water from willing sellers when additional supplies are needed.

8.2 MWD Supply Reliability

As an urban water supplier, MWD is also subject to the requirements of the UWMP Act and has developed its own 2025 UWMP in coordination with its member agencies. As shown in Exhibit 8B, MWD's forecasted supplies and demands through 2050 demonstrate a surplus of supply available to meet member agency demands in average, single dry year, and multiple dry year hydrological conditions. MWD forecasts are evaluated by CY and consider average conditions to reflect an average of 1922-2021 hydrology, dry year conditions to reflect 1977 hydrology, and multiple dry year conditions to reflect 1988-1992 hydrology. The anticipated surpluses under all hydrologic scenarios represent MWD's ability to meet the City's supplemental water demands in LADWP's water supply reliability analysis in this UWMP. LADWP's projected demand on MWD is further discussed in Chapter 9, *Water Supply Reliability*.

MWD Reliability Challenges

MWD sources of imported water face numerous reliability challenges related to uncertain hydrologic conditions, water quality issues, and operational constraints that fall beyond the scope of the requirements of the UWMP Act. MWD has several ongoing planning efforts, in addition its UWMP, and is exploring additional processes and efforts to maintain supply reliability for its member agencies. A recent addition to these plans is the CAMP4W, which is a long-term planning process and decision-making tool to help ensure MWD's future water supply reliability. The City is an active participant in MWD's long-term reliability planning. More information on CAMP4W and MWD's planning processes can be found at mwdh2o.com/how-we-plan. More information on LADWP's integrated long-term planning efforts are included in Chapter 10, *Integrated Long-Term Planning*.

Exhibit 8B
MWD System Forecast Supplies and Demand Summary

Forecast year	Supply (Thousands of AF per Year)				
	2030	2035	2040	2045	2050
Average Year Hydrology (1922-2021)					
Capability of Current Programs	3,762	3,720	3,664	3,624	3,718
Total Demands on MWD[1]	1,503	1,516	1,544	1,563	1,581
Surplus	2,259	2,204	2,120	2,061	2,137
Single Dry Year Hydrology (1977)					
Capability of Current Programs	2,701	2,675	2,631	2,605	2,699
Total Demands on MWD[1]	1,634	1,653	1,679	1,697	1,714
Surplus	1,067	1,022	952	908	985
Multiple Dry Year (Drought Lasting Five Consecutive Years) Hydrology (1988-1992)					
Capability of Current Programs	2,082.4	2,118.1	2,043.9	2,003.4	1,989.9
Total Demands on MWD[1]	1,602	1,668	1,689	1,712	1,731
Surplus	480.4	450.1	354.9	291.4	258.9

Source: 2025 Urban Water Management Plan, Metropolitan Water District of Southern California, February 2026 Draft

1. Total demands are adjusted to include IID-SDCWA transfer, exchange, and canal lining water. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Chapter 9 Water Supply Reliability

9.0 Overview

LADWP is addressing the challenge of providing a reliable water supply for a growing population in a Mediterranean climate by maintaining access to imported supplies, diversifying LADWP's water supply portfolio through the development of local supplies, and continuing to improve water use efficiency. As demonstrated in Exhibit 9A, LADWP has historically relied on imported water from the LAA and MWD to make up a significant portion of its total water supply portfolio. Imported surface water supplies are highly susceptible to hydrologic variability and environmental regulatory restrictions. In response to these challenges, LADWP continues to invest in maintaining access to existing supplies, diversifying its water supply portfolio and is making substantial investments in local groundwater, recycled water, stormwater capture, water conservation, and water use efficiency. Exhibit 9A also illustrates the substantial impact of water conservation and water use efficiency as demands have decreased over the last 25 years despite a growing population and prior UWMP forecasts of increasing demands.

Exhibit 9A
Historic LADWP Reliability and Past UWMP Demand Forecasts

Demand and Supply Projections (in acre-feet)	Historic Actuals Fiscal Year Ending June 30			
	2000	2010	2020	2025
Prior UWMP Demand Forecasts	673,000	725,000	731,000	755,000
Water Demand	**661,700**	**544,200**	**487,600**	**475,000**
Supplies				
Los Angeles Aqueduct	293,200	199,700	292,100	232,200
Local Groundwater	126,600	77,000	34,400	6,100
Recycled Water – Non-potable Use	1,200	6,700	9,600	13,200
Metropolitan Water District	240,000	260,800	152,600	224,400
Total Supplies	***661,700***	***544,200***	***488,700***	***475,900***

1. 1995 UWMP forecast shown for 2000 and 2010 and 2005 UWMP forecast shown for 2020 and 2025
2. Includes demand to and (from) storage

9.1 Reliability Assessment Under Different Hydrologic Conditions

Water Demand

LADWP developed a demand forecast model to project demands over a 25-year planning horizon. The demand forecast model incorporates projected changes in various demand drivers including population, housing, employment, land use, and long-term climate projections. Forecasted results show that demand is projected to increase gradually over the planning horizon prior to accounting for additional planned conservation savings. Demand forecast methodology, assumptions, and results are detailed in Chapter 2, *Water Demand*.

Water Conservation

LADWP aims to further reduce potable water use to meet targets identified from the WCPS, which showed that LADWP has a maximum cost-effective savings potential of approximately 140,000 AFY compared to the FY 2013/14 baseline. LADWP plans to achieve these goals through the development and implementation of additional active and passive conservation programs, potentially resulting in an additional 59,900 AFY of savings through FY 2049/50. Conservation is a foundational component of LADWP's water resource planning efforts and will continue to be central to the City's water use efficiency goals over the long term. For additional information on water conservation, please refer to Chapter 3, *Water Conservation*.

Los Angeles Aqueducts Supplies

Water deliveries to the City from the LAA are dependent on snowfall in the Eastern Sierra Nevada. The average annual long-term LAA delivery is based on the 30-year median hydrology from FY 1990/91 to FY 2019/20, which estimates average deliveries to the City totaling approximately 193,400 AFY. Analysis of the 2023 Climate Study results suggests minimal changes to long term availability of LAA supplies under average year conditions with intensifying hydrologic extremes resulting in reduced supply availability under dry year conditions. Thus, long term availability of LAA supplies under average year conditions remain constant, and a reduction of approximately 0.19 percent annually under dry year conditions is projected for the reliability assessment. For additional information on the LAA supplies, please refer to Chapter 4, *Los Angeles Aqueduct*.

Local Groundwater Supplies

LADWP utilizes conjunctive use strategies to optimize available surface water and groundwater to meet demands. During wet periods, LADWP reduces production to increase the storage of water in the groundwater basins; and during dry periods, LADWP increases production to draw from available storage to help meet demands. Although LADWP can implement conjunctive use strategies to mitigate the impacts of hydrologic variability, a conservative approach was adopted in the reliability analysis by assuming the same level of projected groundwater production for average year, single dry year, and multi-dry year scenarios.

LADWP's groundwater production forecast of up to 109,300 AFY is based on multiple assumptions: (1) groundwater basin elevations can support this level of pumping on a safe yield basis; (2) LADWP's planned groundwater treatment facilities will be operational by FY 2025/26; and (3) Sylmar and Central Basin production capacity will increase based on the completion of various wellfield improvement projects. For additional information on the groundwater supplies, please refer to Chapter 5, *Local Groundwater*.

Stormwater Capture

Capturing stormwater for groundwater recharge is essential to maintaining groundwater supplies, addressing the overall long-term decrease in stored groundwater, protecting the safe yield of the groundwater basin, and ensuring the long-term water supply reliability of the SFB. Ongoing stormwater capture projects will continue to increase stormwater capture capacity and enable the City to utilize its stored water credits in a sustainable manner and prevent conditions of overdraft in the SFB under variable hydrology. LADWP will work with the ULARA Watermaster to continue observing actual water levels. For additional information on stormwater capture, please refer to Chapter 6, *Watershed Management*.

Recycled Water Supplies

Recycled water is derived from wastewater effluent flows, which do not vary significantly due to hydrology. This makes recycled water a reliable water supply under varying hydrologic scenarios and projected recycled water supplies remain unchanged across reliability analysis hydrologic scenarios. LADWP is planning for continued investments into its recycled water program by expanding irrigation and industrial uses, groundwater replenishment, and exploring other IPR and DPR opportunities. Under average weather conditions, recycled water supply for NPR is projected to increase from 19,200 AFY in 2030 to 19,700 AFY by 2050. IPR through the LA GWR Project is projected to produce 22,000 AFY by FY 2028/29 and up to 40,000 AFY by FY 2030/31 subject to regulatory approvals. For additional information on recycled water, please refer to Chapter 7, *Recycled Water*.

MWD Supplies

LADWP has historically purchased supplemental MWD supplies to meet demands and maintain reliability. LADWP has relied on MWD supplies to a greater extent as LAA supplies have been reduced due to increased environmental mitigation and enhancement requirements and as groundwater supplies have become limited due to the presence of contamination. Through continued investments in local supplies, LADWP plans to reduce its purchases of imported supplies from MWD.

MWD's 2025 UWMP indicates that MWD will continue to provide 100 percent supply capability through 2050 for its member agencies during average (CY 1922 to CY 2021 hydrology), single dry (CY 1977 hydrology), and multiple dry years (CY 1988 to CY 1992 hydrology). In each of these scenarios, there is a projected surplus of supply capability. The projected surpluses are based on the capability of current supplies and range from 258,900 AF to 2,259,000 AF per year. For additional information on MWD supplies, please refer to Chapter 8, *Metropolitan Water District Supplies*.

9.2 Service Area Reliability Assessment

To determine the overall service area reliability in compliance with CWC Section 10635(a), LADWP defined three hydrologic conditions based on historic Eastern Sierra Nevada conditions:

- Average year (30-year median hydrology from FY 1990/91 to FY 2019/20)
- Single-dry year (repeat of the FY 2021/22 hydrology)
- Multi-dry year (repeat of FY 2011/12 to FY 2015/16 hydrology)

These defined conditions are used to forecast the corresponding level of LAA water supply availability. The availability of additional supplies and corresponding demand under each hydrologic condition is also determined. Exhibits 9B, 9C, and 9D tabulate the service reliability assessment for average year, single dry year, and multiple dry year conditions, respectively. Exhibit 9D shows the driest year of the multiple dry year sequence to demonstrate projected reliability under the most extreme year in the five-year sequence. No water supply shortages are anticipated as demands are met by the available supplies under all hydrologic scenarios.

Exhibit 9B
Service Area Reliability Assessment for Average Year

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Average Year (30-year median hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	193,400	193,400	193,400	193,400	193,400
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	133,900	95,200	100,800	104,700	105,300
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit 9C
Service Area Reliability Assessment for Single Dry Year

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Single Dry Year (FY 2021/22 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	59,400	58,900	58,300	57,800	57,200
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	267,900	229,700	235,900	240,300	241,500
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit 9D
Service Area Reliability Assessment for Multiple Dry Years

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Multiple Dry Year (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	62,200	61,600	61,000	60,500	59,900
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	265,100	227,000	233,200	237,600	238,800
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

9.3 Drought Risk Assessment

In addition to the reliability assessment, LADWP conducted a drought risk assessment in compliance with CWC Section 10635(b), which includes a summary of anticipated water demands and supplies over a five-year dry period assumed to start in FY 2025/26. A summary of the drought risk assessment is presented in Exhibit 9E over the assessed five-year period from FY 2025/26 to FY 2029/30 simulating LAA hydrology from LADWP's driest five consecutive year sequence from FY 2011/12 to FY 2015/16. This drought risk assessment considers the same set of assumptions across projected supply and demand utilized for the reliability analysis described in Section 9.1. No water supply shortages are anticipated as demands are met by the available supplies under the drought risk assessment.

Exhibit 9E
Service Area Drought Risk Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Drought Risk Assessment (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2026	2027	2028	2029	2030
Water Demand	**475,900***	**474,100**	**473,400**	**473,000**	**472,500**	**472,300**
Supplies						
Los Angeles Aqueduct	232,200	90,500	71,900	66,800	61,700	184,800
Local Groundwater	6,100	92,300	94,900	94,900	94,900	103,800
Recycled Water – LA GWR	-	-	-	-	22,000	22,000
Recycled Water – Non-potable Use	13,200	13,700	16,100	16,300	17,900	19,200
Metropolitan Water District	224,400	277,600	290,500	295,000	276,000	142,500
Total Supplies	***475,900***	***474,100***	***473,400***	***473,000***	***472,500***	***472,300***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

9.4 Water Shortage Contingency Plan

As required by CWC Section 10632, LADWP has developed a WSCP, which is included as Appendix I. The WSCP establishes six standard water supply shortage levels and corresponding shortage response actions as reflected in Exhibit 9F.

The decision-making process LADWP utilizes each year to determine shortage conditions begins with an assessment of its water demand and availability of water supplies. LADWP's assessment also includes a review of local and regional infrastructure to determine possible limitations to supply availability. If available supplies are sufficient to meet projected demands, then a condition of no shortage will be determined. If a shortage condition is identified, the magnitude of the shortage will determine LADWP's response to the shortage, corresponding to the established standard water shortage levels.

LADWP will first attempt to bridge shortage gaps with operational changes to its system to leverage supplies with greater availability for system delivery to offset identified supplies experiencing shortages. As shortage magnitudes increase and available supplemental supplies from MWD become limited, LADWP will further respond with implementation of mandatory water use restrictions through the City's Conservation Ordinance and explore opportunities to supplement its supplies through supply augmentation.

Exhibit 9F
Summary of LADWP Water Shortage Level Response Actions

Water Shortage Level	Percent Shortage	Emergency Water Conservation Plan Phase	Additional WSCP Actions
No Shortage	0%	Phase 1 & Phase 2	
Shortage Level 1	Up to 10%		Operation Changes
Shortage Level 2	Over 10% and up to 20%	Phase 3	
Shortage Level 3	Over 20% and up to 30%	Phase 3	Supply Augmentation
Shortage Level 4	Over 30% and up to 40%	Phase 4	
Shortage Level 5	Over 40% and up to 50%	Phase 5	
Shortage Level 6	Greater than 50%	Phase 6	

Note: WSCP Actions identified under specific shortage levels are cumulative and will encompass all actions identified in preceding shortage levels.

The WSCP also lists re-evaluation and improvement procedures LADWP will use to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed. The WSCP will be re-evaluated at least every five years in coordination with the UWMP update or at the discretion of LADWP.

In addition to shortage planning, the WSCP describes how LADWP is planning for a catastrophic supply interruption, including a large seismic event at the regional and local scale, which is also summarized below. LADWP and MWD have developed response plans for catastrophic supply interruptions that include regional power outages, earthquakes, or other disasters. Additionally, LADWP maintains several emergency connections to and from neighboring water agencies to provide mutual aid during times of catastrophic supply interruptions.

In the event of severe dry periods, MWD may implement its WSCP as the regional wholesaler. MWD's WSCP incorporates substantial input from its member agencies and establishes priorities for the use of MWD's water supplies to maintain service reliability under shortage conditions.

Catastrophic Supply Interruption Plan

Seismic Assessment of Major Imported Supplies

Numerous faults throughout California pose a major seismic risk to potentially disrupting deliveries of Southern California's imported supplies. Portions of the conveyance systems on LADWP's LAA, DWR's SWP California Aqueduct, and MWD's CRA all traverse the San Andreas Fault. A major seismic event on this fault could damage the conveyance systems and temporarily cut off deliveries of imported supplies to the Southern California region until repairs are completed.

MWD may limit supplies to member agencies in the event of disruptions to its facilities after a large seismic event. LADWP and MWD have evaluated potential damage scenarios to the LAA, SWP, and CRA from a major (Magnitude 7.8) seismic event on the San Andreas Fault, as follows:

- Los Angeles, California, and CRA outage: The shakeout produces up to an 18-month outage of the LAA, a 12 to 24-month outage of the East Branch of the California Aqueduct, a 6 to 12-month outage of the West Branch of the California Aqueduct, and a 6-month outage of the CRA until 80 percent of CRA capacity could be recovered. Repairs to bring the CRA back to 100 percent capacity would last three to five years.
- Potential maximum reductions in member agency retail water demand: MWD estimates that 30 percent of all retail demand is directed toward outdoor uses. MWD combined this estimate with a Public Policy Institute of California (PPIC) report (Building Drought

Resilience in California's Cities and Suburbs, June 2017) to resolve that its member agencies would be able to reduce retail demands by 25 to 35 percent following a major seismic event. LADWP will evaluate projected shortages in accordance with its WSCP to determine necessary conservation measures and actions accordingly.

- Reductions to member agency local supplies: MWD estimated a 6 and 12-month aggregated loss of 10 to 20 percent of local production following a seismic event. This includes full outage of the LAA, and that local LADWP supplies would include groundwater and recycled supplies only.

MWD has established its Emergency Storage Objectives at 750,000 AF based on the anticipated performance of three water system components during the shakeout scenario. MWD's evaluation indicates that its member agencies should be prepared to reduce their demands by 25 to 35 percent. A mandatory demand reduction proposed by MWD would mimic the impacts of water use reduction (MWD Water Supply Allocation) due to a dry period.

Emergency Response Plan

LADWP has Emergency Response Plans (ERPs) in place to restore water service for essential use in the City in the event an emergency, such as a power outage or earthquake, results in an interruption of the water supply. LADWP personnel responsible for water transportation, distribution, and treatment have established ERPs to guide the assessment, prioritization, and repair of water infrastructure that has incurred damage during such an incident.

LADWP coordinates emergency response efforts through the Department Emergency Operations Center (DEOC) and/or the Water Emergency Command Center (WECC). These operations centers are intended to facilitate operational coordination, information sharing, and resource management among the various LADWP entities that may be involved in responding. In a citywide emergency or major event, the City's Emergency Management Department (EMD) may also activate the City's Emergency Operations Center (EOC) to serve as a centralized point for managing information and resources in support of overall response and recovery efforts. When this occurs, LADWP, through the DEOC and/or WECC, will coordinate with the EOC, as needed, to address water issues. Ultimately, these organizational structures work in tandem to support the City's emergency response overall mission of saving lives, protecting property, and returning the City to normal operations in the event of a disaster.

Earthquakes

In the event of a major earthquake, LADWP has a Disaster Response Plan dedicated for the LAA in addition to its overall ERP. The Disaster Response Plan details procedures for operating the LAA following an earthquake in order to prevent further damage of the LAA. If the LAA is severed by seismic activity on the San Andreas Fault and is temporarily unable to provide water to the City, LADWP will be able to use its water storage in Bouquet Reservoir to provide water supply to the City while repairs are made. In addition to this resource, if the California Aqueduct is intact south of the Neenach Pump Station (First Los Angeles Aqueduct State Water Project Connection), arrangements may be made to transfer LAA water through this connection into the California Aqueduct for delivery to MWD. Arrangements can then be made to deliver water to the City through one of MWD's connections.

Power Outages

Most of LADWP's pump stations are equipped with diesel-powered backup pumps in the event a major power outage disrupts the primary energy system. The diesel-powered backups are capable of running for extended periods of time with reliable refueling. In the event of a major power outage, backup pumps can be automatically switched on, started remotely, or activated manually. In addition, LADWP maintains emergency storage supply under normal operations to maintain water distribution system operability until power is restored.

9.5 Energy Intensity

The CWC requires UWMP to include the estimates of energy used throughout the water supply process, such as energy used for extraction, conveyance, treatment, distribution, and storage. The relationship between water and energy is referred to as the water energy nexus and quantifies the energy intensity. Water energy intensity quantifies the energy used per unit of water delivered from its source to the point of delivery. The most common unit is kilowatt hours per acre feet (kWh/AF). Reporting energy intensity offers several benefits to water suppliers and their customers, including identifying cost-saving opportunities, supporting water conservation and climate change mitigation efforts, and enabling benchmarking and comparison of energy performance across agencies.

Los Angeles Aqueduct Energy Intensity

The LAA is a multi-beneficial water infrastructure as a gravity-fed conveyance system that conveys water from the Eastern Sierra Nevada and produces hydropower for the City, making it the most efficient source of water in terms of energy intensity. On average, from FY 2020/21 to FY 2024/25, the average LAA hydropower energy generation was approximately 3,956 kWh/AF. The energy generated along the LAA is not included in LADWP's total energy intensity to offset the other water management processes because it is not directly used in the City's water management process. However, the LAA water does provide direct offset of the other more energy intensive sources of water, reducing the overall energy intensity of LADWP's water supplies.

LAA water is primarily treated at the LAAFP. For LAAFP, the treatment energy intensity has averaged approximately 46 kWh/AF, from FY 2020/21 to FY 2024/25. The treatment energy intensity includes the following processes: ozonation, biological filtration, dual UV disinfection, and other treatment utilized at LAAFP. After the LAA water is treated to potable water standards, it enters the LADWP's potable water distribution system to be delivered to the customers.

Groundwater Energy Intensity

Local groundwater supplies consist of multiple processes. Raw groundwater is pumped and extracted from its source to the surface. The energy for this supply varies due to the amount of groundwater pumped, groundwater well configuration, depth of groundwater, and pump efficiency. Once extracted, raw groundwater is treated to meet drinking water standards. Treatment energy also varies due to groundwater quality and treatment processes specific to each basin. The average groundwater energy intensity from FY 2020/21 to FY 2024/25 was approximately 505 kWh/AF. Once treated, groundwater is then distributed through LADWP's potable water distribution system.

Recycled Water Energy Intensity

LADWP receives non-potable recycled water from several water agencies that treat wastewater to meet Title-22 level. Once recycled water is delivered to LADWP, LADWP distributes it to its customers for non-potable applications. LADWP's water management process for recycled water is exclusively for transporting water from recycled water production facilities to its customers through recycled water pump stations and the recycled water distribution network. Most of the energy use associated with processing recycled water occurs outside of LADWP's operational control.

MWD Energy Intensity

The water energy process within LADWP's operational control for purchased water from MWD is the treatment of untreated imported water and distribution of all purchased water to LADWP's customers through its distribution system. Untreated imported water is treated at the LAAFP. The average treatment energy intensity for the LAAFP is approximately 46 kWh/AF, from FY 2020/21 to FY 2024/25. The treatment energy intensity includes ozonation, biological filtration, UV disinfection, and other treatment utilized at the LAAFP.

Distribution System Energy Intensity

The distribution infrastructure is comprised of multiple facilities such as pump stations, tanks, reservoirs, regulator stations, and over 7,000 miles of distribution mains and trunk lines. Distribution energy intensity is influenced by various factors including amount of water being pumped to a higher elevation, head loss in the pipe network, source water elevation, and pump efficiency. The FY 2020/21 to FY 2024/25 average energy intensity for LADWP's water distribution system is approximately 138 kWh/AF, which is relatively low among urban water agencies due to the ability for tanks and water storage in higher elevations to distribute water by gravity.

9.6 Water Supply Assessments

The California Legislature enacted Water Code Section 10910, in 2002, which requires cities and counties, as part of CEQA review, to request the applicable public water system to assess whether the projected water demand associated with a qualifying proposed project was included as part of the most recently adopted UWMP. The intent was to link the land use and water supply planning processes to ensure that developers and water supply agencies communicate early in the planning process to verify water supply availability.

LADWP is the water purveyor for the City of Los Angeles and small portions of Beverly Hills, Burbank, Calabasas, Culver City, Inglewood, Lomita, Lynwood, Santa Monica, West Hollywood, and unincorporated areas of Los Angeles County. LADWP receives requests from the CEQA lead agency to assess the project's potential water demand impacts to be included in the environmental document. LADWP then prepares a water supply assessment to determine whether there are sufficient water supplies to support the projected demand associated with the proposed project during normal, single dry, and multiple dry water years for a 20-year projection, in addition to existing and planned future uses of LADWP's water system.

The projected water demand is estimated based on the proposed project's scope. The projected water demand includes indoor and outdoor water uses. The project's developers are encouraged to incorporate additional and voluntary water conservation measures to further reduce the water demand. Voluntary measures may comprise of plumbing fixtures with higher water use efficiency to conserve more water than the plumbing code's standards and implementation of efficient landscaping.

Each water supply assessment prepared by LADWP is evaluated within the context of the most recently adopted UWMP. The water demand projections for LADWP's service area in the UWMP incorporates future anticipated demographic shift and forecasted population trend during normal, single dry, and multiple dry water years, as well as existing and planned future uses of the LADWP's water system for a 25-year projection. The water supply assessment evaluates whether the water supplies identified in the UWMP are sufficient to meet the project's water demand during normal, single dry, and multiple dry water years for a 20-year period. The completed water supply assessment shall be approved by the Board of Water and Power Commissioners, which oversees LADWP, before it can be integrated into the environmental document to affirm LADWP's water supply availability to the proposed project.

Chapter 10 Integrated Long-Term Planning

10.0 Overview

LADWP has a strong record of working to ensure that its customers have reliable, safe, high-quality water. These efforts date back to the early 20th century with the construction of the LAA. City investments in regional supplies, water rights, large scale stormwater capture, aqueducts, reservoirs, conservation, water use efficiency, and, more recently, in recycled water, groundwater replenishment, groundwater basin remediation, and neighborhood and residential scale stormwater capture have all allowed residents to enjoy a reliable water supply. Sound planning and timely investments in water supply infrastructure and water use efficiency have played a critical role in meeting the City's water needs under changing climate and dynamic socio-economic conditions.

Over the last 30 years, LADWP's water supply mix has rapidly evolved to adapt to significant reductions in LAA deliveries due to environmental reallocations, reductions in groundwater production due to contamination, and intensifying hydrologic extremes. Despite significant achievements in conservation, water use efficiency, and enhanced water management efforts, these challenges have resulted in the increased reliance on purchased imported water to meet demands. As discussed in the associated sections of this UWMP, challenges to LADWP's water supply reliability are being actively addressed. Although this UWMP demonstrates that LADWP is able to maintain water supply reliability under the required reliability scenarios, LADWP recognizes that the range of plausible futures extends beyond the UWMP planning requirements and is therefore conducting additional scenario planning and analysis to identify goals that will further bolster the City's water supply resilience.

LADWP continues to collaborate and coordinate with agencies at the local, regional, and state levels, such as LACFCD, Los Angeles County Sanitation Districts, City of Los Angeles Department of Public Works, MWD, WRD, and WBMWD as part of ongoing and completed local and regional integrated resources planning efforts.

10.1 Integrated Resources Planning

Integrated resources planning is a process commonly used by many water, stormwater (flood control), groundwater, and wastewater agencies to meet mutual objectives in the most effective way possible while achieving multiple benefits with the greatest public support. The integrated resources planning process generally incorporates:

- Multiple objectives such as reliability, affordability, water quality, environmental stewardship,
- Public stakeholder engagement and input in an open, participatory process; and
- Partnerships with other agencies, institutions, and non-governmental organizations.

LADWP has been involved in integrated resources planning since the development of its first UWMP in 1985, which incorporated water conservation, groundwater, recycled water, stormwater capture, and imported water purchased from MWD.

In 1999, the City embarked on its first Integrated Resources Plan (IRP) for wastewater, stormwater, and water supply. LADWP was a key partner in this effort, working in collaboration with LASAN. In 2014, the City's IRP was updated and rebranded as "One Water LA" to be even more collaborative, involving almost every City department. LADWP has also been an essential partner in the development of the Greater Los Angeles County Integrated Regional Water Management Plan (IRWMP). This plan, first developed in 2006, was updated in 2013 and approved in 2014. In addition, LADWP is an active member of the Integrated Regional Water Management (IRWM) Leadership Committee and serves as the chair of the Upper LA River Watersheds sub-region. More recently, Los Angeles County issued the LA County Water Plan (CWP) which charts a path to improve regional water resilience. Adopted by the LA County Board of Supervisors in December 2023, the CWP was developed by LA County Public Works in partnership with representatives of agencies and organizations throughout the region, including Tribal nations and community stakeholders. LADWP Board adopted the CWP in August 2024 to further facilitate collaboration efforts with LA County and other local and regional agencies. LADWP remains committed to working closely with LA County and regional partners through participation in the CWP Working Groups, including its Regional Water Reliability Task Force. Building upon prior collaboration and successes, LADWP will continue to leverage its productive partnership with LA County to advance additional cost-effective, regional-scale projects.

LADWP was also an active participant in the development of MWD's regional IRP, first adopted in 1996 and subsequently updated with the most recent version in 2020. This regional IRP focuses on achieving water supply reliability and environmental stewardship by increasing water conservation and recycled water, integrating management of local groundwater, and improving the reliability of imported water for MWD's six-county service area.

More recently, MWD adopted a scenario planning process that replaced its prior IRP with CAMP4W. CAMP4W is an ongoing planning and decision-making tool that accounts for the complexities and uncertainties of climate change. MWD's CAMP4W Implementation Strategy was adopted in April 2025 and MWD now evaluates proposed projects based on criteria such as reliability, affordability, and environmental co-benefits. These assessments will help MWD decide which projects to implement, at what scale, and when. LADWP continues to collaborate with MWD to ensure that proposed CAMP4W projects adequately address future water supply challenges.

In 2019, a statewide effort was initiated to develop a Water Resilience Portfolio that establishes a framework to meet the State's long-term water needs for communities, economy and environment through the 21st century. The California Water Resilience Portfolio outlines a broad and diversified approach to addressing the State's water challenges and is intended to be implemented on a regional basis, reflecting local conditions, challenges, and opportunities.

The California Water Resilience Portfolio organizes its goals and actions into four categories:

- Maintain and diversify water supplies: Reduce reliance on any single water source and expand diversified water supply portfolios to increase flexibility under changing conditions.
- Protect and enhance natural ecosystems: Restore and protect river systems and ecosystems through effective standards, targeted investments, and adaptive, integrated environmental management.
- Build connections: Improve infrastructure to store, convey, and share water more effectively, and integrate water management through coordinated use of data, science and technology.
- Be prepared: Support proactive planning, protective actions, and adaptive management to address emerging risks and stresses due to climate change.

10.2 L.A.'s Water Supply Goals

Recognizing the potential impacts of climate change, the City released Mayor Bass' Climate Action Plan for Los Angeles in April 2026, which includes goals and targets for resilient and equitable water systems through conservation, stormwater capture, and recycled water to secure local and reliable supplies towards a more climate-resilient future. These short- and long-term targets were developed collaboratively by the City with input from LADWP, which include several milestones and initiatives to form a more reliable and resilient water supply future while recognizing past achievements. LADWP is committed to the development of programs that advance these initiatives and is working towards achieving these long-term goals.

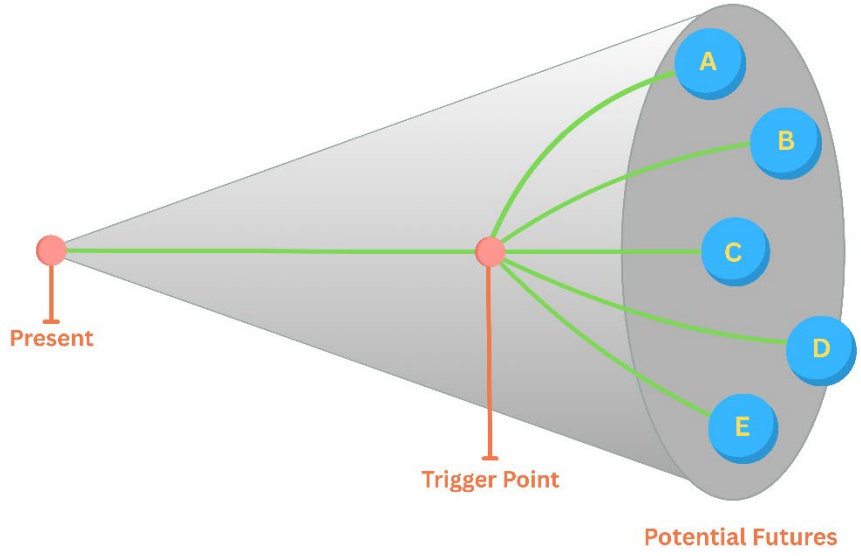
10.3 Adaptive Management

While predicting the future is inherently challenging, extreme events, such as the COVID pandemic and historical hydrological extremes in California, have underscored the importance of incorporating an adaptive planning and management process. This approach allows for consideration of plausible futures, ensuring that LADWP remains resilient and forward-thinking. Despite the unexpected extreme events, LADWP will continue to work diligently towards achieving the goals and targets noted above with an adaptive mindset.

LADWP is actively developing its Water Resiliency Plan to streamline existing water supply and infrastructure planning efforts. The Water Resiliency Plan will focus on infrastructure and supply scenarios beyond the requirements of the UWMP, including increased frequency and intensity of wet and dry hydrologic extremes, seismic events, wildfires, heat, and storms. The anticipated outcomes of the Water Resiliency Plan are to define the implementation plan for infrastructure resilience programs, to identify mitigation measures for anticipated climate impacts, to establish processes for LADWP to integrate critical resilience areas into project development and operational planning, and to prioritize water resilience projects, programs, and policies to mitigate or reduce risks due to potential loss of water service. When planning for the future, it is important to consider uncertain factors that can have a major influence on shaping the City's water supply reliability. While the UWMP analyses evaluate a set of known criteria, scenario planning allows for additional consideration of key uncertainties that can shape future strategies within the realm of the plausible scenarios. A variety of uncertainties, such as continued decline in demand or intensifying hydrologic extremes, should be considered when balancing a diverse water supply portfolio to best serve LADWP customers and ensure the City's long-term supply reliability, resiliency, and sustainability. By adopting a scenario planning approach, LADWP can envision various potential futures, identify ranges of potential outcomes and impacts, and manage both positive and negative possibilities effectively.

Several unpredictable factors contribute to uncertainty in future water supply reliability, including hydrology, population changes, and extreme weather events. Adapting to these uncertainties is critical for maintaining supply reliability, resiliency, sustainability, and meeting LADWP's water supply goals. Exhibit 10A illustrates an example of several potential futures that could occur within a cone of uncertainty, depicted as futures A through E. Each of these futures will require different adaptation strategies and it is critical that trigger points are identified to provide guidance and enable selection of the appropriate response.

Exhibit 10A
Illustration of Scenario Planning, Potential Futures, and Cone of Uncertainty



10.4 Potential Future Supplies and Storage

In scenario planning, it is essential to watch for trigger points and associated response actions. Trigger points are specific indicators or events that signal a significant change in the environment or conditions, prompting the need for a strategic response. By identifying these trigger points in advance, LADWP can proactively implement response actions to mitigate risks and capitalize on opportunities. This approach ensures that the organization remains agile and prepared to adapt to various potential futures, thereby maintaining water supply reliability and resilience of the water supply for its customers.

LADWP has been at the forefront of water reuse since the 1970s and is currently pursuing one of the largest reuse initiatives in partnership with LASAN through the Pure Water Los Angeles program, see Chapter 11, *Pure Water Los Angeles*. Also in partnership with LASAN, the LA GWR Project will provide Los Angeles with a new sustainable and drought-resistant water supply, see Chapter 7, *Recycled Water*. New projects are also underway to increase stormwater capture capacity to replenish the groundwater basin and provide multi-beneficial solutions, see Chapter 6, *Watershed Management.*

LADWP continually investigates potential water supplies that could further diversify and expand the City's water supply portfolio for improved reliability. LADWP has pursued and/or investigated various alternative water supply options, including water transfers, groundwater banking, and seawater desalination. Evaluating the viability of these and other water supply options is a key element to ensuring the City's future water supply reliability, sustainability, affordability, and cost-effectiveness. Such options, with proper planning, can help contribute toward meeting future water demands under various plausible conditions. Future water resource challenges, including population and economic growth, seismic risk, and climate change, as well as continuing legal, regulatory, and environmental constraints, may create increased demands on existing supplies, thereby warranting thoughtful consideration of alternate feasible water supply options.

Additional water resource opportunities are discussed next, highlighting LADWP's efforts regarding each potential alternative source. Factors that affect feasibility and influence potential implementation are described, as well as advances that facilitate development of each water resource option.

Water Transfers

Water transfers involve the sale or lease of water or water rights between consenting parties.

Los Angeles City Charter Section 673(a) prohibits the City from selling, leasing, or otherwise disposing of the City's water rights in the LA River. Section 673(b) prohibits the City from selling, leasing, or otherwise disposing of any other City water rights without the assent of two-thirds of the registered voters of the City voting on the proposition. Section 677 provides limited exceptions to Section 673(b), which allow under certain circumstances for the ordinary sale and distribution of water or reclaimed water to City inhabitants for their own use, the supply or distribution by the City of surplus water or reclaimed water outside the City, and the exchange of water with a public agency.

On the State level, CWC Section 470 (The Cost-Isenberg Water Transfer Act of 1986) obligates DWR to facilitate voluntary exchanges and transfers of water when there is available capacity along the SWP. Since 2001, DWR has an office dedicated specifically to water transfers and has specific policies for transfers. The rules protecting existing water rights are of particular importance. Water rights cannot be lost when they are transferred to another user if the transfer has an underlying right to the transferred water. DWR also has three fundamental rules specifically regarding water transfers:

- There can be no injury to any legal user of water.
- There can be no unreasonable effect on fish and wildlife.
- There can be no unreasonable economic effects to the economy in the county of origin.

Voluntary exchanges and transfers of water may or may not require approval from state agencies depending on the water supply source and facilities utilized for conveyance. Water transfers involving SWP or CVP facilities, or SWP contractors require DWR's approval. The SWRCB has jurisdiction over specific water transfers involving surface waters.

MWD, as the region's State Water Project Contractor, holds an exclusive contractual right to deliver SWP entitlement water to its service territory, including the City. Therefore, the City has the option to purchase only non-SWP supplies from the open water transfer market when economical and feasible.

Groundwater Banking

Groundwater banking, a form of conjunctive use, is the storage of water in groundwater basins for future use. Water is stored or banked within groundwater basins, typically during wet periods, for potential extraction during dry periods. Groundwater banking includes establishing accounts to track the volumes of water recharged and extracted per terms of contract agreements between the water agency and the groundwater bank operator. Groundwater banking may also occur outside of a water agency's service area. If the water agency's own conveyance facilities are not directly adjacent to the water bank, then stored water can be extracted and transferred through wheeling and exchange via other conveyance and storage facilities. Such movements of water involve institutional transfer agreements among water users and agencies. LADWP actively utilizes the SFB for conjunctive use. Additional information regarding conjunctive use strategies can be found in Chapter 5, *Local Groundwater*.

Seawater Desalination

Seawater desalination, the process of removing salts and other impurities from seawater, is an established water treatment technology to produce water supply across the world.

LADWP's current water supply portfolio does not include seawater desalination as a water supply; however, LADWP continues to explore its potential. In 2002, LADWP studied seawater desalination as a potential water supply source with the goals of improving reliability and increasing diversity in its water supply portfolio. These efforts led to feasibility studies for development of a seawater desalination pilot project. Although no fatal flaws were uncovered during this investigation, LADWP shifted focus in 2008 towards more cost-effective local water resources, including water conservation, water use efficiency, and water recycling, as part of its primary strategy to diversify water supply for the City.

Since the early 2000s, seawater desalination technologies have significantly advanced and evolved with the completion of many desalination plants around the world, including along the coast of California. Recognizing the potential to incorporate seawater desalination as part of its local water supply portfolio, LADWP continues to monitor and explore current and emerging seawater desalination technologies to understand their capabilities and feasibility. In 2026, LADWP is expected to conduct another seawater desalination feasibility study to explore the latest seawater desalination technologies. This effort will assist LADWP in reevaluating the feasibility of incorporating seawater desalination into its future water supply portfolio.

Chapter 11 Pure Water Los Angeles

11.0 Overview

The Pure Water Los Angeles Program, formerly known as LADWP's Operation NEXT and LASAN's Hyperion 2035, is the City's largest local water supply and reuse initiative. Developed through a strategic partnership between LADWP and LASAN, the Pure Water Los Angeles Program aims to purify recycled water using HWRP as the source and provide a sustainable, drought-resilient local water supply for the City.

Central to the Pure Water Los Angeles Program is the proposed upgrade of the HWRP secondary treatment to membrane bioreactor (MBR), construction of a AWPF and new conveyance infrastructure. Once completed, the Pure Water Los Angeles Program may produce a potential maximum capacity of up to 210 mgd of purified recycled water, integrating into the City's water system through groundwater replenishment, RWA, or other pathways such as treated water augmentation.

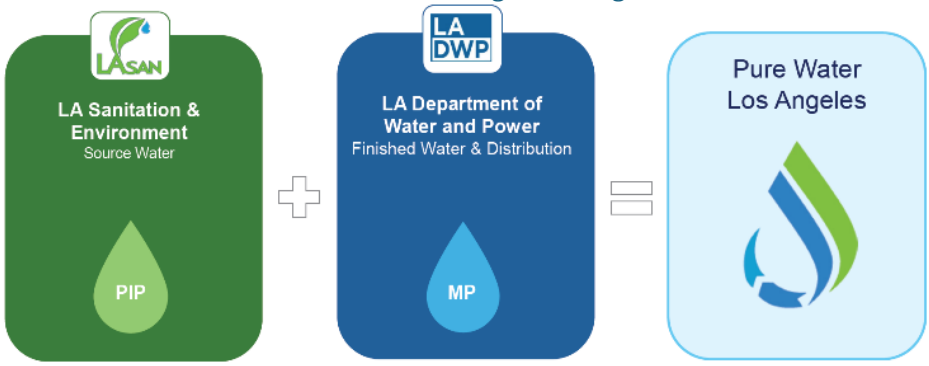
The Pure Water Los Angeles Program supports LADWP's water supply diversification strategy, enhancing water supply reliability, resiliency, and environmental sustainability, and the City's goal to maximize reuse of HWRP's wastewater and improve the health of the Santa Monica Bay.

The Pure Water Los Angeles Program is currently in the pre-planning phase, supported by two foundational documents: the Program Implementation Plan for Hyperion and Pure Water Los Angeles Master Plan. These plans define the technical and institutional framework for delivering up to the potential maximum capacity.

11.1 Background

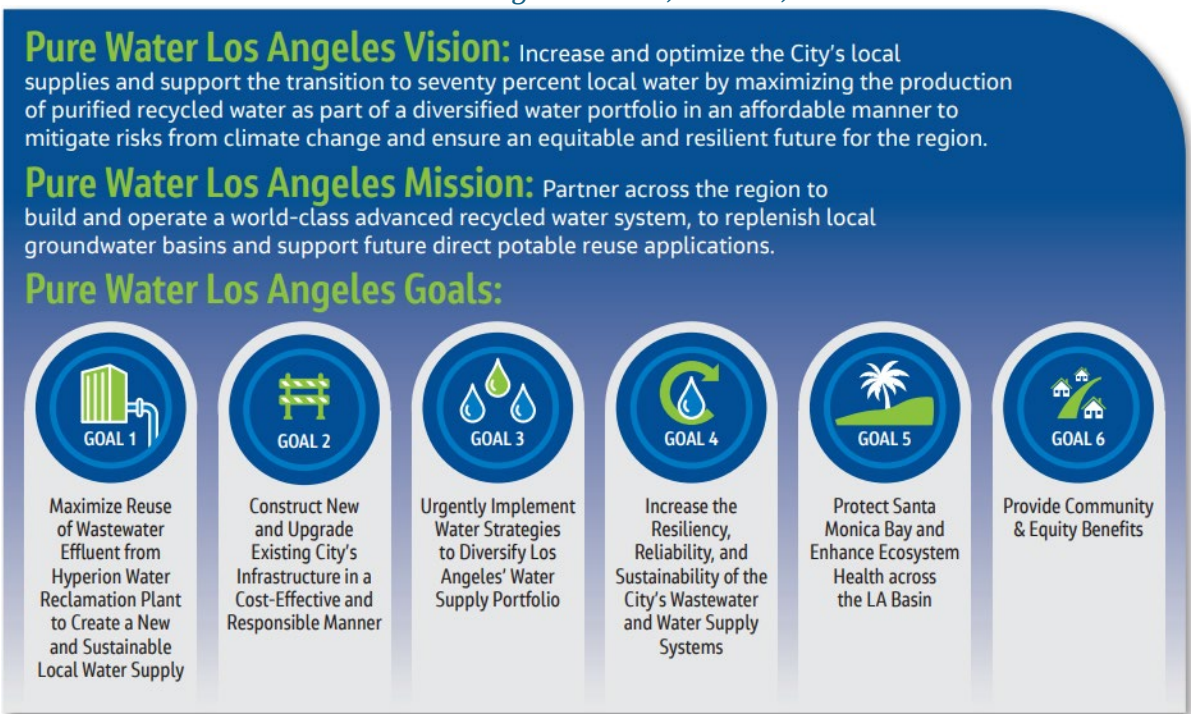
The Pure Water Los Angeles Program is an integrated effort to maximize the beneficial reuse of treated wastewater from HWRP. Operation NEXT was originally launched in February 2019. In November 2021, LADWP initiated the Operation NEXT Master Plan to evaluate the feasibility of advanced treatment and conveyance options. In July 2024, LADWP's Operation NEXT and LASAN's Hyperion 2035 were formally merged and renamed Pure Water Los Angeles, establishing a single, coordinated framework for implementation. Exhibit 11A illustrates how these two initiatives were integrated to form the Pure Water Los Angeles Program.

Exhibit 11A
Pure Water Los Angeles Program



The Pure Water Los Angeles Program officially launched in November 2024 when LASAN and LADWP jointly introduced the new name, mission, and vision as detailed in Exhibit 11B. This strategic alignment is supported by the City's Climate Cabinet – Water Resilience Working Group, which includes representatives from the Mayor's Office, LASAN and LADWP management, Board of Public Works Commissioners, and LADWP Commissioners.

Exhibit 11B
Pure Water Los Angeles Vision, Mission, and Goals



The Pure Water Los Angeles Program addresses the need to increase local water supplies, reduce vulnerability to imported water disruptions, and prepare for long-term challenges such as climate change, seismic risks, and regulatory uncertainty. These challenges are compounded by other risks to the City's existing imported water sources, including reduced supply allocations on the Colorado River, reliability of the SWP, and environmental commitments in the Eastern Sierras that limit exports on the LAA.

LADWP and LASAN completed two foundational planning documents in 2024: the Program Implementation Plan for Hyperion and the Pure Water Los Angeles Master Plan.

Program Implementation Plan for Hyperion

LASAN's Program Implementation Plan for Hyperion served as the foundational planning document for upgrading HWRP to support the production of purified recycled water. It outlined the technical, operational, and phasing strategies necessary to convert HWRP's existing secondary treatment processes to MBR technology. The Program Implementation Plan for Hyperion also provided a comprehensive construction sequencing plan that identified major risks, established a phased implementation schedule, and ensured that HWRP continues to meet all permit-compliant wastewater treatment requirements and maintain uninterrupted wastewater treatment during construction.

Key components of the Program Implementation Plan for Hyperion included detailed engineering analyses of treatment processes, facility layout, support infrastructure, and cost estimates. These analyses confirmed that

phased implementation of MBR technology is feasible and can provide secondary treated water without compromising regulatory compliance. The City is currently evaluating other on-site and off-site treatment options for the advanced treatment, providing flexibility in how the City may ultimately configure and operate the full treatment system.

Pure Water Los Angeles Master Plan

The Pure Water Los Angeles Master Plan, finalized in December 2024, serves as LADWP's strategic framework for implementing advanced water treatment and conveyance infrastructure to support both IPR and DPR from HWRP. The Pure Water Los Angeles Master Plan was developed in parallel with the Program Implementation Plan for Hyperion and focused on the integration of purified recycled water into LADWP's water supply portfolio. It also outlined the technical, operational, and institutional pathways and requirements to achieve Pure Water Los Angeles Program goals.

The Pure Water Los Angeles Master Plan evaluated treatment and conveyance alternatives for groundwater replenishment, surface water augmentation, and DPR applications. It included conceptual information about water quality, system integration, and identified potential partnerships with WRD, WBMWD, and MWD's Pure Water Southern California. The Pure Water Los Angeles Master Plan assessed the feasibility of delivering the potential maximum capacity by considering demands, supply portfolio, and existing infrastructure. It also identified the infrastructure needs, cost estimates, and potential job creation and economic benefits.

Unification of the Program Implementation Plan for Hyperion and Master Plan

The unification of the foundational documents represented a coordinated and comprehensive approach to implementing the Pure Water Los Angeles Program. Together, these two planning documents established the foundational framework for the City's long-term strategy to maximize beneficial reuse for the City.

These planning efforts built upon a series of prior studies and initiatives including but not limited to:

- LADWP Recycled Water Master Plan (2012)
- LASAN's Hyperion Reuse Feasibility Study (2016)
- WRD/LADWP Basin Replenishment and Extraction Master Plan (2016)
- One Water LA Plan (2018)
- LADWP Groundwater Development and Augmentation Plan (2020)
- Operation NEXT Conceptual Study Report (2021)

Together, these efforts reflect a long-standing commitment to integrated water management and lay the pathway for a more sustainable and resilient water supply.

Program Components

The Pure Water Los Angeles Program consists of a robust suite of infrastructure investments that collectively will enable the production, conveyance, treatment, and integration of purified recycled water into the City's distribution system. These components will be designed to support both IPR and DPR applications while maintaining operational flexibility, regulatory compliance, and long-term resiliency. The Pure Water Los Angeles Program components may include, but are not limited to:

- Treatment facilities: MBR, AWPF and groundwater treatment facilities
- Conveyance infrastructure: trunklines, pump station, tanks/forebays, and power infrastructure
- Groundwater recharge and extraction infrastructure: production wells, injection wells, and monitoring wells

11.2 Next Steps

To advance the Pure Water Los Angeles Program, several critical decisions will shape the configuration and ensure successful delivery. These next steps are essential to eventually transition from planning to execution, while maintaining alignment with the City's long-term water supply goals. Public input is critical to the planning of the Pure Water Los Angeles Program and will be gathered during public engagement sessions and the CEQA process. Next steps currently being evaluated include:

- **Alignment Selection and Facility Location** - Selection of the preferred conveyance alignment and facility locations are foundational for the Pure Water Los Angeles Program. This decision informs the infrastructure and integration points, and considers hydraulics, proximity to integration points, constructability, environmental impacts, and regional collaboration.
- **Program Approach and Size** - The final planned capacity is to be determined by demand, source water availability, hydraulics, infrastructure, affordability and regulatory considerations.
- **Treatment Configuration** - Two treatment configurations are under consideration: a hybrid IPR/DPR configuration, and a full DPR configuration, both using advanced treatment processes to meet regulatory standards.
- **AWPF Location** - Potential locations of the AWPF are currently being evaluated by LADWP and LASAN. Site selection may be based on land availability, proximity to source water and integration points, constructability, and environmental considerations.
- **Potable Reuse Integration and Groundwater Recharge** - The City is also evaluating the most suitable locations for integration of purified recycled water. Potential sites for IPR include groundwater replenishment into local groundwater basins (e.g., SFB or Central Basin) and possible SWA. Potential sites for DPR include the LAAFP and other strategic points within LADWP's distribution system. This evaluation includes assessing the feasibility of other approaches, such as treated water augmentation, to ensure flexibility and resilience in future operations.
- **Phased Implementation Strategy** - Implementation of the Pure Water Los Angeles Program may follow a phased approach to ensure efficient and timely execution and delivery of purified recycled water. This sequencing ensures that infrastructure development aligns with operational readiness and regulatory milestones.
- **Environmental Review and Compliance** - LADWP and LASAN are preparing a Programmatic Environmental Impact Report (PEIR) under CEQA to assess potential impacts of construction and operation of the Pure Water Los Angeles Program infrastructure. The CEQA process identifies feasible mitigations or alternatives through public input, including scoping meetings, comment periods, and agency consultations. Once finalized, the PEIR may guide the Pure Water Los Angeles Program design, permitting, and implementation.
- **Funding and Financial Strategy** - The City is pursuing a diversified funding strategy, leveraging federal, state, regional, and local resources such as grants, low-interest loans, securitization, and incentives (e.g. Bipartisan Infrastructure Law, State Revolving Fund, US EPA's Water Infrastructure Finance and Innovation Act, U.S. Bureau of Reclamation's Title XVI program and MWD's Local Resources Program and municipal bonds). Strategic financial planning, including life-cycle cost analysis and phased funding, may support the Pure Water Los Angeles Program's long-term affordability and sustainability.

- **Community Engagement and Regional Coordination** - Transparent and inclusive outreach is central to the Pure Water Los Angeles Program, including ongoing public meetings, workshops, and digital communications. Special focus is placed on environmental justice communities through partnerships and multilingual outreach. Ongoing public engagement coordination with agencies such as MWD further ensures regional alignment.
- **DPR Pilot Testing and Treatment Train Evaluation** - To support regulatory readiness and treatment configuration at HWRP, the City may implement a DPR pilot facility to test both the prescribed and alternative post-RO treatment trains. The pilot may be located at HWRP or at another site and will be coordinated with other ongoing DPR pilots. Results may guide AWPF layout, treatment selection, and compliance timelines. The prescribed train may require four years of planning and testing; alternatives may require up to seven years. This early pilot is critical for timely Pure Water Los Angeles Program delivery.

11.3 Supply Projection

The Pure Water Los Angeles Program may deliver up to the potential maximum capacity as outlined in two foundational documents. However, the final planned capacity and associated timeline will be phased and adjusted over time, contingent upon the successful completion of key activities identified in the previous section.

Phase 1 of the Pure Water Los Angeles Program could come online as early as 2040, with the potential to deliver up to 39,200 AFY (35 mgd) to WBMWD and up to 16,800 AFY (15 mgd) of IPR to the SFB. Phase 2 could begin production of water as early as 2046, which may provide up to an additional 56,000 AFY (50 mgd) of IPR to SFB and DPR to the LAAFP. A future Phase 3 could expand the Pure Water Los Angeles Program further, up to the potential maximum capacity to fully maximize usage as DPR as early as 2056. The potential maximum capacities described are presented with the 2025 UWMP reliability analysis in Exhibit 11C.

These new supply and timeline estimates are pre-planning-level assumptions and do not constitute implementation commitments by the City. These estimates are subject to adjustment as the City evaluates the Pure Water Los Angeles Program scale, affordability, operational flexibility, partnerships, and supply reliability. Furthermore, the projection will depend on regulations, infrastructure, schedule, demands, and partnerships. Integration options, such as a dedicated conveyance trunkline or connection to Jensen Treatment Facility, are still under evaluation and contingent on future agreements and feasibility. The latest information regarding the Pure Water Los Angeles Program can be found at purewaterlosangeles.com.

Exhibit 11C
2025 UWMP Reliability Tables with Potential Pure Water Los Angeles

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Average Year (30-year median hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	193,400	193,400	193,400	193,400	193,400
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	133,900	95,200	100,800	104,700	105,300
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***
Potential Pure Water Los Angeles	-	-	-	56,000	56,000	112,000

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Single Dry Year (FY 2021/22 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	59,400	58,900	58,300	57,800	57,200
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	267,900	229,700	235,900	240,300	241,500
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***
Potential Pure Water Los Angeles	-	-	-	56,000	56,000	112,000

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Multiple Dry Year (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	62,200	61,600	61,000	60,500	59,900
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	265,100	227,000	233,200	237,600	238,800
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***
Potential Pure Water Los Angeles	-	-	-	56,000	56,000	112,000

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

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Appendix A
2025 Water Shortage Contingency Plan

2025 Water Shortage Contingency Plan

LADWP.com/UWMP

Table of Contents

Appendices

1.0 Introduction

The Los Angeles Department of Water and Power (LADWP) relies on various water supply sources to meet customer water demands. These sources of supply include: (1) local sources, such as groundwater and recycled water; (2) water imported via the Los Angeles Aqueduct (LAA); and (3) purchased imported water from the Metropolitan Water District of Southern California (MWD). More frequent and prolonged dry periods, regulatory constraints, and seismic risks that may result in water delivery system outages can impact water supply reliability for LADWP's customers. As such, the City of Los Angeles (City) must be prepared to take reasonable actions to meet water demands under conditions of limited water supplies. This Water Shortage Contingency Plan (WSCP) outlines how LADWP identifies and responds to shortage conditions and details a set of actions that the City can take in the event of a declared water supply shortage.

Shortages are generally caused under two conditions: (1) a severe dry period affecting surface and groundwater supplies availability; and (2) a catastrophic event (e.g., earthquake) that causes critical water supply system facility outages, such as water treatment plants, major conveyance infrastructure, and groundwater wells. Los Angeles City Municipal Code Chapter XII, Article I, Emergency Water Conservation Plan (Conservation Ordinance, see Appendix A) has served as the primary tool in LADWP's water shortage response planning since it was implemented on June 1, 2009. On June 12, 2015, Los Angeles adopted an amendment to the Conservation Ordinance, providing more options for restricting outdoor water use and adding an additional Phase 6 to address more extreme water shortages. On May 3, 2016, additional amendments to the Conservation Ordinance were adopted to increase existing surcharges for ordinance violations, create unreasonable use of water penalties, and incorporate the use of technology to improve ordinance enforcement.

In 2018, two long-term water conservation bills, Senate Bill (SB) 606 and Assembly Bill (AB) 1668, were signed into law. The two bills amend portions of the California Water Code (CWC), including Section 10632, which is related to water shortage contingency planning. The amended CWC requires agencies to incorporate a WSCP under its Urban Water Management Plan (UWMP). It also specifies the adoption of six standard water shortage levels. This WSCP demonstrates LADWP's compliance with the requirements outlined in CWC Sections 10632 and 10632.1. In addition, this WSCP incorporates potential actions of MWD that are used to address regional water shortages and how these actions can inform LADWP on assessing overall assessment of water demands and water supplies.

1.1 Standard Water Shortage Levels

The City's six standard water shortage levels are summarized in Table 1-1. LADWP conducts annual assessments of supply conditions to determine the appropriate water shortage level, as outlined in Section 3 – Annual Water Demand and Supply Assessment.

Once a water shortage has been identified, LADWP can recommend one of five water shortage response levels to the Mayor and City Council (Council) for official declaration. The Council can also terminate a water shortage level at the Mayor's recommendation. The process for notifying and declaring water shortage levels is explained in more detail in Section 10 – Communication Protocol.

Water shortage levels also apply to interruption of water supplies, including but not limited to earthquakes, planned and unplanned facility outages, major water quality events, and other emergency events. For an expanded discussion of catastrophic water supply interruptions, refer to Section 8 – Catastrophic Supply Interruption Planning.

Table 1-1 City's Standard Water Shortage Levels

Water Shortage Level	Percent Shortage
Level 1	Up to 10%
Level 2	Over 10% and up to 20%
Level 3	Over 20% and up to 30%
Level 4	Over 30% and up to 40%
Level 5	Over 40% and up to 50%
Level 6	Greater than 50%

2.0 2025 UWMP Water Supply Reliability Assessment

In accordance with CWC Section 10632(a), the water supply reliability analysis from the 2025 UWMP is provided herein. Additional information regarding the reliability assessment can be found in LADWP's 2025 UWMP at ladwp.com/uwmp.

2.1 Reliability Assessment Under Different Hydrologic Conditions

Water Demand

LADWP developed a demand forecast model to project demands over a 25-year planning horizon. The demand forecast model incorporates projected changes in various demand drivers including population, housing, employment, land use, and long-term climate projections. Demographics forecasts (population, housing, and employment) were obtained from MWD and were based on the Southern California Association of Government's 2024 Regional Transportation Plan/Sustainable Communities Strategy. Potential climate change impacts to the LADWP service area were evaluated in collaboration with the University of California, Los Angeles (UCLA) through global climate modeling and incorporated into the demand forecast model. The demand forecast model results show that demand is projected to increase gradually over the planning horizon prior to accounting for additional planned conservation savings.

Water Conservation

LADWP aims to further reduce potable water use to meet targets identified from the Water Conservation Potential Study, which showed that LADWP has a maximum cost-effective savings potential of approximately 140,000 AFY compared to the FY 2013/14 baseline. LADWP plans to achieve these goals through the development and implementation of additional active and passive conservation programs, potentially resulting in an additional 59,900 AFY of savings through FY 2049/50. Conservation is a foundational component of LADWP's water resource planning efforts and will continue to be central to the City's water use efficiency goals over the long term.

Los Angeles Aqueducts Supplies

Water deliveries to the City from the LAA are dependent on snowfall in the Eastern Sierra Nevada. The average annual long-term LAA delivery is based on the 30-year median hydrology from FY 1990/91 to FY 2019/20, which estimates average deliveries to the City totaling approximately 193,400 AFY. Analysis of additional climate study results in collaboration with UCLA suggest minimal changes to long term availability of LAA supplies under average year conditions, but intensifying hydrologic extremes could result in reduced supply availability under dry year conditions. As a result, long term availability of LAA supplies under average year conditions remain constant, and a reduction of approximately 0.19 percent annually under dry year conditions is projected for the reliability assessment.

Local Groundwater Supplies

LADWP's groundwater production forecast of up to 109,300 AFY is based on multiple assumptions: (1) groundwater basin elevations can support this level of pumping on a safe yield basis; (2) LADWP's planned groundwater treatment facilities will be operational by FY 2025/26; and (3) Sylmar and Central Basin production capacity will increase based on the completion of various wellfield improvement projects. LADWP

utilizes conjunctive use strategies to optimize available surface water and groundwater to meet demands. During wet periods, LADWP reduces production to increase the storage of water in the groundwater basins; and during dry periods, LADWP increases production to draw from available storage to help meet demands. Although LADWP can implement conjunctive use strategies to mitigate the impacts of hydrologic variability, a conservative approach was adopted in the reliability analysis by assuming the same level of projected groundwater production for average year, single dry year, and multi-dry year scenarios.

Recycled Water Supplies

Recycled water is derived from wastewater effluent flows, which do not vary significantly due to hydrology. This makes recycled water a reliable water supply under varying hydrologic scenarios and projected recycled water supplies remain unchanged across reliability analysis hydrologic scenarios. LADWP is planning for continued investments into its recycled water program by expanding irrigation and industrial uses, groundwater replenishment, and exploring other indirect potable reuse (IPR) and direct potable reuse opportunities. Under average weather conditions, recycled water supply for non-potable reuse (NPR) is projected to increase from 19,200 AFY in 2030 to 19,700 AFY by 2050. IPR through the Los Angeles Groundwater Replenishment Project is projected to produce 22,000 AFY by FY 2028/29 and up to 40,000 AFY by FY 2030/31.

Stormwater Capture

Capturing stormwater for groundwater recharge is essential to maintaining groundwater supplies, addressing the overall long-term decrease in stored groundwater, protecting the safe yield of the groundwater basin, and ensuring the long-term water supply reliability of the San Fernando Basin (SFB). Ongoing stormwater capture projects will continue to increase stormwater capture capacity and enable the City to utilize its stored water credits in a sustainable manner and prevent conditions of overdraft in the SFB under variable hydrology. LADWP will work with the Upper Los Angeles River Area Watermaster to continue observing actual water levels and re-evaluate basin safe yield to allow additional increases in groundwater production over time as SFB groundwater elevations rebound.

MWD Supplies

LADWP has historically purchased supplemental MWD supplies to meet demands and maintain reliability. LADWP has relied on MWD supplies to a greater extent as LAA supplies have been reduced due to increased environmental mitigation and enhancement requirements and as groundwater supplies have become limited due to the presence of contamination. Through continued investments in local supplies, LADWP plans to reduce its purchases of imported supplies from MWD.

MWD's 2025 Urban Water Management Plan indicates that MWD will continue to provide 100 percent supply capability through 2050 for its member agencies during average (calendar year (CY) 1922 to CY 2021 hydrology), single dry (CY 1977 hydrology), and multiple dry years (CY 1988 to CY 1992 hydrology). In each of these scenarios, there is a projected surplus of supply capability. The projected surpluses are based on the capability of current supplies and range from 258,900 AF to 2,259,000 AF per year.

2.2 Service Area Reliability Assessment

To determine the overall service area reliability in compliance with CWC Section 10635(a), LADWP defined three hydrologic conditions based on historic Eastern Sierra Nevada conditions: average year (30-year median hydrology from FY 1990/91 to FY 2019/20); single-dry year (repeat of the FY 2021/22 hydrology); and multi-dry year (repeat of FY 2011/12 to FY 2015/16 hydrology). These defined conditions are used to

forecast the corresponding level of LAA water supply availability. The availability of additional supplies and corresponding demand under each hydrologic condition is also determined. Tables 2-1, 2-2. And 2-3 tabulate the service reliability assessment for average year, single dry year, and multiple dry year conditions, respectively. Exhibit 11G shows the driest year of the multiple dry year sequence to demonstrate projected reliability under the most extreme year in the five-year sequence. No water supply shortages are anticipated as demands are met by the available supplies under all hydrologic scenarios.

Table 2-1 Average Year Reliability Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Average Year (30-year median hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	193,400	193,400	193,400	193,400	193,400
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – Groundwater Replenishment Project (LA GWR)	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	133,900	95,200	100,800	104,700	105,300
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Table 2-2 Single Dry Year Reliability Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Single Dry Year (FY 2021/22 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	59,400	58,900	58,300	57,800	57,200
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	267,900	229,700	235,900	240,300	241,500
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Table 2-3 Multiple Dry Year Reliability Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Multiple Dry Year (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	62,200	61,600	61,000	60,500	59,900
Local Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	265,100	227,000	233,200	237,600	238,800
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

2.3 Drought Risk Assessment

In addition to the reliability assessment, LADWP conducted a drought risk assessment in compliance with CWC Section 10635(b), which includes a summary of anticipated water demands and supplies over a five-year dry period assumed to start in FY 2025/26. A summary of the drought risk assessment is presented in Tabel 2-4 over the assessed five-year period from FY 2025/26 to FY 2029/30 simulating LAA hydrology from LADWP's driest five consecutive year sequence from FY 2011/12 to FY 2015/16. This drought risk assessment considers the same set of assumptions across projected supply and demand utilized for the reliability analysis described in Section 2.1. No water supply shortages are anticipated as demands are met by the available supplies under the drought risk assessment.

Table 2-4 Drought Risk Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Drought Risk Assessment (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2026	2027	2028	2029	2030
Water Demand	**475,900***	**474,100**	**473,400**	**473,000**	**472,500**	**472,300**
Supplies						
Los Angeles Aqueduct	232,200	90,500	71,900	66,800	61,700	184,800
Local Groundwater	6,100	92,300	94,900	94,900	94,900	103,800
Recycled Water – LA GWR	-	-	-	-	22,000	22,000
Recycled Water – Non-potable Use	13,200	13,700	16,100	16,300	17,900	19,200
Metropolitan Water District	224,400	277,600	290,500	295,000	276,000	142,500
Total Supplies	***475,900***	***474,100***	***473,400***	***473,000***	***472,500***	***472,300***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

3.0 Annual Water Demand and Supply Assessment

CWC Section 10632(a)(2) requires that urban water suppliers conduct an annual water supply and demand assessment (AWSDA). This section describes the procedures used to: (1) conduct the AWSDA; and (2) prepare and submit an AWSDA Report to the State. In addition, this section outlines key inputs to conduct the AWSDA, the decision-making process for determining water supply reliability, and the ability/flexibility for the City to use shortage response actions not included in the WSCP, as applicable.

Under the Conservation Ordinance, LADWP monitors and evaluates the projected supply and demand for water by its customers monthly and provides written recommendations to the Mayor and Council the conservation required by its customers. LADWP also determines if a supply shortage exists and declares any foreseen water shortage level based on the results of the AWSDA. It includes this information in the AWSDA Report submitted to the State.

The AWSDA identifies anticipated shortages, triggered shortage response actions, associated compliance and enforcement actions, and communication actions. Additional information on shortage response actions is included in Section 4 – Shortage Response Actions. Reasonable alternative actions can be used to address identified water shortages, provided that descriptions of alternative actions are submitted with the AWSDA.

This WSCP identifies key inputs and methodology needed to evaluate the LADWP's annual assessment of water demand and supplies to help determine water shortage levels.

3.1 Key Input: Anticipated Water Demand

The AWSDA will use LADWP's latest demand forecast, which considers weather conditions, population growth, other influencing factors, and estimates of passive and active water conservation savings.

3.2 Key Input: Assessment of Water Supplies

Under a non-emergency condition, LADWP performs an annual assessment of all its available water supply sources through a meeting known as the Water Supply Symposium, which is conducted at the beginning of every runoff year (April-March). LADWP will utilize projections from the Water Supply Symposium to inform supply availability as part of its AWSDA. The methodology for quantifying the available supply from each water source is as follows:

- Local Sources:
  - Groundwater – Evaluate available groundwater production based on operational constraints, water quality, and hydrology
  - Recycled Water – Evaluate available recycled water supply for non-potable demands and assess non-potable recycled water demand
- Imported Sources:
  - LAA– Determine available supply to the City based on April 1st hydrological conditions in the Eastern Sierras and forecasted availability of LAA supply deliveries
  - Purchased Imported Water from MWD – Coordinate with MWD to determine available supplies

MWD Water Supply Assessment

LADWP relies primarily on MWD to evaluate regional supply and demand and to evaluate regional water shortage levels. MWD conveys annual supply conditions to its member agencies through their AWSDA planning process and by declaring one of the four conditions within the Water Supply Condition Framework:

- Baseline Water Use Efficiency: Ongoing conservation, outreach, and recycling programs to achieve permanent reductions in water use and build storage reserves
- Condition 1 – Water Supply Watch: Local agency voluntary dry-year conservation measures and use of regional storage reserves
- Condition 2 – Water Supply Alert: Regional call for extraordinary conservation measures through drought ordinances and other measures to mitigate use of storage reserves
- Condition 3 – Water Supply Allocation: Implement MWD's Water Supply Allocation Plan (WSAP)

MWD may declare Condition 3, an allocation to its member agencies corresponding to a Stage 6 extreme shortage in MWD's Water Surplus and Drought Management (WSDM) Plan. The WSAP's Regional Shortage Level specifies the severity of the supply-demand gap.

In addition to reducing member agency supplies during dry hydrologic conditions, MWD may also limit supplies to member agencies after a large seismic event. MWD evaluated potential damage to the State Water Project California Aqueduct (California Aqueduct) and the Colorado River Aqueduct (CRA) from a major (M7.8) seismic event on the San Andreas Fault (Shakeout). MWD concluded its emergency storage requirement as 750,000 AF based on the anticipated performance of three water system components during the Shakeout: (1) California Aqueduct and CRA outage, (2) potential maximum reductions in member agency retail water demand, (3) and reductions to member agency local supplies.

The Shakeout scenario produces a 12 to 24-month outage of the East Branch of the California Aqueduct, a six to 12-month outage of the West Branch of the California Aqueduct, and a two to six-month outage of the CRA until 80% of CRA capacity could be recovered. Repairs to bring the CRA back to 100% capacity would take three to five years to complete. Although LADWP estimates an 18-month outage of the LAA, imported water could be delivered to the City as soon as deliveries through the West Branch of the California Aqueduct are restored within 12 months.

MWD espouses that 30% of all retail demand is directed toward outdoor uses. MWD combined this estimate with a Public Policy Institute of California (PPIC) report (Building Drought Resilience in California's Cities and Suburbs, June 2017) to conclude that its member agencies would be able to reduce retail demands by 25% following a seismic event. The City should assume that in a Shakeout scenario, it would be required to reduce its demands by 25%, through additional emergency conservation actions.

Finally, MWD estimated a six and 12-month aggregated loss of 10% to 20% of local production following a seismic event. This includes full outage of the LAA, and that local LADWP supplies would include groundwater and recycled supplies only.

3.3 Key Input: Existing Water Supply Infrastructure

LADWP's existing water supply infrastructure is well-documented and continuously assessed for resiliency and reliability. Existing water supply infrastructure includes LADWP-owned and MWD-owned infrastructure. Major LADWP-owned infrastructure includes: the Los Angeles Aqueduct Filtration Plant (LAAFP), groundwater wells and treatment facilities, storage tanks and reservoirs, distribution system pipelines and

pump stations, and ammoniation and chlorination stations. MWD-owned infrastructure includes regional water treatment facilities, large conveyance pipelines, and connection turnouts that deliver water to LADWP.

LADWP's water distribution system operations are highly flexible and contain many system redundancies. However, existing capabilities may be limited under different constraints, which can include: planned shutdowns for maintenance, construction impacts, water quality impacts, hydraulic limitations, and unplanned outages due to earthquakes or other emergency conditions. LADWP can also leverage its flexible system and implement operational changes when applicable to mitigate identified shortages. LADWP evaluates system capabilities and constraints annually and adjusts water supply availability to account for these constraints. LADWP also coordinates with MWD to evaluate regional infrastructure constraints to identify potential limitations on water supply availability for LADWP.

3.4 Decision-Making Process

LADWP's decision-making process begins with an assessment of its water demand and availability of water supplies (e.g. groundwater, LAA, recycled water, and supplemental supplies from MWD). LADWP's assessment also includes a review of local and regional infrastructure to determine possible limitations to supply availability. If available supplies are sufficient to meet projected demands, then a condition of no shortage will be determined. If a shortage condition is identified, the magnitude of the shortage will determine LADWP's response to the shortage, corresponding to the established standard water shortage levels. LADWP will first attempt to bridge shortage gaps with operational changes to its system to leverage supplies with greater availability for system delivery to offset identified supplies experiencing shortages. As shortage magnitudes increase and supplemental supplies available from MWD become limited, LADWP will further respond with implementation of mandatory water use restrictions through the City's Conservation Ordinance and explore opportunities to supplement its supplies through supply augmentation.

In the event that demands cannot be met without depleting available supplies, LADWP will declare a water shortage emergency in accordance with CWC Chapter 3 of Division 1. Under such emergency conditions, LADWP will coordinate with all additional cities and counties that are served or partially served by LADWP, including Los Angeles County, Beverly Hills, Burbank, Calabasas, Culver City, Inglewood, Lomita, Lynwood, Santa Monica, and West Hollywood.

3.5 Reasonable Alternative Actions

LADWP will follow the prescribed procedures and implement the determined shortage response actions in its WSCP where feasible and appropriate. However, LADWP may also implement reasonable alternative actions to the actions described in in Section 4 – Shortage Response Actions, provided that the alternative actions are submitted to the State in the AWSDA. The CWC does not prohibit LADWP from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP as stated in CWC Section 10632.2.

4.0 Shortage Response Actions

Per CWC Section 10632 (a)(4), LADWP has developed a list of possible supply shortage mitigation tools. The four types of locally appropriate "shortage response actions," as defined by the statute are as follows:

- Supply augmentation
- Demand reduction actions
- Operational changes
- Mandatory water use prohibitions (in addition to State-mandated prohibitions)

Shortage response actions included in this WSCP are a mix of prohibitions on end uses, consumption reduction methods, supply augmentation, and operational change measures.

The California Department of Water Resources (DWR) defines prohibitions on end uses as measures to address areas that are the responsibility of end users, such as broken sprinklers and leaking faucets. Consumption reduction methods are actions invoked by a water agency to reduce consumption, such as expanding public information campaigns.

Supply augmentation is defined as any action designed to increase the existing supply availability, such as increasing the production of stored groundwater or acquiring additional water transfer.

Operational changes are defined as actions taken by a water agency to change the way in which existing supplies are used within its service area (e.g., elimination of hydrant flushing).

4.1 Permanent Water Waste Prohibitions

Permanent Water Waste prohibitions are in effect at all times in LADWP's water service area. These prohibited uses, defined as Phase 1 in Section 121.08 (A) of the Conservation Ordinance, are intended to promote water conservation as a permanent way of life in Los Angeles, even during years of normal or above normal precipitation.

The following are the restrictions under Phase 1:

- No LADWP customer shall use a water hose to wash any paved surfaces, except to alleviate immediate safety or sanitation hazards.
- No LADWP customer shall use water to clean, fill or maintain levels in decorative fountains, ponds, lakes or similar structures used for aesthetic purposes, unless such water is part of a recirculating system.
- No restaurant, hotel, cafe, cafeteria, or other public place where food is sold, served or offered for-sale, shall serve drinking water to any person unless expressly requested.
- No LADWP customer shall permit water to leak from any pipe or fixture on the customer's premises.
- No LADWP customer shall wash a vehicle with a hose if the hose does not have a self-closing water shut-off or device attached to it or otherwise allow a hose to run continuously while washing a vehicle.
- No LADWP customer shall irrigate during periods of rain and within 48 hours after a measurable rain event.
- No LADWP customer shall water or irrigate lawn, landscape, or other vegetated areas between the hours of 9:00 a.m. and 4:00 p.m. During these hours, public and private golf course greens and tees and professional sports fields may be irrigated in order to maintain play areas and accommodate

event schedules. Supervised testing or repairing of irrigation systems is allowed anytime with proper signage.

- All irrigation of landscape with potable water using spray head sprinklers and bubblers shall be limited to no more than ten (10) minutes per watering day per station. All irrigation of landscape with potable water using standard rotors and multi-stream rotary heads shall be limited to no more than fifteen (15) minutes per cycle and up to two (2) cycles per watering day per station. Exempt from these landscape irrigation restrictions are irrigation systems using very low-flow drip-type irrigation when no emitter produces more than four (4) gallons of water per hour and micro-sprinklers using less than fourteen (14) gallons per hour.
- No LADWP customer shall use water in a manner that causes or allows excess or continuous water flow or runoff onto an adjoining sidewalk, driveway, street, gutter or ditch.
- No installation of single pass cooling systems shall be permitted in buildings requesting new water service.
- No installation of non-recirculating systems shall be permitted in new conveyor car wash and new commercial laundry systems.
- Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each bathroom using clear and easily understood language.
- No large landscape areas shall have irrigation systems without rain sensors that shut off the irrigation systems. Large landscape areas with approved weather-based irrigation controllers registered with LADWP are in compliance with this requirement.

The City has also remained under a minimum Conservation Ordinance Phase 2 restrictions of three day-a-week outdoor watering since 2009 which includes the following restrictions:

- Restrictions on landscape irrigation watering days (Monday, Wednesday, or Friday for odd-numbered street addresses and Tuesday, Thursday, or Sunday for even-numbered street addresses) with watering times limited to
  - Eight minutes per station for non-conserving nozzles for a total of 24 minutes per week
  - 15 minutes per station for conserving nozzles per cycle and up to two cycles per watering day for a total of 90 minutes per week
- Provisions do not apply to drip irrigation supplying water to a food source or to hand-held hose watering of vegetation

4.2 Shortage Response Actions

In addition to permanent water waste prohibitions, which are always in effect, there are different types of response actions that can be implemented by LADWP in the event of a supply shortage. These response measures represent a “toolbox” with a range of actions that can be used in combination, depending on the severity and duration of the shortage.

LADWP employs numerous response actions to mitigate and alleviate water shortages during dry conditions or catastrophic events. Some of these response actions are detailed in the Conservation Ordinance, while others go beyond these requirements. As specific shortage response levels are implemented, LADWP will closely monitor projected available supply and demand per the AWSDA. Depending on these projections, the shortage response actions would either be implemented or expanded to appropriately respond to shortages. Table 4-1 shows the linkage between the Conservation Phases, Shortage Levels, and additional actions detailed in this WSCP.

Table 4-1 Linkage Between Emergency Water Conservation Plan Phases and Shortage Levels

Water Shortage Level	Emergency Water Conservation Plan Phase	Additional WSCP Actions
No Shortage	Phase 1 & Phase 2	
Shortage Level 1		Operation Changes
Shortage Level 2	Phase 3	
Shortage Level 3	Phase 3	Supply Augmentation
Shortage Level 4	Phase 4	
Shortage Level 5	Phase 5	
Shortage Level 6	Phase 6	

Note: Actions identified under specific shortage levels are cumulative and will encompass all actions identified in preceding shortage levels.

The combination of shortage response actions associated with each water shortage level considered the estimate of the extent to which the supply gap was reduced. Shortage response actions from previous levels are assumed to remain in effect as the water shortage level increases. The mix of shortage response actions in any given level is designed to produce an additional 10% of shortage gap reductions above the previous level's reduction.

The following subsections list the combinations of shortage response actions associated with each of the six WSCP Water Shortage Levels.

Water Shortage Level 1

Water Shortage Level 1 constitutes a shortage gap reduction of up to 10%. Shortage response actions under this level system operational changes to maximize the ability to serve customers in areas experiencing shortage with additional supplies that may be available from other supply sources. Operational changes are defined as deviations from standard operating conditions that may incur substantial operating costs to modify system operations in order to expand the ability to provide customers with alternative available supply sources. The extent to which this action reduces the supply gap is summarized in Table 4-2 below.

Table 4-2 Water Shortage Level 1 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Evaluate operational changes to supply areas experiencing shortage with alternative readily available supplies	Up to 10%	Operational Changes

Water Shortage Level 2

Water Shortage Level 2 is implemented when there is an identified shortage up to 20% where operational changes alone are insufficient to eliminate shortage gaps. Under Shortage Level 2, Conservation Ordinance Phase 3 will be implemented to achieve the necessary demand reduction in addition to the actions identified under Water Shortage Level 1. Additionally, to reduce consumption during this phase, LADWP may increase its public outreach efforts and enforcement measures to build awareness of voluntary water conservation practices and all permanent water waste prohibitions. The shortage response actions under Water Shortage Level 2 are shown below in Table 4-3.

Table 4-3 Water Shortage Level 2 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Conservation Ordinance Phase 3 - Further restrictions on landscape irrigation watering days (Monday or Friday for odd-numbered street addresses and Sunday or Thursday for even-numbered street addresses) - Recommend use of pool covers to decrease water loss from evaporation. - Recommend washing of vehicles at commercial car wash facilities. - Irrigation of sports fields may deviate from the non-watering days to maintain play areas and accommodate event schedules. - Irrigation of large landscape areas may deviate from the non-watering days under certain conditions. - Provisions do not apply to drip irrigation supplying water to a food source or to hand-held hose watering of vegetation.	Up to 20%	Mandatory Prohibition
Increase outreach efforts for high-volume customers and provide one on one assessments	Up to 20%	Demand Reduction
Expand enforcement of unreasonable use of water	Up to 20%	Mandatory Prohibition
Increase water conservation rebates and incentives	Up to 20%	Demand Reduction
Increase conservation messaging (radio, TV, social media, educational events)	Up to 20%	Demand Reduction

Water Shortage Level 3

Water Shortage Level 3 is implemented when a shortage of up to 30% is identified. Under this shortage level, LADWP will explore supply augmentation to supplement available supplies in addition to the actions from preceding Water Shortage Levels. LADWP may elect to withdraw from available emergency storage along the LAA system and increase pumping from local groundwater basins. Emergency storage along the LAA may come in the form of emergency reservoir storage and/or emergency groundwater pumping in the Owens Valley with the approval of the LA/Inyo Standing Committee. Emergency storage from local groundwater basin may come in the form of storied water credits. Withdrawals from emergency supplies may provide only short-term relief and the extent of withdrawals will be determined based on assessments of long-term shortage risk. The shortage response actions under Water Shortage Level 3 are shown below in Table 4-4.

Table 4-4 Water Shortage Level 3 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Withdraw from available emergency storage along the LAA System and local groundwater basins	Up to 30%	Supply Augmentation

Water Shortage Level 4

Water Shortage Level 4 is implemented when a shortage of up to 40% has been identified. Mandatory water conservation restrictions under Ordinance Phase 4 will take effect, in addition to all actions identified under Water Shortage Level 1, Level 2, and Level 3. LADWP may also elect to increase withdrawals from available emergency storage along the LAA system and from local groundwater basins. The list of shortage response action options available for Water Shortage Level 4 is summarized in Table 4-5 below.

Table 4-5 Water Shortage Level 4 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Conservation Ordinance Phase 4 - Further restrictions on landscape irrigation watering days (Monday for odd-numbered street addresses and Tuesday for even-numbered street addresses) - Mandate use of pool covers on all residential swimming pools when not in use. - No washing of vehicles allowed except at commercial car wash facilities. - No filling of decorative fountains, ponds, lakes, or similar structures used for aesthetic purposes, with potable water. - Irrigation of sports fields may deviate from the non-watering days to maintain play areas and accommodate event schedules. - Irrigation of large landscape areas may deviate from the non-watering days under certain conditions. - Provisions do not apply to drip irrigation supplying water to a food source or to hand-held hose watering of vegetation.	Up to 40%	Mandatory Prohibition
Further withdraw from available emergency storage along the LAA System and local groundwater basins	Up to 40%	Supply Augmentation

Water Shortage Level 5

Water Shortage Level 5 is implemented when a water shortage of up to 50% has been identified. Under this shortage level, mandatory water conservation restrictions under Ordinance Phase 5 will take effect, in addition to all actions identified under Water Shortage Levels 1 through 4. LADWP may elect to further increase withdrawals from available emergency storage along the LAA system and from local groundwater basins. The list of shortage response action options available for Water Shortage Level 5 is summarized in Table 4-6 below.

Table 4-6 Water Shortage Level 5 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Conservation Ordinance Phase 5 - No landscape irrigation allowed. - No filling of residential swimming pools and spas with potable water. - No washing of vehicles allowed except at commercial car wash facilities. - No filling of decorative fountains, ponds, lakes, or similar structures used for aesthetic purposes, with potable water. - Golf courses and professional sports fields may apply water to sensitive areas, such as greens and tees, during non-daylight hours and only to the extent necessary to maintain minimum levels of biological viability.	Up to 50%	Mandatory Prohibition
Further withdraw from available emergency storage along the LAA System and local groundwater basins	Up to 50%	Supply Augmentation

Water Shortage Level 6

Water Shortage Level 6 is implemented when a water shortage of greater than 50% has been identified. Under this shortage level, the Board is authorized to implement additional prohibited uses of water based on the water supply situation in addition to the responses identified under Water Shortage Levels 1 through 5. It should be noted that a Level 6 condition could take the form of a prolonged event, such as extended dry conditions, or could be the result of a sudden catastrophic event, such as a seismic event. These two conditions may require different responses. For example, in a sudden and catastrophic event the loss of water supply may be localized, facilities such as schools and hotels may be needed for emergency housing, and water may be needed for firefighting. A mandatory reduction in water use among all customers may be required immediately to meet emergency and public safety needs of the affected area. Temporary reductions in water supply to unaffected areas may be necessary. More on catastrophic event planning is discussed in Section 8. A list of available shortage response actions under Water Shortage Level 6 are summarized below in Table 4-7.

Table 4-7 Water Shortage Level 6 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Conservation Ordinance Phase 6 - The Board is hereby authorized to implement additional prohibited uses of water based on the water supply situation. Any additional prohibition shall be published at least once in a daily newspaper of general circulation and shall become effective immediately upon such publication and shall remain in effect until cancelled.	> 50%	Mandatory Prohibition
Maximize withdraw from available emergency storage along the LAA and local groundwater basin	> 50%	Supply Augmentation

5.0 Compliance and Enforcement

California law prohibits waste and unreasonable use of water, even when no shortage response actions are in effect. The Conservation Ordinance also prohibits all water waste and defines violations of both the permanent water conservation measures and mandatory conservation measures. Failure to comply with any of the provisions of Phases 1 through 6 is subject to administrative civil penalties and remedies, which are set forth in Section 121.10, Chapter XII of the Los Angeles Municipal Code as Penalty Schedule A (see Table 5-1). After a fifth or subsequent violation and a hearing held by LADWP, a flow-restricting device of one gallon per minute (gpm) may be installed.

The restrictions outlined in Phases 1 through 6 shall not curtail water supply required for:

- Public health and safety
- Essential government services such as police, fire, and other similar emergency services

The restrictions outlined in Phases 1 through 6 do not apply to:

- Recycled water and gray water use
- Hillside areas recovering from fire that have been replanted for erosion control

LADWP may also penalize those who continue to willfully waste water (i.e., “unreasonable use of water”). Single family residential customers in the highest tier rate during Phases 2 through 6 may be subject to a Water Use Analysis and Customer Conservation Plan developed by LADWP. Failure to provide access to the property, cooperate in the development of the Customer Conservation Plan, or comply with the Customer Conservation Plan is subject to administrative civil penalties, as set forth in Section 121.10, Chapter XII of the Los Angeles Municipal Code as Penalty Schedule B (see Table 5-2). Customers who continue to unreasonably use water beyond 24 months will be referred to the LADWP Board of Commissioners (Board) for consideration of flow restrictors or other actions.

Terminating a customer’s water service is not taken lightly and would occur only when other enforcement measures have not been effective. The Board will consider extenuating circumstances as part of a decision regarding appropriate remedies.

If, due to unique circumstances, a specific requirement of the Water Conservation Phases would result in undue hardship to a customer using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water uses, then the customer may apply for a variance to the requirements. Unique circumstances include, but are not limited to, physical disabilities which prevent compliance with the Conservation Ordinance.

Table 5-1 Penalty Schedule A – Prohibited Use Violations

Water meter smaller than two (2") inches						
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
1st Written Warning	$0	$0	$0	$0	$0	Board Authority
2nd Written Violation	$50	$100	$200	$300	$400	Board Authority
3rd Written Violation	$100	$200	$400	$600	$800	Board Authority
4th Written Violation	$150	$300	$600	$900	$1200	Board Authority
Water meter two (2") inches and larger						
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
1st Written Warning	$0	$0	$0	$0	$0	Board Authority
2nd Written Violation	$100	$200	$400	$600	$800	Board Authority
3rd Written Violation	$200	$400	$800	$1200	$1600	Board Authority
4th Written Violation	$300	$600	$1200	$1800	$2400	Board Authority

Table 5-2 Penalty Schedule B – Unreasonable Use Violations

Number of Consecutive Months with Violation	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
Violation during months 1 through 5	N/A	$1,000	$2,000	$5,000	$10,000	Board Authority
Violation during months 6 through 11	N/A	$2,000	$4,000	$10,000	$20,000	Board Authority
Violation during months 12 through 17	N/A	$3,000	$6,000	$15,000	$30,000	Board Authority
Violation during months 18 through 23	N/A	$4,000	$8,000	$20,000	$40,000	Board Authority

Any customer who disputes any penalty levied pursuant to Section 121.10, Chapter XII of the Los Angeles Municipal Code, shall have a right to a dispute determination conducted pursuant to LADWP's Rules Governing Water and Electric Service. Any customer dissatisfied with the LADWP's dispute determination may appeal that determination within 15 days of issuance to the Board or to a designated hearing officer at the election of the Board. The provisions of Sections 19.24, 19.25, 19.26 and Sections 19.29 through 19.39 of the Los Angeles Administrative Code shall apply to such appeals. All defenses, both equitable and legal, may be asserted by a customer in the appeal process. The decisions of the Board shall become final at the expiration of 45 calendar days, unless the Council acts within that time by a majority vote to bring the action before it or to waive review of the action. If the Council timely asserts jurisdiction, the Council may, by a majority vote, amend, veto or approve the action of the Board within 21 calendar days of voting to bring the matter before it, or the action of the Board shall become final. If the Council asserts jurisdiction over the matter and acts within 21 calendar days of voting to bring the matter before it, the Council's action shall be the final decision.

6.0 Monitoring, Reporting, and Refinement Procedures

LADWP monitors and reports water supply and demand monthly. Water supply volumes from all supply sources and customer billing records are generated monthly. If the monthly goals of balancing supply and demand under shortage conditions are not being met, LADWP can implement additional shortage response actions.

Reevaluation and improvement procedures are used to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed. The WSCP will be re-evaluated at least every five years in coordination with the UWMP update or at LADWP's discretion. An evaluation on the effectiveness of the water shortage response actions on demand levels will be conducted following the future implementation of the WSCP. The evaluation will assess the effectiveness of shortage response actions in the WSCP and revise as appropriately as necessary. LADWP will also assess the effectiveness of the communication plan so that it may be modified as appropriate in the future.

7.0 Revenue and Expenditure Impacts

The Base Rate Revenue Target Adjustment (BRRTA) from General Provision H of LADWP's Water Rate Ordinance No. 184130 provides a symmetrical decoupling mechanism. The BRRTA allows LADWP to recover any shortfall in revenue from the targeted amounts of base rates, or credits back any collection of revenue above the targeted amounts of base rates. This helps to account for variations in water sales from projections. The BRRTA Factor is calculated once a year, separately for three categories: Schedule A, Schedule B, and Others, and takes effect on January 1. The BRRTA enhances the Department's financial stability by isolating the impact of reduced demand from water conservation from base rate revenue billing and provides a more resilient financial model in response to demand volatility. For more details on the water rate structure, please see Appendix B – Water Rate Ordinance No. 184130.

7.1 Water Rate Structure

LADWP's rate structure uses a tiered volumetric structure. For single-family residential customers, the structure uses four consumption-based tiers with progressively higher commodity charges at each tier to pay for the increased costs related to peak discretionary use. Assets such as storage facilities, treatment plants, pump stations, and pipelines must be built to not only handle average daily demand but also handle peak hour demands in addition to fire suppression flow. Those customers who use more water create the need for the larger, more expensive, facilities, as well as the need to source from other, more expensive sources and thus pay for higher priced water. Since the implementation of the tiered structure, it has been proven to encourage conservation and reduce wasteful consumption.

LADWP's rate structure also includes a special provision for customers outside the City to account for the more expensive sources of water. Charges for water service to customers with property where less than ninety percent (90%) of the area is inside the City includes a surcharge equal to the differential cost of treated Tier II water delivered to the City purchased from MWD and the average cost of water delivered to the City through the LAA for the previous five years. However, this adjusted rate cannot be less than those charged for service inside the City.

7.2 Use of Financial Reserves

LADWP does not anticipate tapping into any reserves to maintain operations during dry periods or emergencies. The current rate structure accounts for the State's regulation and incorporates pass-through adjustments associated with future increases in water purchases from MWD. However, if revenue shortfalls were to occur, LADWP could consider the options of deferring some operation and maintenance and capital program projects, using emergency storage water, or drawing from one or more of the available reserve funds. Any reallocation of capital project funding to meet short-term emergency needs would be restricted by bond covenants that require bond proceeds to be used exclusively for capital projects.

There are currently two applicable reserve funds that could serve in the event of a revenue loss resulting from reduced water demands:

- Minimum Operating Cash Reserve. Intended to be used in the event of a catastrophe that prevents the utility from operating in its normal course of business, this fund is to be used in emergency situations due to loss of revenue and must be replenished. The Chief Financial Officer has the authority to approve using this reserve.
- Water Expense Stabilization Fund. The Water Expense Stabilization Fund target is determined by the Chief Financial Officer and is intended to be used to stabilize rates in the event of unforeseen events impacting water service delivery. Use of the Water Expense Stabilization Fund is based upon the recommendation of the Chief Financial Officer and approval of the Board.

Utilizing the BRRTA and these reserves or emergency water storage can help mitigate the financial impact if deliveries fall significantly during periods of significant water demand reductions. However, the use of reserves would ultimately require rate increases because the reserves would need to be replenished. The timing and the amount of the reserves used would be evaluated based on the significance of the rate increases, the ability to reduce variable operation and maintenance costs and defer capital projects, the availability of emergency storage water, the timing of additional debt issuances, and the possibility of a downgrade in the debt rating.

7.3 Potential Revenue Reductions & Expenses Associated with Activated Shortage Response Actions

Potential revenue reductions and expenses associated with activated shortage response actions vary depending on shortage response actions. Unless and until the impact is offset by the BRRTA, customer reductions in water use consumption will result in declining revenues during a shortage. Increased enforcement and auditing of existing water waste prohibitions could increase operational expenditures. In addition, an increase in outreach efforts may require more staff time and resources.

8.0 Catastrophic Supply Interruption Planning

A catastrophic supply interruption occurs when a disaster suddenly disrupts all or a large portion of the water available to meet the region's needs. The UWMP Act requires agencies to identify actions they will take if there is a catastrophic supply interruption, specifically including interruptions from a power outage, earthquake, or other non-dry period related emergencies. The City and MWD have developed plans for catastrophic supply interruptions that include a regional power outage, earthquake, or other disaster. Furthermore, the City has developed a Local Hazard Mitigation Plan in 2024, which addresses seismic risks to the City. A copy of this plan is provided in Appendix C in compliance with CWC Section 10632.5.

Catastrophic supply interruption events are considered when determining the LADWP's overall water supply shortage as defined by the water shortage levels identified above in Table 1-1 – Water Shortage Levels. LADWP does not designate a specific catastrophic supply interruption water shortage level with its own shortage response actions. Rather, the resulting shortage of a catastrophic supply interruption would contribute to the LADWP's total projected shortage in any given year. Shortage response actions associated with the determined water shortage level will help guide the LADWP's response to catastrophic supply interruptions.

8.1 LADWP Catastrophic Supply Interruption Planning

LADWP has Emergency Response Plans (ERPs) in place to restore water service for essential use in the City in the event an emergency, such as a power outage or earthquake, results in an interruption of the water supply. LADWP personnel responsible for water transportation, distribution, and treatment have established ERPs to guide the assessment, prioritization, and repair of water infrastructure that has incurred damage during such an incident.

LADWP coordinates response efforts during major incidents through the Department Emergency Operations Center (DEOC) and/or the Water Emergency Command Center (WECC). These operations centers are intended to facilitate operational coordination, information sharing, and resource management among the various LADWP entities that may be involved in responding. In a citywide emergency or major event, the City's Emergency Management Department (EMD) may also activate the City's Emergency Operations Center (EOC) to serve as a centralized point for managing information and resources in support of overall response and recovery efforts. When this occurs, LADWP, through the DEOC and/or WECC, will coordinate with the EOC, as needed, to address water supply issues. Ultimately, these organizational structures work in tandem to support the City's Emergency Operations Organization's (EOOs) overall mission of saving lives, protecting property, and returning the City to normal operations in the event of a disaster.

Earthquakes

In the event of a major earthquake, LADWP has response plans detailing procedures for operating the LAA following an earthquake in order to prevent further damage of the LAA. If the LAA is severed by seismic activity on the San Andreas fault and is temporarily unable to provide water to the City, LADWP will be able to use its emergency water storage in Bouquet Reservoir to provide water supply to the City while repairs are made. In addition to this resource, arrangements may be made to transfer water through the California Aqueduct for delivery to MWD and returned to the City through one of MWD's connections to LADWP.

Power Outages

Most of LADWP's pump stations are equipped with diesel-powered backup pumps in the event a major power outage disrupts the primary energy system. The diesel-powered backups are capable of running for extended periods of time with reliable refueling available from LADWP's Fleet Services. In the event of a major power outage, backup pumps can be automatically switched on, started remotely, or activated manually.

8.2 MWD Catastrophic Supply Interruption Planning

MWD has developed emergency storage requirements and plans based on a 100% reduction in imported supplies from all aqueducts serving its service area, for a period of six months. MWD has made significant investments in emergency storage to provide water to its member agencies during emergencies. If a catastrophe were to occur, non-firm (non-contractual) service deliveries would be suspended and firm (contractual) supplies to member agencies would be cut back by 25% from retail demand under normal-hydrological conditions. Water would be drawn from a combination of MWD's surface reservoirs and contracted groundwater basins, as well as its emergency water storage and other available storage projects. Emergency supplies are designed to be delivered via gravity, except in limited circumstances. MWD's water treatment plants have backup generators to continue treating water in the event of a power outage. MWD also has the ability to deploy mobile generators to key locations, as needed.

MWD's WSDM Plan and WSAP will guide the allocation of supplies and resources during a catastrophic supply interruption. MWD and its member agencies worked together to develop the WSDM Plan. The WSDM Plan establishes broad water resource management strategies to ensure MWD's ability to meet full service demands at all times. It also contains principles for supply allocation if the need should ever arise. The WSDM Plan splits MWD's resource actions into two major categories: Surplus Actions and Shortage Actions. The Shortage Actions are split into three subcategories: Shortage, Severe Shortage, and Extreme Shortage.

A catastrophic supply interruption would fall under an Extreme Shortage. Under an Extreme Shortage, MWD would allocate supplies to its member agencies in accordance with the WSAP. If shortage allocations are required, MWD will rely on the calculations established in the WSAP. The plan allocates shortages equitably among its member agencies based on need, with adjustments for growth, local investments, changes in supply conditions, demand hardening (increasing water use efficiency such that additional conservation is more difficult to obtain), and water conservation plans.

9.0 Legal Authorities

Under California law, including CWC Chapters 3.3 and 3.5 of Division 1, Parts 2.55 and 2.6 of Division 6, Division 13, and Article X, Section 2 of the California Constitution, LADWP is authorized to implement the water shortage actions outlined in this WSCP. In all water shortage cases, shortage response actions to be implemented will be at the discretion of LADWP and will be based on an assessment of the supply shortage, customer response, and need for demand reductions.

It is noted that upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on extended dry conditions, the State will defer to implementation of locally adopted water shortage contingency plans to the extent practicable. LADWP will coordinate with regional and local water suppliers for which it provided water supply services for possible proclamation of a local emergency, as necessary.

10.0 Communication Protocol

LADWP's communication protocol includes the various channels the LADWP will utilize to convey critical messages regarding water shortage allocations and voluntary and mandatory actions. Public outreach programs can help increase awareness of water shortages, while customer services and workshops can encourage customers to actively participate in demand reduction strategies. A strong communication plan will educate LADWP customers, including local leaders and the business community, on the water supply situation; what actions are proposed; what the intended achievements are; and how these actions are to be implemented. While specific types of messaging are deployed at various shortage response levels, how these messages are conveyed to the public are described per this communication protocol. The communication protocol will be in place prior to a water supply shortage and be initiated in Water Shortage Level 2. Activation of the communication protocol will continue through all subsequent water shortage levels. At times, specific communities may require specialized outreach. LADWP will ensure outreach efforts are reaching key audiences as needed.

LADWP will communicate the following to its customers when urgent conservation is needed:

- What specific actions are needed to save water?
- How much water needs to be saved and for how long?
- Why water needs to be saved?
- What LADWP is doing to correct the supply problem or address the situation?

10.1 Coordination

In order to communicate effectively, avoid confusion, and maintain credibility, LADWP will work in close coordination with the Mayor and Council. During dry periods or other times of limited supply, the frequency and extent of coordination will increase to ensure outreach tactics are consistent with the changing needs of the LADWP and its customers. LADWP will seek opportunities to leverage external resources to complement its own outreach.

10.2 Communication Objectives

Communication objectives during the various water shortage levels of the WSCP include the following:

- Motivate water users to quickly increase conservation in ways that are consistent with any voluntary or mandatory actions called for at the current level of the WSCP.
- Raise awareness and understanding of the dry period, regulatory, or other conditions affecting water supplies and the need for increased conservation.
- Minimize confusion and maintain credibility of water agencies and conservation messages with an appropriate tone that avoids a "cry wolf" perception and non-compliance backlash.
- Make water users feel appreciated for existing accomplishments in improving their water-use efficiency, and for supporting regional and local investments in water supply reliability.
- Educate regional civic and business leaders, elected officials, and the public that LADWP has greatly improved its water supply reliability.
- Prepare LADWP for any potential escalation (or de-escalation) of the WSCP based on trending supply conditions.
- Ensure all stakeholders believe they are being treated fairly in relationship to other stakeholders.
- Maintain communication effectiveness by soliciting or monitoring feedback from key stakeholders and the general public to update or adapt messages or communication tools.
- Exit WSCP implementation having demonstrated the effectiveness and value of conservation actions and water supply reliability investments in minimizing impacts to the City's economy and quality of life.

10.3 Communication Protocol for Current or Predicted Shortage and Triggered or Anticipated to be Triggered Shortage Response Actions

A current or predicted shortage, as determined by the AWSDA, will be communicated to the public prior to submittal of the AWSDA in June of any given year. LADWP monitors and evaluates the projected supply and demand for water by its customers monthly and then recommends the extent of conservation required to the Mayor. The Mayor may, with the concurrence of the Council, order the appropriate phase of water conservation to be implemented. The order would be made by public proclamation and be published one time only in a daily newspaper of general circulation and would become effective immediately upon such publication. The prohibited water uses for each phase shall take effect with the first full billing period commencing on or after the effective date of the public proclamation by the Mayor.

10.4 Protocol and Strategies for Relevant Communications

To reduce water use consumption during any water shortage level, LADWP will increase its education and outreach efforts to build awareness of needed actions from the public. In addition, LADWP's outreach campaign will be regularly revised to reflect current conditions. Key communication strategies and associated water shortage level implementation are listed below. Communication strategies used in previous levels are assumed to be built upon as the Shortage Level increases.

- Conduct issue briefings with elected officials and other key civic and business leaders (Water Shortage Level 1)
- Announce status changes to key stakeholders and the general public (all Water Shortage Levels).
- Provide regular updates to stakeholders and the media on conditions (all Water Shortage Levels).
- Promote available water assistance resources for vulnerable populations; specialized outreach for impacted industries (Water Shortage Levels 2 through 4).
- Conduct specialized outreach to reduce discretionary outdoor use while minimizing landscape damage (Water Shortage Levels 2 through 4).

- Suspend promotion of long-term water use efficiency programs/tools to focus on imminent needs (Water Shortages Levels 5 and 6).

LADWP has various means of implementing its communication strategies. LADWP may update its website, newsletters, and social media platforms to reflect conditions and convey key messaging. LADWP may also hold news conferences or other events to announce or explain chances in conditions. Finally, LADWP may modify school assembly program content to include key conservation messages.

Catastrophic Communications

In the event of a catastrophic supply interruption that requires water use to be quickly prioritized for or limited to essential public health and safety needs, LADWP will immediately deploy appropriate strategies from this WSCP. In addition, outreach messaging will reflect emergency conditions and the need to focus on health and public safety. LADWP may also consider potential joint news release/new events with public health officials or incident commanders to announce conditions and explain needed action. Finally, LADWP will ensure ongoing coordination with emergency response services with daily advisories or alerts as needed.

Appendix A: Emergency Water Conservation Plan

Please refer to

UWMP Appendix B

Appendix B: Water Rate Ordinance

Please refer to

UWMP Appendix C

Appendix C: City of Los Angeles Local Hazard Mitigation Plan

Please refer to

emergency.lacity.gov/local-hazard-mitigation-plan

Appendix B
Emergency Water Conservation Ordinance

For the Emergency Water Conservation Ordinance, please refer to

https://www.ladwp.com/sites/default/files/documents/15_0540_ORD_184250_5_3_16.pdf

Appendix C
Water Rate Ordinance

For the Water Rate Ordinance, please refer to

https://www.ladwp.com/sites/default/files/documents/Water_Rates_Ordinance_4_15_16.pdf

Appendix D
Groundwater Basin Adjudications

For the ULARA Judgement, please refer to

https://www.ularawatermaster.com/wp-content/uploads/2025/04/City-of-LA-vs-City-of-San-Fernando-et-al-JUDGMENT.pdf

For additional information about the Sylmar Basin Stipulations, please refer to

https://www.ularawatermaster.com/groundwater-basins/sylmar-basin/

For the Central Basin Third Amended Judgement, please refer to

https://www.wrd.org/files/c3f07df5e/Third+Amended+Judgment.pdf

For the West Coast Basin Amended Judgement, please refer to

https://www.wrd.org/files/78d5e5a59/Amended+Judgment.pdf

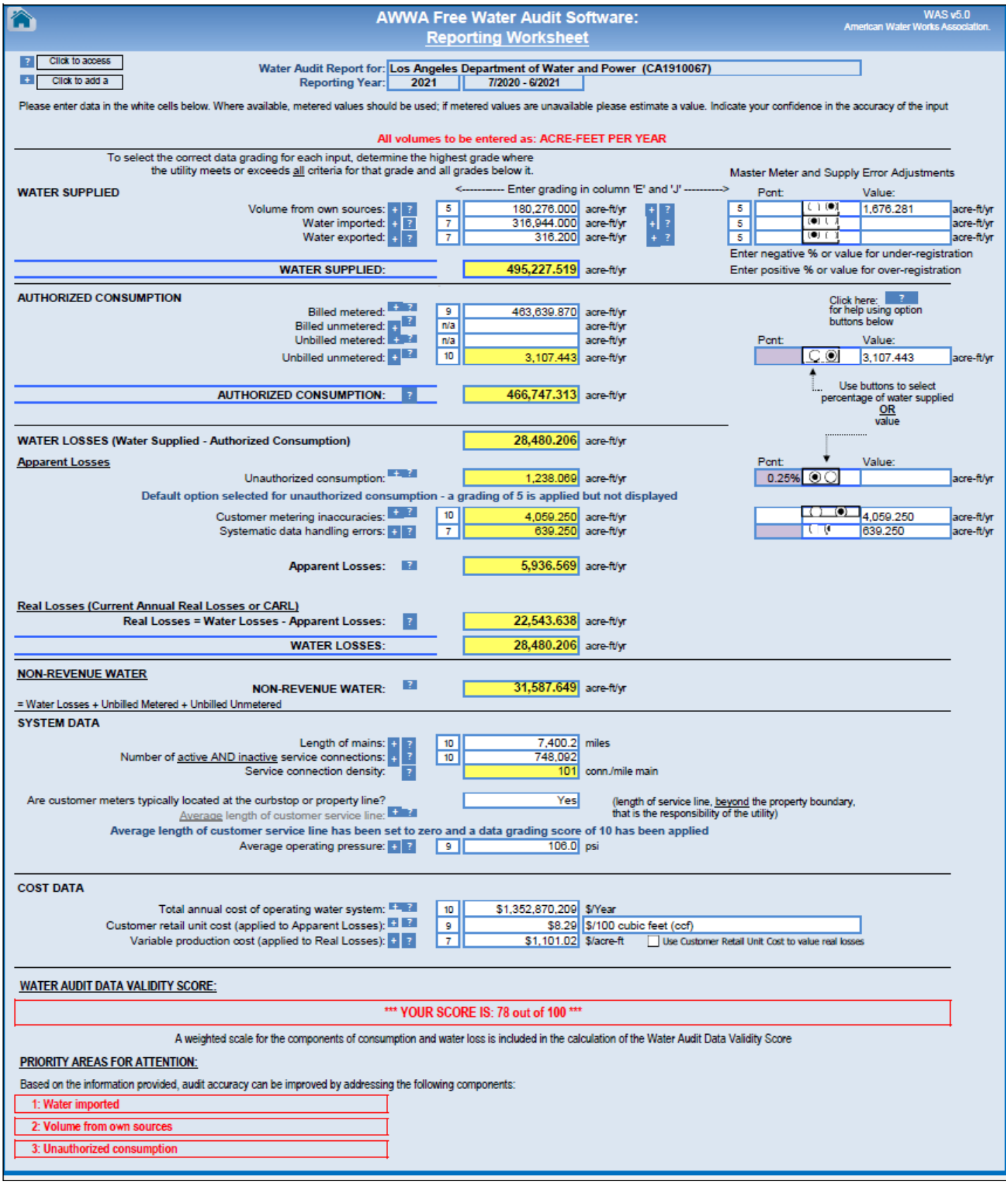
Appendix E

Water Loss Audit Worksheets

AWWA Free Water Audit Software: Water Balance

Water Audit Report for:	Los Angeles Department of Water and Power (CA1910067)
Reporting Year:	2021 7/2020 - 6/2021
Data Validity Score:	78

	Water Exported 316.200	Billed Water Exported			
Own Sources (Adjusted for known errors) 178,599.719	Water Supplied 495,227.519	Authorized Consumption 466,747.313	Billed Authorized Consumption 463,639.870	Billed Metered Consumption (water exported is removed) 463,639.870	Revenue Water 463,639.870
				Billed Unmetered Consumption 0.000	
			Unbilled Authorized Consumption 3,107.443	Unbilled Metered Consumption 0.000	Non-Revenue Water (NRW) 31,587.649
				Unbilled Unmetered Consumption 3,107.443	
		Water Losses 28,480.206	Apparent Losses 5,936.569	Unauthorized Consumption 1,238.069	
				Customer Metering Inaccuracies 4,059.250	
				Systematic Data Handling Errors 639.250	
Water Imported 316,944.000			Real Losses 22,543.638	Leakage on Transmission and/or Distribution Mains Not broken down	
				Leakage and Overflows at Utility's Storage Tanks Not broken down	
				Leakage on Service Connections Not broken down	



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association.

Click to access
Click to add a

Water Audit Report for: Los Angeles Department of Water and Power (CA1910067)
Reporting Year: 2021 7/2020 - 6/2021

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

<---------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

				Pcnt:	Value:	
Volume from own sources:	5	180,276.000	acre-ft/yr	5	1,676.281	acre-ft/yr
Water imported:	7	316,944.000	acre-ft/yr	5		acre-ft/yr
Water exported:	7	316.200	acre-ft/yr	5		acre-ft/yr
WATER SUPPLIED:		495,227.519	acre-ft/yr	Enter negative % or value for under-registration Enter positive % or value for over-registration		

AUTHORIZED CONSUMPTION

Click here: for help using option buttons below

				Pcnt:	Value:	
Billed metered:	9	463,639.870	acre-ft/yr			
Billed unmetered:	n/a		acre-ft/yr			
Unbilled metered:	n/a		acre-ft/yr			
Unbilled unmetered:	10	3,107.443	acre-ft/yr		3,107.443	acre-ft/yr
AUTHORIZED CONSUMPTION:		466,747.313	acre-ft/yr	Use buttons to select percentage of water supplied OR value		

WATER LOSSES (Water Supplied - Authorized Consumption) 28,480.206 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		1,238.069	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	10	4,059.250	acre-ft/yr		4,059.250	acre-ft/yr
Systematic data handling errors:	7	639.250	acre-ft/yr		639.250	acre-ft/yr
Apparent Losses:		5,936.569	acre-ft/yr			

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:		22,543.638	acre-ft/yr
WATER LOSSES:		28,480.206	acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER:		31,587.649	acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	10	7,400.2	miles	
Number of active AND inactive service connections:	10	748,092		
Service connection density:		101	conn./mile main	
Are customer meters typically located at the curbstop or property line?		Yes		(length of service line, beyond the property boundary, that is the responsibility of the utility)
Average length of customer service line:				

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	9	106.0	psi	

COST DATA

Total annual cost of operating water system:	10	$1,352,870,209	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$8.29	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	7	$1,101.02	$/acre-ft	Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 78 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

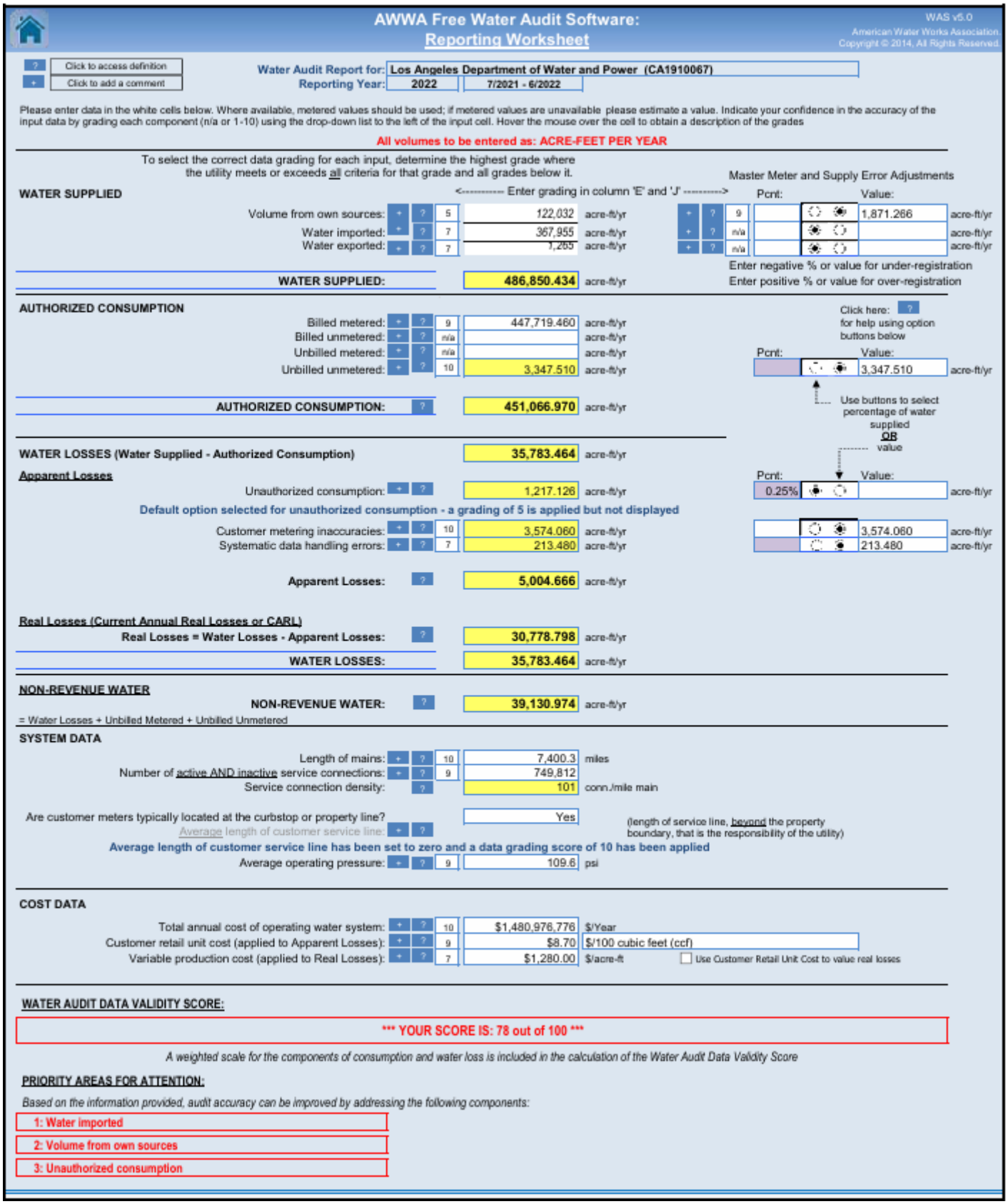
1: Water imported
2: Volume from own sources
3: Unauthorized consumption

AWWA Free Water Audit Software: Water Balance

WAS v5.0

Water Audit Report for:	Los Angeles Department of Water and Power (CA1910067)	
Reporting Year:	2022	7/2021 - 6/2022
Data Validity Score:	78	

Own Sources (Adjusted for known errors) 120,160.734	Water Exported 1,265.400	Billed Water Exported			
		Authorized Consumption 451,066.970	Billed Authorized Consumption 447,719.460	Billed Metered Consumption (water exported is removed) 447,719.460	Revenue Water 447,719.460
				Billed Unmetered Consumption 0.000	
			Unbilled Authorized Consumption 3,347.510	Unbilled Metered Consumption 0.000	Non-Revenue Water (NRW) 39,130.974
				Unbilled Unmetered Consumption 3,347.510	
	Water Supplied 486,850.434	Water Losses 35,783.464	Apparent Losses 5,004.666	Unauthorized Consumption 1,217.126	
				Customer Metering Inaccuracies 3,574.060	
				Systematic Data Handling Errors 213.480	
Water Imported 367,955.100			Real Losses 30,778.798	Leakage on Transmission and/or Distribution Mains Not broken down	
				Leakage and Overflows at Utility's Storage Tanks Not broken down	
				Leakage on Service Connections Not broken down	



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association.

Click to access definition
Click to add a comment

Water Audit Report for: Los Angeles Department of Water and Power (CA1910067)
Reporting Year: 2022 7/2021 - 6/2022

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

		Pcnt:	Value:	
Volume from own sources:	5	122,032 acre-ft/yr	9	1,871.286 acre-ft/yr
Water imported:	7	367,955 acre-ft/yr	n/a	acre-ft/yr
Water exported:	7	1,265 acre-ft/yr	n/a	acre-ft/yr
WATER SUPPLIED:		**486,850.434** acre-ft/yr		

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Click here: for help using option buttons below

		Pcnt:	Value:	
Billed metered:	9	447,719.460 acre-ft/yr		
Billed unmetered:	n/a	acre-ft/yr		
Unbilled metered:	n/a	acre-ft/yr		
Unbilled unmetered:	10	3,347.510 acre-ft/yr		3,347.510 acre-ft/yr
AUTHORIZED CONSUMPTION:		**451,066.970** acre-ft/yr		

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption) **35,783.464** acre-ft/yr

Apparent Losses

		Pcnt:	Value:	
Unauthorized consumption:		1,217.126 acre-ft/yr	0.25%	acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	10	3,574.060 acre-ft/yr		3,574.060 acre-ft/yr
Systematic data handling errors:	7	213.480 acre-ft/yr		213.480 acre-ft/yr
Apparent Losses:		**5,004.666** acre-ft/yr		

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **30,778.798** acre-ft/yr

WATER LOSSES: **35,783.464** acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: **39,130.974** acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	10	7,400.3	miles
Number of active AND inactive service connections:	9	749,812	
Service connection density:		101	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	9	109.6	psi

COST DATA

Total annual cost of operating water system:	10	$1,480,976,776	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$8.70	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	7	$1,280.00	$/acre-ft

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 78 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Water imported
2: Volume from own sources
3: Unauthorized consumption

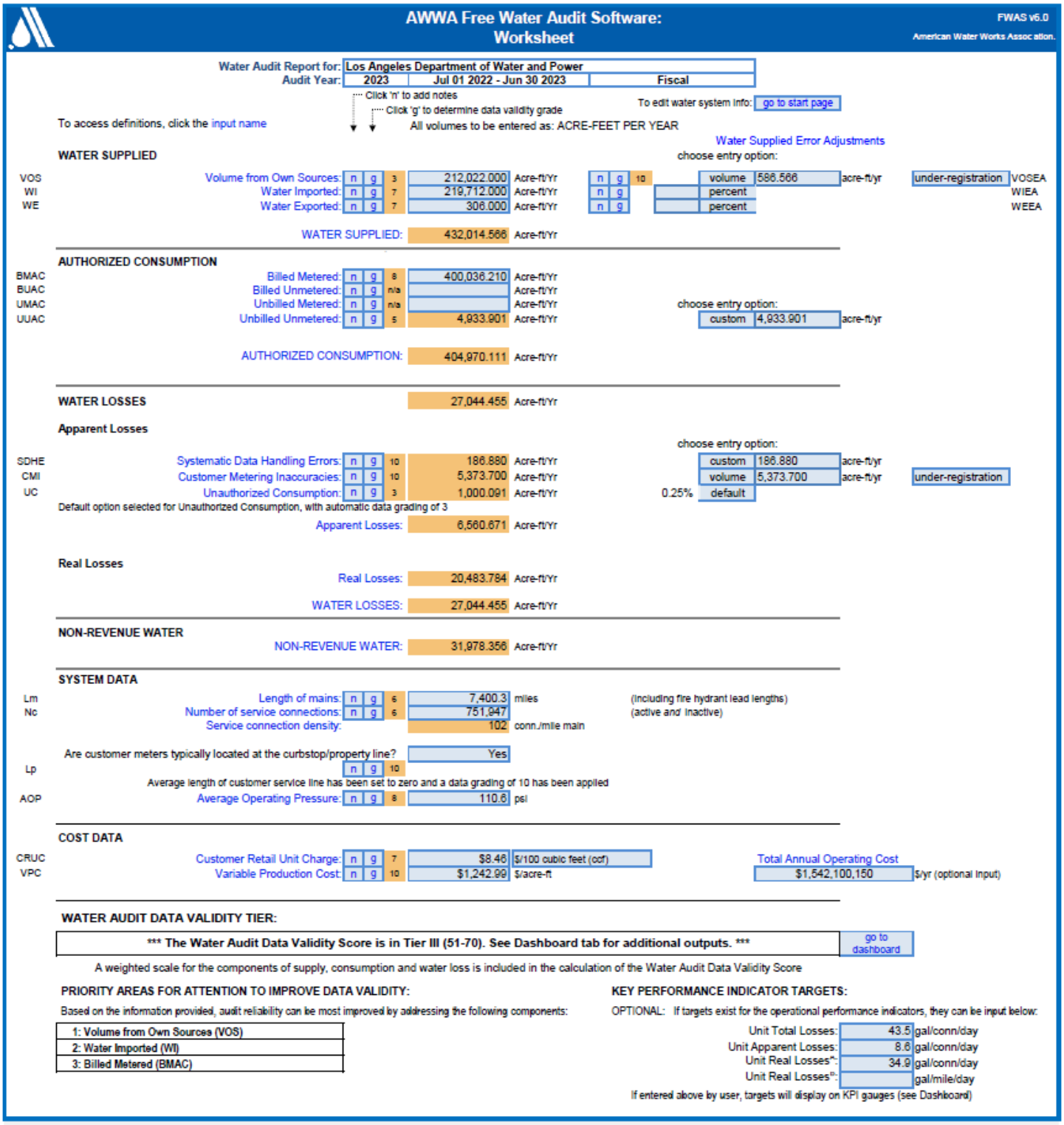
Appendix E: Water Loss Audit Worksheets

AWWA Free Water Audit Software
Water Balance

FWAS v6.0

Water Audit Report for: Los Angeles Department of Water and Power
Audit Year: 2023 | Jul 01 2022 - Jun 30 2023
Data Validity Tier: Tier III (51-70)

		Water Exported (WE) (corrected for known errors) *306.000*	Billed Water Exported			Revenue Water (Exported) 306.000
Volume from Own Sources (VOS) (corrected for known errors) *212,608.566*	System Input Volume *432,320.566*	Water Supplied *432,014.566*	Authorized Consumption *404,970.111*	Billed Authorized Consumption *400,036.210*	Billed Metered Consumption (BMAC) (water exported is removed) *400,036.210*	Revenue Water 400,036.210
					Billed Unmetered Consumption (BUAC) *0.000*	
				Unbilled Authorized Consumption *4,933.901*	Unbilled Metered Consumption (UMAC) *0.000*	Non-Revenue Water (NRW)
					Unbilled Unmetered Consumption (UUAC) *4,933.901*	
			Water Losses *27,044.455*	Apparent Losses *6,560.671*	Systematic Data Handling Errors (SDHE) *186.880*	31,978.356
					Customer Metering Inaccuracies (CMI) *5,373.700*	
					Unauthorized Consumption (UC) *1,000.091*	
Water Imported (WI) (corrected for known errors) *219,712.000*				Real Losses *20,483.784*	Leakage on Transmission and/or Distribution Mains *Not broken down*	
					Leakage and Overflows at Utility's Storage Tanks *Not broken down*	
					Leakage on Service Connections *Not broken down*	



AWWA Free Water Audit Software: Worksheet

FWAS v6.0

American Water Works Association.

Water Audit Report for: Los Angeles Department of Water and Power

Audit Year: 2023 | Jul 01 2022 - Jun 30 2023 | Fiscal

Click 'n' to add notes

Click 'g' to determine data validity grade

To edit water system info: go to start page

To access definitions, click the input name

All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

choose entry option:

VOS	Volume from Own Sources:	n	g	3	212,022.000	Acre-ft/Yr	n	g	10	volume 586.566 acre-ft/yr	under-registration VOSEA
WI	Water Imported:	n	g	7	219,712.000	Acre-ft/Yr	n	g		percent	WIEA
WE	Water Exported:	n	g	7	306.000	Acre-ft/Yr	n	g		percent	WEEA
	WATER SUPPLIED:				432,014.566	Acre-ft/Yr					

AUTHORIZED CONSUMPTION

choose entry option:

BMAC	Billed Metered:	n	g	8	400,036.210	Acre-ft/Yr					
BUAC	Billed Unmetered:	n	g	n/a		Acre-ft/Yr					
UMAC	Unbilled Metered:	n	g	n/a		Acre-ft/Yr					
UUAC	Unbilled Unmetered:	n	g	5	4,933.901	Acre-ft/Yr				custom 4,933.901 acre-ft/yr	
	AUTHORIZED CONSUMPTION:				404,970.111	Acre-ft/Yr					

WATER LOSSES 27,044.455 Acre-ft/Yr

Apparent Losses

choose entry option:

SDHE	Systematic Data Handling Errors:	n	g	10	186.880	Acre-ft/Yr				custom 186.880 acre-ft/yr	
CMI	Customer Metering Inaccuracies:	n	g	10	5,373.700	Acre-ft/Yr				volume 5,373.700 acre-ft/yr	under-registration
UC	Unauthorized Consumption:	n	g	3	1,000.091	Acre-ft/Yr				0.25% default	

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 6,560.671 Acre-ft/Yr

Real Losses

Real Losses: 20,483.784 Acre-ft/Yr

WATER LOSSES: 27,044.455 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 31,978.356 Acre-ft/Yr

SYSTEM DATA

Lm	Length of mains:	n	g	6	7,400.3	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	6	751,947		(active and inactive)
	Service connection density:				102	conn./mile main	
	Are customer meters typically located at the curbstop/property line?				Yes		
Lp		n	g	10			

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP Average Operating Pressure: n g 8 110.6 psi

COST DATA

CRUC	Customer Retail Unit Charge:	n	g	7	$8.46	$/100 cubic feet (ccf)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n	g	10	$1,242.99	$/acre-ft	$1,542,100,150	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

*** The Water Audit Data Validity Score is in Tier III (51-70). See Dashboard tab for additional outputs. *** go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Volume from Own Sources (VOS)

2: Water Imported (WI)

3: Billed Metered (BMAC)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:	43.5	gal/conn/day
Unit Apparent Losses:	8.6	gal/conn/day
Unit Real Losses[a]:	34.9	gal/conn/day
Unit Real Losses[b]:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

Appendix E: Water Loss Audit Worksheets

AWWA Free Water Audit Software
Water Balance

FWAS v6.0

Water Audit Report for: Los Angeles Department of Water and Power
Audit Year: 2024 Jul 01 2023 - Jun 30 2024
Data Validity Tier: Tier IV (71-90)

		Water Exported (WE) (corrected for known errors) 635.300	Billed Water Exported			Revenue Water (Exported) 635.300
Volume from Own Sources (VOS) (corrected for known errors) 297,831.255	System Input Volume 438,328.455	Water Supplied 437,693.155	Authorized Consumption 407,304.326	Billed Authorized Consumption 403,448.330	Billed Metered Consumption (BMAC) (water exported is removed) 403,448.330	Revenue Water 403,448.330
					Billed Unmetered Consumption (BUAC) 0.000	
				Unbilled Authorized Consumption 3,855.996	Unbilled Metered Consumption (UMAC) 0.000	Non-Revenue Water (NRW) 34,244.825
					Unbilled Unmetered Consumption (UUAC) 3,855.996	
			Water Losses 30,388.829	Apparent Losses 6,653.671	Systematic Data Handling Errors (SDHE) 348.920	
					Customer Metering Inaccuracies (CMI) 5,296.130	
					Unauthorized Consumption (UC) 1,008.621	
Water Imported (WI) (corrected for known errors) 140,497.200				Real Losses 23,735.158	Leakage on Transmission and/or Distribution Mains Not broken down	
					Leakage and Overflows at Utility's Storage Tanks Not broken down	
					Leakage on Service Connections Not broken down	

AWWA Free Water Audit Software: Worksheet

FWAS v6.0
American Water Works Association.

Water Audit Report for: Los Angeles Department of Water and Power
Audit Year: 2024 | Jul 01 2023 - Jun 30 2024 | Fiscal

Click 'n' to add notes
Click 'g' to determine data validity grade
To edit water system info: go to start page
To access definitions, click the input name
All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

							choose entry option:				
VOS	Volume from Own Sources:	n	g	9	297,831.255	Acre-ft/Yr	n g 10	volume		acre-ft/yr	VOSEA
WI	Water Imported:	n	g	3	140,497.200	Acre-ft/Yr	n g	percent			WIEA
WE	Water Exported:	n	g	7	635.300	Acre-ft/Yr	n g	percent			WEEA
	WATER SUPPLIED:				437,693.155	Acre-ft/Yr					

AUTHORIZED CONSUMPTION

							choose entry option:			
BMAC	Billed Metered:	n	g	8	403,448.330	Acre-ft/Yr				
BUAC	Billed Unmetered:	n	g	n/a		Acre-ft/Yr				
UMAC	Unbilled Metered:	n	g	n/a		Acre-ft/Yr				
UUAC	Unbilled Unmetered:	n	g	8	3,855.996	Acre-ft/Yr		custom	3,855.996	acre-ft/yr
	AUTHORIZED CONSUMPTION:				407,304.326	Acre-ft/Yr				

WATER LOSSES

30,388.829 Acre-ft/Yr

Apparent Losses

							choose entry option:				
SDHE	Systematic Data Handling Errors:	n	g	10	348.920	Acre-ft/Yr		custom	348.920	acre-ft/yr	
CMI	Customer Metering Inaccuracies:	n	g	10	5,296.130	Acre-ft/Yr		volume	5,296.130	acre-ft/yr	under-registration
UC	Unauthorized Consumption:	n	g	3	1,008.621	Acre-ft/Yr	0.25%	default			

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 6,653.671 Acre-ft/Yr

Real Losses

Real Losses: 23,735.158 Acre-ft/Yr

WATER LOSSES: 30,388.829 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 34,244.825 Acre-ft/Yr

SYSTEM DATA

Lm	Length of mains:	n	g	6	7,400.4	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	6	754,001		(active *and* inactive)
	Service connection density:				102	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp n g 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP	Average Operating Pressure:	n	g	8	110.3	psi	

COST DATA

CRUC	Customer Retail Unit Charge:	n	g	7	$9.09	$/100 cubic feet (ccf)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n	g	10	$944.41	$/acre-ft	$1,644,655,021	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

*** The Water Audit Data Validity Score is in Tier IV (71-90). See Dashboard tab for additional outputs. ***

go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Water Imported (WI)
2: Billed Metered (BMAC)
3: Unauthorized Consumption (UC)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:	43.5	gal/conn/day
Unit Apparent Losses:	8.6	gal/conn/day
Unit Real Losses*:	34.9	gal/conn/day
Unit Real Losses**:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

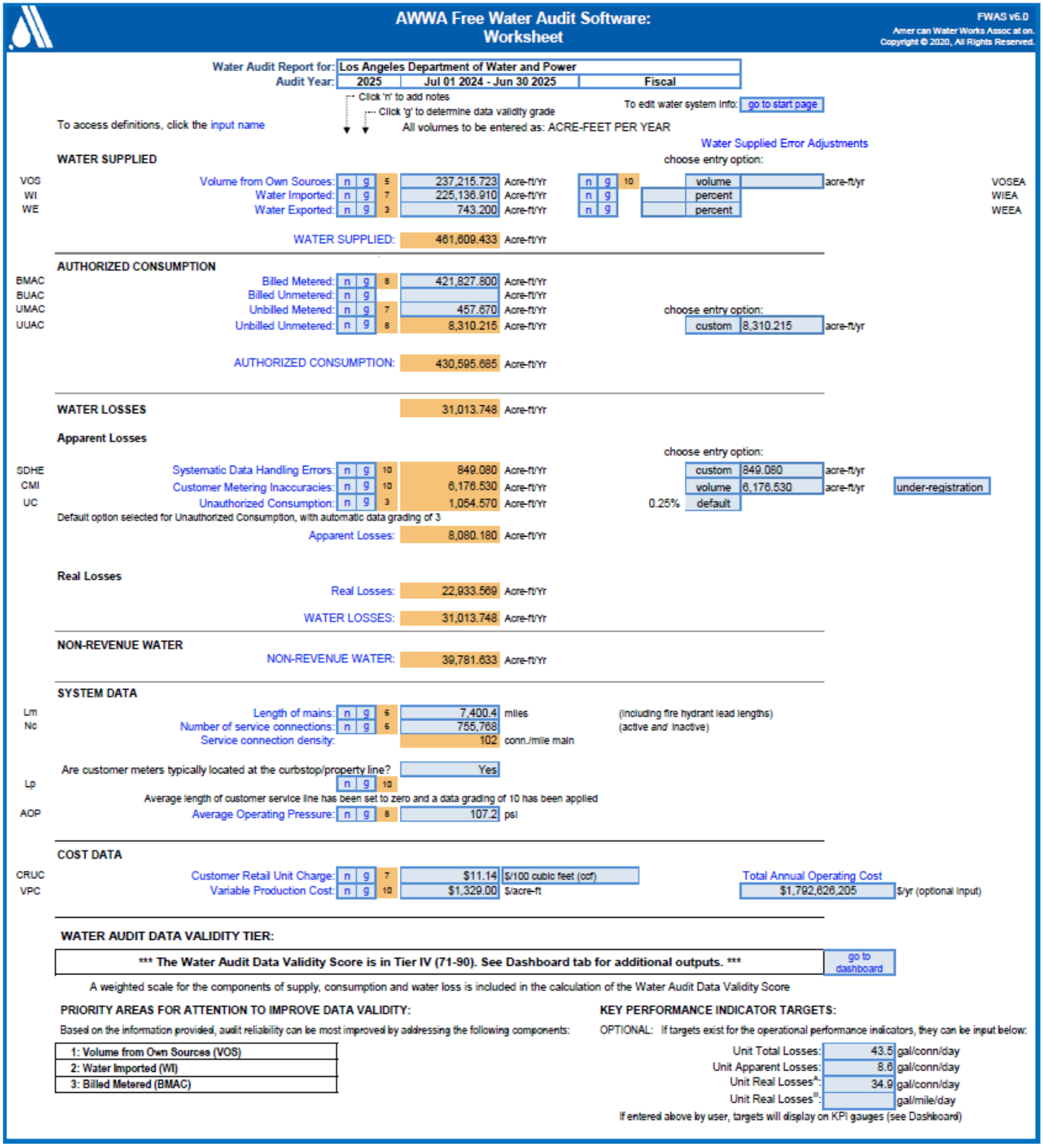
Appendix E: Water Loss Audit Worksheets

AWWA Free Water Audit Software
Water Balance

FWAS v6.0

Water Audit Report for: Los Angeles Department of Water and Power
Audit Year: 2025 Jul 01 2024 - Jun 30 2025
Data Validity Tier: Tier IV (71-90)

		Water Exported (WE) (corrected for known errors) *743.200*	Billed Water Exported			Revenue Water (Exported) 743.200
Volume from Own Sources (VOS) (corrected for known errors) *237,215.723*	System Input Volume *462,352.633*	Water Supplied *461,609.433*	Authorized Consumption *430,595.685*	Billed Authorized Consumption *421,827.800*	Billed Metered Consumption (BMAC) (water exported is removed) *421,827.800*	Revenue Water 421,827.800
					Billed Unmetered Consumption (BUAC) *0.000*	
				Unbilled Authorized Consumption *8,767.885*	Unbilled Metered Consumption (UMAC) *457.670*	Non-Revenue Water (NRW) 39,781.633
					Unbilled Unmetered Consumption (UUAC) *8,310.215*	
			Water Losses *31,013.748*	Apparent Losses *8,080.180*	Systematic Data Handling Errors (SDHE) *849.080*	
					Customer Metering Inaccuracies (CMI) *6,176.530*	
					Unauthorized Consumption (UC) *1,054.570*	
Water Imported (WI) (corrected for known errors) *225,136.910*				Real Losses *22,933.569*	Leakage on Transmission and/or Distribution Mains *Not broken down*	
					Leakage and Overflows at Utility's Storage Tanks *Not broken down*	
					Leakage on Service Connections *Not broken down*	



AWWA Free Water Audit Software: Worksheet

FWAS v6.0

Water Audit Report for: Los Angeles Department of Water and Power
Audit Year: 2025 | Jul 01 2024 - Jun 30 2025 | Fiscal

Click 'n' to add notes
Click 'g' to determine data validity grade
To edit water system info: go to start page
To access definitions, click the input name
All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED — choose entry option:

VOS	Volume from Own Sources:	n g	5	237,215.723	Acre-ft/Yr	n g	10	volume		acre-ft/yr	VOSEA
WI	Water Imported:	n g	7	225,136.910	Acre-ft/Yr	n g		percent			WIEA
WE	Water Exported:	n g	3	743.200	Acre-ft/Yr	n g		percent			WEEA
	WATER SUPPLIED:			461,609.433	Acre-ft/Yr						

AUTHORIZED CONSUMPTION

BMAC	Billed Metered:	n g	8	421,827.800	Acre-ft/Yr				
BUAC	Billed Unmetered:	n g			Acre-ft/Yr				
UMAC	Unbilled Metered:	n g	7	457.670	Acre-ft/Yr	choose entry option:			
UUAC	Unbilled Unmetered:	n g	8	8,310.215	Acre-ft/Yr	custom	8,310.215	acre-ft/yr	
	AUTHORIZED CONSUMPTION:			430,595.685	Acre-ft/Yr				

WATER LOSSES 31,013.748 Acre-ft/Yr

Apparent Losses — choose entry option:

SDHE	Systematic Data Handling Errors:	n g	10	849.080	Acre-ft/Yr	custom	849.080	acre-ft/yr	
CMI	Customer Metering Inaccuracies:	n g	10	6,176.530	Acre-ft/Yr	volume	6,176.530	acre-ft/yr	under-registration
UC	Unauthorized Consumption:	n g	3	1,054.570	Acre-ft/Yr	0.25%	default		

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 8,080.180 Acre-ft/Yr

Real Losses

Real Losses: 22,933.569 Acre-ft/Yr

WATER LOSSES: 31,013.748 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 39,781.633 Acre-ft/Yr

SYSTEM DATA

Lm	Length of mains:	n g	6	7,400.4	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n g	6	755,768		(active and inactive)
	Service connection density:			102	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp n g 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP Average Operating Pressure: n g 8 107.2 psi

COST DATA

CRUC	Customer Retail Unit Charge:	n g	7	$11.14	$/100 cubic feet (ccf)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n g	10	$1,329.00	$/acre-ft	$1,792,626,205	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

*** The Water Audit Data Validity Score is in Tier IV (71-90). See Dashboard tab for additional outputs. *** go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Volume from Own Sources (VOS)
2: Water Imported (WI)
3: Billed Metered (BMAC)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:	43.5	gal/conn/day
Unit Apparent Losses:	8.6	gal/conn/day
Unit Real Losses[A]:	34.9	gal/conn/day
Unit Real Losses[B]:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

Appendix F
UWMP Outreach and Public Notices

Outreach Overview

The Los Angeles Department of Water and Power (LADWP) conducted an extensive outreach campaign to encourage community involvement during the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) process. The campaign began in late 2025 and included two Water System stakeholder engagement meetings. LADWP's Water System Stakeholder Engagement Group is comprised of stakeholders and subject matter experts to support and participate in the development of various water initiatives with the goal of promoting reliable and high-quality drinking water for the City of Los Angeles. In addition to the stakeholder engagement meetings, LADWP held numerous presentations to neighborhood council alliances in the second half of 2025. LADWP also held two overview meetings and four public meetings in early 2026 for the public to receive information and provide feedback on the UWMP, prior to the draft 2025 UWMP completion. The draft 2025 UWMP was released on February 12, 2026, for public review. The outreach campaign concluded with a public hearing before its adoption on May 12, 2026.

Public Outreach				
Group	Date		Time	Location
LADWP-Neighborhood Council Memorandum of Understanding Oversight and Advocacy Committee	Saturday	September 6, 2025	8:30 AM	Virtually via Zoom
Stakeholder Engagement Group	Friday	September 12, 2025	10:00 AM	Virtually via Zoom and LADWP Headquarters 111 North Hope Street, Los Angeles, CA 90012
Westside Regional Alliance of Councils	Monday	September 15, 2025	6;30 PM	Virtually via Zoom
South Los Angeles Alliance of Neighborhood Councils	Thursday	September 15, 2025	6:30 PM	Virtually via Zoom
Harbor Gateway South Neighborhood Council	Thursday	October 9, 2025	6:30 PM	970 W 190th Street, Suite 150 Torrance, 90501
Harbor Gateway North Alliance of Neighborhood Councils	Tuesday	October 28, 2025	7:00 PM	555 W. Redondo Beach Boulevard, Gardena, CA 90248. Room 185.

Overview Meetings			
Date		Time	Location
Thursday	January 15, 2026	12:00 PM	Virtually via Zoom
Thursday	January 15, 2026	6:30 PM	Virtually via Zoom

Public Meetings			
Date		Time	Location
Thursday	February 19, 2026	12:00 PM	Virtually via Zoom
Wednesday	February 25, 2026	6:30 PM	Cahuenga Branch Library 4591 Santa Monica Blvd Los Angeles, CA, 90029
Wednesday	March 4, 2026	6:30 PM	North Hollywood Senior Center 1430 Chandler Blvd North Hollywood, CA 91601
Saturday	March 14, 2026	9:00 AM	Virtually via Zoom

60-Day Notice

In accordance with California Water Code (CWC), Section 10621, LADWP notified the cities and agencies within LADWP's service area listed below on February 26, 2026, regarding the preparation of the 2025 UWMP and WSCP and upcoming public hearing at least 60 days prior to the public hearing held on May 12, 2026. A copy of each 60-day notice is included in the following pages.

Cities and agencies notified:

- City of Beverly Hills
- City of Burbank
- City of Calabasas
- City of Culver City
- City of Inglewood
- City of Lomita
- City of Lynwood
- City of Santa Monica
- City of West Hollywood
- Los Angeles County Department of Public Works

Newspaper Publications

In accordance with CWC Section 10642, LADWP published notices to inform the public of the May 12, 2026 Public Hearing for adoption of the 2025 UWMP and WSCP. Notices of public hearing were first published 14 days prior to the public hearing and again in the same publication seven days prior to the public hearing. More information on the notices is provided below.

Public Hearing Newspaper Publication Notices	
Media Outlet	Date
Los Angeles Daily News	April 28, 2026
La Opinion (Spanish)	April 28, 2026
Los Angeles Daily News	May 5, 2026
La Opinion (Spanish)	May 5, 2026

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60-Day Notice

February 26, 2026

Ms. Shana Epstein
Director of Public Works
City of Beverly Hills
455 North Rexford Drive
Beverly Hills, California 90210

Dear Ms. Epstein:

Subject: City of Los Angeles 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan Updates and Notice of Public Hearing

The Los Angeles Department of Water and Power (LADWP) is sending this updated notice to inform the City of Beverly Hills that the public review drafts of the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) were released on February 12, 2026.

A prior notice indicated that multiple Public Hearings were to take place. This updated notice is being provided to inform you that multiple Public Meetings will take place in February and March and the Public Hearing for the 2025 UWMP and 2025 WSCP will be held during the regular meeting of the Board of Water and Power Commissioners on April 28, 2026.

In accordance with California Water Code (CWC), Section 10621, your city is within LADWP's service area and is hereby notified of our planned changes and adoption of the 2025 UWMP and WSCP. This updated notification is being made to you at least 60 days before our Public Hearing, as required by CWC Section 10621.

More information will be posted on LADWP's website. Please refer to our website, www.ladwp.com/UWMP for the most up-to-date information.

If you have any questions or comments, please contact Mr. Ben Wong at (213) 367-1414, or by e-mail at uwmp@ladwp.com.

Sincerely,

David R. Pettijohn
Director of Water Resources

KP:lj
c: Robert Welch, City of Beverly Hills
Delon Kwan
Sabrina Tsui
Benjamin Wong

February 26, 2026

Ms. Mandip Samra
General Manager
City of Burbank
164 West Magnolia Boulevard,
Burbank, California 91502-1720

Dear Ms. Samra,

Subject: City of Los Angeles 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan Updates and Notice of Public Hearing

The Los Angeles Department of Water and Power (LADWP) is sending this updated notice to inform the City of Burbank that the public review drafts of the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) were released on February 12, 2026.

A prior notice indicated that multiple Public Hearings were to take place. This updated notice is being provided to inform you that multiple Public Meetings will take place in February and March and the Public Hearing for the 2025 UWMP and 2025 WSCP will be held during the regular meeting of the Board of Water and Power Commissioners on April 28, 2026.

In accordance with California Water Code (CWC), Section 10621, your agency is within LADWP's service area and is hereby notified of our planned changes and adoption of the 2025 UWMP and WSCP. This updated notification is being made to you at least 60 days before our Public Hearing, as required by CWC Section 10621.

More information will be posted on LADWP's website. Please refer to our website, www.ladwp.com/UWMP for the most up-to-date information.

If you have any questions or comments, please contact Mr. Ben Wong at (213) 367-1414, or by e-mail at uwmp@ladwp.com.

Sincerely,

David R. Pettijohn
Director of Water Resources

KP:lj
c: Richard Wilson, Burbank Water and Power
Delon Kwan
Sabrina Tsui
Benjamin Wong

February 26, 2026

Mr. Curtis Castle
Director of Public Works
City of Calabasas
100 Civic Center Way
Calabasas, California 91302

Dear Mr. Castle:

Subject: City of Los Angeles 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan Updates and Notice of Public Hearing

The Los Angeles Department of Water and Power (LADWP) is sending this updated notice to inform the City of Calabasas that the public review drafts of the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) were released on February 12, 2026.

A prior notice indicated that multiple Public Hearings were to take place. This updated notice is being provided to inform you that multiple Public Meetings will take place in February and March and the Public Hearing for the 2025 UWMP and 2025 WSCP will be held during the regular meeting of the Board of Water and Power Commissioners on April 28, 2026.

In accordance with California Water Code (CWC), Section 10621, your city is within LADWP's service area and is hereby notified of our planned changes and adoption of the 2025 UWMP and WSCP. This updated notification is being made to you at least 60 days before our Public Hearing, as required by CWC Section 10621.

More information will be posted on LADWP's website. Please refer to our website, www.ladwp.com/UWMP for the most up-to-date information.

If you have any questions or comments, please contact Mr. Ben Wong at (213) 367-1414, or by e-mail at uwmp@ladwp.com.

Sincerely,

David R. Pettijohn
Director of Water Resources

KP:lj
c: Delon Kwan
Sabrina Tsui
Benjamin Wong

February 26, 2026

Mr. Yanni Demitri
Director of Public Works & City Engineer
City of Culver City
9770 Culver Blvd, 2nd Floor
Culver City, California 90232

Dear Mr. Demitri,

Subject: City of Los Angeles 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan Updates and Notice of Public Hearing

The Los Angeles Department of Water and Power (LADWP) is sending this updated notice to inform the City of Culver City that the public review drafts of the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) were released on February 12, 2026.

A prior notice indicated that multiple Public Hearings were to take place. This updated notice is being provided to inform you that multiple Public Meetings will take place in February and March and the Public Hearing for the 2025 UWMP and 2025 WSCP will be held during the regular meeting of the Board of Water and Power Commissioners on April 28, 2026.

In accordance with California Water Code (CWC), Section 10621, your city is within LADWP's service area and is hereby notified of our planned changes and adoption of the 2025 UWMP and WSCP. This updated notification is being made to you at least 60 days before our Public Hearing, as required by CWC Section 10621.

More information will be posted on LADWP's website. Please refer to our website, www.ladwp.com/UWMP for the most up-to-date information.

If you have any questions or comments, please contact Mr. Ben Wong at (213) 367-1414, or by e-mail at uwmp@ladwp.com.

Sincerely,

David R. Pettijohn
Director of Water Resources

KP:lj
c: Delon Kwan
Sabrina Tsui
Benjamin Wong

February 26, 2026

Mr. Tony Olmos
Director of Public Works
City of Inglewood
One Manchester Boulevard
Inglewood, California 90301

Dear Mr. Olmos:

Subject: City of Los Angeles 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan Updates and Notice of Public Hearing

The Los Angeles Department of Water and Power (LADWP) is sending this updated notice to inform the City of Inglewood that the public review drafts of the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) were released on February 12, 2026.

A prior notice indicated that multiple Public Hearings were to take place. This updated notice is being provided to inform you that multiple Public Meetings will take place in February and March and the Public Hearing for the 2025 UWMP and 2025 WSCP will be held during the regular meeting of the Board of Water and Power Commissioners on April 28, 2026.

In accordance with California Water Code (CWC), Section 10621, your city is within LADWP's service area and is hereby notified of our planned changes and adoption of the 2025 UWMP and WSCP. This updated notification is being made to you at least 60 days before our Public Hearing, as required by CWC Section 10621.

More information will be posted on LADWP's website. Please refer to our website, www.ladwp.com/UWMP for the most up-to-date information.

If you have any questions or comments, please contact Mr. Ben Wong at (213) 367-1414, or by e-mail at uwmp@ladwp.com.

Sincerely,

David R. Pettijohn
Director of Water Resources

KP:lj
c: Delon Kwan
Sabrina Tsui
Benjamin Wong

February 26, 2026

Mr. Mark Pestrella, Director
Los Angeles County Department of Public Works
900 South Freemont Avenue
Alhambra, California 91803

Dear Mr. Pestrella:

Subject: City of Los Angeles 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan Updates and Notice of Public Hearing

The Los Angeles Department of Water and Power (LADWP) is sending this updated notice to inform the unincorporated areas of Los Angeles County that the public review drafts of the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) were released on February 12, 2026.

A prior notice indicated that multiple Public Hearings were to take place. This updated notice is being provided to inform you that multiple Public Meetings will take place in February and March and the Public Hearing for the 2025 UWMP and 2025 WSCP will be held during the regular meeting of the Board of Water and Power Commissioners on April 28, 2026.

In accordance with California Water Code (CWC), Section 10621, portions of the unincorporated areas of Los Angeles County fall within LADWP's service area and is hereby notified of our planned changes and adoption of the 2025 UWMP and WSCP. This updated notification is being made to you at least 60 days before our Public Hearing, as required by CWC Section 10621.

More information will be posted on LADWP's website. Please refer to our website, www.ladwp.com/UWMP for the most up-to-date information.

If you have any questions or comments, please contact Mr. Ben Wong at (213) 367-1414, or by e-mail at uwmp@ladwp.com.

Sincerely,

David R. Pettijohn
Director of Water Resources

KP:lj
c: Carolina Hernandez, Los Angeles County Department of Public Works
Delon Kwan
Sabrina Tsui
Benjamin Wong

February 26, 2026

Mr. Andres Gonzalez
Director of Public Works
City of Lomita
24300 Narbonne Ave.
Lomita, California 90717

Dear Mr. Gonzalez:

Subject: City of Los Angeles 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan Updates and Notice of Public Hearing

The Los Angeles Department of Water and Power (LADWP) is sending this updated notice to inform the City of Lomita that the public review drafts of the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) were released on February 12, 2026.

A prior notice indicated that multiple Public Hearings were to take place. This updated notice is being provided to inform you that multiple Public Meetings will take place in February and March and the Public Hearing for the 2025 UWMP and 2025 WSCP will be held during the regular meeting of the Board of Water and Power Commissioners on April 28, 2026.

In accordance with California Water Code (CWC), Section 10621, your city is within LADWP's service area and is hereby notified of our planned changes and adoption of the 2025 UWMP and WSCP. This updated notification is being made to you at least 60 days before our Public Hearing, as required by CWC Section 10621.

More information will be posted on LADWP's website. Please refer to our website, www.ladwp.com/UWMP for the most up-to-date information.

If you have any questions or comments, please contact Mr. Ben Wong at (213) 367-1414, or by e-mail at uwmp@ladwp.com.

Sincerely,

David R. Pettijohn
Director of Water Resources

KP:lj
c: Delon Kwan
Sabrina Tsui
Benjamin Wong

February 26, 2026

Ms. Rita Montalvo
Director of Public Works
City of Lynwood
11330 Bullis Road
Lynwood, California 90262

Dear Ms. Montalvo:

Subject: City of Los Angeles 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan Updates and Notice of Public Hearing

The Los Angeles Department of Water and Power (LADWP) is sending this updated notice to inform the City of Lynwood that the public review drafts of the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) were released on February 12, 2026.

A prior notice indicated that multiple Public Hearings were to take place. This updated notice is being provided to inform you that multiple Public Meetings will take place in February and March and the Public Hearing for the 2025 UWMP and 2025 WSCP will be held during the regular meeting of the Board of Water and Power Commissioners on April 28, 2026.

In accordance with California Water Code (CWC), Section 10621, your city is within LADWP's service area and is hereby notified of our planned changes and adoption of the 2025 UWMP and WSCP. This updated notification is being made to you at least 60 days before our Public Hearing, as required by CWC Section 10621.

More information will be posted on LADWP's website. Please refer to our website, www.ladwp.com/UWMP for the most up-to-date information.

If you have any questions or comments, please contact Mr. Ben Wong at (213) 367-1414, or by e-mail at uwmp@ladwp.com.

Sincerely,

David R. Pettijohn
Director of Water Resources

KP:lj
c: Delon Kwan
Sabrina Tsui
Benjamin Wong

February 26, 2026

Mr. Oliver Chi
City Manager
City of Santa Monica
1685 Main Street,
Santa Monica, CA 90401

Dear Mr. Chi:

Subject: City of Los Angeles 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan Updates and Notice of Public Hearing

The Los Angeles Department of Water and Power (LADWP) is sending this updated notice to inform the City of Santa Monica that the public review drafts of the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) were released on February 12, 2026.

A prior notice indicated that multiple Public Hearings were to take place. This updated notice is being provided to inform you that multiple Public Meetings will take place in February and March and the Public Hearing for the 2025 UWMP and 2025 WSCP will be held during the regular meeting of the Board of Water and Power Commissioners on April 28, 2026.

In accordance with California Water Code (CWC), Section 10621, your city is within LADWP's service area and is hereby notified of our planned changes and adoption of the 2025 UWMP and WSCP. This updated notification is being made to you at least 60 days before our Public Hearing, as required by CWC Section 10621.

More information will be posted on LADWP's website. Please refer to our website, www.ladwp.com/UWMP for the most up-to-date information.

If you have any questions or comments, please contact Mr. Ben Wong at (213) 367-1414, or by e-mail at uwmp@ladwp.com.

Sincerely,

David R. Pettijohn
Director of Water Resources

KP:lj
c: Sunny Wang, City of Santa Monica
Delon Kwan
Sabrina Tsui
Benjamin Wong

February 26, 2026

Ms. Jackie Rocco
City Manager
City of West Hollywood
8300 Santa Monica Boulevard
West Hollywood, California 90069

Dear Ms. Rocco:

Subject: City of Los Angeles 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan Updates and Notice of Public Hearing

The Los Angeles Department of Water and Power (LADWP) is sending this updated notice to inform the City of West Hollywood that the public review drafts of the 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) were released on February 12, 2026.

A prior notice indicated that multiple Public Hearings were to take place. This updated notice is being provided to inform you that multiple Public Meetings will take place in February and March and the Public Hearing for the 2025 UWMP and 2025 WSCP will be held during the regular meeting of the Board of Water and Power Commissioners on April 28, 2026.

In accordance with California Water Code (CWC), Section 10621, your City is within LADWP's service area and is hereby notified of our planned changes and adoption of the 2025 UWMP and WSCP. This updated notification is being made to you at least 60 days before our Public Hearing, as required by CWC Section 10621.

More information will be posted on LADWP's website. Please refer to our website, www.ladwp.com/UWMP for the most up-to-date information.

If you have any questions or comments, please contact Mr. Ben Wong at (213) 367-1414, or by e-mail at uwmp@ladwp.com.

Sincerely,

David R. Pettijohn
Director of Water Resources

KP:lj
c: Helen Collins, City of West Hollywood
Delon Kwan
Sabrina Tsui
Benjamin Wong

LADWP Reliability Assessment Submittal to MWD

Appendix F: UWMP Outreach and Public Notices

LADWP 2025 UWMP Draft Reliability Analysis

Wong, Benjamin</O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=766101437ID945B8ADC33DFA0F2B0826-WONG, BENJA>

Reply | Reply all | Forward

To: Sumi,David H; Carrillo,Carlos A

Cc: Tsui, Sabrina <Sabrina.Tsui@ladwp.com>; Kuo, Steven <Steven.Kuo@ladwp.com>

Fri 2/13/2026 10:33 AM

LADWP Draft Reliability Analysi...
877 KB

Hi David and Carlos,

As part of LADWP's 2025 UWMP update process, I am sending you a draft copy of our reliability analysis through 2050, which includes consideration under average, single-dry, and multi-dry year conditions. All scenarios are defined based on historic Eastern Sierra Nevada conditions; an average year uses a 30-year median hydrology from FY 1990/91 to FY 2019/20; single dry-year uses hydrology from FY 2021/22 hydrology; and multi-dry year uses hydrology from FY 2011/12 to FY 2015/16.

Also included is our Drought Risk Assessment which considers multi-dry year scenarios for the next 5 years. The Drought Risk Assessment repeats LADWP's driest consecutive year sequence from FY 2011/12 to FY 2015/16.

Please contact me if you have any questions regarding our analysis.

I also want to inform you that our Public Review Draft 2025 UWMP and 2025 WSCP have been released and are available at www.ladwp.com/uwmp.

Thank you,

Ben Wong, PE, MBA

Water Resources - Strategic Planning

Los Angeles Department of Water and Power

Office: (213) 367-1414

Cell: (213) 526-8811

Exhibit 9B

Service Area Reliability Assessment for Average Year

Demand and Supply Projections (in acre feet)	FY 24/25 Actuals	Average Year (30 year median hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	193,400	193,400	193,400	193,400	193,400
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	133,900	95,200	100,800	104,700	105,300
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit 9C

Service Area Reliability Assessment for Single Dry Year

Demand and Supply Projections (in acre feet)	FY 24/25 Actuals	Single Dry Year (FY 2021/22 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	59,400	58,900	58,300	57,800	57,200
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	267,900	229,700	235,900	240,300	241,500
Total Supplies	***475,900***	*472,300*	*457,200*	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit 9D

Service Area Reliability Assessment for Multiple Dry Years

Demand and Supply Projections (in acre feet)	FY 24/25 Actuals	Multiple Dry Year (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	62,200	61,600	61,000	60,500	59,900
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	265,100	227,000	233,200	237,600	238,800
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit 9E
Service Area Drought Risk Assessment

Demand and Supply Projections (in acre feet)	FY 24/25 Actuals	Drought Risk Assessment (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2026	2027	2028	2029	2030
Water Demand	**475,900***	**474,100**	**473,400**	**473,000**	**472,500**	**472,300**
Supplies						
Los Angeles Aqueduct	232,200	90,500	71,900	66,800	61,700	184,800
Groundwater	6,100	92,300	94,900	94,900	94,900	103,800
Recycled Water – LA GWR	-	-	-	-	22,000	22,000
Recycled Water – Non-potable Use	13,200	13,700	16,100	16,300	17,900	19,200
Metropolitan Water District	224,400	277,600	290,500	295,000	276,000	142,500
Total Supplies	***475,900***	***474,100***	***473,400***	***473,000***	***472,500***	***472,300***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Print Ads and Promotions

Los Angeles LA DWP Department of Water & Power

Creating a Stronger Water Supply Future for Los Angeles!

2025 Urban Water Management Plan & Water Shortage Contingency Plan Public Meetings

Public Comment Period
Feb. 12 - Mar. 16, 2026

Public Meetings
Feb. 19 (virtual)
Feb. 25 (in-person)
Mar. 4 (in-person)
Mar. 14 (virtual)

SCAN FOR MORE INFO

To participate, please visit LADWP.com/UWMP.

Reasonable accommodation or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the meeting you wish to attend. Due to difficulties in securing Sign Language Interpreters, five or more business days' notice is strongly recommended. For additional information, please contact: Kalei Munoz 213-948-6427

UWMP Public Meeting Ad posted in the *Los Angeles Times*

Los Angeles LA DWP Department of Water & Power

2025 Urban Water Management Plan & Water Shortage Contingency Plan Public Meetings

Los Angeles's Urban Water Management Plan (UWMP) identifies long term strategies to strengthen our reliable water supply and enhance how we manage our water resources for the City of L.A. This plan is updated every five years and outlines tactics to meet the City's water supply goals while ensuring our customers' water needs are met. The UWMP includes LADWP's Water Shortage Contingency Plan (WSCP), which outlines how to identify and address water shortages. It establishes six water shortage levels and specifies actions to take in response.

Join Us in Shaping Our City's Future!

Public Comment Period
February 12 - March 16, 2026

In-Person/Virtual Public Meetings
February and March 2026

Visit LADWP.com/UWMP

For Public Meetings: Reasonable accommodation or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the meeting you wish to attend. Due to difficulties in securing Sign Language Interpreters, five or more business days' notice is strongly recommended. For additional information, please contact: Kalei Munoz 213-948-6427.

UWMP Public Meeting Flyer in English

Los Angeles LA DWP Department of Water & Power

Reuniones Públicas del Plan de Gestión del Agua Urbana 2025 y del Plan de Contingencia por Escasez de Agua

El Plan de Gestión del Agua Urbana (UWMP por sus siglas en inglés) de Los Ángeles identifica estrategias a largo plazo para fortalecer nuestro suministro de agua confiable y mejorar la forma en que manejamos nuestros recursos hídricos para la Ciudad de L.A. Este plan se actualiza cada cinco años y describe tácticas en como cumplir con los objetivos de suministro de agua de la Ciudad, asegurando al mismo tiempo en satisfacer las necesidades de agua de nuestros clientes. El UWMP incluye el Plan de Contingencia por Escasez de Agua (WSCP por sus siglas en inglés) del LADWP, el cual describe cómo identificar y resolver situaciones de escasez de agua. Establece seis niveles de escasez y especifica las acciones que deben tomarse en respuesta.

¡Acompáñenos a dar forma al futuro de nuestra ciudad!

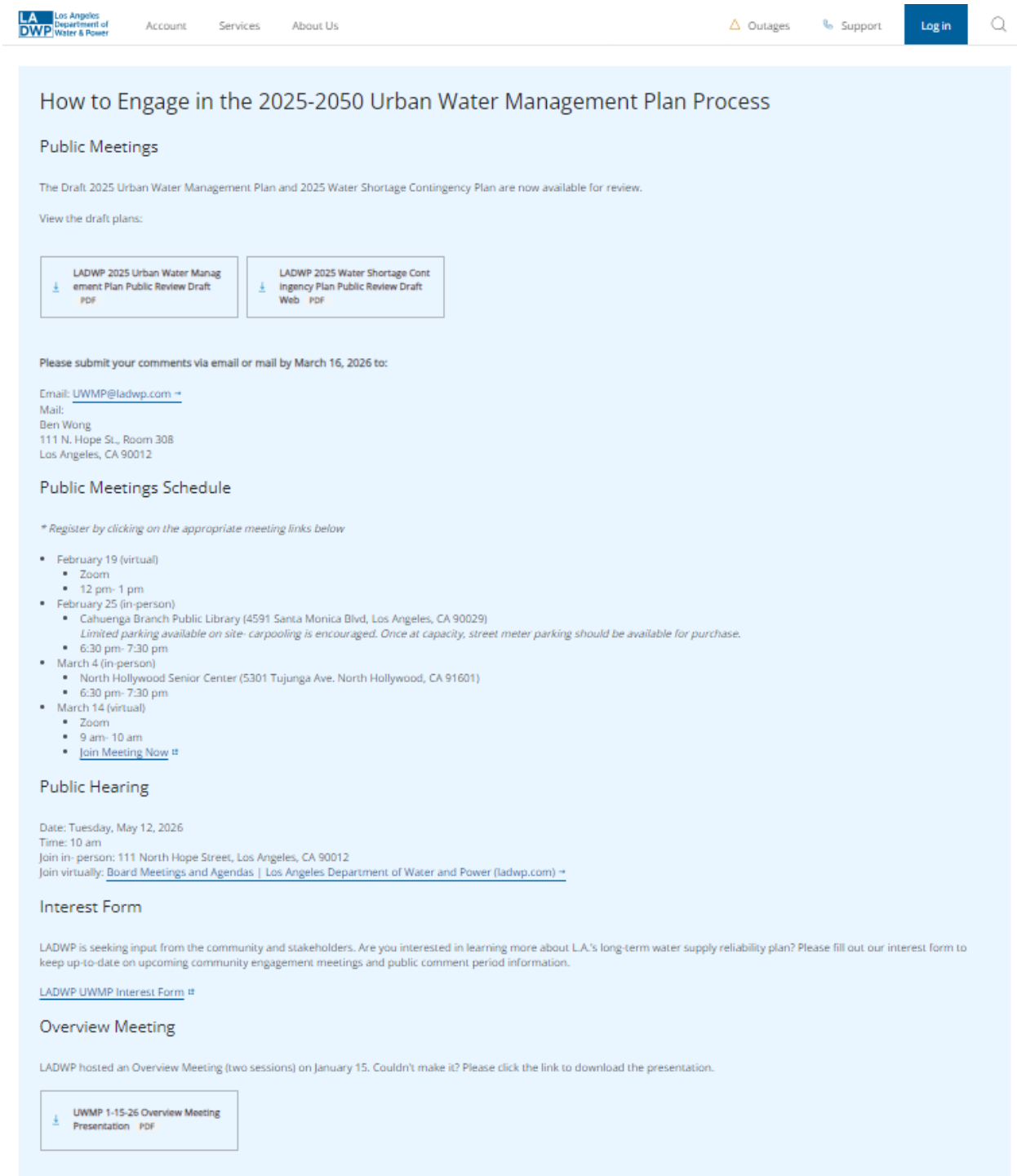
Período de Comentarios Públicos
12 de febrero - 16 de marzo de

Audiencias Públicas Presenciales/ Virtuales
febrero y marzo de 2026

LADWP.com/UWMP

Se pueden proporcionar adaptaciones razonables u otros servicios y/o ayudas auxiliares si se solicitan. Para garantizar la disponibilidad, se recomienda solicitarla con al menos 72 horas de anticipación a la reunión a la que desea asistir. Debido a la dificultad para conseguir intérpretes de lengua de señas, se recomienda avisar con cinco o más días hábiles. Para obtener más información, comuníquese con Kalei Munoz al 213-948-6427.

UWMP Public Meeting Flyer in Spanish



UWMP Webpage

#ViveCA

comunidad@laopinion.com
¿Tienes alguna queja que informamos?
¿Ves problemas en tu vecindario?
¿Deseas compartir un mensaje?

Muchos trabajadores de la construcción ganan por encima del salario mínimo. /HRYSHCHYSHEN SERHII/SHUTTERSTOCK

Salario mínimo en California: a cuánto aumenta para los trabajadores de la construcción

El salario mínimo en California sube a $16.90 por hora en mayo y también impacta al sector construcción, con variaciones según ciudad y especialidad

Alberto Daniel Barboza

A partir del 1 de mayo se reflejará el incremento del salario mínimo aprobado a principios de año en California, un ajuste del 2026 que impactará directamente a miles de trabajadores, incluidos quienes forman parte del sector de la construcción.

Sin embargo, es fundamental que consideres algunos matices del aumento, por ejemplo, la ubicación dentro del estado y el tipo de empleo. De hecho, en algunos casos es probable que el salario mínimo no sea tu ingreso final o definitivo.

Nuevo salario mínimo en el sector construcción

Desde el 1 de enero de 2026, el salario mínimo estatal pasó a $16.90 dólares por hora, un aumento respecto a los $16.50 vigentes anteriormente.

Esta cifra se mantiene como referencia durante el venidero mes de mayo y aplica para la mayoría de los trabajadores, incluidos los de la construcción.

En términos anuales, esto equivale a aproximadamente $35,152 (jornada completa), de acuerdo con estimaciones oficiales del Departamento de Relaciones Industriales de California (DIR).

Sin embargo, el sector de la construcción intervienen factores como:

- Los convenios sindicales
- La especialización (albañilería, electricidad, plomería, entre otros)
- La experiencia del trabajador
- El tipo de proyecto (público o privado)

En este sentido, muchos trabajadores de la construcción ganan por encima del mínimo, especialmente en proyectos grandes o en áreas urbanas donde la demanda es mayor.

Diferencias según la ciudad y el condado

Uno de los aspectos clave en California es que algunas ciudades y condados establecen salarios mínimos más altos que el estatal. Esto significa que un trabajador puede recibir más dependiendo de dónde labore.

Por ejemplo, en zonas como la Bahía de San Francisco o ciudades como San José y Los Ángeles, los ingresos suelen ser más elevados debido al costo de vida y la demanda de mano de obra.

Datos de plataformas laborales indican que los salarios anuales en construcción pueden variar ampliamente. Según la bolsa de trabajo ZipRecruiter, este es el rango aproximado:

- Desde unos $25,000 en posiciones iniciales
- Hasta más de $75,000 en roles especializados

Esto indica que, en promedio, muchos trabajadores se sitúan entre $35,500 y $47,900 al año, dependiendo de sus habilidades y ubicación geográfica.

Finalmente, valora lo siguiente: las leyes laborales en California establecen que todos los trabajadores deben recibir al menos el salario mínimo vigente, sin importar su estatus migratorio. En caso de detectar un pago inferior, el empleado puede presentar una queja ante la Oficina de la Comisión Laboral.

Entender cómo funciona el salario mínimo y sus variaciones permite a los trabajadores tomar decisiones más informadas y exigir condiciones justas dentro del mercado laboral.

UWMP Public Hearing Ad posted in *La Opinión* on April 28th, 2026

#ViveCA

comunidad@laopinion.com
¿Tienes alguna queja que informarnos?
¿Ves problemas en tu vecindario?
¿Deseas compartir un mensaje?

Residentes del sur de Los Ángeles respaldan a José Ugarte (der., azul). /CORTESÍA FAM. UGARTE

¿POR QUÉ ES IMPORTANTE LA ELECCIÓN DE JOSÉ UGARTE PARA EL SUR DE LOS ÁNGELES?

La confianza y seguridad que inspira el candidato en la comunidad permite que los residentes quieran ser parte de la solución a los retos del Distrito 9

Agustín Durán

Recientemente, José Ugarte, candidato a dirigir el Distrito 9, fue respaldado por La Opinión, periódico enfocado en la comunidad latina, y por Los Angeles Sentinel, enfocado en la comunidad afroamericana. Se trata de dos medios que representan a los grupos minoritarios más relevantes de la zona.

Este respaldo refleja el trabajo que José Ugarte ha realizado con ambas comunidades, la confianza que ha logrado generar y, más importante aún, la esperanza que despierta al presentarse como hijo de migrantes que escucha y promueve la participación ciudadana.

En una reciente publicación en Facebook, el candidato describió cómo miembros de la comunidad asistieron a una reunión en Mixed Fruit Store, donde no solo expresaron los problemas que afectan al vecindario, sino que también propusieron soluciones.

"La gente no solo acudió para ser escuchada, sino que llegó lista para buscar soluciones. Debatimos medidas concretas, impulsadas por la propia comunidad, para reducir la velocidad del tráfico, atraer oportunidades laborales y asegurar que las inversiones —como la iluminación de las calles— beneficien realmente a nuestros vecindarios", expresó Ugarte en la red social.

Este tipo de encuentros, que no son aislados, refleja la confianza que el candidato ha construido, así como la disposición de los residentes para colaborar y aportar al desarrollo del Distrito 9, una de las zonas con menos recursos de la ciudad de Los Ángeles.

Cabe recordar que la comunidad latina representa cerca del 80% de la población del distrito. En su mayoría, son migrantes o hijos de migrantes con el deseo de trabajar y contribuir no solo a su bienestar, sino al de toda la comunidad.

Por ello, se subraya la importancia de esta elección el próximo 2 de junio. Ugarte ha logrado acercar a los residentes al gobierno, ayudándolos a superar la timidez o el miedo que muchas veces les impide alzar la voz.

Ese cambio podría marcar una diferencia en el futuro del Distrito 9. Sin embargo, también implica una responsabilidad: las mismas personas que hoy lo respaldan exigirán resultados

Con Ugarte al frente, muchos se sienten identificados, ganan confianza y participan activamente en la búsqueda de soluciones. Ese cambio podría marcar una diferencia en el futuro del Distrito 9. Sin embargo, también implica una responsabilidad: las mismas personas que hoy lo respaldan exigirán resultados.

Si lo visto durante la campaña se refleja en las urnas, su victoria podría representar no solo un triunfo político, sino una oportunidad de mayor participación para la comunidad latina —migrante o hija de migrantes— en Los Ángeles.

Agustín Durán es inmigrante y ha sido periodista en Los Ángeles por más de 30 años

UWMP Public Hearing Ad posted in *La Opinión* on May 5th, 2026

Start Your Day Here

PAGE 2 | SECTION A | TUESDAY, APRIL 28, 2026 | DAILYNEWS.COM

Lauper blasts heckler in Vegas: 'Gonna come for you'

Cyndi Lauper is 72 and winding down her career, but she is a legend, and if you heckle her too much, she might just come after you.

One fan learned that Friday at a Las Vegas show. Lauper was taking her time introducing her song "Sally's Pigeon" when an audience member began heckling her.

"I don't know what the (expletive) you're saying, hon," Lauper said in a video shared by TMZ. "But please remember where you are, OK? Because if you're trying to shade me, (expletive), I'm gonna come for you. I'm from Brooklyn, and if I wanna (expletive) talk, I will do a tap dance if I (expletive) want. Sorry, that of course is not part of my people skills."

Lauper resumed introducing her song, then started singing.

Lauper

STYLES, KRAVITZ CONFIRM ENGAGEMENT TO LOVED ONES

Harry Styles and Zoë Kravitz have confirmed to loved ones that they're engaged, less than a year into the stars' romance.

She was photographed sporting a massive diamond on her left ring finger in London this month, and the pair have told "a small circle" they're heading for the altar, an insider told People on Monday.

Styles

Kravitz

While it's unclear who in their camps has been notified of the engagement, Kravitz, 37, an actor, has reportedly been flaunting her ring to pals, and a source previously told People that her dad, Lenny Kravitz, "really enjoyed" meeting singer Styles, 32.

Representatives for Styles and Kravitz did not immediately respond to requests for comment.

Sources also confirmed the engagement to The News' columnist Richard Johnson this weekend, with one insider saying they'd "never seen two people so besotted with each other" as Kravitz and Styles appear to be.

TRUMPS DEMAND KIMMEL BE FIRED AFTER MELANIA JOKE

Donald and Melania Trump both called for ABC to fire Jimmy Kimmel on Monday after a joke last week in which the late-night comic described the first lady as having "the glow of an expectant widow."

The remark about the president's wife was part of a routine on Thursday's "Jimmy Kimmel Live" in which the host pretended to deliver a comedy routine at the White House Correspondents' Association dinner. That event two nights later was cut short when a man armed with guns and knives tried to enter the Washington ballroom where the Trumps and much of the nation's political leadership had gathered.

There was no immediate comment from ABC.

— *Wire reports*

Hot shot

MLB legend Rick Monday was honored on the 50th anniversary of him saving the American flag during a baseball game in 1976 on Saturday. KEITH BIRMINGHAM — STAFF PHOTOGRAPHER

BIRTHDAYS

Former Secretary of State James A. Baker III is 96.
Ann-Margret is 85.
Chef Alice Waters is 82.
Jay Leno is 76.
Actor Mary McDonnell is 74.
Musician Kim Gordon is 73.
Supreme Court Justice Elena Kagan is 66.
Baseball Hall of Famer Barry Larkin is 62.
Golfer John Daly is 60.
Actor Bridget Moynahan is 55.
Actor Jorge Garcia is 53.
Actor Penelope Cruz is 52.

COOL FACT

Today is National Superhero Day! Marvel employees created National Superhero Day to celebrate everyone's favorite superhero. The idea behind Superhero Day is to honor those who serve and protect while fighting evil.

TODAY IN HISTORY:

1945
Italian dictator Benito Mussolini and his mistress, Clara Petacci, were executed by Italian partisans after attempting to flee the country.

2004
The world first viewed images of prisoner abuse and torture by U.S. troops at Abu Ghraib prison in Iraq via a report broadcast.

2011
Convicted sex offender Phillip Garrido and his wife, Nancy Garrido, pleaded guilty to kidnapping and raping a California girl, Jaycee Dugard.

LOTTERY

WINNING NUMBERS
Daily 3 Afternoon: 3, 4, 8
Daily 3 Evening: 8, 9, 3
Daily 4: 3, 5, 6, 0
Fantasy 5: 2, 4, 5, 10, 31
DAILY DERBY
1st: 8, Money Bags
2nd: 8, Gorgeous George
3rd: 7, Eureka
Race time: 1:46.17
SUPER LOTTO PLUS
Saturday's drawing: 1, 6, 8, 23, 38
Mega number: 22
Wednesday's estimated jackpot: $15 million
MEGA MILLIONS
Friday's drawing: 7, 16, 32, 35, 40
Mega Number: 12
Today's estimated Jackpot: $163 million
POWERBALL
Monday's drawing: 18, 31, 33, 34, 62
Powerball: 2
Monday's estimated jackpot: $120 million

LA DWP Los Angeles Department of Water & Power

2025 Urban Water Management Plan & Water Shortage Contingency Plan Public Hearing

May 12, 2026 | 10:00 AM

111 North Hope Street, Los Angeles, CA

Full plan & more info available at: **LADWP.com/UWMP**

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities. To ensure availability, 72 hours prior to the event is required. For additional information, please contact: **Lesly Figueroa, (213) 982-4076.**

UWMP Public Hearing Ad posted in the *Los Angeles Daily News* on April 28th, 2026

Start Your Day Here

PAGE 2 | SECTION A | TUESDAY, MAY 5, 2026 | DAILYNEWS.COM

Spears takes DUI plea, gets probation but no time in jail

Pop star Britney Spears pleaded to "wet reckless" driving to avoid a jail sentence in connection to a DUI charge she was hit with after a March 4 arrest in Ventura County.

The "Toxic" singer's lawyer, Michael A. Goldstein, entered the plea Monday. It allowed Spears to limit her incarceration to the one day she's already served. She also received a year's probation and must take a DUI class.

The ruling was handed down Monday after the 44-year-old star completed a rehabilitation program.

Prosecutors said last week that Spears had been offered what's called a "wet reckless" deal.

"This type of resolution is common, particularly when a defendant demonstrates self-motivation to address underlying issues through rehabilitation or a drug and alcohol treatment program," prosecutors said in a statement explaining the terms of her deal.

Spears

LIVELY AND BALDONI SETTLE LEGAL DISPUTE, AVOID TRIAL

Blake Lively and Justin Baldoni have agreed to end their legal battle over the acrimonious production of their 2024 film "It Ends With Us."

The two sides settled their legal dispute Monday ahead of a planned trial over Lively's allegations that Baldoni conspired with publicists to preemptively destroy her reputation after she privately accused him of sexually harassing her on the movie set.

In a joint statement, the sides said: "It is our sincere hope that this brings closure and allows all involved to move forward constructively and in peace, including a respectful environment online."

Baldoni, who directed the film and starred in it with Lively, had denied harassing her or orchestrating a smear campaign.

Lively, Baldoni

PARTON CANCELS LAS VEGAS RESIDENCY, CITING HEALTH

Dolly Parton has canceled her previously postponed Las Vegas residency due to health challenges that leave her feeling "swimmy headed" — but has assured fans her ailments are treatable.

"It's going to take me a little while before I'm up to stage-performance level because some of the meds and treatments make me a bit swimmy headed, as my grandma used to say," she said.

She didn't share too many details about her health but clarified that she's always "had problems with my kidney stones," and that her immune system and digestive system "got all out of whack over the past couple three years."

She also clarified that her doctors have assured her "that everything I have is treatable, so I'm going with that."

— Wire reports

Hot shot

Fans of My Morning Jacket sing along during their performance at the Beach Life Festival in Redondo Beach on Sunday. DREW A. KELLEY – STAFF PHOTOGRAPHER

TODAY IN HISTORY

1862

Mexican troops repelled French attacks on the city of Puebla de los Angeles in the Battle of Puebla, aka the Battle of Cinco de Mayo.

1945

In the only fatal attack on the U.S. mainland during World War II, a Japanese balloon bomb exploded in Oregon, killing a pregnant woman and five children.

1961

Astronaut Alan B. Shepard Jr. became America's first space traveler as he made a 15-minute suborbital flight aboard Mercury capsule Freedom 7.

LOTTERY

WINNING NUMBERS
Daily 3 Afternoon: 4, 3, 4
Daily 3 Evening: 4, 8, 9
Daily 4: 4, 5, 8, 7
Fantasy 5: 9, 13, 17, 29, 31
DAILY DERBY
1st: 7, Eureka
2nd: 10, Solid Gold
3rd: 3, Hot Shot
Race time: 1:46.92
SUPER LOTTO PLUS
Saturday's drawing: 14, 20, 23, 38, 44
Mega Number: 20
Wednesday's estimated jackpot: $17 million
MEGA MILLIONS
Friday's drawing: 16, 21, 27, 41, 69
Mega Number: 24
Today's estimated jackpot: $193 million
POWERBALL
Monday's drawing: 33, 36, 42, 60, 63
Powerball: 13
Monday's estimated jackpot: $20 million

BIRTHDAYS

Actor Lance Henriksen is 86. Comedian-actor Michael Palin is 83. Actor Richard E. Grant is 69. R&B singer Raheem DeVaughn is 51. Actor Vincent Kartheiser is 47. Actor Danielle Fishel is 45. Actor Henry Cavill is 43. Singer-songwriter Adele is 38. R&B singer Chris Brown is 37. Tennis player Anyna Sabalenka is 28. Olympic figure skating gold medalist Nathan Chen is 27. Tennis player Carlos Alcaraz is 23. Actor Jenna Davis is 22.

COOL FACT

Pullman, Washington, was once the "Lentil Capital of the World," at one point producing 98% of U.S. lentils.

LA DWP Los Angeles Department of Water & Power

2025 Urban Water Management Plan & Water Shortage Contingency Plan Public Hearing

May 12, 2026 | 10:00 AM

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UWMP Public Hearing Ad posted in the *Los Angeles Daily News* on May 5th, 2026

Appendix G
UWMP Standard Reporting Tables

Table 2-1 Retail Only: Public Water Systems			
Public Water System Number (CA########)	Public Water System Name	Number of Municipal Connections 2025	Volume of Water Supplied 2025 (AF)
CA1910067	LOS ANGELES-CITY, DEPT. OF WATER & POWER	755,768	474,851
	TOTAL	755,768	474,851
*DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.			
NOTES	The number of municipal connections for FYE 2025 includes active and inactive service connections. The volume of water supplied in FYE 2025 also includes 13,241 AF of recycled water.		

Table 2-2: Plan Identification		
Select One	Type of Plan	Name of Regional Alliance or RUMP (Drop Down List)
☑	Individual UWMP	
	If Water Supplier is also a member of a SB X7-7 Regional Alliance, select a name from the drop-down	
☐	Regional Urban Water Management Plan (RUWMP)	
	If Supplier selected RUWMP, select a name from the drop-down	
NOTES		

Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesale supplier
☑	Supplier is a retail supplier
Fiscal or Calendar Year (select one)	
☐	UWMP Tables Are in Calendar Years
☑	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)	
07/01	
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 Table 2-3.	
NOTES	

Table 2-4 Retail: Water Supplier Information Exchange Water Code Section 10631(h)	
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631(h).	
Wholesale Water Supplier Name	
Metropolitan Water District Of Southern California	
NOTES	Metropolitan was notified in Accordance with CWC 10631, on February 13, 2026.

Table 3-1 Retail: Population - Current and Projected Water Code Section 10631(a)						
Population Served	**2025**	**2030**	**2035**	**2040**	**2045**	**2050 (opt)**
	3,875,566	4,037,000	4,148,800	4,262,700	4,336,900	4,358,100
NOTES	Demographic projections were provided for the LADWP service area by MWD who received projected demographic data from Southern California Association of Governments (SCAG). SCAG allocated its 2024 Regional Transportation Plan/Sustainable Communities Strategy demographic data into water service areas for MWD's member agencies.					

Table 4-1 Retail: Total Uses for Potable and Non-Potable Water - Actual Water Code Section 10631(d)(1)			
	2025 Actual Water Use		
Use Type	**Additional Description (as needed)**	**Potable or Non-Potable (OPTIONAL)**	**Volume (AF)**
Single Family			156,899
Multi-Family			141,374
Commercial			89,836
Industrial			12,379
Institutional/Governmental			34,580
Other (OPTIONAL)	Non-revenue Water		39,782
		Subtotal Potable	**0**
		Subtotal Non-Potable	**0**
		TOTAL	**474,850**
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. This table identifies the unit of measure selected in Submittal Tables 2-3			
NOTES	Total volume displayed in Table 4-1 differs from Table 2-1 slightly due to rounding.		

Table 4-2 Retail: Total Uses of Potable, and Non-Potable Water - Projected Water Code Section 10631(d)(1)							
		Projected Water Use Report to the Extent that Records are Available					
Use Type	**Additional Description (as needed)**	**Potable or Non-Potable (OPTIONAL)**	**2030 (AF)**	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050-opt (AF)**
Single Family			153,084	146,838	149,870	152,901	154,503
Multi-Family			144,011	143,075	146,864	149,479	149,886
Commercial	Includes Governmental		129,156	123,485	122,297	120,766	119,482
Industrial			12,317	11,121	10,720	10,480	10,374
Other (OPTIONAL)	Non-Revenue Water		33,770	32,688	33,091	33,389	33,437
		Subtotal Potable	**0**	**0**	**0**	**0**	**0**
		Subtotal Non-Potable	**0**	**0**	**0**	**0**	**0**
		TOTAL	**472,338**	**457,207**	**462,842**	**467,015**	**467,682**
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. This table identifies the unit of measure selected in Submittal Tables 2-3.							
NOTES	Additional conservation values from Exhibit 2G are distributed into each sector. Discrepancy between totals in this Table and Exhibit 2G are due to rounding errors.						

Table 4-3 Retail: Inclusion in Water Use Projections Water Code Section 10631 (a), 10631 (d)(4)(A), and 10631 (d)(4)(B)	
Are Future Water Savings Included in Projections? **(Refer to Appendix K of UWMP Guidebook)**	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc. utilized in demand projections are found. OPTIONAL: Suppliers may completed Optional Submittal Table 4-4 R to quantify the expected savings.	Chapter 2, Section 2.2, Chapter 3, Section 3.3 and 3.4
Are Lower Income Residential Demands Included In Projections?	Yes
OPTIONAL: If the method for accounting Lower Income Residential Demands has been included, provide page number where this accounting can be found	2-7
DWR NOTES: Additional guidance is provided in Appendix K.	
NOTES	

Table 4-5 Retail: Water Loss Audit Reporting Water Code Section 10631(d)(3)(A)					
Public Water System ID # Reported in Table 2-1 R	Submitted to DWR Water Loss Audit Program in the Reporting Period				
Report submittal status for all five years for each Public Water System as available					
	2020	2021	2022	2023	2024
CA1910067	Yes	Yes	Yes	Yes	Yes
DWR NOTES: Suppliers will provide a link to the WUEdata submittals of their Water Loss Audit Reports					
NOTES	FY 2020/21: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwuedata.water.ca.gov%2Fgetfile%3Ffilename 2021_final%2520-%2520Validation%252011.9.xls&wdOrigin=BROWSELINK FY 2021/22: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwuedata.water.ca.gov%2Fgetfile%3Ffilename 2022%2520Final%2520validated.xlsx&wdOrigin=BROWSELINK FY 2022/23: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwuedata.water.ca.gov%2Fgetfile%3Ffilename 2023%2520Validated.xlsx&wdOrigin=BROWSELINK FY 2023/24: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwuedata.water.ca.gov%2Fgetfile%3Ffilename 2024%2520validated.xlsx&wdOrigin=BROWSELINK FY 2024/25: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwuedata.water.ca.gov%2Fgetfile%3Ffilename 2025%2520Validated.xlsx&wdOrigin=BROWSELINK				

Table 4-6 Retail: Progress Towards 2028 Water Loss Standard Water Code Section 10631(d)(3)(C)												
Public water System ID# Reported in Submittal Table 2-1 R	Public Water System Name	Did the Water Board Calculate a Water Loss Standard for this Public Water System? (y/n). If no, Supplier will not complete this row	Real Water Loss					Apparent Water Loss				
			State Water Board Standard		Most Recent AWWA Water Loss Audit		Real Water Loss Per Unit per Day	State Water Board Standard		Most Recent AWWA Water Loss Audit		Apparent Water Loss Per Unit per Day
			2028 Real Water Loss Standard per Unit per day	Units for Real Water Loss	Number of Units (Connections or Miles corresponding with units selected) (AF)	Volume of Total Real Loss (from AWWA Water Loss Audit)		2028 Apparent Water Loss Standard per Unit per Day	Units for Apparent Water Loss	Number of Connections (AF)	Volume of Total Apparent Loss (from AWWA Water Loss Audit)	
Add additional rows as need												
CA1910067	LOS ANGELES-CITY, DEPT. OF WATER & POWER	Yes	34.9	Gallons per Service Connection per Day (GPSCD)	755,768.0	22,933.6	27.1	8.6	Gallons per Service Connection per Day (GPSCD)	755,768.0	8,080.2	9.5
Water Boards Calculated Water Loss Standards												
DWR NOTES: Units of measure (AF, CCF, MG) for Water Loss MUST remain consistent with units report in Submittal Table 2-3. The units reported in Submittal Table 2-3 are used in this table's calculations												
NOTES												

Table 5-1 Retail: SB X7-7 2020 Target Progress Water Code Section 10608.40						
☐	Check the box if the Supplier was not an Urban Water Supplier during or before the 2020 UWMP reporting cycle. Proceed to the next table.					
Was Supplier part of a merger or consolidation since 2020?	Regional Alliance Target or Individual Target?	2020 Target	Actual 2020 GPCD	Did Supplier Achieve Targeted Reduction for 2020?	Only for suppliers that did not meet the Target in 2020	
					Actual 2025 GPCD (From SB X7-7 Compliance Form)	Did Supplier meet the 2020 Target in 2025?
No	Individual Target	142	106	Yes		
DWR NOTES: Suppliers calculating a 2025 GPCD will need to complete and submit SB X7-7 Compliance Tables to verify the use of SB X7-7 Methodologies. Suppliers that were part of a merger or consolidation since 2020 and did not meet their target in 2020 must re-calculate baselines and targets to include the new area. See Appendix P. This recalculation is for the new service area only and connot be part of a regional alliance.						
NOTES						

Table 6-1 Retail: Groundwater Volume Pumped Water Code Section 10631(4) and 10631(4)							
☐	Check the box if the Supplier does not pump groundwater. Proceed to the next table.						
☐	Check the box if all or part of the groundwater described below is desalinated. (OPTIONAL)						
Groundwater Type	Potable or Non-Potable (OPTIONAL)	Location or Basin Name	2021 (AF)	2022 (AF)	2023 (AF)	2024 (AF)	2025 (AF)
Alluvial Basin		San Fernando	51,070	45,395	23,013	6,521	6,107
Alluvial Basin		Sylmar	0	2,862	1,638	0	0
Alluvial Basin		Central	0	4,799	3,519	0	0
TOTAL			51,070	53,056	28,170	6,521	6,107
DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Table 2-3							
NOTES							

Table 6-2 Retail: Wastewater Collected Within Service Area Water Code Section 10633(a)				
☐	Check the box if there is no wastewater collection system. Proceed to the next table.			
	Percentage of 2025 service area covered by wastewater collection system (OPTIONAL)			
	Percentage of 2025 service area population covered by wastewater collection system (OPTIONAL)			
Wastewater Collection			Recipient of Collected Wastewater	
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? (OPTIONAL)	Volume of Wastewater Collected from UWMP Service Area 2025 (AF)	Name of Wastewater Treatment Plant (WWTP) and Place ID Number	Is WWTP Located Within UWMP Area?
LASAN	Metered	29,000	Hyperion WWTP, Place ID 232063	Yes
LASAN	Metered	14,000	Donald C. Tillman WWRP, Place ID 267571	Yes
LASAN	Metered	15,000	Los Angeles-Glendale WWRP, Place ID 235738	Yes
LASAN	Metered	289,000	Terminal Island Water Reclamation Plant, Place ID 267130	Yes
Total Wastewater Recieved from UWMP Service Area in 2025		347,000		
DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Table 2-3. Additional Guidance. See Appendix M, Section M.21 for detailed guidance on this table.				
NOTES	LASAN is the City of Los Angeles, Bureau of Sanitation and Environment.			

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area
Water Code Section 10633(b)

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

Wastewater Treatment Plant Name and Place ID Number	Does this Plant Treat Wastewater Generated Outside the Service Area? (OPTIONAL)	2025 Volume of Wastewater Recieved from UWMP Service Area (As Reported in Submittal Table 6-2 R) (AF)	Total 2025 Volume of Water Treated (AF)	2025 Outcomes of Treated Wastewater										
				Water Recycled Within UWMP Service Aread (enter data as applicable)		Water Recycled Outside UWMP Service Aread (enter data as applicable)		Effluent Discharge that is not a Permitted Recycled Water Use (enter data as applicable)		Required Discharge for Instream Flow (enter data as applicable)		Delivered to Another Entity for Additional Treatment (enter data as applicable)		
				Treatment Level	Volume (AF)	Treatment Level	Volume (AF)	Treatment Level	Volume (AF)	Treatment Level	Volume (AF)	Treatment Level	Volume (AF)	Name of other entity
Donald C. Tillman WWRP, Place ID 267571	Yes	29000	29000	Tertiary	22,514									
Los Angeles-Glendale WWRP, Place ID 235738	Yes	14000	14000	Tertiary	2,688	Tertiary	1,344							
Terminal Island Water Reclamation Plant, Place ID 267130	Yes	15000	15000	Tertiary	6,160			Advanced	6,500					
Hyperion WWTP, Place ID 232063	Yes	289000	289000		0	Secondary, Undisinfected	33,940	Secondary, Undisinfected	255,100					
TOTAL		347,000	347,000		31,362		35,284		261,600					

DWR Notes: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Table 2-3.
IPR: Indirect Potable Reuse would have the treatment level of its end use requirement in the Level of Treatment drop-down.
Additioanl Guidance: See Appendix M, Section M.21 for detailed guidance on this table.

NOTES: The sum of the "2025 Outcomes of Treated Wastewater" values differ from the "Total 2025 Volume of Water Treated" because these values exclude recycled water for operational safety weir use. Discrepancies between the values in Table 6-3 and Table 6-4 are attributed to other in-plant uses.

Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area
Water Code Section 10633(c),(d),(e)

☐ Check box if 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 the "Potential Recycled Water Use" and submit and accompanying narrative on the feasibility of that potential water use**

Name(s) of Facility/ies Producing (Treating) the Recycled Water (OPTIONAL):	
Name of Supplier Operating the Recycled Water Distribution System (OPTIONAL):	
Volume of Supplemental Water Added in 2025 (OPTIONAL):	
Source of 2025 Supplemental Water (OPTIONAL):	

Use Type	Potable or Non-Potable (after treatment if treated) (OPTIONAL)	Additional Information (as needed)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (Opt) (AF)	Potential Recycled Water Use (AF)	
									Volume	Narrative page number (OPTIONAL)
Landscape irrigation (exc golf courses)		Parks, Schools, Schools, Apartments, Commercial, Municipal	3,357	3,608	3,710	3,835	3,910	3,910		
Golf course irrigation		Golf Course	1,972	1,820	1,820	1,820	1,820	1,820	0	
Industrial use		Cooling Towers, Fill Stations, Industrial toilets	1,678	5,826	5,826	5,826	5,876	5,976	0	
Seawater intrusion barrier		Dominguez Gap	6,234	7,960	7,960	7,960	7,960	7,960		
Wetlands or wildlife habitat		Lakes	20,053	26,600	26,600	26,600	26,600	26,600		
Subtotal Potable			**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Subtotal Non-Potable			**0**	**0**	**0**	**0**	**0**	**0**	**0**	
TOTAL			**33,294**	**45,814**	**45,916**	**46,041**	**46,166**	**46,266**		

DWR Notes: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Table 2-3.
Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.
Potential recycled water use: a description of the feasibility of these uses must be included in the narrative.
Multiple Producers: If you have multiple recycled water producers, submit a separate table for each.

NOTES

Table 6-5 Retail: 2020 UWMP Recycled Water Use Projection Compared to 2025 Actual Water Code Section 10633 (e)			
☐	Check the box if recycled water was neither used in 2025 nor previously projected for use in 2020. Proceed to the next table.		
Use Type	**Additional Description (as needed)**	**2020 Projections for 2025 (AF)**	**2025 Actual Use (AF)**
Landscape irrigation (exc golf courses)		3,540	3,357
Golf course irrigation		3,201	1,972
Industrial use		4,108	1,678
Seawater intrusion barrier		6,500	6,234
Wetlands or wildlife habitat		26,620	20,053
Groundwater recharge (IPR)		7,000	0
TOTAL		**50,969**	**33,294**
DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Tables 2-3. This table identifies the unit of measure reported in Submittal Table 2-3.			
NOTES	2020 and 2025 Municipal and Industrial Use was projected as aggregate total; projections for M&I subcategories are not available.		

Table 6-6 Retail: Methods to Encourage Future Recycled Water Use Water Code Section 10633 (f)			
☐	Check the box if the supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP.		
Name of Action	**Description**	**Planned Implementation Year**	**Expected Increase in Recycled Water Use (AF)**
Harbor Area Expansion	Non-potable reuse, mostly industrial and irrigational customers.	2030	5,230
Metro Area Expansion	Non-potable reuse, mostly irrigation customers.	2035	470
Valley Area Expansion	Non-potable reuse, industrial and irrigational customers.	2030	328
Westside Area Expansion	Mostly industial use.	2030	1,092
GWR	Indirect Potable reuse	2028	22,000
GWR	Indirect Potable reuse	2031	18,000
		TOTAL	**47,120**
		Unit Conversion to AF	**47,120.0**
DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Tables 2-3. This table identifies the unit of measure reported in Submittal Table 2-3. The unit conversion to Acre Feet addresses the Water Code's requirement that this value be provided in acre-feet.			
NOTES	Planned Implementation Year listed is when expansion will begin.		

Table 6-7 Retail: Expected Future Water Supply Projects or Programs Water Code Section 10631 (f)							
☐	Check the box if there are no expected future water supply projects or programs that will provide a quantifiable increase to the supplier's water supply. Proceed to the next table.						
☐	Check the box if 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)**	**Potable or Non-Potable (after treatment if treated)(OPTIONAL)**	**Planned Implementation Year**	**Planned for Use in Year Type**	**Expected Increase in Water Supply to Supplier** *This may be a range* **(AF)**
	Yes/No	**If Yes, Supplier Name**					
Non-potable Reuse Projects	No		Increased NPR connections for irrigation, industrial, and commercial use, projects to be implemented through 2050 planning horizon		2050	All Year Types	7120
LA Groundwater Replenishment Project	No		Replenishing the San Fernando Basin with high quality recycled water		2028	All Year Types	22,000-40,000
DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Tables 2-3. This table identifies the unit of measure reported in Submittal Table 2-3.							
NOTES							

Table 6-8 Retail: Water Supplies - Actual
Water Code Section 10631 (b)

Water Supply	Additional Description (as needed)	2025		
		Potable or Non-Potable (OPTIONAL)	Actual Volume (AF)	Total Entitlement (OPTIONAL) See 'Dwr Notes' below (AF)
Purchased or Imported Water	Los Angeles Aqueduct		232,243	
Groundwater (not desalinated)	From the San Fernando Basin, Sylmar Basin, and Central Basin		6,107	
Recycled Water	Non-Potable Reuse		13,241	
Purchased or Imported Water	Metropolitan Water District of Southern California		224,394	
		Subtotal Potable	**0**	**0**
		Subtotal Non-Potable	**0**	**0**
		TOTAL	**475,985**	

DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Tables 2-3. This table identifies the unit of measure reported in Submittal Table 2-3.
Total Entitlement: e.g. Water Right, Groundwater Allocation, Contracted Amount

NOTES	Supplies exclude 1,134 AF placed into storage. Recycled water supply excludes recycled water for environmental uses.

Table 6-9 Retail: Water Supplies - Projected
Water Code Section 10631 (b)

Water Supply	Additional Detail on Water Supply	Potable or Non-Potable (after treatment if treated) (OPTIONAL)	Projected Water Supply (Report to the Extent Practicable)									
			2030		2035		2040		2045		2050 *(opt)*	
			Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)
Purchased or Imported Water	Los Angeles Aqueduct		193,400		193,400		193,400		193,400		193,400	
Groundwater (not desalinated)	From San Fernando Basin, Sylmar, and Central Basin		103,800		109,300		109,300		109,300		109,300	0
Recycled Water	Los Angeles - Ground Water Replenishment		22,000		40,000		40,000		40,000	0	40,000	0
Recycled Water	Non-potable Use		19,200		19,300		19,400		19,600		19,700	
Purchased or Imported Water	Metropolitan Water District of Southern California		133,900		95,200		100,800		104,700		105,300	
		Subtotal Potable	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Subtotal Non-Potable	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		TOTAL	**472,300**		**457,200**		**462,900**		**467,000**		**467,700**	

DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Tables 2-3. This table identifies the unit of measure reported in Submittal Table 2-3.
Total Entitlement: e.g. Water Right, Groundwater Allocation, Contracted Amount.

NOTES	Projections based on average weather year as shown in Exhibit 9B.

OPTIONAL Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
One Table for All Water Sources (Switch to Multiple Tables)			
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	
		☐	Check the box if quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP.
			If the checkbox above is selected provide the page or location in the UWMP.
		Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available (AF)	% of Average Supply
Average Year	1991 - 2020	193,400	100%
Single-Dry Year	2022	59,400	31%
Consecutive Dry Years 1st Year	2012	90,700	47%
Consecutive Dry Years 2nd Year	2013	72,200	37%
Consecutive Dry Years 3rd Year	2014	67,100	35%
Consecutive Dry Years 4th Year	2015	62,200	32%
Consecutive Dry Years 5th Year	2016	186,600	96%
DWR NOTES: Supplier may use multiple versions of Table 7-1 R 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 Table 7-1 R, in the "Note" section of each submittal table, state that multiple versions of Table 7-1 R are being used and identify the particular water source that is being reported in each table. Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table reports the units of measure reported in Submittal Table 2-3.			
NOTES	Showing LA Aqueduct supply reliability only. Groundwater & Recycled Water do not vary with weather. MWD supply is used to supplement insufficient local supplies and is not directly co-related to weather.		

Table 7-2 Retail: Normal Year Supply and Use Comparison Water Code Section 10635 (a)					
	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (opt) (AF)
Supply totals (autofill from Submittal Table 6-9 R)	472,300	457,200	462,900	467,000	467,700
Use totals (autofill from Submittal Table 4-2 R)	472,338	457,207	462,842	467,015	467,682
Surplus/(shortfall)	-38	-7	58	-15	18
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)	-38	-7	58	-15	18
DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table reports the units of measure reported in Submittal Table 2-3.					
NOTES	Differences in supply and demand are due to rounding.				

Table 7-3 Retail: Single Dry Year Supply and Use Comparison Water Code Section 10635(a)					
	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
Supply totals	472,300	457,200	462,900	467,000	467,700
Use totals	472,300	457,200	462,900	467,000	467,700
Surplus/(shortfall)	0	0	0	0	0
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
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. This table reports the units of measure reported in Submittal Table 2-3.					
NOTES	Based on data presented in Exhibit 9C. Excludes supplies and demands for recycled water environmental uses.				

Table 7-4 Retail: Multiple Dry Years Supply and Use Comparison Water Code Section 10635(a)						
		2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
First Year	Supply totals	472,300	457,200	462,900	467,000	467,700
	Use totals	472,300	457,200	462,900	467,000	467,700
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)	0	0	0	0	0
Second Year	Supply totals	472,300	457,200	462,900	467,000	467,700
	Use totals	472,300	457,200	462,900	467,000	467,700
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)	0	0	0	0	0
Third Year	Supply totals	472,300	457,200	462,900	467,000	467,700
	Use totals	472,300	457,200	462,900	467,000	467,700
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)	0	0	0	0	0
Fourth year	Supply totals	472,300	457,200	462,900	467,000	467,700
	Use totals	472,300	457,200	462,900	467,000	467,700
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)	0	0	0	0	0
Fifth year	Supply totals	472,300	457,200	462,900	467,000	467,700
	Use totals	472,300	457,200	462,900	467,000	467,700
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	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. This table reports the units of measure reported in Submittal Table 2-3.						
NOTES	Based on data shown in Exhibit 9D with historical hydrologies from FYE 2012 - 2016.					

Table 7-5 Retail: Five-Year Drought Risk Assessment Water Code Section 10635(b)(3)	
2026	Total
Total Water Use (AF)	474,100
Total Supplies (AF)	474,100
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Action (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF) (AF)	
Revised Surplus/(shortfall)	0
2027	Total
Total Water Use (AF)	473,400
Total Supplies (AF)	473,400
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Action (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	0
2028	Total
Total Water Use (AF)	473,000
Total Supplies (AF)	473,000
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Action (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	0
2029	Total
Total Water Use (AF)	472,500
Total Supplies	472,500
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Action (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	0
2030	Total
Total Water Use (AF)	472,300
Total Supplies (AF)	472,300
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Action (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	0
DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table reports the units of measure reported in Submittal Table 2-3.	
NOTES	Based on data shown in Exhibit 9E with historical hydrologies from FYE 2012 - 2016.

Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
☑	Check the box if the Supplier uses the Standard six levels of water shortage. Proceed to the next table.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%		
2	Up to 20%		
3	Up to 30%		
4	Up to 40%		
5	Up to 50%		
6	>50%		
NOTES			

Table 8-2 Retail: Supply Augmentation and Other Actions Water Code Section 10632(a)(4)(A),(C) and (E)				
	Is the Supplier completing this table using the standard six levels?			
		How much is this going to reduce the shortage gap?		
Shortage Level	**Supply Augmentation Methods and Other Actions by Water Supplier**	Volume or Percentage	Shortage Gap Reduction Value (May be a range)	**Additional Explanation or Reference (OPTIONAL)**
1	Other Actions (describe)	Percentage	Up to 10%	Operational changes
2	Other Actions (describe)	Percentage	No supply augmentation or other actions necesarry for this shortage level	No actions apply to shortage level 2
3	Stored Emergency Supply	Percentage	Up to 30% depending on groundwater conditions and available storage volumes	Withdraw from available emergency storage along the LAA System and local groundwater basins
4	Stored Emergency Supply	Percentage	Up to 40% depending on groundwater conditions and available storage volumes	Withdraw from available emergency storage along the LAA System and local groundwater basins
5	Stored Emergency Supply	Percentage	Up to 50% depending on groundwater conditions and available storage volumes	Withdraw from available emergency storage along the LAA System and local groundwater basins
6	Stored Emergency Supply	Percentage	Over 50% depending on groundwater conditions and available storage volumes	Withdraw from available emergency storage along the LAA System and local groundwater basins
DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table reports the units of measure reported in Submittal Table 2-3.				
NOTES				

Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
	Is the Supplier completing this table using the standard six levels?				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? *For Retail Suppliers Only*
		Volume or Percentage	Shortage Gap Reduction Value (may be a range)		
2	Landscape - Limit landscape irrigation to specific days	Percentage	Up to 20%	Limits customers to 2-day a week watering with reduced water duration times based on even and odd addresses	Yes
2	Pools and Spas - Require covers for pools and spas	Percentage	Up to 20%	Recommend use of pool covers	Yes
2	Pools and Spas - Require covers for pools and spas	Percentage	Up to 20%	Recommend washing of vehicles at commercial car wash facilities	Yes
2	Expand Public Information Campaign	Percentage	Up to 20%	Increase outreach efforts for high-volume customers and provide one on one assessments	Yes
2	Improve Customer Billing	Percentage	Up to 20%	Expand enforecement of unreasonable use of water	Yes
2	Provide Rebates on Plumbing Fixtures and Devices	Percentage	Up to 20%	Increase water conservation rebates and incentives	Yes
2	Provide Rebates for Landscape Irrigation Efficiency	Percentage	Up to 20%	Increase water conservation rebates and incentives	Yes
2	Provide Rebates for Turf Replacement	Percentage	Up to 20%	Increase water conservation rebates and incentives	Yes
2	Expand Public Information Campaign	Percentage	Up to 20%	Increase conservation messaging (radio, TV, social media, educational events)	Yes
4	Landscape - Limit landscape irrigation to specific days	Percentage	Up to 40%	Limits customers to 1-day a week watering with reduced water duration times based on even and odd addresses	Yes
4	Pools and Spas - Require covers for pools and spas	Percentage	Up to 40%	Use of swimming pool covers on all residential swimming pools when not in use.	Yes
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Percentage	Up to 40%	No washing of vehicles allowed except at commercial car wash facilities.	Yes
4	Water Features - Restrict water use for decorative water features, such as fountains	Percentage	Up to 40%	No filling of decorative fountains, ponds, lakes, or similar structures used for aesthetic purposes, with potable water.	Yes
5	Landscape - Restrict or prohibit runoff from landscape irrigation	Percentage	Up to 50%	No landscape irrigation allowed.	Yes
5	Pools and Spas - Require covers for pools and spas	Percentage	Up to 50%	No filling of residential swimming pools and spas with potable water.	Yes
5	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Percentage	Up to 50%	No washing of vehicles allowed except at commercial car wash facilities.	Yes
5	Water Features - Restrict water use for decorative water features, such as fountains	Percentage	Up to 50%	No filling of decorative fountains, ponds, lakes, or similar structures used for aesthetic purposes, with potable water.	Yes
6	Other	Percentage	Greater than 50%	The Board is authorized to implement additional water restrictions based on supply situation; Prohibitions are not applicable for use of water necessary for public health and safety; Customers may apply for a variance under undue hardship circumstances	Yes
DWR NOTES: Units of measure (AF,CCF,MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table reports the units of measure reported in Submittal Table 2-3.					
NOTES					

Table 10-1 Retail: Notification to Cities and Counties Water Code Section 10621(b) and 10642		
City Name	**60 Day Notice**	**Notice of Public Hearing**
City of Beverly Hills	Yes	Yes
City of Burbank	Yes	Yes
City of Calabasas	Yes	Yes
City of Culver City	Yes	Yes
City of Inglewood	Yes	Yes
City of Lomita	Yes	Yes
City of Lynwood	Yes	Yes
City of Santa Monica	Yes	Yes
City of West Hollywood	Yes	Yes
County Name	**60 Day Notice**	**Notice of Public Hearing**
Los Angeles County	Yes	Yes
NOTES		

SB X7-7 Verification Form Introduction	
Most Suppliers will rely on the SB X7-7- Verification Form submitted with the 2015 or 2020 UWMP and will not need to submit an SB X7-7 Verification Form with their 2025 UWMP. However, there are circumstances in which a supplier will update or submit a new SB X7-7 Verification Form and may even have multiple Verification Forms.	
Select one of the options below to indicate the supplier's SB X7-7 Verification Form submittal. CHOOSE ONLY ONE OF THE FOUR CHECKBOX OPTIONS BELOW	
SUPPLIERS WITH A SINGLE VERIFICATION FORM (Most Common)	
☑	**Relying on 2015 or 2020 Form only (no resubmission of Verification Form needed; please indicate which, 2015 or 2020, in notes)**
☐	**Submitting a single New or Revised Verification Form in WUEdata tables.**
SUPPLIERS WITH MULTIPLE VERIFICATION FORMS* (Not Common) The two options below are only for special situations, as described in Appendix P, Section P.7, Special Situations.	
☐	**Relying on 2015 or 2020 Verification Form for the original service area and submitting New Verification Form as an attachment in WUEdata for the merged or annexed portion of the service area.[1]**
☐	**Submitting revised Verification Form for the original service area in WUEdata tables and submitting New Verification Form for the merged or annexed portion of the service area as an attachment in WUEdata.[1]**
[1] If a supplier has multiple SB X7-7 Verification Forms, contact UWMPhelp@water.ca.gov for special instructions.	
NOTES	2015 verification form (back referenced in 2020)

SB X7-7 Compliance Form Introduction	
Does the supplier have more than one SB X7-7 2025 Compliance Form?[1]:	N
[1] If a supplier has multiple SB X7-7 Compliance Forms, contact UWMPhelp@water.ca.gov for special instructions.	
NOTES	

SB X7-7 Compliance Table 0: Units of Measure Used in UWMP	
Units of Measure Used in UWMP*	
AF	
*The unit of measure must be consistent with Submittal Table 2-3	
NOTES	

SB X7-7 Compliance Table 2: Method for Population Estimates	
Method Use to Determine Population *(may check more than one)*	
☑	1. Department of Finance (DOF) or American Community Survey (ACS)
☐	2. Persons-per-Connection Method
☐	3. DWR Population Tool
☐	4. Other *DWR recommends pre-review*
NOTES	LADWP service area population is based on DOF estimates

SB X7-7 Compliance Table 3: Service Area Population	
2025 Compliance Year Population	
2025	3,875,566
NOTES	

SB X7-7 Compliance Table 4: Annual Gross Water Use							
Compliance Year 2025	Volume Into Distribution System *(this column will remain blank until SB X7-7 Compliance Table 4-A is completed)*	2025 Deductions (AF)					2025 Gross Water Use
		Exported Water	Change in Dist. System Storage (+/-) (AF)	Indirect Recycled Water *(this column will remain blank until SB X7-7 Compliance Table 4-B is completed)* (AF)	Water Delivered for Agricultural Use (AF)	Process Water *(from SB X7-7 Compliance Table 4-D)* (AF)	
	462,744		1,135	0			461,609
* Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3							
NOTES							

SB X7-7 Compliance Table 4-A: Annual Gross Water Use			
Local Groundwater			
This water source is:			
☑	The supplier's own water source		
☐	A purchased or imported source		
Compliance Year 2025	Volume Entering Distribution System [1] (AF)	Meter Error Adjustment[2] Optional (+/-) (AF)	Corrected Volume Entering Distribution System (AF)
	6,107		6,107
[1]Units of Measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3. [2] Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES			

SB X7-7 Compliance Table 4-A: Annual Gross Water Use			
Los Angeles Aqueduct			
This water source is:			
☐	The supplier's own water source		
☑	A purchased or imported source		
Compliance Year 2025	Volume Entering Distribution System [1] (AF)	Meter Error Adjustment[2] Optional (+/-) (AF)	Corrected Volume Entering Distribution System (AF)
	232,243		232,243
[1]Units of Measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.			
[2] Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES			

SB X7-7 Compliance Table 4-A: Annual Gross Water Use			
Metropolitan Water District			
This water source is:			
☐	The supplier's own water source		
☑	A purchased or imported source		
Compliance Year 2025	Volume Entering Distribution System [1] (AF)	Meter Error Adjustment[2] Optional (+/-) (AF)	Corrected Volume Entering Distribution System (AF)
	224,394		224,394
[1]Units of Measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.			
[2] Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES			

SB X7-7 Compliance Table 4-B: Indirect Recycled Water Use Deduction Water Code Section 10608.20(e) and 10608.20(h)(1)(2)											
	2025 Surface Reservoir Augmentation					2025 Groundwater Recharge					
2025 Compliance Year	Volume Discharged from Reservoir for Distribution System Delivery (AF)	Percent Recycled Water	Recycled Water Delivered to Treatment Plant (AF)	Transmission / Treatment Loss (AF)	Recycled Volume Entering Distribution System from Surface Reservoir Augmentatio (AF)	Volume Pumped from Groundwa for Distributic System Delivery (AF)	Percent Recycled Water (AF)	Recycled Water Delivered to Treatment Plan (AF)	Transmission / Treatment Losses	Recycled Volume Entering Distribution System from Groundwater Recharge	Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
			0		0			0		0	0
Units of Measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 0 and Submittal Table 2-3. Suppliers will provide documentation to support the percentage of recycled water reported in this table.											
NOTES											

SB X7-7 Compliance Table 5: Gallons Per Capita Per Day (GPCD)		
2025 Population *From SB X7-7 Compliance Table 3*	2025 Gross Water Use *From SB X7-7 Compliance Table 4* (AF)	2025 GPCD
3,875,566	461,609	106
NOTES		

SB X7-7 Compliance Table 9: 2025 Compliance Water Code Section 10608.24(d)							
2025 Actual GPCD	Optional Adjustments for 2025 GPCD Enter "0" for adjustments not used			TOTAL Adjustments	Adjusted 2025 GPCD *(Adjusted if applicable)*	2020 Target	Did Supplier Achieve Targeted Reduction for 2025?
	Extraordinary Events	Weather Normalization	Economic Adjustment				
106				0	106	142	YES
DWR NOTES: All values are reported in GPCD Suppliers that had a merger or consolidation since 2020 may use a population weighted average 2020 target. See Section P.1.2.1 of Appendix P.							
NOTES							

Table O-1A: Energy Intensity - Water Supply Process Approach									
Water Delivery Product (If delivering more than one type of product use Table O-1C):									
Units of Measure	AF	Is upstream embedded in values reported?	☐						
Table O-1A: Energy Intensity - Water Supply Process Approach									
Enter Start Date for Reporting Period	07/01/2020	Urban Water Supplier Operational Control							
End Date	06/30/2025								
		Water Management Process						Non-Consequential Hydropower (if applicable)	
		Extract and Divert	Place into Storage	Conveyance	Treatment	Distribution	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process		28,985		181,023	339,979	463,271	463,271	0	463,271
Energy Consumed (kWh)		14,627,141	0	0	15,754,708	64,050,786	94,432,635		94,432,635
Energy Intensity (kWh/volume converted to MG)		1,548.71	0	0	142.21	424.3	625.56	0	625.56
Quantity of Self-Generated Renewable Energy:									
	kWh								
Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data):									
Combination of Estimates and Metered Data									
Data Quality Narrative:									
1. The volume of water data are validated flow data from the Water Loss Task Force. 2. Most energy consumed data are from metered data. Exception and assumptions are listed below. 3. The "Extract and Divert" column applies to Groundwater supplies and the energy required to pump and treat groundwater to potable water. Groundwater production sites have a single electrical meter for the pumping and treatment process; therefore, the groundwater supply is not shown under the "Treatment" column.									
Narrative:									
1. "Extract and Divert" includes Groundwater supplies. 2. "Conveyance" includes Los Angeles Aqueduct (LAA) supplies. The LAA water supply is conveyed entirely by gravity, so the conveyance energy is 0. Hydroelectric energy generated by LAA is not used to offset energy to operate LADWP's water facilities. Refer to Chapter 9 Section 9.5 for more information. 3. "Treatment" includes energy used at Los Angeles Aqueduct Treatment Plant (LAAFP). Water supplies from the LAA and purchased untreated Metropolitan Water District of Southern California (MWD) water from the State Water Project West Branch are both treated at LAAFP. 4. "Distribution" includes all potable water supplies delivered by LADWP, including water supplies produced by both the City of Los Angeles and purchased water from MWD.									

Appendix H
UWMP Act

WATER CODE - WAT
DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999]
(Heading of Division 6 amended by Stats. 1957, Ch. 1932.)
PART 2.6. URBAN WATER MANAGEMENT PLANNING [10610 - 10657]
(Part 2.6 added by Stats. 1983, Ch. 1009, Sec. 1.)

Chapter 1. General Declaration and Policy
Section 10610 - 10610.4

10610.
This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2.
(a) The Legislature finds and declares all of the following:
(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.
(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.
(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate, and increasing long-term water conservation among Californians, improving water use efficiency within the state's communities and agricultural production, and strengthening local and regional drought planning are critical to California's resilience to drought and climate change.
(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years now and into the foreseeable future, and every urban water supplier should collaborate closely with local land-use authorities to ensure water demand forecasts are consistent with current land-use planning.
(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.
(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.
(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.
(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

(Amended by Stats. 2018, Ch. 14, Sec. 18. (SB 606) Effective January 1, 2019.)

10610.4.

The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.
(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.
(c) Urban water suppliers shall be required to develop water management plans to achieve the efficient use of available supplies and strengthen local drought planning.

(Amended by Stats. 2018, Ch. 14, Sec. 19. (SB 606) Effective January 1, 2019.)

CHAPTER 2. Definitions [10611 - 10618]

(Chapter 2 added by Stats. 1983, Ch. 1009, Sec. 1.)

10611.

Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10611.3.

"Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

(Added by renumbering Section 10612 by Stats. 2018, Ch. 14, Sec. 20. (SB 606) Effective January 1, 2019.)

10611.5.

"Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

(Amended by Stats. 1995, Ch. 854, Sec. 3. Effective January 1, 1996.)

10612.
"Drought risk assessment" means a method that examines water shortage risks based on the driest five-year historic sequence for the agency's water supply, as described in subdivision (b) of Section 10635.
(Added by Stats. 2018, Ch. 14, Sec. 21. (SB 606) Effective January 1, 2019.)

10613.
"Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.
(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10614.
"Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.
(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10615.
"Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.
(Amended by Stats. 1995, Ch. 854, Sec. 4. Effective January 1, 1996.)

10616.
"Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.
(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10616.5.
'Recycled water" means the reclamation and reuse of wastewater for beneficial use.
(Added by Stats. 1995, Ch. 854, Sec. 5. Effective January 1, 1996.)

10617.
"Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.
(Amended by Stats. 1996, Ch. 1023, Sec. 428. Effective September 29, 1996.)

10617.5.
"Water shortage contingency plan" means a document that incorporates the provisions detailed in subdivision (a) of Section 10632 and is subsequently adopted by an urban water supplier pursuant to this article.
(Added by Stats. 2018, Ch. 14, Sec. 22. (SB 606) Effective January 1, 2019.)

10618.
"Water supply and demand assessment" means a method that looks at current year and one or more dry year supplies and demands for determining water shortage risks, as described in Section 10632.1.
(Added by Stats. 2018, Ch. 14, Sec. 23. (SB 606) Effective January 1, 2019.)

CHAPTER 3. Urban Water Management Plans [10620 - 10645]
(Chapter 3 added by Stats. 1983, Ch. 1009, Sec. 1.)

ARTICLE 1. General Provisions [10620 - 10621]
(Article 1 added by Stats. 1983, Ch. 1009, Sec. 1.)

10620.
(a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).
(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.
(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.
(d)
(1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide

urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation, efficient water use, and improved local drought resilience.

(2) Notwithstanding paragraph (1), each urban water supplier shall develop its own water shortage contingency plan, but an urban water supplier may incorporate, collaborate, and otherwise share information with other urban water suppliers or other governing entities participating in an areawide, regional, watershed, or basinwide urban water management plan, an agricultural management plan, or groundwater sustainability plan development.

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

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

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

(Amended by Stats. 2018, Ch. 14, Sec. 24. (SB 606) Effective January 1, 2019.)

10621.

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

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

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

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

(e) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

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

(Amended by Stats. 2019, Ch. 239, Sec. 7. (AB 1414) Effective January 1, 2020.)

ARTICLE 2. Contents of Plans [10630 - 10634]

(Article 2 added by Stats. 1983, Ch. 1009, Sec. 1.)

10630.

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

(Amended by Stats. 2018, Ch. 14, Sec. 26. (SB 606) Effective January 1, 2019.)

10630.5.

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

(Added by Stats. 2018, Ch. 14, Sec. 27. (SB 606) Effective January 1, 2019.)

10631.

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

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

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

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

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

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

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

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

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

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

(D) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is

reasonably available, including, but not limited to, historic use records.

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

(d)

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

(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.
(J) Distribution system water loss.

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

(3)

(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.
(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.
(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

(4)

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

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

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
(1)
(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.
(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:
(i) Water waste prevention ordinances.
(ii) Metering.
(iii) Conservation pricing.
(iv) Public education and outreach.
(v) Programs to assess and manage distribution system real loss.
(vi) Water conservation program coordination and staffing support.
(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.
(2) For an urban wholesale water supplier, as defined in Section 10608.12, a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

(f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section

10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single-dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

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

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

(Amended by Stats. 2019, Ch. 239, Sec. 8. (AB 1414) Effective January 1, 2020.)

10631.1.

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

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

(Added by Stats. 2005, Ch. 727, Sec. 2. Effective January 1, 2006.)

10631.2.

(a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

(1) An estimate of the amount of energy used to extract or divert water supplies.

(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.

(3) An estimate of the amount of energy used to treat water supplies.
(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.
(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.
(6) An estimate of the amount of energy used to place water into or withdraw from storage.
(7) Any other energy-related information the urban water supplier deems appropriate.

(b) The department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.

(c) The Legislature finds and declares that energy use is only one factor in water supply planning and shall not be considered independently of other factors.

(Amended by Stats. 2018, Ch. 14, Sec. 29. (SB 606) Effective January 1, 2019.)

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:
(1) The analysis of water supply reliability conducted pursuant to Section 10635.
(2) The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:
(A) The written decision making process that an urban water supplier will use each year to determine its water supply reliability.
(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:
(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.
(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.
(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.
(v) A description and quantification of each source of water supply.

(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.

(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:
(A) Locally appropriate supply augmentation actions.
(B) Locally appropriate demand reduction actions to adequately respond to shortages.
(C) Locally appropriate operational changes.
(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.
(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

(5) Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:
(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.
(C) Any other relevant communications.

(6) For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

(7)
(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.
(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.
(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

(8) A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:
(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).
(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).
(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

(9) For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

(10) Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

(b) For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

(c) The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

(Repealed and added by Stats. 2018, Ch. 14, Sec. 32. (SB 606) Effective January 1, 2019.)

10632.1.

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

(Amended by Stats. 2019, Ch. 239, Sec. 9. (AB 1414) Effective January 1, 2020.)

10632.2.

An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision (a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.

(Added by Stats. 2018, Ch. 14, Sec. 34. (SB 606) Effective January 1, 2019.)

10632.3.

It is the intent of the Legislature that, upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the board defer to implementation of locally adopted water shortage contingency plans to the extent practicable.

(Added by Stats. 2018, Ch. 14, Sec. 35. (SB 606) Effective January 1, 2019.)

10632.5.

(a) In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk

assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

(Added by Stats. 2015, Ch. 681, Sec. 1. (SB 664) Effective January 1, 2016.)

10633.

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

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

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

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

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

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

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

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

(Amended by Stats. 2009, Ch. 534, Sec. 2. (AB 1465) Effective January 1, 2010.)

10634.

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

(Added by Stats. 2001, Ch. 644, Sec. 3. Effective January 1, 2002.)

ARTICLE 2.5. Water Service Reliability [10635- 10635.]

(Article 2.5 added by Stats. 1995, Ch. 854, Sec. 11.)

10635.

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

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

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

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

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

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

(c) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.
(d) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.
(e) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

(Amended by Stats. 2018, Ch. 14, Sec. 36. (SB 606) Effective January 1, 2019.)

ARTICLE 3. Adoption and Implementation of Plans [10640 - 10645]

(Article 3 added by Stats. 1983, Ch. 1009, Sec. 1.)

10640.

(a) Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.
(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(Amended by Stats. 2018, Ch. 14, Sec. 37. (SB 606) Effective January 1, 2019.)

10641.

An urban water supplier required to prepare a plan or a water shortage contingency plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

(Amended by Stats. 2018, Ch. 14, Sec. 38. (SB 606) Effective January 1, 2019.)

10642.

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

pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.
(Amended by Stats. 2018, Ch. 14, Sec. 39. (SB 606) Effective January 1, 2019.)

10643.
An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.
(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10644.
(a)
(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.
(2) The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1) shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.
(b) If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.
(c)
(1)
(A) Notwithstanding Section 10231.5 of the Government Code, the department shall prepare and submit to the Legislature, on or before July 1, in the years ending in seven and two, a report summarizing the status of the plans and water shortage contingency plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans and water shortage contingency plans. The department shall provide a copy of the report to each urban water supplier that has

submitted its plan and water shortage contingency plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans and water shortage contingency plans submitted pursuant to this part.

(B) The department shall prepare and submit to the board, on or before September 30 of each year, a report summarizing the submitted water supply and demand assessment results along with appropriate reported water shortage conditions and the regional and statewide analysis of water supply conditions developed by the department. As part of the report, the department shall provide a summary and, as appropriate, urban water supplier specific information regarding various shortage response actions implemented as a result of annual supplier-specific water supply and demand assessments performed pursuant to Section 10632.1.

(C) The department shall submit the report to the Legislature for the 2015 plans by July 1, 2017, and the report to the Legislature for the 2020 plans and water shortage contingency plans by July 1, 2022.

(2) A report to be submitted pursuant to subparagraph (A) of paragraph (1) shall be submitted in compliance with Section 9795 of the Government Code.

(d) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

(Amended by Stats. 2018, Ch. 14, Sec. 40. (SB 606) Effective January 1, 2019.)

10645.

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

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

(Amended by Stats. 2018, Ch. 14, Sec. 41. (SB 606) Effective January 1, 2019.)

CHAPTER 4. Miscellaneous Provisions [10650 - 10657]

(Chapter 4 added by Stats. 1983, Ch. 1009, Sec. 1.)

10650.

Any actions or proceedings, other than actions by the board, to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan or a water shortage contingency plan shall be commenced within 18 months after that adoption is required by this part.
(b) Any action or proceeding alleging that a plan or water shortage contingency plan, or action taken pursuant to either, does not comply with this part shall be commenced within 90 days after filing of the plan or water shortage contingency plan or an amendment to either pursuant to Section 10644 or the taking of that action.

(Amended by Stats. 2018, Ch. 14, Sec. 42. (SB 606) Effective January 1, 2019.)

10651.

In any action or proceeding to attack, review, set aside, void, or annul a plan or a water shortage contingency plan, or an action taken pursuant to either by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

(Amended by Stats. 2018, Ch. 14, Sec. 43. (SB 606) Effective January 1, 2019.)

10652.

The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

(Amended by Stats. 1995, Ch. 854, Sec. 16. Effective January 1, 1996.)

10653.

The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the board and the Public Utilities Commission, for the preparation of water management plans, water shortage contingency plans, or conservation plans; provided, that if the board or the Public Utilities Commission requires additional information concerning water conservation, drought response measures, or financial conditions to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan that complies with analogous federal laws or regulations

after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.
(Amended by Stats. 2018, Ch. 14, Sec. 44. (SB 606) Effective January 1, 2019.)

10654.
An urban water supplier may recover in its rates the costs incurred in preparing its urban water management plan, its drought risk assessment, its water supply and demand assessment, and its water shortage contingency plan and implementing the reasonable water conservation measures included in either of the plans.
(Amended by Stats. 2018, Ch. 14, Sec. 45. (SB 606) Effective January 1, 2019.)

10655.
If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.
(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10656.
An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.
(Amended by Stats. 2018, Ch. 14, Sec. 46. (SB 606) Effective January 1, 2019.)

10657.
The department may adopt regulations regarding the definitions of water, water use, and reporting periods, and may adopt any other regulations deemed necessary or desirable to implement this part. In developing regulations pursuant to this section, the department shall solicit broad public participation from stakeholders and other interested persons.
(Added by Stats. 2018, Ch. 14, Sec. 47. (SB 606) Effective January 1, 2019.)

Appendix I
UWMP Checklist

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and overview	Chapter 1	Executive Summary
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	Chapter 1	Executive Summary provides this lay description, Executive Summary, Page ES-1
10620(b)	Every person that becomes a Supplier shall adopt UWMP within one year after it has become a Supplier.	Plan Preparation	Section 2.1	LADWP has consistently updated its UWMP every 5 years since 1985.
10644	Supplier shall report the Public Water Systems number, volume of delivered water, and number of connections that are included in this UWMP.	Plan preparation	Section 2.5	Appendix G
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	Section 2.5	Appendix G

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
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	Section 2.5	Appendix G
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	Section 2.4	Appendix F
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	Section 2.4.2	Various pages reference reports, communication, and coordination with City of Los Angeles City Planning, Bureau of Sanitation, Metropolitan Water District, Southern California Association of Governments, and other agencies & stakeholders. Appendix F documents public involvement.
10631(h)	Retail Suppliers will include documentation that they have provided their Wholesale Supplier(s)—if any—with water use projections from that source.	Plan preparation	Section 2.4.1	Appendix F

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
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	Section 2.4.1	N/A
10631(a)	Describe the Supplier service area.	System description	Chapter 3	Chapter 1, Section 1.2, Page 1-2
10631(a)	Describe the climate of the Supplier's service area.	System description	Section 3.3	Chapter 1, Section 1.2, Page 1-6
10631(a)	Provide the current and projected service area populations for 2030, 2035, 2040, 2045 and optionally 2050.	System description	Section 3.4.1	Chapter 1, Section 1.2, Exhibit 1C, Page 1-5
10631(a)	Describe other social, economic, and demographic factors affecting the Supplier's water management planning.	System description	Section 3.4.2	Chapter 1, Section 1.2, Exhibit 1C, Page 1-5
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	Section 3.5	Chapter 1, Section 1.2, Exhibit 1D, Page 1-6
10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among wateruse sectors.	System WaterUse	Sections 4.2.3 and 4.2.4	Chapter 2, Section 2.1, Exhibit 2B, Page 2-2, and Section 2.2, Exhibit 2G, Page 2-6

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
10631(d)(3)(A)	Report the distribution system water loss for each of the five years preceding the plan update.	System WaterUse	Section 4.3.1	Chapter 2, Section 2.1, Exhibit 2C, Page 2-3
10631(d)(3)(C)	Retail Suppliers shall provide data to show the distribution loss standards were met.	System WaterUse	Section 4.3.2	Chapter 2, Section 2.1, Exhibit 2C, Page 2-3, Chapter 3, Section 3.2, Page 3-9
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the Supplier.	System water use	Section 4.2.5.4	Chapter 2, Section 2.2, Exhibit 2I, Page 2-7
10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System water use	Section 4.2.5.3	Chapter 2, Section 2.2, Page 2-6, Exhibit 2H
10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System water use	Section 4.2.5.3	Chapter 3, Section 3.3
10631(d)(4)(B)(ii)	To the extent that a Supplier reports the information described in subparagraph (A), an urban water Supplier shall… Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.	System water use	Section 4.2.5.3	Chapter 3, Section 3.3

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System water use	Section 4.2.5.6	Chapter 9, Section 9.3, Exhibit 9E, Page 9-5
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	Section 5.1	N/A
10608.4	Retail Suppliers shall report on their compliance in meeting their water use targets. Reporting requirements will vary depending on whether the Supplier: - Was considered an urban retail water supplier in 2020, - Met its 2020 target in 2020, or - Was part of a merger or consolidation since 2020. Chapter 5 Subsections 5.2.1, 5.2.2, and 5.2.3 address each of these situations.	Baselines and Targets	Section 5.2	Refer to SB x7-7 Tables, Appendix G
10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Section 6.1	Chapter 9, Section 9.1, Page 9-1 to 9-3

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, including changes in supply due to climate change.	System Supplies	Section 6.1and 6.2	Chapter 9, Section 9.2, Exhibit 9B, Page 9-4, 9C, Page 9-4, 9D, Page 9-4, & Section 9.3, Exhibit 9E, Page 9-5
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.	Water supplies and recycled water	Section 6.2.2	Chapter 5, Section 5.1, Exhibit 5C, Page 5-3
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	Section 6.2.2	Chapter 5, Section 5.3 to 5.13, Page 5-5 to 5-20. Basin adjudications are provided in Appendix D.
10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.2.2	Chapter 5, Section 5.0, Page 5-1
10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the Supplier has the legal right to pump.	System Supplies	Section 6.2.2	Chapter 5, Section 5.1, Page 5-3. Basin adjudications are provided in Appendix D.

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
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	Section 6.2.2	Chapter 5, Section 5.10, Page 5-17
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	Section 6.2.2	Chapter 5, Section 5.10
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.	Water supplies and recycled water	Section 6.2.2	Chapter 5, Section 5.1, Exhibit 5C, Page 5-3
10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Section 6.2.2	Chapter 5, Section 5.13, Exhibit 5G, Page 5-20
10631(b)	Identify and quantify the existing and planned sources of water available for 2025, 2030, 2035, 2040, 2045 and optionally 2050.	System Supplies	Section 6.1	Chapter 9, Section 9.2, Exhibit 9B. 9C, 9D, & 9E, Page 9-4

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.2.7	Chapter 10, Section 10.4, Page 10-5
10633(a)	Describe the wastewater collection and treatment systems in the Supplier's service area with quantified amount of collection and treatment and the disposal methods.	System supplies (Recycled Water)	Section 6.2.5	Chapter 7, Section 7.2, Page 7-9, Exhibit 7D
10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System supplies (recycled water)	Section 6.2.5	Chapter 7, Section 7.2, Page 7-7 & Exhibit 7D, Page 7-9
10633(c)	Describe the recycled water currently being used in the Supplier's service area.	System Supplies (Recycled Water)	Section 6.2.5	Chapter 7, Section 7.3, Page 7-11 & Exhibit 7E, Page 7-11
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.2.5	Chapter 7, Section 7.4, Page 7-13 & Exhibit 7G, Page 7-14, and Chapter 11, Section 11.2, Page 11-4
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)	Section 6.2.5	Chapter 7, Section 7.3, Exhibit 7F, Page 7-13, and Chapter 7, Section 7.4, Exhibit 7G, Page 7-14

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
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)	Section 6.2.5	Chapter 7, Section 7.2, Page 7-11
10633(g)	Provide a plan for optimizing the use of recycled water in the Supplier's service area..	System Supplies (Recycled Water)	Section 6.2.5	Chapter 7, Section 7.3, Page 7-11 & Exhibit 7E, Page 7-11
10631(g)	Describe desalinated water project opportunities for long-term supply.	System supplies	Section 6.2.6	Chapter 10, Section 10.4, Page 10-6
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	Section 6.2.10	Chapter 3, Section 3.3, Page 3-14. Chapter 5, Section 5.3, Page 5-11, Section 5.7, Page 5-14. Chapter 6, Section 6.2, Pages 6-2 & 6-3. Chapter 7, Section 7.3, Page 7-11 to 7-13
10631.2(a)	The UWMP must include energy information, as stated in the code, that a Supplier can readily obtain.	System suppliers, energy intensity	Section 6.3 and Appendix O	Chapter 9, Section 9.5, Page 9-8

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
10634	Provide information on the quality of existing sources of water available to the Supplier and the manner in which water quality affects water management strategies and supply reliability.	Water Supply Reliability Assessment	Section 7.1	Chapter 4, Section 4.5, Page 4-12 Chapter 5, Section 5.12, Page 5-19 Chapter 7, Section 7.2, Pages 7-7 to 7-11 Chapter 8, Section 8.1 Pages 8-3 and 8-5
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	Section 7.2	Chapter 9, Section 9.2, Exhibits 9B, 9C, and 9D, Page 9-4
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.2.3	Chapter 9, Section 9,1, Page 9-1
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		Chapter 9, Section 9.3, Exhibit 9E, Page 9-5
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	Section 7.3	Chapter 9, Section 9.3, Page 9-5

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Section 7.3	Chapter 9, Section 9.3, Page 9-5
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	Section 7.3	Chapter 9, Section 9.3, Exhibit 9E, Page 9-5
10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Section 7.3	Chapter 9, Section 9.3, Exhibit 9E, Page 9-5
10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 8	Appendix A
10632(a)(1)	Provide an analysis of water supply reliability (from Guidebook Chapter 7) in the WSCP.	Water shortage contingency planning	Chapter 8	Appendix A, Section 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	Section 8.2	Appendix A, Section 3

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
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	Section 8.2	Appendix A, Section 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	Section 8.3	Appendix A, Section 4
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	Section 8.3	Appendix A, Section 1.1
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	Section 8.4	Appendix A, Section 4.2

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Section 8.4	Appendix A, Section 4.2
10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Section 8.4	Appendix A, Section 4.2
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	Section 8.4	Appendix A, Section 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	Section 8.4	Appendix A, Section 4.2

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
10632.5	The UWMP shall include a seismic risk assessment and mitigation plan.	Water shortage contingency plan	Section 8.4.6	Appendix A, Section 8.1
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	Section 8.5	Appendix A, Section 10
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	Section 8.5	Appendix A, Section 10
10632(a)(6)	Retail Supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water shortage contingency planning	Section 8.6	Appendix A, Section 5
10632(a)(7)(A)	Describe the legal authority that empowers the Supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Section 8.7	Appendix A, Section 9
10632(a)(7)(B)	Provide a statement that the Supplier will declare a water shortage emergency per Water Code Chapter 3. *Water Shortage Emergencies.*	Water Shortage Contingency Planning	Section 8.7	Appendix A, Section 3.4

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
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	Section 8.7	Appendix A, Section 3.4
10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.8	Appendix A, Section 7
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	Section 8.8	Appendix A, Section 7
10632(a)(8)(C)	Retail Suppliers must describe the cost of compliance with Water Code Chapter 3.3, *Excessive Residential Water Use During Drought*.	Water Shortage Contingency Planning	Section 8.8	Appendix A, Section 7
10632(a)(9)	Retail Suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data are collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Section 8.9	Appendix A, Section 6

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
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	Section 8.10	Appendix A, Section 3.3
10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water shortage contingency planning	Section 8.11	Appendix A, Section 4, captu red in description of shortage response actions.
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	Section 8.12	To be enclosed with transmittal letter to DWR
10631(e)(1)	Retail Suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Section 9.1	Chapter 3, Section 3.2, Pages 3-8 to 3-14

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
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	Section 9.2	N/A
10608.26(a)	Retail Suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Chapter 10	A public hearing was held on May 12, 2026.
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	Section 10.2.1	Appendix F
10621(f)	Each urban water Supplier shall update and submit its 2025 plan to DWR by July 1, 2026.	Plan Adoption, Submittal, and Implementation	Section 10.4	To be submitted June 2026

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
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	Sections 10.2.2, 10.3, and 10.5	Appendix F
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	Section 10.2.2	Appendix F
10642	Provide supporting documentation that the UWMP and WSCP has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.2	Adoption resolution included within cover page
10644(a)	Provide supporting documentation that the Supplier has submitted their UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4	To be enclosed with transmittal letter to DWR
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	Section 10.4	To be enclosed with transmittal letter to DWR

Water Code Section	Summary as Applies to UWMP	Subject	2025 Guidebook Location	2025 UWMP Location
10644(a)(2)	The UWMP, or amendments to the UWMP, submitted to DWR shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	Plan will be submitted electronically no later than July 1, 2026
10644(b)	If revised, submit a copy of the WSCP to DWR within 30 days of adoption.	Plan adoption, submittal, and implementation	Section 10.7.2	N/A
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	Section 10.5	To be enclosed with transmittal letter to DWR
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	Section 10.5	To be enclosed with transmittal letter to DWR
10621(c)	If Supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan adoption, submittal, and implementation	Section 10.6	N/A