

2025

URBAN WATER MANAGEMENT PLAN

Crescenta Valley Water District, CA



2025

URBAN WATER MANAGEMENT PLAN



Crescenta Valley Water District, CA

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Table of Contents

Section 1: Introduction..... 13

1.1.	PURPOSE AND SUMMARY	13
1.2.	COORDINATION	16
1.3.	DWR UPDATES FOR THE 2025 UWMPs	18
1.4.	UPDATES TO THE DISTRICT’S UWMP	19
1.5.	FORMAT OF THE 2025 UWMP	20
1.6.	LAY DESCRIPTION	22

Section 2: Service Area Description 23

2.1.	DISTRICT AND WATER SYSTEM HISTORY	23
2.1.1.	Early Stages	23
2.2.	CURRENT WATER SERVICE AREA	24
2.3.	LAND USE & ECONOMY	25
2.3.1.	District Land Use	25
2.4.	CLIMATE	27
2.4.1.	Climate Change	28
2.5.	POPULATION	29
2.5.1.	Service Area Population	29
2.5.2.	District Population Forecasts	30
2.5.3.	Adjusted Population Forecasts	30
2.6.	WATER SYSTEM	31
2.6.1.	Water System Background	31
2.6.2.	District Water System Overview	31
2.6.3.	Groundwater and Imported Water	31

Section 3: Water Sources and Supplies 37

3.1.	INTRODUCTION	37
3.2.	IMPORTED WATER SOURCES	37
3.2.1.	Colorado River Water Supply History	38
3.2.2.	Early Canal Systems	40
3.2.3.	Colorado River Water Rights	40



3.2.4.	MWD'S Colorado River Rights	41
3.2.5.	BAY-DELTA	42
3.2.6.	Bay Delta Conveyance Project	42
3.2.7.	State Water Project (Aqueduct)	43
3.3.	IMPORTED WATER PURCHASES.....	46
3.4.	GROUNDWATER SOURCES.....	47
3.4.1.	Verdugo Groundwater Basin	47
3.5.	GROUNDWATER PRODUCTION	50
3.6.	ROSEMONT PRESERVE STORMWATER RECHARGE PROJECT	51
3.7.	PROJECTED WATER SUPPLIES	52
3.7.1.	Planned/Projected Supply Projects	53
3.8.	TRANSFERS OR EXCHANGES	53
3.9.	RELIABILITY OF SUPPLIES	53

Section 4: Recycled Water Opportunities..... 55

4.1.	OVERVIEW.....	55
4.2.	WASTEWATER COLLECTION SYSTEM.....	56
4.2.1.	Wastewater Treatment	56
4.3.	RECYCLED WATER	56
4.3.1.	Potential Recycled Water Use	57

Section 5: Water Quality 59

5.1.	OVERVIEW.....	59
5.2.	WATER QUALITY STANDARDS.....	59
5.2.1.	Federal Regulations	59
5.2.2.	State Regulations	60
5.2.3.	State Drinking Water Standards	60
5.2.4.	Hexavalent Chromium (Cr6)	61
5.2.5.	District Standards.....	61
5.3.	QUALITY OF WATER SOURCES	62
5.3.1.	Imported Water Quality.....	62
5.3.2.	Groundwater Quality	63
5.4.	IMPACTS OF WATER QUALITY	63



5.4.1.	Impacts of Abandoned Wells	64
5.4.2.	Groundwater Contamination Response	67
5.4.3.	Sanitary Surveys by DDW.....	67
5.4.4.	Impacts on Management & Reliability	68

Section 6: Water Use..... 69

6.1.	OVERVIEW.....	69
6.2.	COVID PANDEMIC’S EFFECT ON THE WATER SYSTEM.....	69
6.3.	CURRENT DISTRICT WATER NEEDS	70
6.4.	CLIMATE IMPACTS ON WATER USE	70
6.4.1.	California Water Plan Update 2023	72
6.5.	WATER USE	72
6.5.1.	Past Water Use	72
6.5.2.	Recent Water Use	73
6.6.	WATER USE BY SECTOR.....	73
6.6.1.	Service Connections/Accounts	73
6.6.2.	Distribution System Losses	76
6.6.3.	2028 Water Loss Standard	76
6.7.	URBAN WATER USE OBJECTIVE	77
6.7.1.	Key Highlights from the Report	77
6.7.2.	Objectives Calculated with Future Standards.....	77
6.8.	WATER CONSERVATION ACT	78
6.8.1.	Act Background (SBx7-7).....	78
6.8.2.	Exempt Agencies.....	79
6.8.3.	SBx7-7 Baseline & Target	82
6.8.4.	SBx7-7 Target Compliance	85
6.9.	PROJECTED WATER DEMAND	85
6.9.1.	Passive Savings.....	85
6.9.2.	Low-Income Water Demands	85
6.9.3.	Projected Water Use by Sector.....	86

Section 7: Reliability Planning 89

7.1.	OVERVIEW.....	89
------	---------------	----



7.2.	HISTORIC DROUGHTS.....	90
7.3.	RECENT DROUGHT (2020-2022)	90
7.4.	STATE WATER SUPPLY RELIABILITY	92
7.4.1.	State Water Project (SWP) Reliability	92
7.5.	COLORADO RIVER RELIABILITY.....	97
7.5.1.	Competition for Water Rights.....	97
7.6.	DISTRICT SUPPLY RELIABILITY	98
7.6.1.	Reliability of Alternative Sources	99
7.7.	DROUGHT RISK ASSESSMENT	99
7.7.1.	Basis for Projected Demands	99
7.7.2.	Basis for Projected Supplies.....	100
7.7.3.	Tabular Comparisons	101
7.8.	ENSURING ADEQUATE SUPPLY	111
7.9.	WSCP SUPPLY AUGMENTATION	111

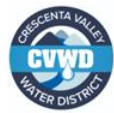
Section 8: Contingency Planning 113

8.1.	INTRODUCTION.....	113
8.2.	NEED FOR CONTINGENCY PLANS.....	114
8.2.1.	Recent California Water Code Amendments.....	114
8.3.	LEGAL AUTHORITY	115
8.4.	WATER SUPPLY RELIABILITY ANALYSIS	115
8.4.1.	WSCP Re-Adoption	116
8.5.	District Staff Response	116
8.6.	ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES	118
8.6.1.	DECISION-MAKING PROCESS	118
8.6.2.	KEY DATA INPUTS AND ASSESSMENT METHODOLOGY	119
8.6.3.	LOCALLY APPLICABLE EVALUATION CRITERIA	119
8.7.	SHORTAGE STAGES AND SHORTAGE RESPONSE ACTIONS	120
8.7.1.	MWD STAGES OF ACTION.....	120
8.7.2.	MWD WATER SUPPLY ALLOCATION PLAN (FOR WSDM SHORTAGE STAGE 7).....	122
8.7.3.	BASE PERIOD CALCULATIONS (USED TO DETERMINE WSAP REDUCTIONS).....	123
8.7.4.	WSAP ALLOCATION YEAR CALCULATIONS.....	123
8.7.5.	FMWD SHORTAGE STAGES OF ACTION	125



8.7.6.	Supply Allocation Formula Elements	125
8.7.7.	Conservation Plan Ordinance	126
8.7.8.	CVWD STAGES OF ACTION.....	127
8.7.9.	PROHIBITIONS.....	127
8.7.10.	CONSUMPTION REDUCTION METHODS	131
8.8.	CATASTROPHIC SUPPLY INTERRUPTION.....	131
8.8.1.	MWD Response.....	131
8.8.2.	CVWD Response.....	132
8.8.3.	SEISMIC RISK ASSESSMENT AND MITIGATION PLAN INTRODUCTION	134
8.8.4.	CVWD LHMP	134
8.8.5.	LHMP Goals and Objectives	134
8.8.6.	SEISMOLOGY OF WATER FACILITIES & VULNERABILITY	135
8.8.7.	Hazard Mitigation Plan	136
8.8.8.	CVWD SEISMIC EVALUATION.....	137
8.8.9.	MITIGATION ACTIONS.....	137
8.9.	COMMUNICATION PROTOCOLS	138
8.9.1.	COORDINATION	138
8.9.2.	COMMUNICATION GOALS	140
8.9.3.	COMMUNICATION PROTOCOL FOR CURRENT OR PREDICTED SHORTAGE	140
8.9.4.	COMMUNICATION PROTOCOL FOR SHORTAGE RESPONSE ACTIONS TRIGGERED OR ANTICIPATED TO BE TRIGGERED.....	140
8.9.5.	OTHER RELEVANT COMMUNICATION PROTOCOLS.....	140
8.9.6.	CRISIS COMMUNICATION PROTOCOL	141
8.10.	COMPLIANCE AND ENFORCEMENT	142
8.10.1.	PENALTIES OR CHARGES	142
8.10.2.	APPEAL REGARDING VIOLATIONS.....	143
8.11.	LEGAL AUTHORITIES.....	143
8.11.1.	FINANCIAL CONSEQUENCES OF WSCP IMPLEMENTATION	143
8.12.	MONITORING AND REPORTING.....	144
8.12.1.	SPECIAL WATER FEATURE DISTINCTION	145
8.13.	WSCP ADOPTION AND REFINEMENT PROCEDURES.....	145
8.13.1.	WSCP REFINEMENT PROCEDURES.....	145

Section 9: Conservation Measures 147



9.1.	OVERVIEW	147
9.2.	DWR DMMs FOR 2025 UWMPs	148
9.3.	CalWEP BMPs	148
9.3.1.	2025 Updates to CalWEP BMPs	149
9.4.	DISTRICT CONSERVATION MEASURES	149
9.4.1.	DMM No. 1: Water Waste Prevention.....	152
9.4.2.	DMM No. 2: Metering.....	154
9.4.3.	DMM No. 3: Conservation Pricing	155
9.4.4.	DMM No. 4: Public Education & Outreach	157
9.4.5.	DMM No. 5: Programs to Assess and Manage Distribution System Real Loss	158
9.4.6.	DMM No. 6: Water Conservation Program Coordination and Staffing Support	159
9.4.7.	DMM No. 7: Other Conservation Measures	159
9.4.8.	DMM No. 7a: Residential Programs	160
9.4.9.	DMM No. 7b: Programs for CII Properties.....	162
9.4.10.	DMM No. 7c: Large Landscape Programs	163
9.5.	CONTINUED IMPLEMENTATION	164

List of Tables

Table 1.1: Coordination and Public Involvement	17
Table 2.1 Current Land Use & Economic Statistics for Los Angeles County	26
Table 2.2 Historical Climate (1918-2011)	27
Table 2.3 Recent Climate (2025).....	27
Table 2.4 Crescenta Valley Water District Overall Population	29
Table 2.5 Crescenta Valley Water Service Area Projected Population	31
Table 3.1 Imported Water Supply.....	47
Table 3.2: Overall Groundwater Production.....	51
Table 6.1 District Past Water Use	73
Table 6.2 District Recent Water Use	73
Table 6.3 Service Connections (2025).....	74
Table 6.4 Recent Water Demand by Sector (AF)	75
Table 6.5 Objectives Calculated with Future Standards	78
Table 6.6 Crescenta Valley Water District Water Use (GPCPD).....	84
Table 6.7 Crescenta Valley Water District SBx7-7 2020 Water Use Targets	84
Table 6.8 Projected Water Demand by Sector	87
Table 7.1 Crescenta Valley Water District Water Supply Availability & Demand Projections Normal Water Year (AF).....	102



Table 7.2 Crescenta Valley Water District Water Supply Availability & Demand Projections Single Dry Year (AF)	103
Table 7.3 Crescenta Valley Water District Water Supply Availability & Demand Projections Multiple Dry Years (2026-2030) (AF)	104
Table 7.4 Crescenta Valley Water District Water Supply Availability & Demand Projections Multiple Dry Years (2031-2035) (AF)	105
Table 7.5 Crescenta Valley Water District Water Supply Availability & Demand Projections Multiple Dry Years (2036-2040) (AF)	106
Table 7.6 Crescenta Valley Water District Water Supply Availability & Demand Projections Multiple Dry Years (2041-2045) (AF)	107
Table 7.7 Crescenta Valley Water District Water Supply Availability & Demand Projections Multiple Dry Years (2046-2050) (AF)	108
Table 8.1: Water Allocation Percentages	124
Table 8.2: Water Supply Shortage Stages and Conditions – Rationing Stages.....	128
Table 8.3: Mandatory Prohibitions	128
Table 8.4: Consumption Reduction Methods	131
Table 8.5: Preparation Actions for Catastrophe	133
Table 8.6: Penalties and Charges	142
Table 8.7: Proposed Measures to Overcome Revenue Impacts.....	144
Table 8.8: Proposed Measures to Overcome Expenditure Impacts	144
Table 8.9: Water Use Monitoring Mechanisms	145
Table 9.1: Conservation Measures	150
Table 9.2: Water Conservation Alert System Codes	153
Table 9.3 Current Water & Sewer Rates (as of 7/1/2024).....	156
Table 9.4 Past Water & Sewer Rates in 2020 UWMP (as of 09/01/2019).....	156
Table 9.5: CII Retrofit Devices & Rebate Amounts under SoCal WaterSmart Program	163

List of Figures

Figure 1.1 UWMPs are Governed by State Law	14
Figure 1.2 UWMP Act Establishment and Amendment	15
Figure 2.1 Crescenta Valley Water District Organization Chart (March 2026).....	32
Figure 2.2 Crescenta Valley Water District – Water Service Area Map.....	33
Figure 2.3 Crescenta Valley Water District Pressure Zones.....	34
Figure 2.4 Los Angeles Zoned Districts (January 2022)	35
Figure 3.1 Parker Dam at Colorado River	38
Figure 3.2 Colorado River Basin and Diversion Structure.....	39
Figure 3.3 Bay Delta	42
Figure 3.4 Sacramento-San Joaquin Bay Delta	44
Figure 3.5 Aqueduct Systems in California	45
Figure 3.6 State Water Project.....	46
Figure 3.7 Local Groundwater Basins within the Upper Los Angeles River Area	47



Figure 3.8 Verdugo Groundwater Basin	48
Figure 3.9 MWD Service Area Map.....	49
Figure 3.10 MWD Reservoir Levels (May 2026)	50
Figure 3.11 Rosemont Preserve Stormwater Recharge Project	52
Figure 4.1 Los Angeles-Glendale Plant.....	56
Figure 5.1 MWD's Weymouth Treatment Plant Provides a Safe Supply of Water	62
Figure 5.2 Native Rock adds to the Salinity of the Colorado River Water Supplies	63
Figure 5.3 Well 10 Water Quality Sampling Cabinet	65
Figure 5.4 Basic Overview of Water Quality Testing and Response for Municipal Wells	66
Figure 6.1 Two Strike Park located in La Crescenta-Montrose.....	74
Figure 6.2 Current Water Demand by Sector (in 2025).....	75
Figure 6.3 California's 2020 Water Conservation Goals	79
Figure 6.4 California's 2020 Water Conservation Goals	80
Figure 6.5 South Coast Hydrologic Region.....	81
Figure 6.6 Procedure for Determining Baseline Per Capita Water Use.....	83
Figure 6.7 Procedure for Determining Target Per Capita Water Use	83
Figure 6.8 Projected Water Demand by Sector (in 2050).....	87
Figure 7.1 Governor Newsom at Lake Mendocino in Ukiah on April 21, 2021	91
Figure 7.2 Lake Oroville During Drought of 2020-2022 (October 4, 2022)	94
Figure 7.3 Lake Oroville After Drought (June 12, 2023)	94
Figure 7.4 California State Reservoir Levels (May 2026)	95
Figure 7.5 SWP Table A Deliveries	96
Figure 7.6 Projected Normal Water Supply: Year 2030.....	109
Figure 7.7 Projected Normal Water Supply: Year 2050.....	110
Figure 8.1 Basic Overview of Water Quality Contamination Response for City Wells	117
Figure 8.2: Sample Annual Assessment Decision-Making Process Timeline	119
Figure 8.3 MWD WSDM Surplus & Drought Stages.....	121
Figure 8.4: MWD's Diamond Valley Lake (Potential Reserves for WSAP Allocations)	123
Figure 8.5: The Five Phases of Emergency Management	134
Figure 8.6: Seismic Hazards within CVWD Service Area (California Geological Survey)	136
Figure 8.7: Pipeline Repairs Required after a Magnitude 6.9 Event (2020 Seismic Evaluation)	139
Figure 8.8: Probability of Damage to Facilities from a Magnitude 6.9 Event (2020 Seismic Evaluation)	139
Figure 9.1 CUWCC became CalWEP in January 2018	148
Figure 9.2 Agricultural Fallowing Helps Conserve Water in the Palo Verde Valley.....	149
Figure 9.3 Conservation Measures for 2025 UWMPs: CalWEP and DWR Compared	151
Figure 9.4 Water Waste is Prohibited by District Ordinance.....	152
Figure 9.5 Water Meter with AMI Technology	155
Figure 9.6 Residential Water Survey.....	160
Figure 9.7 High-Efficient Washing Machines	162
Figure 9.8 CIMIS Stations Measure Rainfall and ETo	164



Appendices

Appendix A	District Board Resolution Adopting 2025 UWMP
Appendix B	District Board Resolution Adopting 2025 WSCP
Appendix C	UWMP Act
Appendix D	Dept. of Water Resources UWMP Checklist
Appendix E	Dept. of Water Resources UWMP Data Tables
Appendix F	Dept. of Water Resources SBx7-7 Tables
Appendix G	UWMP Notices: 60-Day Notice, 2-Week and 1 Week Notices
Appendix H	Final Transmittals to County and State Library
Appendix I	ULARA Judgment
Appendix J	Rockhaven Well Operation & Water Sale Agreement
Appendix K	Crescenta Valley Water District Staff Report (Rosemont Preserve)
Appendix L	2021 Crescenta Valley Water District Hazard Mitigation Plan
Appendix M	2025 Recycled Water Feasibility Study

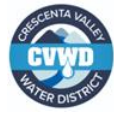


ACRONYMS

AAC	All-American Canal
Act	Urban Water Management Planning Act
AF	Acre-Feet
AFY	Acre-Feet per Year
AMI	Automatic Metering Infrastructure
AP	Allocation Plan
Basin	Verdugo Groundwater Basin
BDCP	Bay-Delta Conservation Plan
BMP	Best Management Practice
Board	Metropolitan Water District of Southern California's Board of Directors
CDP	Census Designated Place
CDPH	California Department of Public Health
CFS	Cubic Feet per Second
CII	Commercial/Industrial/Institutional
CIMIS	California Irrigation Management Information System
CRA	Colorado River Aqueduct
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CVWD	Crescenta Valley Water District
CWC	California Water Code
DBPs	Disinfection Byproducts
DDW	Division of Drinking Water
DMM	Demand Management Measure
DOE	Department of Energy
DWSAP	Drinking Water Source Assessment and Protection
DWR	Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
Eto	Evapotranspiration
FMWD	Foothill Municipal Water District



GPCD	Gallons per Capita per Day
GPF	Gallons per Flush
GPM	Gallons per Minute
GW	Groundwater
GWP	Glendale Water and Power
HECW	High Efficiency Clothes Washer
HEN	High Efficiency Nozzle
HET	High Efficiency Toilet
HEW	High Efficiency Washer
HR	Hydrologic Region
IID	Imperial Irrigation District
IPR	Indirect Potable Reuse
IRP	Integrated Resources Plan
IWA	International Water Association
JWPCP	Joint Water Pollution Control Plant
LACSD	Sanitation Districts of Los Angeles County
LADWP	Los Angeles Department of Water and Power
LAGWRP	Los Angeles/Glendale Water Reclamation Plant
LCID	La Cañada Irrigation District
LRWSP	Local, Reliable Water Supply Program
MAF	Million Acre-Feet
MBR	Membrane Bioreactor
MCL	Maximum Contaminant Level
MG	Million Gallons
MGD	Million Gallons per Day
mg/L	Milligrams per Liter
µg/L	Micrograms per Liter
MOU	Memorandum of Understanding
MWA	Mohave Water Agency
MWD	Metropolitan Water District of Southern California
MWELO	Model Water Efficient Landscape Ordinance
MTBE	Methyl Tertiary Butyl Ether
NDMA	N-Nitrosodimethylamine
ng/L	Nanograms per Liter



NPDWR	National Primary Drinking Water Regulations
NTU	Nephelometric Turbidity Units
PCA	Possible Contaminating Activities
PCE	Tetrachloroethylene
PFAS	Per- and Polyfluoroalkyl Substances
PHETs	Premium High Efficiency Toilets
PHG	Public Health Goal
PPCPs	Pharmaceuticals and Personal Care Products
PVID	Palo Verde Irrigation District
QSA	Quantification Settlement Agreement
RHNA	Regional Housing Needs Assessment
SB	Senate Bill
SBx7-7	Senate Bill x7-7
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SDP	Seawater Desalination Program
SDWA	Safe Drinking Water Act
SMSS	Soil Moisture Sensor System
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
ULARA	Upper Los Angeles River Area
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
VOC	Volatile Organic Compound
WARN	Water Agency Response Network
WBIC	Weather-Based Irrigation Controller
WRP	Water Reclamation Plant
WSAP	Water Supply Allocation Plan
WSCP	Water Shortage Contingency Plan
WSDM	Water Surplus and Drought Management Plan
WSS	Watershed Sanitary Survey
WWTP	Wastewater Treatment Plant

1

Section 1: Introduction

In accordance with the Water Code, an Urban Water Management Plan is required to be updated every five years.

1.1. PURPOSE AND SUMMARY

This is the 2025 Urban Water Management Plan (“UWMP” or “Plan”) for the Crescenta Valley Water District (hereinafter “District”). This Plan has been prepared in compliance with the Urban Water Management Planning Act (Act), which was established in 1983 and has been codified into the California Water Code (CWC) sections 10610 through 10657. A copy of the Act can be found in **Appendix C**.

As part of the Act, the legislature declared that waters of the state are a limited and renewable resource subject to ever increasing demands; that the conservation and efficient use of urban water supplies are of statewide concern; that successful

implementation of plans is best accomplished at the local level; that conservation and efficient use of water shall be actively pursued to protect both the people of the state and their water resources; that conservation and efficient use of urban water supplies shall be a guiding criterion in public decisions; and that urban water suppliers shall be required to develop water management plans to achieve conservation and efficient use.

The Act requires “every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt, in accordance with prescribed requirements, an Urban Water Management Plan.”

These plans must be filed with the California Department of Water Resources (DWR) every five (5) years, describing and evaluating reasonable and practical efficient water uses, reclamation, and conservation activities. The CWC mandates that each water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one.



Figure 1.1 UWMPs are Governed by State Law

The Act has been amended multiple times since its initial passage in 1983. A summary of the amendments is provided in **Figure 1.2**. The intent of the amendments was to broaden the scope of the UWMPs, encourage public participation, and add financial incentives to the UWMPs. A significant amendment to the Act was a 2009 amendment (Senate Bill SBx7-7) signed by former Governor Arnold Schwarzenegger. The Senate Bill, also known as the “Water Conservation Act” required that per capita water use within an urban water supplier's service area decrease by 20 percent by the year 2020 in order to receive grants or loans administered by DWR or other state

agencies. Each urban retail water supplier developed water use “targets” for 2015 and for 2020. The “target” date for 2020 passed on December 31, 2020.

Urban water suppliers whose 2020 actual water use does not meet the target requirements established by this bill are not eligible for state

Amendments to the Act have added financial incentives to UWMPs.

water grants or loans This included, but was not limited to, the following funding sources:

- **Drinking Water State Revolving Fund:** Primarily a source of funds to help correct deficiencies
- **Proposition 1:** Primarily a source of funds related to supplies & infrastructure
- **Proposition 4:** Primarily a source of funds related to climate-related programs
- **Proposition 50:** Primarily a source of funds related to security & treatment technology
- **Proposition 84:** Primarily a source of funds related to protection from pollution

Agencies that submit their UWMPs past the July 2026 deadline are still technically eligible for grants or loans, provided that the UWMP addresses the requirements of the

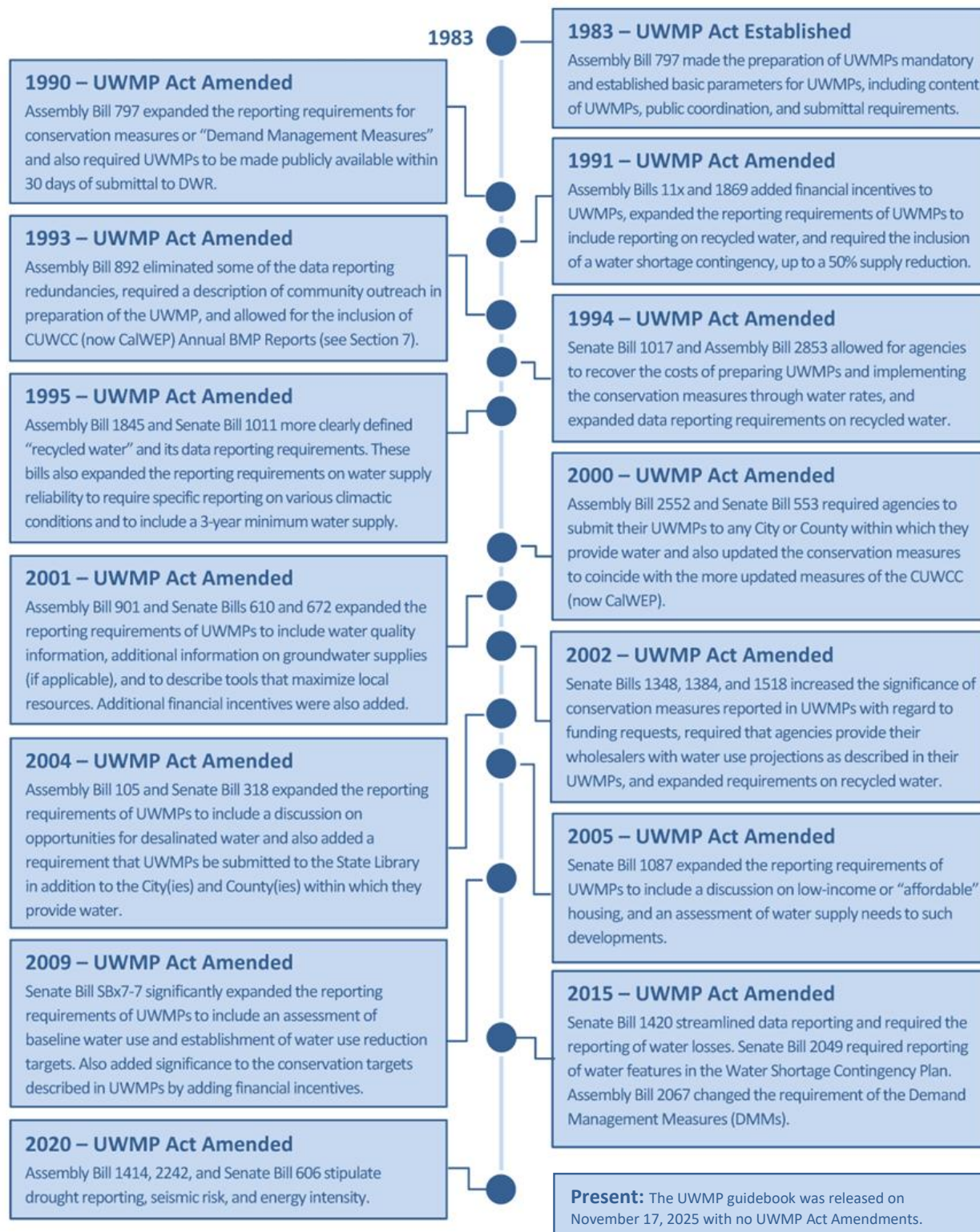


Figure 1.2 UWMP Act Establishment and Amendment



Act. However, applications for such funds are subject to legal challenges coming from competing agencies for the same funding, if the competing agencies become aware of the timeframe in which an UWMP was submitted.

UWMPs are considered to be a foundation document and a source of information for Water Supply Assessments (Senate Bill 610) and Written Verifications of Water Supply (SB 221). In addition, an UWMP may serve as a long-range planning document for water supply, a source of data for development of a regional water plan, and a source document for cities and counties as they prepare their General Plans. These planning documents are linked, and their accuracy and usefulness are interdependent.

One of the primary objectives of the Act is the assessment of demands and supplies over a 20-year or a 25-year planning horizon under normal rainfall conditions, as well as under various drought conditions. The Act also requires water shortage contingency planning and drought response actions to be included in the UWMP. In short, this Plan is a management tool that provides a general, long-term framework for action, rather than a detailed blueprint for supply and demand management. This Plan evaluates the District's supply and demand projections over a 25-year planning horizon, and what mix of programs should be explored for ensuring that such

water will be available. As part of the District's past and current water conservation policies, the District is currently implementing many facets of this plan already to achieve its water conservation goals.

1.2. COORDINATION

The process of preparing and submitting an UWMP is a transparent process that requires opportunities for outside-agency and general public involvement. In preparing this 2025 UWMP, the District has encouraged broad community participation. The District notified the agencies that the District interacts with more than 60 days in advance of the District Board's adoption of the 2025 UWMP. The District also made the draft 2025 UWMP available

at the District's Board Room and on the District's website, leading up to a public hearing on the 2025 UWMP. Notices of the public hearing were

The District's 2025 UWMP is a collaborative effort involving its own staff, outside agencies, and the general public.

published in the local press and on the District's website for a two-week period. On May 26, 2026, the District held a noticed public hearing to review and accept comments on the 2025 UWMP. Following the public hearing, the District officially adopted the 2025 UWMP through board resolution, of which a copy is included in **Appendix A.**

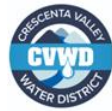


Table 1.1: Coordination and Public Involvement

Agency	Participated in Plan Preparation	Contacted for Assistance	Commented on Draft	Notified of Public Hearing	Attended Public Hearing
District Staff	x	x	x	x	x
District Board	x	x	x	x	x
Foothill Municipal Water District				x	
City of Glendale				x	
Glendale Water and Power				x	
City of La Cañada Flintridge					
La Cañada Irrigation District				x	
Crescenta Valley Town Council				x	
Liberty Utilities					
Los Angeles County				x	
Upper Los Angeles River Area Watermaster				x	
Interested General Public				x	x

Notes:

1. “60-Day” notice letters were sent out to all agencies (except the Districts own) as required by CWC § 10621(b):
2. 2-week and 1-week notices were published in the local newspaper, Crescenta Valley Weekly.
3. **Appendix G** contains copies of the 60-day notice and the 2-week and 1-week notices.



As required by the Act, the 2025 UWMP is being prepared by the City and will be submitted to DWR, the California State Library, and any city or county within which it provides water to no later than 30 days after adoption. The 2025 UWMP has been made available to the public on the District's website and at District Offices during normal business hours within 30 days of submitting the 2025 UWMP to DWR.

1.3. DWR UPDATES FOR THE 2025 UWMPs

There have been minor changes to the CWC affecting the 2025 UWMPs. The changes include:

- **Clarified Reporting Requirements for SBx7-7:** Agencies must provide a description in the 2025 UWMP of how their water use goals of the 20x2020 were met. An urban retail water supplier's failure to meet those goals will be a violation of law and potentially result in a state administrative or judicial proceeding. If the agency did not achieve its targeted reduction in 2020, the agency must show in its 2025 UWMP whether it met their 2020 Target in 2025 to be eligible for state funds. Currently, the CWC does not set an end date for reporting on a supplier's progress in meeting the 2020 Target. (CWC § 10608.40)
- **Water Losses:** Retail Suppliers must

indicate the quantity of water losses for five years by reporting data from their Validated Water Loss Audits, discuss their progress toward compliance with the 2028 Water Loss Standard, and show whether they met the Water Loss Performance Standard enacted by the State Water Resources Control Board (SWRCB). (CWC § 10631 (d) (3) (C), SB 1414, 2019). Suppliers can simply provide a link to their water loss reports submitted to DWR's Water Loss Audit Program.

- **Updates to Demand Management Measures (DMMs):** Retail Suppliers with an annual actual water use above their Urban Water Use-Objective (UWUO) must include a narrative describing additional DMMs the supplier plans to use to achieve its UWUO by January 1, 2027. (CWC § 10609.25, AB 1414, 2019)
- **UWUO and Water Use Reporting:** The standard for indoor residential water use from January 1, 2025 to January 1, 2030 was lowered from 52 to 47 Gallons per Capita per Day (gpcd). Until January 1, 2025, the standard was 55 gpcd. Beginning January 1, 2030 the standard was lowered from 50 to 42 gpcd. DWR, in coordination with SWRCB, will conduct an investigation to determine if the date for the 2030 indoor residential use standard will be changed. The District will not be subject to enforcement



pursuant to this chapter solely for failing to meet the indoor residential use standard. (CWC § 10609.4).

- **Irrigation of Nonfunctional Turf:**

"Functional turf" is ground cover surface of turf located in a recreational use area or community space. "Nonfunctional turf" means any turf that is not functional turf, and includes turf located within street rights-of-way and parking lots. Turf enclosed by fencing or other barriers to permanently preclude human access for recreation or assembly is

The use of potable water to irrigate nonfunctional turf is incompatible with state policy relating to climate change.

Nonfunctional turf. The use of potable water to irrigate nonfunctional turf is wasteful and incompatible with state policy relating to climate change, water conservation, and reduced reliance on the Sacramento-San Joaquin Delta ecosystem (CWC § 110). The use of potable water to irrigate Nonfunctional turf on all properties owned by the District are to be phased out by January 1, 2027. All other Commercial, Industrial, and Institutional (CII) properties are to be phased out by January 1, 2028. After which it will be prohibited with a few exceptions (CWC § 10618.14). The website saveourwater.com/ provides information and resources on converting nonfunctional turf to native vegetation.

- **Definitions:** New definitions were added or existing definitions were modified, which include Nonfunctional Turf, CII water use, Large landscape, Gross water use, Potable reuse, Urban water use objective, Affordable housing, and Disadvantaged community to name a few (CWC § 10608.12).

In addition, there are several optional or voluntary categorical and data reporting changes to the UWMP Act. These include an optional Planning Tool that suppliers can use to report and assess water use and supply in order to better conduct the Reliability Assessment and Drought Risk Assessment, a Potable and Non-Potable Planning Tool, Potable and Non-Potable Submittal Tables, as well as various optional data reporting.

1.4. UPDATES TO THE DISTRICT'S UWMP

In addition to the required updates described in the previous section, the District's 2025 UWMP has undergone some changes from the 2020 UWMP. A summary of the key changes to the UWMP are:

- **New Format:** Format of the UWMP has been changed to include a new look and new arrangement of sections. The new arrangement helps the discussion of certain topics which precede other topics. See **Section 1.5** for the format of this 2025 UWMP.



- **DWR & Water Code:** A listing of DWR-required UWMP updates (see previous Section).
- **District Development Growth:** An updated review of development which took place in the District's service area since the 2020 UWMP.
- **Water Sources and Supplies:** A broader, more in-depth discussion of water sources and supplies.
- **Recycled Water:** An updated review of recycled water opportunities in the District.
- **Water Quality:** An update to new regulations and contaminants affecting water quality and treatment.
- **Water Use:** Updated information on recent water use quantities and a more in-depth discussion on water use parameters.
- **Supply v Demand:** Updated information on projected supplies vs demands, and a discussion on recent regional droughts affecting the District. There is also an expansion on the discussion of the District's source water reliability.
- **Contingency Planning:** Updated information on the District's contingency plans, including the District's Ordinances.

- **Conservation Measures:** Updated information on the District's conservation measures, which reflect the previous (2020) changes by DWR.

In addition to these changes, there are multiple minor changes. The changes reflect both those that are required by the CWC and those that are voluntarily included for the benefit of the District.

1.5. FORMAT OF THE 2025 UWMP

The information contained in this 2025 UWMP corresponds to the items in the UWMP Act and other amendments to the Water Code. The sections of the UWMP are:

Section 1 - Introduction

This section describes the UWMP Act, the UWMP preparation and adoption process, updates to the UWMP, and a lay description of this entire document.

Section 2 – Service Area Description

This section outlines the history and development of the District and the District's water supply system, a description of its existing service area, the local climate, population served, and basic statistics on the District's water distribution system.

Section 3 – Water Sources & Supplies

This section describes the existing potable water supplies available to the District, including groundwater from the Verdugo



Groundwater Basin (Basin) and imported water from Metropolitan Water District of Southern California (MWD) through the Foothill Municipal Water District (FMWD). In addition, this section evaluates potential future water supply sources.

Section 4 – Recycled Water Opportunities

This section discusses potential recycled water supplies, an assessment of potential customers, and methods to expand the use of recycled water.

Section 5 – Water Quality

This section discusses the quality of the District's potable water supply sources, including imported water and groundwater. This section also discusses drinking water standards and the effect that water quality has on management strategies and supply reliability.

Section 6 – Water Use

This section describes past, current, and projected water usage within the District's service area. Past and projected water use in this section is broken down by sector. This chapter also discusses the requirements of the 2009 Water Conservation Act (SBx7-7), including the 2020 Water Use Targets.

Section 7 – Reliability Planning

This section presents a drought risk assessment of the District's water system which compares projected future water

demands with expected available water supplies under three different hydrologic conditions: normal year; a single dry year; and multiple dry years. This 2025 UWMP concludes that if projected imported and local supplies are developed as anticipated, no water shortages are anticipated in the District's service area during the planning period.

Section 8 – Contingency Planning

This section serves as the District's Water Shortage Contingency Plan (WSCP). A WSCP is a response plan to water shortages, as well as the efforts that will be utilized in the event of water supply interruptions, such as power outages, earthquakes, or droughts. This section also describes regional response efforts to water supply interruptions.

Section 9 – Conservation Measures

This section addresses the District's compliance with water conservation measures that correspond to the seven (7) Demand Management Measures (DMMs) described in the 2025 UWMP Guidebook, which were previously the 14 DMMs listed in the Act. The DMMs also correspond to the current Best Management Practices (BMPs) from the California Water Efficiency Partnership (CalWEP).

Appendices

The Appendices contain references and specific documents that contain reference



data used to prepare this 2025 UWMP.

1.6. LAY DESCRIPTION

To facilitate effective and efficient management of water supplies, and in compliance with the UWMP Act and the Water Conservation Act of 2009, the District has prepared this 2025 UWMP. This UWMP includes background information regarding the District's history, water system, and water supplies. This UWMP also analyzes recent water demands and projects future water supply capacity and water demands through 2050. The effects of water quality, drought, and emergencies on the District's water supply reliability are also analyzed.

As indicated by **Section 7**, the District does not expect to have a water supply shortage through 2050. Furthermore, this UWMP concludes that the District's water supplies, which are obtained from local groundwater basins and wholesale agencies, are resilient to droughts. A basic overview of the District's water system can be found in **Section 2**. Water quality concerns do have an occasional impact on the consistency of groundwater supplies, but the District's

groundwater quality is not expected to be affected. These are described in **Section 5**.

This 2025 UWMP recommends that the District implement water operation management tools that maximize the use of local groundwater production and imported water to meet its water demands. This UWMP also recommends conservation tools that will enable the District's residents to conserve water and maximize water use efficiency. These are described in **Section 9**.

If the water consumption rates in the District decrease as this UWMP projects, the District can expect to have an adequate water supply in future years. This is in spite of projected population growth over the next 25 years. Finally, this UWMP recommends that severe droughts or sudden supply interruptions be addressed by following the criteria of the WSCP, as described in **Section 8**.

Since UWMPs are due for revision every five years, this UWMP is projected to be in effect until the year's end of 2030. At that time the District's 2030 UWMP will begin development and adoption.

2

Section 2: Service Area Description

Originally as Crescenta Valley County Water District, The term "County" was officially removed in 1996.

2.1. DISTRICT AND WATER SYSTEM HISTORY

The Crescenta Valley Water District was formed as the Crescenta Valley County Water District on December 14, 1950 by the vote of local residents. Organized under the provisions of Division 12 of the CWC, the District operates as a political subdivision of the state. The term "County" was officially deleted from District's name in 1996. The Crescenta Valley Water District operates under a District Board/District Manager form of government. The District Board consists of five Board Members elected to four-year terms. District has a 5-member Board of Directors who are elected at-large and participate in the management of the District. The current members of the Board of Directors are:

- **James D. Bodnar -President**
- **Jennifer T. Valdez – Vice President**
- **Jeffery W. Johnson – Board Director**
- **Kerry D. Erickson – Board Director**
- **Sharon S. Raghavachary – Board Director**

2.1.1. Early Stages

In the early 1950's, the newly-formed District purchased the assets and consolidated the infrastructure of several small private water companies then in existence. By 1953, with rapid growth in the Crescenta Valley and surrounding foothill communities, it became apparent that the local groundwater supply was not going to be sufficient to meet the increasing demand. Residents from La Crescenta to Altadena voted to form the FMWD to purchase and distribute imported water from the



Metropolitan Water District of Southern California (MWD). By 1955, the District was augmenting its local well water with MWD water from the Colorado River. In the 1960's, MWD increased its supply by also contracting for Northern California water with the completion of the State Water Project.

The Verdugo Basin is one of four groundwater subbasins within the Upper Los Angeles River Area (ULARA), with the San Fernando Basin being the largest. The ground water rights of the District are defined by the Judgement in Superior Court Case No. 650079, entitled "The City of Los Angeles, a Municipal Corporation, Plaintiff, vs. City of San Fernando, et. al., Defendants" and the final Judgment was signed on January 26, 1979. The judgement also established a court-appointed position of Watermaster, which oversees parties' extraction and parties' rights to native groundwater, imported return water, and stored waters in the ULARA groundwater basins.

The Judgement states that Glendale and the District have appropriative and prescriptive rights to extract 3,856 and 3,294 acre-feet of groundwater per year, respectively, from Verdugo Basin and there are no provisions in the Judgment to allow for stored water credits in the Verdugo Basin.

2.2. CURRENT WATER SERVICE AREA

The District is located in the Crescenta Valley area of Los Angeles County in the foothills of the San Gabriel Mountains, between the San Fernando and San Gabriel valleys. The District provides water distribution and sewage collection to the unincorporated communities of La Crescenta, Montrose, and Verdugo City, as well as a small portion of the City of Glendale and City of La Cañada-Flintridge. The District's water service area encompasses an area of approximately 4 square miles or 2,560 acres in a relatively steep terrain ranging from 1,200 feet to almost 3,000 feet above sea level. The District's limits are shown in **Figure 2.3**.

The District currently provides water to over 8,250 accounts representing a population of 28,200, and wastewater collection service to over 6,000 accounts. Customer growth is low as the Crescenta Valley area is nearly built-out. Residential growth is occurring through increased housing density in the multiple-unit zoned areas (primarily Montrose) as well as limited in-fill housing developments on random parcels in La Crescenta.

With no wholesale customers, the District is a retail-only water agency and maintains residential, commercial, institutional, and landscape irrigation customers. Most of the water service accounts are single-family residences. The District is responsible for providing water services to its certificated



water service area, which coincides with the District's jurisdictional boundaries. The District's Organization Chart is shown in **Figure 2.1**, and has a budget of \$18.3 million. The key objectives of the District's Administration are as follows:

- Produce water and meter water for billing purposes
- Responding to all water quality complaints
- Flush mains
- Efficiently operate groundwater facilities
- Maintaining and making repairs to all components of the water distribution system
- Complying with California Water Resources Control Board Division of Drinking Water (DDW) regulations, including laboratory testing
- Promoting water certification and safety training

2.3. LAND USE & ECONOMY

The District is located in Los Angeles County. Los Angeles County encompasses an area of 4,060 square miles or 2.6 million acres, and is bordered on the west by Ventura County, on the north by Kern County, on the South by the Pacific Ocean, on the east by San Bernardino County, and on the southeast by Orange County.

Table 2.1 provides basic statistics on current land use and economy for Los Angeles County. **Figure 2.4** shows the Los Angeles County Zoned Districts, which includes the District within Service Area C (East).

2.3.1. District Land Use

Land use in the service area is primarily residential with two commercial/business corridors along Foothill Boulevard and Honolulu Avenue. Due to zoning changes, some areas, specifically south of Foothill Boulevard, continue to be converted into multi-family units. There are no industrial or agricultural water users within the District, and institutional users are limited to schools, churches, parks, and freeway landscaping.

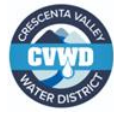


Table 2.1 Current Land Use & Economic Statistics for Los Angeles County

Land: Total (sq. miles)	
Item	Los Angeles County
Land Area (sq. miles)	4,060 sq. miles
Land Area (acres)	2.6 million acres
Land: Developed (acres)	
Item	LA County
Developed Land	716,000 acres
Population	
Item	LA County
Population	10,014,009
Housing	
Item	LA County
Total Housing Units	3,709,264
Median Home Price	\$808,000
Owner Occupancy Rate	45.6%
Economy	
Item	LA County
Employed (16yrs +)	61.5%
Median Household Income	\$90,845
Percent in Poverty	13.3%
Economic: Production/Revenue	
Item	LA County
Manufacturing	N/A
Agriculture/Crops	N/A
Retail & Wholesale Sales	N/A

*N/A: Data not Available



2.4. CLIMATE

The District has a Mediterranean climate, with a “foothill” characteristic. Summers are warm to hot and dry, while winters are cool and have an annual historical average precipitation of approximately 23.20 inches. Another feature of this Mediterranean climate is the frequency of high-velocity, low-humidity, northeasterly winds in the fall and early winter. Therefore, the District is highly prone to wildfire danger during these periods. Adequate storage of reservoir water supply is deemed critical by the local fire jurisdictions. **Table 2.2** lists the historical average rainfall for the District:

Table 2.2 Historical Climate (1918-2011)

La Crescenta FC251C, California (044628)

(www.wrcc.dri.edu)

Month	Average Rainfall (in)
Jan	4.55
Feb	5.15
Mar	3.73
Apr	1.95
May	0.63
Jun	0.16
Jul	0.03
Aug	0.14
Sep	0.52
Oct	0.84
Nov	2.21
Dec	3.28
Annual:	23.20

The sources of the District’s imported water supplies, the State Water Project (SWP) and

Colorado River Aqueduct (CRA), are influenced by weather conditions in Northern California and along the Colorado River Basin region. Both regions have recently been suffering from multi-year drought conditions and record low rainfalls, which directly impact demands and supplies to the District and Southern California.

Climate fluctuations not only can increase or decrease demand, but can also directly affect the District's ratio of groundwater to imported water, since reduced precipitation and snowfall means less groundwater replenishment. When groundwater supplies are reduced, the District purchases more imported water.

As the State of California and the Los Angeles County region has undergone a several-year drought, rainfall has been much lower in the District. Southern California is also expected to be Transitioning out of a weak La Nina into El Nino by the end of 2026. Recent ETo and rainfall for the District is listed in **Table 2.3**:

Table 2.3 Recent Climate (2025)

CIMIS Station 216 (Arleta - Los Angeles Basin)

(cimis.water.ca.gov)

Month	Rainfall (in)	ETo (in)
Jan (2025)	1.03	3.05
Feb (2025)	3.22	2.87
Mar (2025)	2.47	3.58
Apr (2025)	0.26	4.85
May (2025)	0.08	5.95
Jun (2025)	0	6.93



Month	Rainfall (in)	ETo (in)
Jul (2025)	0.00	2.68
Aug (2025)	0	N/A
Sep (2025)	0.2	N/A
Oct (2025)	2.48	N/A
Nov (2025)	5.83	N/A
Dec (2025)	6.41	N/A
Totals:	22	29.91

2.4.1. Climate Change

The DWR Guidebook requires water suppliers to include a discussion of climate change in their UWMPs, specifically with regard to Drought Risk Assessments (DRA). **Section 7** provides an overview of droughts.

The rise of anthropogenic activities producing carbon dioxide in the world has changed the earth's climate by emitting greenhouse gasses responsible for global warming. This has resulted in extreme weather events occurring more frequently. The severity and frequency of climate change impacts on temperature and precipitation patterns can be difficult to forecast due to dramatic shifts in weather patterns as a result of increased concentrations of carbon dioxide in the atmosphere. While the precise timing, severity, and regional impacts of these temperature and precipitation changes are uncertain, climate researchers have identified several important issues of

concern for water planners in California.

The climate change impacts of concern include increases in temperature, precipitation pattern changes, and sea-level rise. More winter precipitation falling as rain than snow leads to reduced snowpack water storage, reduced long term soil humidity, reduced groundwater and downstream flows, and reduced imported water deliveries. Higher temperatures alter evapotranspiration rates and growing seasons become longer. Precipitation pattern changes leads to increase flooding from intense storms. Although the extent of these changes is uncertain, the District is already planning ahead to ensure long lasting reliability of its source for their customers.

The California Natural Resources Agency released a draft of the 2024 California Climate Adaptation Strategy (Strategy), which builds on the successes and lessons learned since the first iteration in 2009 and the California Adaptive Planning Guide issued in 2012. It also integrates and connects key elements of the latest specific State of California action plans, such as the Extreme Heat Action Plan, Water Supply Strategy, Climate Smart Lands Strategy, Wildfire and Forest Resilience Action Plan, and Climate Action Plan for Transportation Infrastructure. Key elements of the approach:



01.Set updated, strategic direction and identify outcome-based priorities:

The Strategy links the State’s existing, planned, and resourced climate adaptation efforts, showing how they fit together to achieve broad climate resilience priorities. The Strategy also specifies needed actions, with timeframes and metrics, to drive progress and enable accountability.

02.Unify efforts across all sectors and regions:

The Strategy is organized around outcome-based priorities, rather than individual sectors, enabling a coordinated, integrated approach to building climate resilience. This approach recognizes how climate adaptation is implemented on the ground, and reflects our commitment to integrating climate resilience into the work of all state agencies. The priorities have been developed based on input from Californians across all regions of the state and in consultation with California Native American tribes.

03. Help all Californians understand and contribute to California’s climate resilience:

The 2024 Strategy updates the interactive website that serves as a hub for state climate resilience action. This website will continue to be updated to enable easier navigation, to follow the state’s progress and to find adaptation information and resources easily.

2.5. POPULATION

2.5.1. Service Area Population

According to the most recent population figures from the Water Loss Audit and Electronic Annual Report, the District’s current 2025 population is 35,841; however, this value has been used for these reports since at least 2023 and SWRCB, the Division of Drinking Water (DDW) Records as of 5/21/2024. These values most likely included populations within or near the District’s service area, but not serviced by the District’s water system. Therefore, the District used internal reporting to more accurately represent the true service area population.

The population has experienced some growth from 2021 through 2025, which showed less growth from 2015 through 2020. **Table 2.4** lists the District’s recent and current (2025) overall populations:

Table 2.4 Crescenta Valley Water District Overall Population

Year	Population
2021	27,182
2022	27,192
2023	28,031
2024	28,103
2025	28,162

Table 2.4 shows the District’s population climbing over time to 28,162 in 2025.



2.5.2. District Population Forecasts

In its 2020 UWMP, the District references an annual population growth rate of eight percent (8%) in its forecasts to the year 2025. This resulted in a 2020 population of 32,462 and a 2025 population of 32,974, as shown in Table 2.1 on Page 2-4 of the Land Use Element of the District's 2020 UWMP. This would have required a growth of eight percent (8%) annually from 2020 to match the District's forecast for 2025. With a current 2025 population of approximately 36,149, it appears that this forecast was significantly lower than the actual population. This is a 3,175 difference, which could be due to a much higher growth factor than expected in 2020. Although these values most likely included populations within or near the District's service area, but not serviced by the District's water system, the growth rates can still be referenced.

2.5.3. Adjusted Population Forecasts

Future service area populations can be determined based on the projected number of service connections multiplied by the average persons per connection (3.29). The District determined an average growth factor of sixty-five (65) connections per year. Then the projected number of service connections is multiplied by the average persons per connection (3.29) to determine the projected population, as shown in **Table 2.5**.

There is no industry in the District's service area, and there are six-and-a-half percent (6.5) commercial or institutional accounts. The District does not anticipate any significant increases in employment for the area based on the land availability and the zoning. Densification will occur as single-family lots are converted to multi-family dwellings where it is allowed by zoning classification and the governing agency.

There are two major planned developments in La Crescenta that would impact water supplies, although it is uncertain if these will be pursued:

- 3037/3043 Foothill Blvd – 46 units
- 2413 Foothill Blvd – 80 units

Both projects are still in the process of securing permits from the County and there may be additional delays. In order to perform a more conservative analysis, this UWMP will assume these Developments will be in service in 2030 and will add the estimated population increase at that time. **Table 2.5** shows the projected population for the next 25 years.



**Table 2.5 Crescenta Valley Water Service
Area Projected Population**

Year	Population
2030	28,649
2035	29,719
2040	30,788
2045	31,857
2050	32,926

As the District continues to grow both in size and significance, the District may likely experience periodic spikes in the number of daytime or short-term residents.

2.6. WATER SYSTEM

A basic overview of the District's water system is provided in the following sections. More information on the District's water sources, water treatment, and water demands can be found in **Sections 3 through 6**. As this report is a water-resource-management planning document, it does not provide technical or engineering detail on water system components.

2.6.1. Water System Background

Since its founding in 1950, the District has owned and operated a water and sewer system that has served the District's developed areas within its main core. Due to the rapid growth of the District, the water system would not be able to supply the increasing demand. FMWD was formed to purchase imported water from the MWD. The Districted augmented its local well

water with MWD water coming from the Colorado River. In 2025, the District relied on approximately 56% local groundwater and 44% imported water.

2.6.2. District Water System Overview

The District's water system consists of the following components:

- Groundwater Wells
- Mountain Tunnel
- Wellhead Treatment
- Water Distribution Pipeline Network
- Emergency Transfer Interties
- Water Storage Facilities
- Booster Pump Stations
- Imported Water Connections

The District distributes water to approximately 8,250 service connections through over a 100.6-mile network of distribution mains. The water system is divided into 11 main pressure zones (**Figure 2.3**) served by 14 pumping stations and 17 storage reservoirs, totaling 17.5 million gallons.

2.6.3. Groundwater and Imported Water

The District's sources of potable water supply are groundwater pumped from the



Verdugo Basin and imported water from MWD. The Verdugo Basin is approximately 4,400 acres and is adjudicated within the Upper Los Angeles River Area (ULARA). The Verdugo Basin is currently limited to 3,865 AFY due to District's adjudicated rights of 3,294 AF and 500 AF from the City of Glendale during a normal year. The District owns and operates eleven (11) production wells located within the Verdugo Basin.

and Sacramento-San Joaquin River Delta located in Northern California for imported water supply. The San Joaquin River provides a significant amount of water to Southern California annually but struggles to satisfy both the needs of water demand and the ecological habit which could lead to environmental damage. The State Water Project and Central Valley Project both took place in order to counteract and increase long-term supply reliability.

MWD has access to both the Colorado River

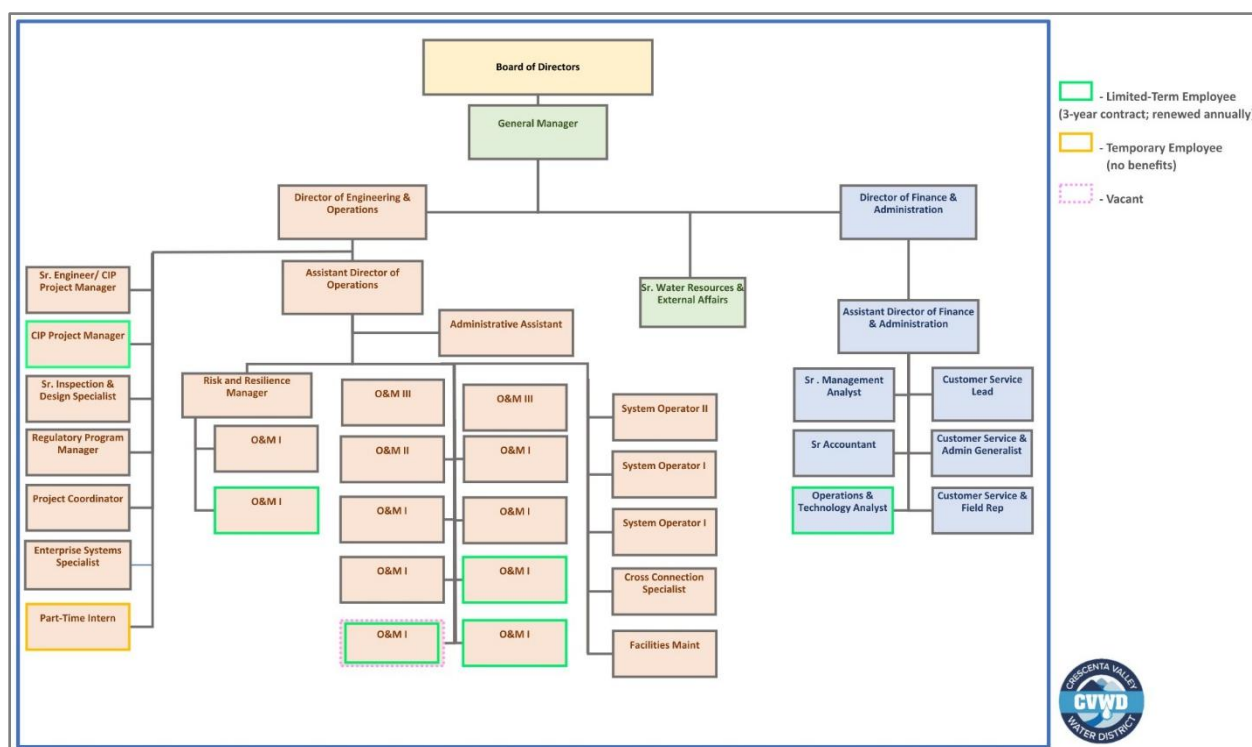
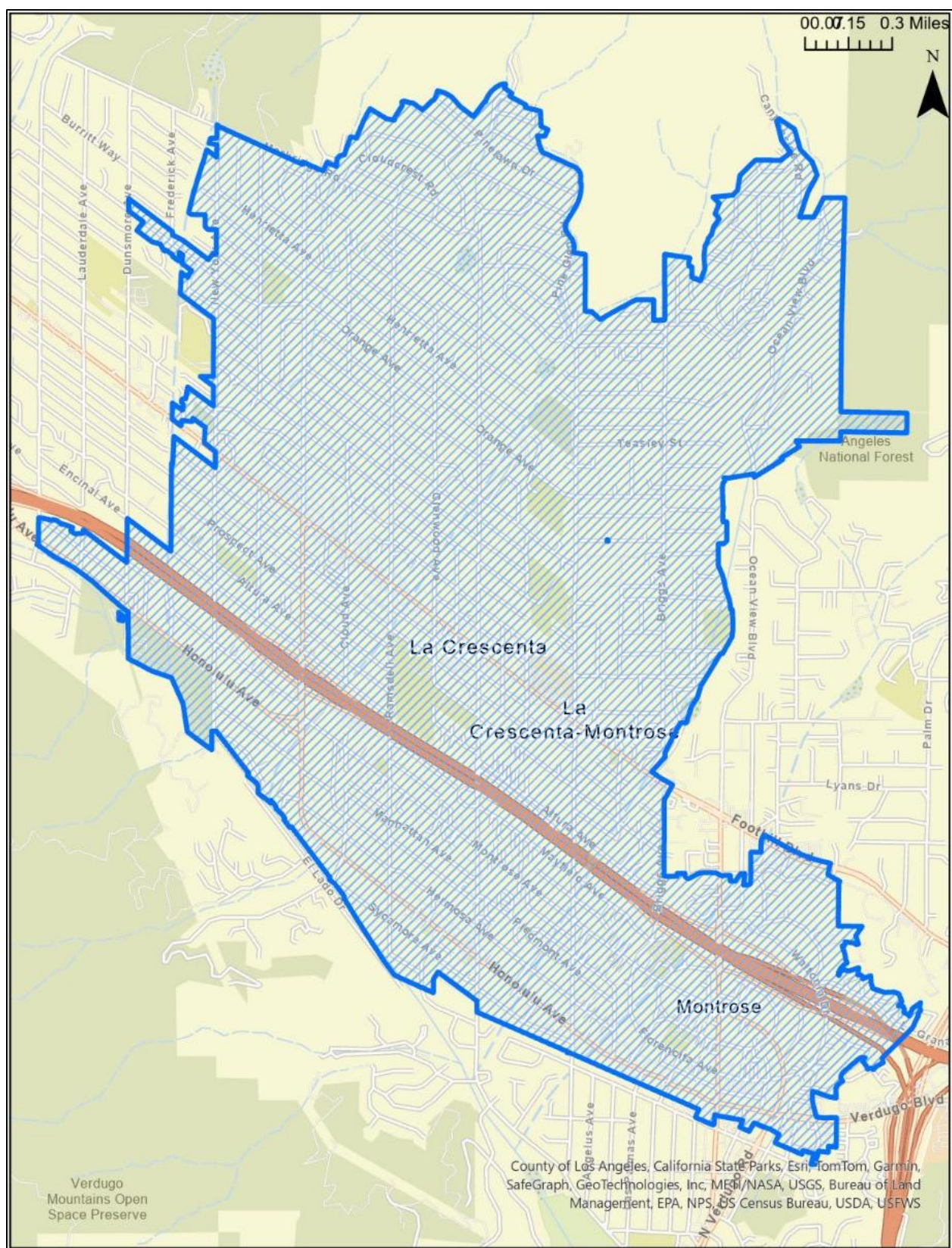


Figure 2.1 Crescenta Valley Water District Organization Chart (March 2026)



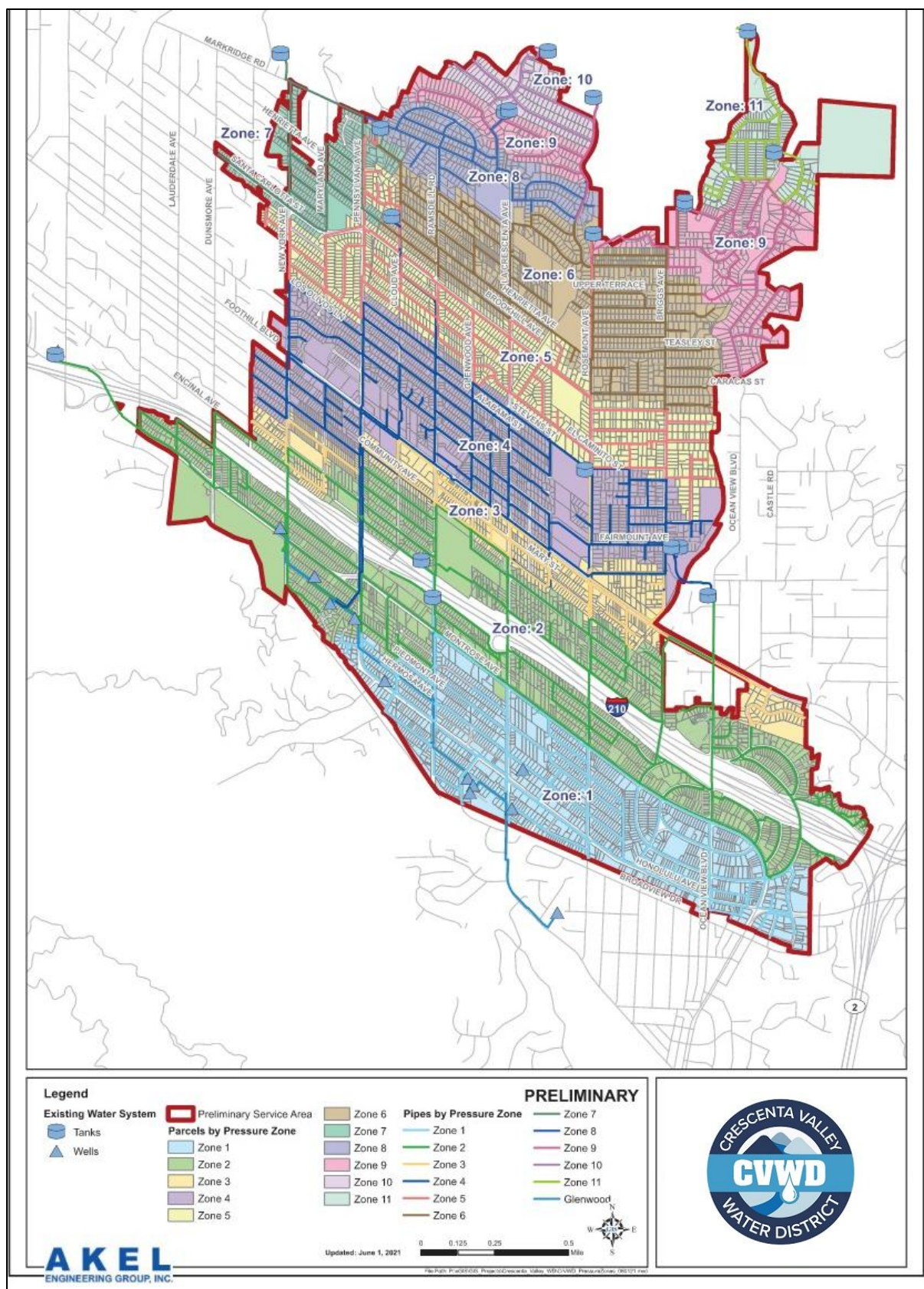


Figure 2.3 Crescenta Valley Water District Pressure Zones

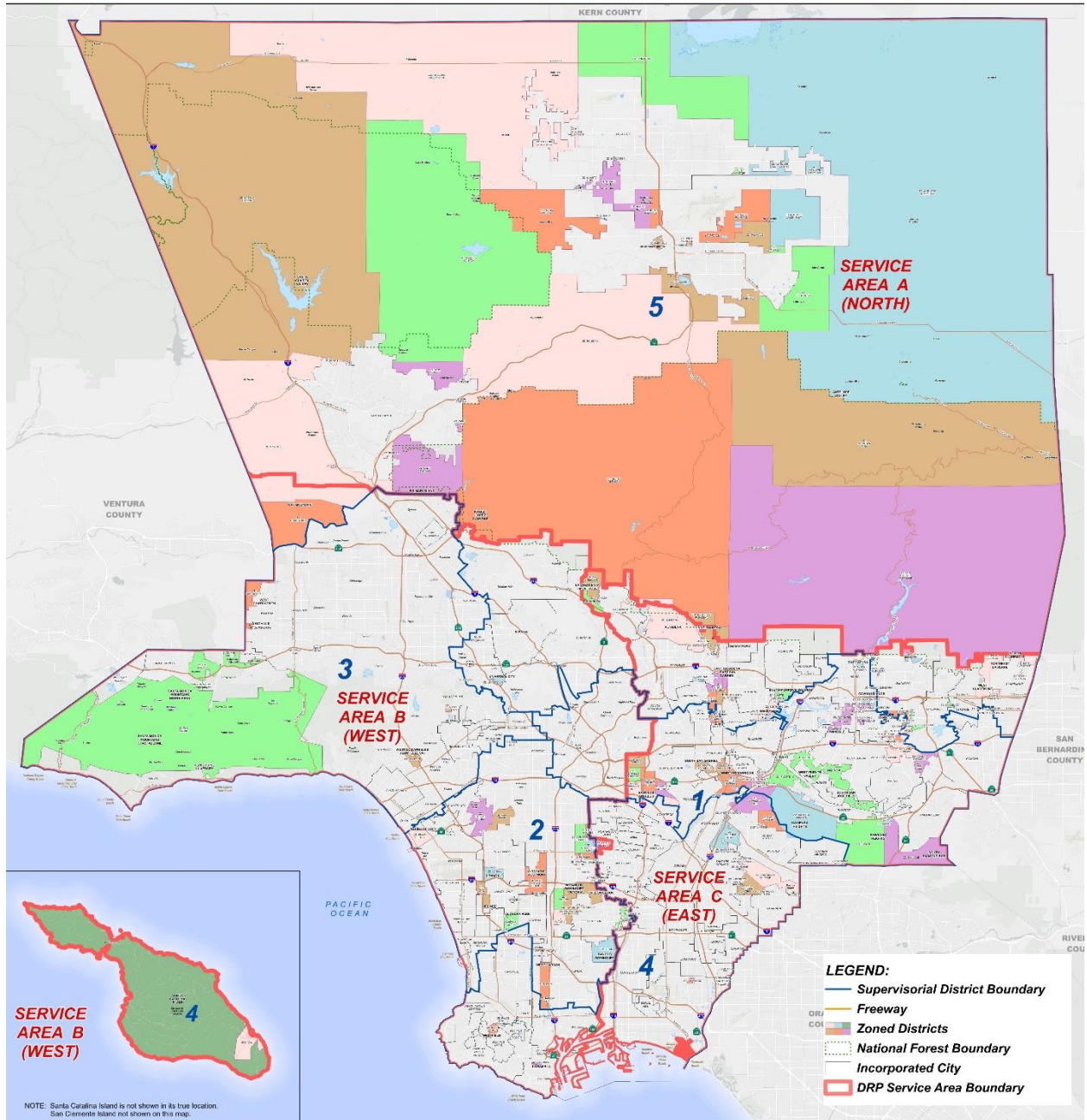


Figure 2.4 Los Angeles Zoned Districts (January 2022)



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Section 3: Water Sources and Supplies

Supplies consist of groundwater produced from the Verdugo Basin and imported water from FMWD.

3.1. INTRODUCTION

This Section describes the current and projected water resources available to the District over a 25-year period (from 2030 through 2050). This Section also provides background information on the overall water supplies available to the region. The District's water supplies consist of groundwater produced from the Verdugo Basin and imported water purchased from FMWD (MWD water). Approximately fifty-six percent (56) of the District's water consists of groundwater, while the remaining forty-four percent (44%) consists of imported water. The majority of the District's groundwater wells are located along the Verdugo Wash, south of Honolulu Avenue. Local groundwater is disinfected with chlorine before blending with MWD's

surface water. The sources of imported water supplies include the Colorado River Aqueduct (CRA) and the State Water Project (SWP). The most dominant feature of the District's water supply operations is the intensive pumping required for delivering water to the residents in the communities located in the foothills of the San Gabriel Mountains. In some cases, this water must be lifted over 1,000 feet to deliver it to the elevations of some water users in the service area. This section discusses water supply, quality, and water reliability under all foreseeable hydrologic conditions from 2030 through 2050.

3.2. IMPORTED WATER SOURCES

In order to provide Southern California with imported water, MWD utilizes two separate

aqueduct systems (one for each source of supply) to obtain its supplies. These two aqueduct systems convey water from each source into two separate reservoirs whereupon MWD pumps the water to one of its five treatment facilities. These aqueduct systems are known as the Colorado River Aqueduct (CRA) and the California Aqueduct, also known as the State Water Project (SWP).

3.2.1. Colorado River Water Supply History

The Colorado River begins as far north as Wyoming, with multiple tributaries from seven States feeding the Colorado River's branch system. The watershed of the Colorado River encompasses 246,000 square miles, which is the seventh largest in North America. Most of the river's water source is

produced during winter seasons, with snow above 5,000 feet and rainfall at lower elevations in the Rocky, Uinta, and Wind River Mountains. The snowmelt and rainfall occurring in and nearby these mountains are the primary origination or source point of the Colorado River's water.

Prior to the construction of major dams and canals, the Colorado River dumped approximately 16.3 million acre-feet (MAF), or 5.3 trillion gallons, of water into the Gulf of California on an annual basis. The river is also historically known to be very volatile, with summer flows, known for their flood potential, far surpassing winter flows by margins of over 50 to 1. Historically, this volatility was the cause of flooding concerns for the areas lying within the floodplain of the river.



Figure 3.1 Parker Dam at Colorado River



Figure 3.2 Colorado River Basin and Diversion Structure



3.2.2. Early Canal Systems

As mentioned in **Section 2**, the Colorado River was tapped as a source of supply in the early 1900s. The early canals were built mostly by and for private land owners in the Palo Verde Valley and the Imperial Valley, mainly for agricultural purposes. This included the Alamo Canal (also known as the Imperial Canal), which was the earliest major canal built from the Colorado River. Built in 1900-1901, the Alamo Canal connected the Colorado River to the head of the Alamo River, and supplied water to the Imperial Valley area just south of the Palo Verde Valley. In response to silt deposits that restricted flow capacity of the Alamo Canal, modifications were made to the Canal in 1904 to increase flow capacity.

Flooding of the Colorado River in the succeeding years occurred, and the improperly constructed improvements led to the river's flows being diverted into the Canal, which then flowed into the Salton Sink and created the Salton Sea. The flooding was corrected and the Alamo Canal was modified in 1907 to prevent future incidents. Within a few years, the Imperial Valley farmers formed the Imperial Irrigation District to assume responsibility and control of the Alamo Canal, and plans for its replacement were soon underway.

3.2.3. Colorado River Water Rights

"Law of the River" (Water Rights)

The right to water from the Colorado River is governed by numerous compacts, state and federal laws, court decisions and decrees, contracts, and regulatory guidelines collectively known as the "Law of the River." These documents apportion the water and regulate the use and management of the Colorado River among the seven basin states and Mexico. A summary of the court decisions is as follows:

Colorado River Compact (1922):

An interstate agreement giving each basin perpetual rights to annual apportionments of 7.5 million acre-feet (MAF) of Colorado River water to the States of Arizona, California, and Nevada.

Boulder-Canyon Project Act (1928)

Further defined the lower basin's 7.5 MAF apportionment split, with an annual allocation of 2.8 MAF to Arizona, 4.4 MAF to California, and 0.3 MAF to Nevada.

CA Seven Party Agreement (1931)

Prioritized California water rights of 4.4 MAF, with agricultural entities using 3.85 MAF of that total. The remaining priorities are defined for years in which the Secretary declares that excess waters are available.



Arizona v. California (1964 & 1979)

The 1964 decision defined Arizona's rights to the Colorado River and paved the way for the Central Arizona Project. The 1979 decision addressed Present Perfected Rights (PPRs) previously mentioned in past agreements. These rights are entitlements essentially established under state law, and have priority over later contract entitlements.

CO River Basin Project Act (1968)

Authorized projects in both the upper and lower basins, including the Central Arizona Project (CAP) in 1968. The act made the priority of the CAP water supply subordinate to California's apportionment in times of shortage.

Quantification Settlement Agreement (2003)

The Quantification Settlement Agreement (QSA) settles disputes among the United States, the State of California, Imperial Irrigation District (IID), MWD, Coachella Valley Water District, and the San Diego County Water Authority (SDCWA). The agreements resolve, for a period of 35 to 75 years, issues regarding the reasonable and beneficial use of Colorado River water; the ability to conserve, transfer and acquire conserved Colorado River water; the quantification of Priorities 3 and 6 (*CA Seven Party Agreement*) within California for the use of Colorado River water; and the obligation to implement and fund related environmental impact mitigation.

In short, the "Law of the River" and the more recent QSA provide the methods and the means to allow water rights holders to interact with one another and to elevate their water use to efficient 21st Century standards.

3.2.4. MWD'S Colorado River Rights

Water supply from the CRA continues to be a critical issue for Southern California as MWD competes with several agricultural water agencies in California for unused water rights to the Colorado River. Although California's allocation has been established at 4.4 MAF annually, MWD's allotment stands at 550,000 AFY with additional amounts increasing MWD's allotment to 842,000 AFY if there is any unused water from the agricultural agencies.

MWD recognizes that competition from other states and other agencies within California has decreased the CRA's supply reliability. In 2003, the Quantification Settlement Agreement (QSA) facilitated the transfer of water from agricultural agencies to urban uses. This historic agreement provides California the means to implement transfers and supply programs, which will allow California to live within the State's 4.4 MAF basic annual apportionment of Colorado River water.

Section 7.5 provides further details regarding the Colorado Rivers reliability

since 2020, including recent water levels in Lakes Mead and Powell.

3.2.5. BAY-DELTA

The District has access to imported water from the Sacramento-San Joaquin River Delta in Northern California from MWD, through FMWD. The Bay Delta water system provides Southern California agencies with over 1 million acre-feet (MAF) of water annually.



Figure 3.3 Bay Delta

The Delta is often considered the nexus of California's statewide water system. Approximately half the total river flow in the State passes through this region, from which water is exported to the San Joaquin Valley, Southern California, and portions of the Bay Area to supply 1,130,000 acres of farmland and 23 million people in central and Southern California. The Delta provides an estimated 7 million acre-feet (MAF) of water per year, of which approximately 100,000 AF is exported to the San Francisco Bay Area, 1.7 MAF is used locally, and more than 5

MAF is exported to the San Joaquin Valley, coastal Central and Southern California via the State Water Project.

3.2.6. Bay Delta Conveyance Project

The Delta Conveyance Project is a modernization effort proposed by the State of California Department of Water Resources (DWR) to change how water is moved through the Sacramento–San Joaquin Delta for the State Water Project (SWP). The Delta Conveyance Project centers around

constructing a new, single-tunnel conveyance facility that would divert a portion of Sacramento River flows through new intakes in the

The State Water Project or "SWP" is a result of decades of planning and construction dating back to the 1940s.

North Delta and deliver that water to the existing SWP pumping facilities in the South Delta. The goal is not to increase water exports, but to improve the system's ability to capture

The Project's received DWR's approval, certification of EIR, and permit from CEQA.

water during periods of high availability and maintain water reliability during future droughts.

The Delta Conveyance Project is currently in the final stages of regulatory review and permitting, following the DWR's approval of



the project and certification of the Final Environmental Impact Report (EIR) in late 2023. During 2024–2025, DWR secured several major environmental permits, including the California Endangered Species Act Incidental Take Permit, and advanced federal permitting through the U.S. Army Corps of Engineers and NOAA Fisheries. The project continues to move forward but has not received final approval to begin construction.

3.2.7. State Water Project (Aqueduct)

The California State Water Project is a water storage and delivery system of reservoirs, aqueducts, power and pumping plants. Its main purpose is to store water and distribute it to twenty-nine (29) urban and agricultural water suppliers in Northern California, San Francisco Bay Area, San Joaquin Valley, Central Coast, and Southern California. Of the contracted water supply, seventy percent (70%) is delivered to urban users and thirty percent (30%) is delivered to agricultural users.

In 1947, the California State Legislature funded a water resources investigation that led to the development of the SWP. This investigation resulted in the publication of the California Water Plan. The California Water Plan presented preliminary plans to

meet the State’s ultimate water needs, including those facility works required for transferring surplus water from Northern California to Southern California. Financing for the construction of SWP facilities was authorized in 1959, when the State Legislature enacted the California Water Resources Development Act (known as the Burns-Porter Act). The Burns-Porter Act, formally known as the California Water Resources

Development Bond Act, was placed on the November 1960 ballot and approved by voters. Also known as Proposition One, the initial water projects included Oroville Dam

The State Water Project or "SWP" is a result of decades of planning and construction dating back to the 1940s.

and Lake Oroville, B.F. Sisk Dam (also known as San Luis Dam), San Luis Reservoir, South Bay Aqueduct, North Bay Aqueduct, and the California Aqueduct. Construction on the Oroville site began before the passage of the Burns-Porter Act. A \$25 million emergency appropriation was passed in 1957 after a record late 1955 to early 1956 flood, which devastated Northern and Central California. Statewide, 64 deaths were recorded due to the flooding, mostly in Sutter County and Yuba City, and more than \$200 million of property damage.



Figure 3.4 Sacramento-San Joaquin Bay Delta



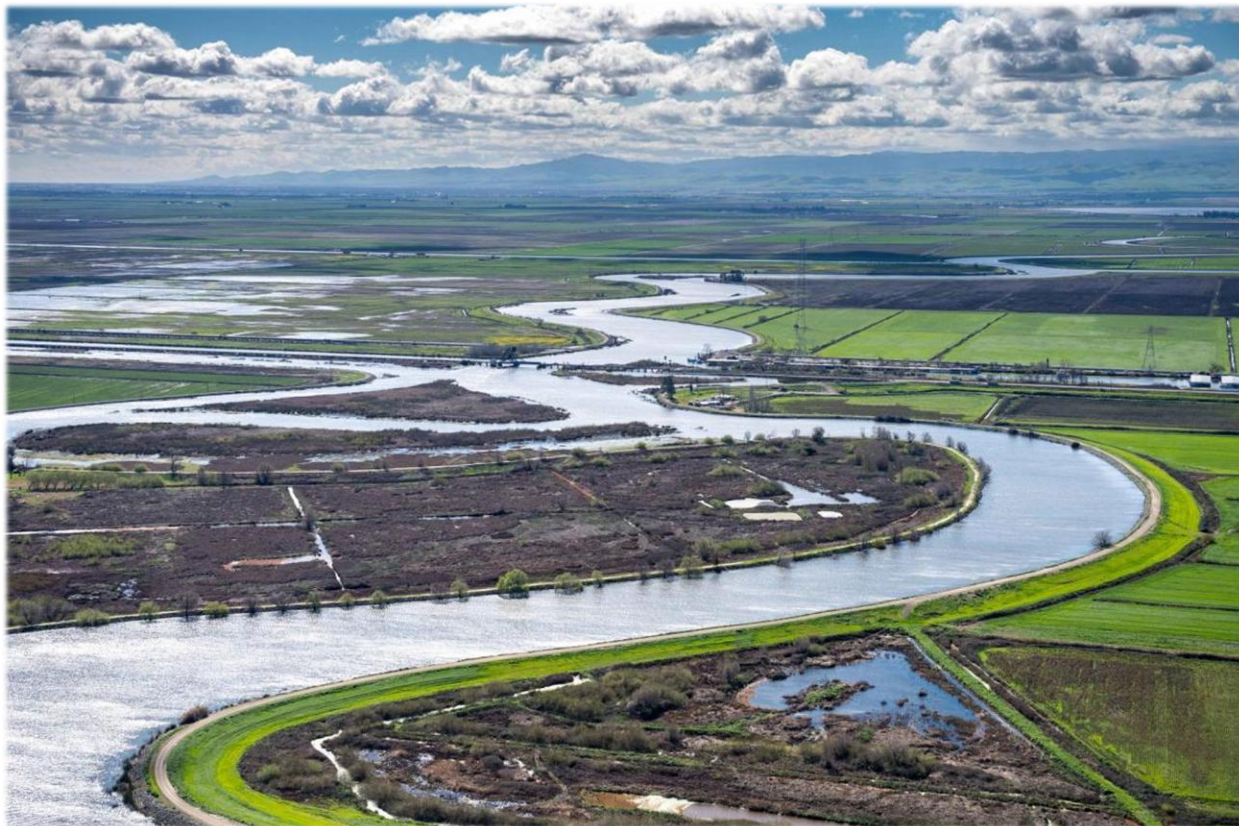


Figure 3.6 State Water Project

The first SWP water deliveries were made in 1962, two years after construction began. The State of California Department of Water Resources (DWR) and MWD signed the first water supply contract in 1960. Today

Today 29 agencies have long-term water supply contracts with DWR

twenty-nine (29) agencies have long-term water supply contracts with DWR. The service areas of those long-term water supply contractors

vary widely in size, location, climate, and population. The contractors' uses for SWP water also differ. In the San Joaquin Valley, SWP water is used primarily for agriculture.

In Southern California, SWP water is used primarily for urban and industrial needs.

Today, the SWP includes thirty-four (34) storage facilities, reservoirs, and lakes; twenty (20) pumping plants; four (4) pumping-generating plants; five (5) hydroelectric power plants; and approximately 701 miles of open canals and pipelines. The SWP is owned and managed by DWR.

3.3. IMPORTED WATER PURCHASES

Table 3.1 presents the District's recent imported water purchases from FMWD for years 2021 to 2025 and compares them to years 2015 to 2020.

Table 3.1 Imported Water Supply

Year	Purchases (AF)
2021	1,987
2022	1,636
2023	1,457
2024	1,446
2025	1,602
Average:	1,626
2015 – 2020 Avg. (2020 UWMP)	1,992

3.4. GROUNDWATER SOURCES

3.4.1. Verdugo Groundwater Basin

The District owns and operates 11 production wells in the Verdugo Groundwater Basin (Basin). The Basin, shown in **Figure 3.8**, north and east of the Verdugo Mountains, consists of 4,400 acres and comprises approximately 3.6% of the total valley fill. It is bounded on

the north by the San Gabriel Mountains; on the northwest by a groundwater divide, which separates it from the San Fernando Basin; on the east by a groundwater divide separating it from the Monk Hill Subarea of the Raymond Basin; on the southeast by the San Rafael Hills; and on the south and southwest by the Verdugo Mountains.

The Basin is an adjudicated basin within the Upper Los Angeles River Area (ULARA). The Basin has an adjudicated "safe yield" of 7,150 AFY. The District shares groundwater rights in this basin with the City of Glendale. As the only two water-rights holders in the Basin, the District has an annual entitlement of 3,294 AFY and the City of Glendale has an annual entitlement of 3,856 AFY. A copy of the Basin's adjudication is included in **Appendix I**.

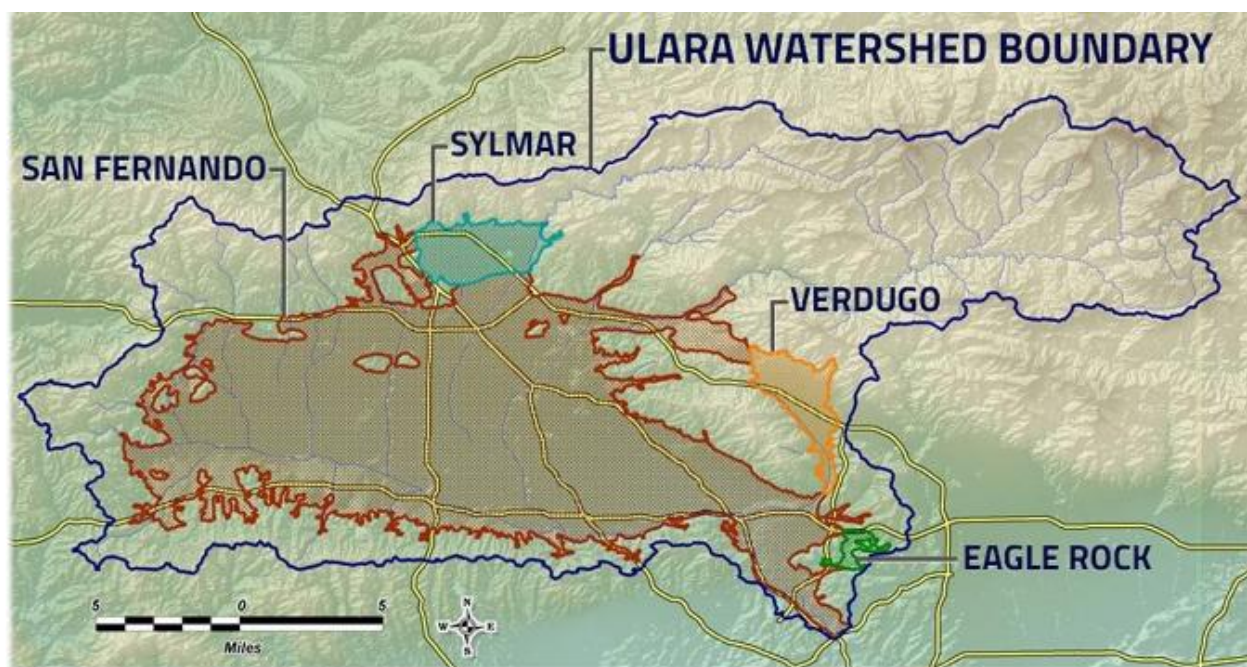


Figure 3.7 Local Groundwater Basins within the Upper Los Angeles River Area

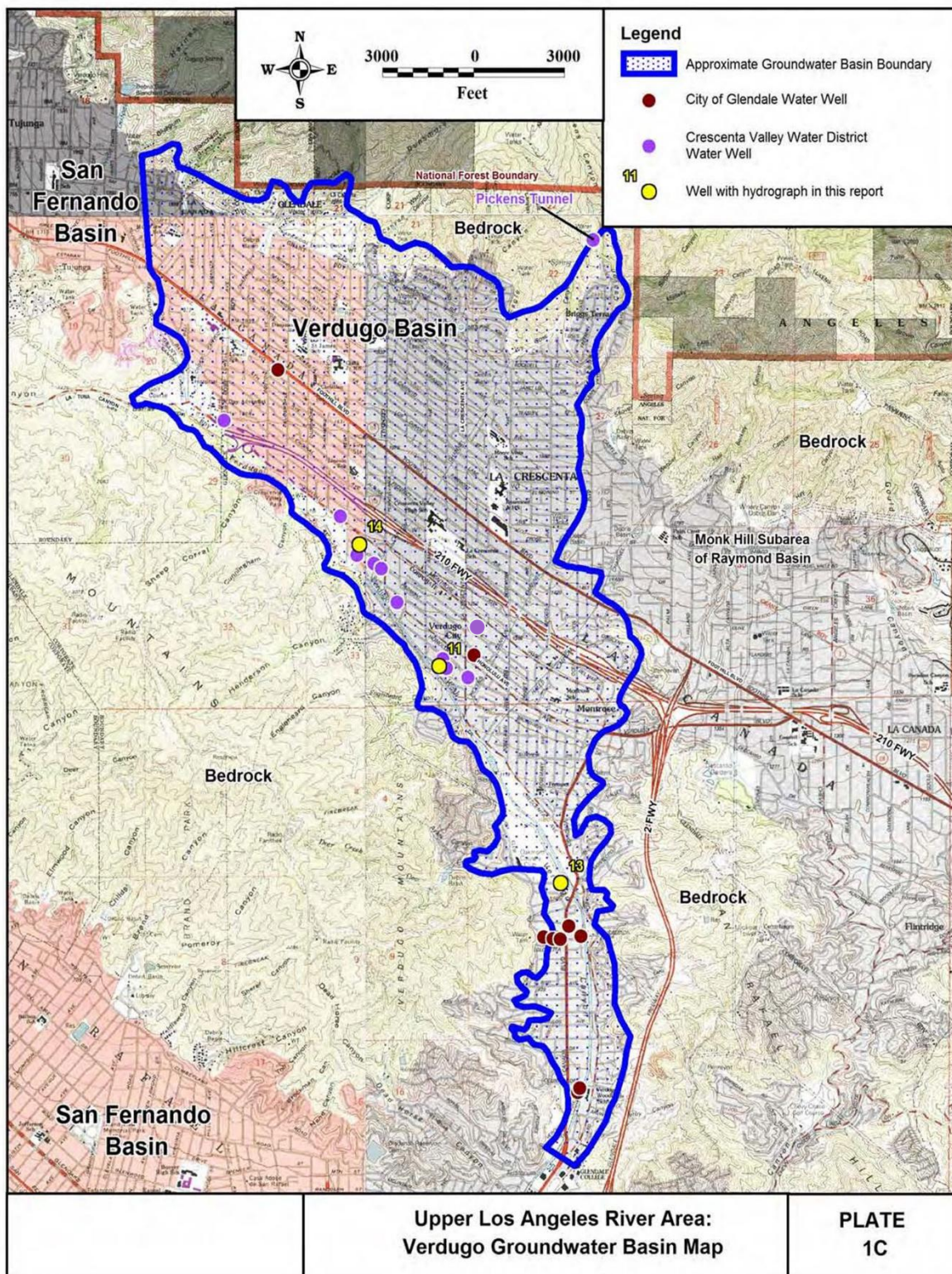


Figure 3.8 Verdugo Groundwater Basin

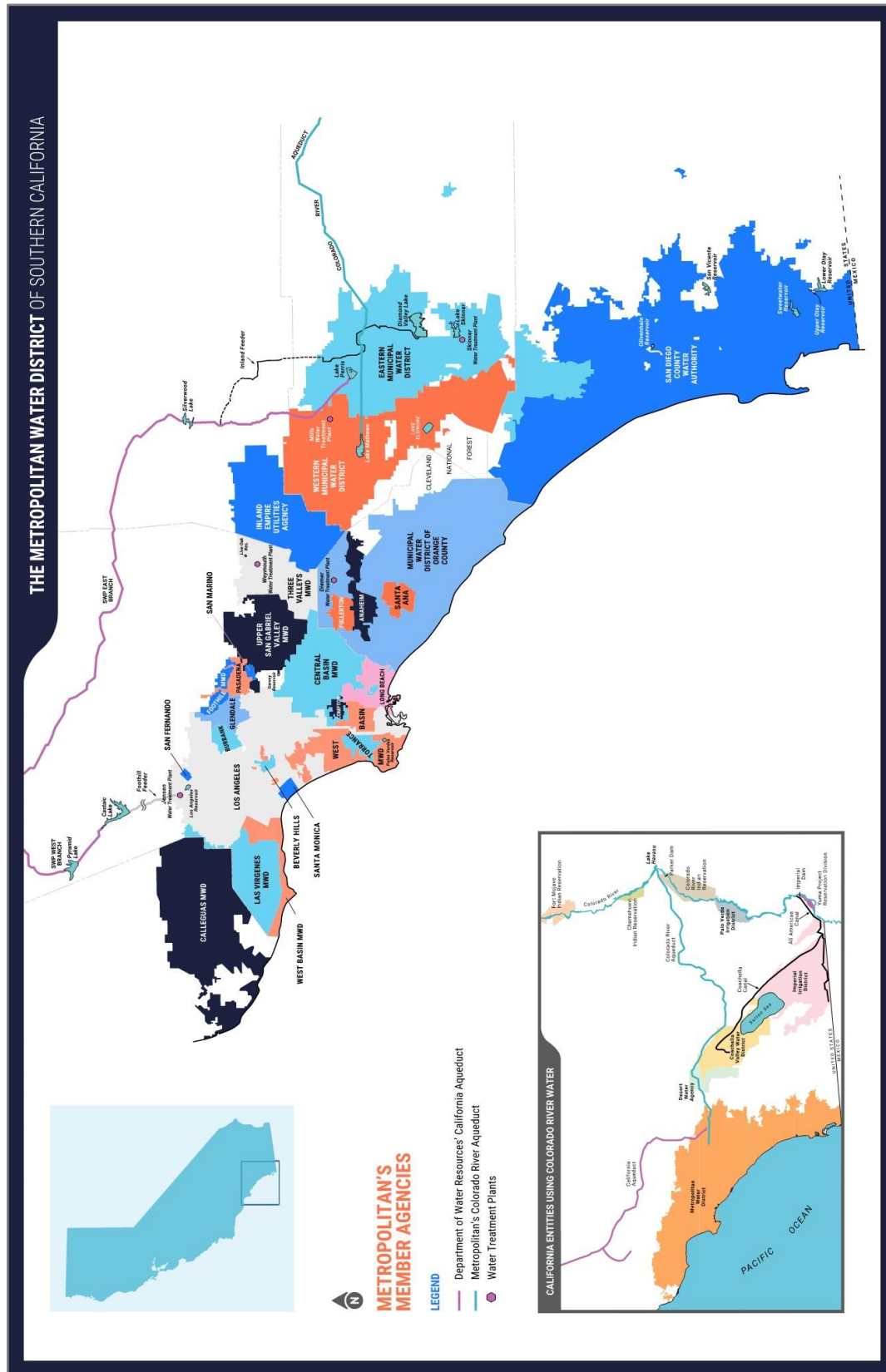


Figure 3.9 MWD Service Area Map

reservoirs are back to average levels, after recovering from the recent drought of 2020-2022.

All wells within the District’s service area are equipped with a flowmeter to measure water production. Water production is recorded monthly by District staff and reported annually to DWR. Over the past five years of operation, groundwater extraction has averaged 2,102 AFY. **Table 3.2** shows the District’s groundwater supplies for years 2021 to 2025.



**Table 3.2: Overall Groundwater Production**

Year	Production (AF)
2021	2,118
2022	2,076
2023	2,017
2024	2,230
2025	2,061
Average:	2,102
2020-2025 Avg. (2020 UWMP)	1,868

As can be seen from the amounts shown, overall water production decreased slightly from 2021 to 2025, with a spike in 2024. This is most likely a result of the lingering effects of the State mandated drought restrictions (see **Section 7**) and only a slight increase in the District’s population.

3.6. ROSEMONT PRESERVE STORMWATER RECHARGE PROJECT

Goss Canyon, an approximately 250-acre watershed at the base of the San Gabriel Mountains, is characterized by chaparral-covered hillsides and a lush, oak-lined stream bed, home to diverse wildlife. It is generally privately owned and crucial for recharging La Crescenta’s Verdugo Groundwater Basin. With low water demands, the District has been increasingly reliant on groundwater and the Verdugo Basin has seen declining water levels over the past decades.

A material amount of stormwater is lost annually to the LA County flood control system and the ocean from this watershed. The Arroyo and Foothills Conservancy (AFC) manages the bottom of Goss Canyon in partnership with Crescenta Valley Water District and County Flood Control. The joint Rosemont Preserve stormwater recharge and water education project enables additional groundwater recharge from stormwater through a straightforward ditch and furrow method.

On-site Stormwater Capture Structure (Bioswale):

- Utilizes nature-based solution (bioswale) to ensure more stormwater absorbs into soil and recharges local groundwater basin. Water would otherwise exit property through County storm channel to the ocean.
- Captures 10’s to 100’s of thousands of gallons of rainwater per year.
- Preserves full function of adjacent LA County flood control debris basin, ensuring public safety during large storm events.
- Provides proof of concept for other similar canyons & debris basins (160 debris basins exist in LA County alone), and test case for stormwater retention assessment tool, Data-Driven Resource Optimization and Planning System (DROPS).

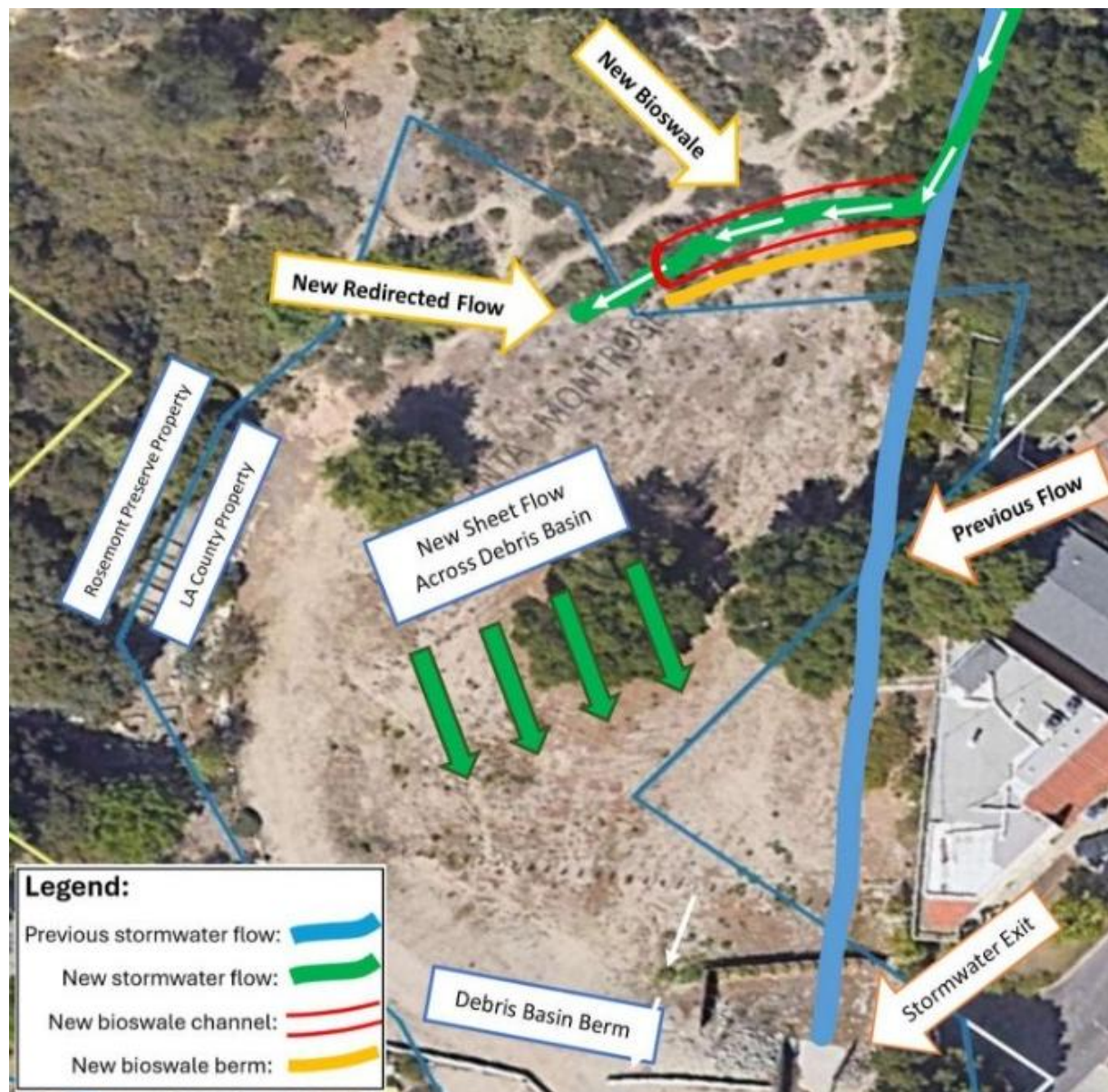


Figure 3.11 Rosemont Preserve Stormwater Recharge Project

3.7. PROJECTED WATER SUPPLIES

Based on MWD's supply projections that it will be able to meet full service demands under all three hydrologic scenarios, FMWD, the District's wholesale supplier, concludes that it would also be able to meet the demands of its retail agencies under these conditions.

CWC section 10631(k) requires the wholesale agency to provide information to the urban retail water supplier for inclusion in its UWMP which identifies and quantifies existing and planned sources of water available from the wholesale agency. **Section 7.7** indicates FMWD's water availability projections by source for the next 25 years, as provided to the District.



In addition to imported water supply availability, **Section 7.7** also shows the adjudicated amount of groundwater supply available to the District over the next 25 years. It also includes the District's projected amount of groundwater pumped from GWP's Rockhaven Well (Well #16). The projected amount of groundwater purchased from GWP over the next 25 years averages 500 AFY. In the past, various problems with the District's wells have hindered the amount that is able to be pumped. This is a contributing factor to District's intention to embark on a well rehabilitation and development plan to increase reliance on local supplies over imported sources.

3.7.1. Planned/Projected Supply Projects

The District rehabilitates its wells and reservoirs on a recurring basis to ensure operational efficiency and structural integrity. For example, the District is working towards the development of the Crescenta Valley County Park Multiuse Project. This Project will allow the District to increase groundwater storage in the Basin by installation and maintenance of underground infiltration galleries underneath portions of the existing park. This will be accomplished by utilizing the existing Los Angeles County flood control channels (Verdugo Wash) and surface flow within the Crescenta Valley to divert storm water during the rainy season and capturing

dry weather flow to proposed underground infiltration basins within the recreational areas. The project will potentially increase the local water supply by an annual average of 340 AFY, thus enhancing the District's groundwater resource and reducing dependence on imported supplies.

The District rehabilitates its wells and reservoirs on a recurring basis

Also, through the process of capture, treatment, and reuse of storm water and dry weather flow, the project could potentially reduce pollutant load from contaminating the Los Angeles River.

3.8. TRANSFERS OR EXCHANGES

The District has three (3) interconnections with other agencies [City of Glendale, La Cañada Irrigation District, and Los Angeles Department of Water and Power (LADWP)] that are capable of transferring water to the District during emergencies. The emergency connections are described in greater detail in **Section 8.8.2**.

3.9. RELIABILITY OF SUPPLIES

The reliability of water supplies regarding regular threats to reliability, including droughts, is discussed in detail in **Section 7**. The reliability of supplies regarding irregular threats to reliability, including catastrophic events or emergencies (earthquake/power outage) is discussed in **Section 8**.



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Section 4: Recycled Water Opportunities

*Recycled water
has increased
overall water
supply reliability
for many cities in
LA County.*



4.1. OVERVIEW

Recycled water is defined as domestic wastewater purified through primary, secondary and tertiary treatment. The Southern California region, from Ventura County to San Diego County, discharges over 1 billion gallons of treated wastewater to the ocean each day. Since recycled water is acceptable for a variety of non-potable water purposes such as irrigation, groundwater recharge, and commercial/industrial processes, it is considered a reliable and drought-proof water source and could greatly reduce the region's reliance on imported water. As technological improvements continue to reduce treatment costs, and as public

perception and acceptance continue to improve, more reuse opportunities should develop, which will increase demands for recycled water. Recycled water is a critical part of the California water picture because of the likelihood of droughts. As part of its overall water resources planning, the District continues to investigate the feasibility and cost-effectiveness of using recycled water.

Cost-effective opportunities for using recycled water are limited due to the lack of large users or large irrigated areas within the District's service area, especially when considering the large costs for developing and operating treatment facilities and distribution system. In addition, there is presently a possible source from Glendale Water and Power, but no infrastructure is

available. This potential use of recycled water is continually assessed by the District, FMWD, and MWD.

This Section describes the existing and future recycled water use opportunities within the District's service area. The section also includes estimates of potential recycled water supply and recycled water demand from 2030 through 2050 in five-year increments.

4.2. WASTEWATER COLLECTION SYSTEM

Municipal wastewater is generated in the District's service area from a combination of residential, commercial, and industrial sources. Although the water and sewer service areas are slightly different, the quantities of wastewater generated are generally proportional to the population and the water used within the service area. It is estimated that customers within the District's service area generate wastewater based on approximately eighty percent (80%) of potable water demand, although that is not a strict figure.

The District operates a sewage collection system with approximately 6,000 connections. The system transports this wastewater outside District boundaries to a regional wastewater treatment plant owned by the City of Los Angeles. The District pays a flow-based share of treatment and disposal costs to the City of Los Angeles and

the treated effluent from the Los Angeles-Glendale (LAG) Water Reclamation Plant (WRP) or LAGWRP. The District generates approximately 540 to 590 MG per year of raw sewage.

4.2.1. Wastewater Treatment

The LAGWRP serves a small portion of the west side of La Cañada Flintridge and La Crescenta. The wastewater is treated through a three- step process imitating nature's cleaning processes also referred as tertiary treatment. The LAGWRP processes approximately 20 MG of non-potable water each day. Five new concurrent projects are underway at the LAG campus to improve daily wastewater and recycled water treatment operations and to reduce the strain on major sewers and the Hyperion Water Reclamation Plant. All five projects were targeted to be completed by December 2024, but are still currently underway.



Figure 4.1 Los Angeles-Glendale Plant

4.3. RECYCLED WATER

Following a comprehensive evaluation, as shown in the 2025 Recycled Water



Feasibility Study, the District determined that the capital and lifecycle costs associated with all project alternatives exceeded its current financial capacity and did not offer sufficient cost-benefit advantages under present conditions. As a result, the District has elected to proceed with representing continued reliance on imported water and no recycled water development at this time. However, the planning-level work completed through the study provides a

foundation for future consideration should conditions change.

4.3.1. Potential Recycled Water Use

Caltrans is currently the only high water user with potential for recycled within the District's service area. It is cost prohibitive due to the low demand for recycled water; however, the District will continue to evaluate potential projects.



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Section 5: Water Quality

Although offline, the District's Glenwood Nitrate Reclamation Facility (pictured) helped ensure high quality drinking water.



5.1. OVERVIEW

The quality of a natural body of water varies over time and location, and these variables must be recognized by water agencies. During periods of intense rainfall, contaminants can be washed into receiving waters, although dilution of existing contaminants may also occur. Conversely, during a drought, the concentration of existing contaminants may increase without additional incoming flows. These principles apply to both surface water and groundwater. As groundwater levels fluctuate, groundwater passes through different layers of rock and sediment and receives substances native to those strata. Also, groundwater wells that have not been used over long periods of time can have

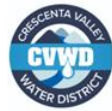
water quality issues resulting from stagnant water. For these reasons, Crescenta Valley Water District (District) monitors its wells for water quality as required by State and Federal regulations.

This Section provides a general description of the District's water sources, water quality monitoring and reporting, and water treatment. A discussion of potential water quality impacts on the reliability of supplies is also provided.

5.2. WATER QUALITY STANDARDS

5.2.1. Federal Regulations

In 1974, Congress passed the Safe Drinking Water Act (SDWA) in order to protect public health by regulating the nation's municipal drinking water supply. As part of the SDWA,



powers were given to the Environmental Protection Agency (EPA) to regulate drinking water. The 1996 amendment to the SDWA required monitoring of new types of contaminants. Since the 1996 amendment to the SDWA, the EPA has identified over ninety (90) contaminants in its National Primary Drinking Water Regulations (NPDWR) or “primary standards”). The main categories the EPA has identified include: biological microorganisms, disinfectants, disinfection byproducts, inorganic chemicals, organic chemicals, and radionuclides. As required by the SDWA, water agencies must provide annual Water Quality Reports to its customers.

5.2.2. State Regulations

Water quality regulations have changed since the Safe Drinking Water Act in 1974. Several state, regional and county agencies have jurisdiction and responsibility for monitoring water quality. The actual regulations on water quality have also changed over the years. This is the result of the discovery of new contaminants, changing understanding of the health effects of previously known as well as new contaminants, development of new analytical technology, and the introduction

of new treatment technology. All water purveyors are subject to drinking water standards set by the EPA and the State Water Resources Control Board (SWRCB). The California Department of Public Health (CDPH) previously oversaw the water quality of the State's drinking water program and the environmental lab accreditation program. As of July 2014, those programs were transferred to the SWRCB. Under the SWRCB, the Division of Drinking Water (DDW) regulates public drinking water systems, including setting the maximum contaminant levels (MCLs) and regulating the operation of water systems. In addition to the SWRCB, several regional and county agencies have jurisdiction and responsibility for monitoring water quality and contaminant sites.

5.2.3. State Drinking Water Standards

The State of California has established two (2) main types of drinking water standards:

1. Maximum Contaminant Level (MCL)
2. Public Health Goal (PHG)

MCLs are the drinking water standards to be met by public water systems. The levels set by the State consider a contaminant's health risk, detectability, treatability, and costs of

As part of Federal EPA standards, water agencies are required to prepare annual water quality reports.

In 2014, the State's drinking water program was transferred from the Health Department to SWRCB.



treatment. MCLs are further broken down into two (2) types:

1. Primary MCL – Health Related
2. Secondary MCL – Taste & Odor

Secondary MCLs are not federally enforceable according to the most recent SDWA amendments. However, they are regulated by the State of California. DDW publishes a list of Secondary MCLs, which include Copper, Iron, and Zinc.

PHGs are established by the Office of Environmental Health Hazard Assessment (OEHHA). They are concentrations of drinking water contaminants that pose no significant health risk if consumed for a lifetime, provided risk levels are not exceeded. Public water systems often use PHGs to provide information regarding drinking water contaminants in their annual water quality reports. PHGs are not regulatory standards. However, state law requires the SWRCB to set drinking water standards for chemical contaminants as close to the corresponding PHG as is economically and technologically feasible.

5.2.4. Hexavalent Chromium (Cr6)

As of the 2020 UWMP, California had previously established a maximum contaminant level (MCL) of 10 parts per billion (ppb) for hexavalent chromium (Cr6), which took effect on October 1, 2024. This

concentration can be described as one drop in an Olympic-size swimming pool. Prior to this, Cr6 was regulated under California's total chromium MCL of 50-ppb. The Federal Standard is currently set at 100-ppb. The SWRCB is currently evaluating treatment technologies and cost estimates for Chromium-6 removal.

5.2.5. District Standards

To ensure quality of its water, the District conducts sampling and testing of water on a daily, weekly, and monthly basis. Testing is performed at several locations of the District's distribution system, as well as at the source (District wells). Results of the water quality testing are posted annually to the District's website. The District's water quality reports since 2007, are archived at the following link:

www.cvwd.com/water-quality-reports

The testing is conducted on several parameters, including organic & inorganic chemicals, bacteriological contaminants, pesticides and herbicides, and radiological contaminants. The District contracts with certified laboratories to perform water quality testing. The District's Annual Water Quality Reports (also known as "Consumer Confidence Reports") are filed with DDW and released to customers. The annual reports identify regulated substances (Primary MCLs), secondary substances

(Secondary MCLs), and unregulated substances (PHGs). The District identifies all detected substances in the annual reports. In addition, the District conducted a lead service line inventory in 2024 and the results are available on CVWD's website at:

www.cvwd.com/lead-service-line-inspections

According to the District's 2024 Annual Water Quality Report, the results for this type of testing indicate that lead and copper were not detected above the action level (AL).

5.3. QUALITY OF WATER SOURCES

The two main sources of the District's water supply are imported water from FMWD (MWD water) and groundwater from the Verdugo Basin (Basin). Since MWD draws the majority of its water from the CRA and the SWP, the quality of the District's imported water supply is closely related to the quality of these two sources.

5.3.1. Imported Water Quality

MWD is responsible for providing water of a high quality throughout its service area. The water delivered by MWD is tested both for currently regulated contaminants and for additional contaminants of concern. Over 300,000 water quality tests are conducted each year to regulate the safety of its water. MWD's supplies originate primarily from the CRA and from the SWP. The two sources,

proportional to each year's availability of the source, is then treated and delivered throughout MWD's service area.

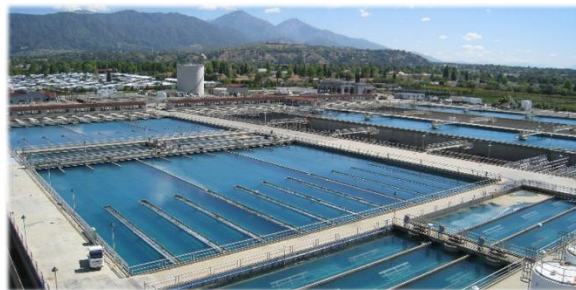


Figure 5.1 MWD's Weymouth Treatment Plant Provides a Safe Supply of Water

MWD's primary sources face individual water quality issues of concern. The CRA water source contains a higher level of total dissolved solids (TDS) and a lower level of organic material. The SWP contains a lower TDS level while its level of organic materials is much higher, lending to the formation of disinfection byproducts. To remediate the CRA's high level of salinity and the SWP's high level of organic materials, MWD has been blending CRA water with SWP supplies as well as implementing updated treatment processes

Salinity levels often exceed secondary drinking water standards and pose a challenge for well operations.

to decrease the disinfection byproducts. In addition, MWD engages in efforts to protect its Colorado River supplies from threats of uranium, perchlorate, and chromium VI while also investigating the potential water quality impact of emerging contaminants, N-nitrosodimethylamine (NDMA) and



Figure 5.2 Native Rock adds to the Salinity of the Colorado River Water Supplies

pharmaceuticals and personal care products (PPCPs). MWD has assured its ability to overcome the mentioned water quality concerns through its protection of source waters, implementation of renovated treatment processes, and blending of its two sources.

5.3.2. Groundwater Quality

The water quality of the Verdugo Basin is high in nitrates and selected wells show the presence of Volatile Organic Compounds (VOCs), particularly tetrachloroethylene (PCE), which per the 2020 UWMP, were above the State Water Resources Control Board's Division of Drinking Water (DDW) maximum contaminant levels (MCLs). These wells are no longer above the MCL. In addition, District experienced Methyl tertiary butyl ether (MTBE) levels above the public health goal and removed a well from service in 2006. That well was placed back

into service in May 2008; however, another well was taken out of service in September 2008 due to high levels of MTBE. That well was placed back into service in March 2011. While MTBE levels remain below detectable concentrations, District continues to monitor all sources on a quarterly or monthly basis.

5.4. IMPACTS OF WATER QUALITY

Water quality dictates the management strategies a water supplier will implement, including, but not limited to, the selection of water sources, treatment alternatives, blending options, and modifications to existing treatment facilities. A direct result of the degradation of a water source is the need to install wellhead treatment before consumption. The poorer quality of the source water, the greater the need (and cost) for treatment. This can also decrease water supply reliability. Due to the number



of groundwater wells in the District's water system, the District has a degree of redundancy in the event of water quality impairments with a particular well. **Figure 5.3** shows a general procedure that the District may take when one of the District's wells is detected to have water quality concerns.

As a result of MWD's efforts, MWD's 2020 UWMP indicates that none of the water quality challenges described will impact the reliability of its supplies during the next 25 years. The District's water system is and has been in compliance with all DDW water quality standards. Groundwater quality does not impact water supply at this time due to the combination of imported water and blending prior to delivery to customers.

Historically, groundwater containing nitrate is either blended with imported water and/or treated at District's Glenwood Nitrate Reclamation Facility and AroNite Nitrate removal Treatment Plant for Well No. 2 to meet drinking water standards. However, both of these sites are currently offline, and only blending is being performed. Blending with other well water or imported water is sufficient to supply water at less than the MCL for PCE as approved by DDW. MTBE is not present in any of the District's wells above the secondary DDW standard. MTBE levels are monitored quarterly throughout District.

In the case that MTBE should reappear at levels above the secondary MCL, District has plans to utilize MWD water to blend down MTBE levels or the groundwater well will be shutdown.

5.4.1. Impacts of Abandoned Wells

The presence of abandoned groundwater wells represents a potential hazard to the quality of the groundwater basin. Abandoned and improperly destroyed wells can act as conduits for contaminants to reach drinking water supplies. It is vital for the long-term protection of the basin that abandoned wells be located and destroyed. While it is the landowner's responsibility to destroy an abandoned well, local water agencies should be proactive about making sure that abandoned wells are in fact destroyed. The destruction of abandoned groundwater wells should be performed in accordance with state standards. California Water Code (CWC) Section 13750.5 requires that those responsible for the destruction of water

Abandoned private wells can pose a water quality concern if left unaddressed.

wells possess a C-57 Water Well Contractor's License. Whenever a water well is destroyed, a report of completion must be filed with the California DWR within 60 days of the completion of the work. DDW and Los Angeles County (County) are responsible for

permitting and inspecting construction and destruction of wells.

State policy for all functional and abandoned wells is to establish a “well site control zone”, the area immediately surrounding the well alternatively referred to as the “wellhead”. The purpose of this zone is to provide protection from vandalism, tampering, or other threats at the well site. The size of this zone can be determined by using a simple radius, or an equivalent area. The well site control zone should be managed to reduce the possibility of surface

flows reaching the wellhead and traveling down the unprotected casing. SWRCB-DDW regulations recommend a minimum radius of 50 feet for well site control zones for all public water systems in the state. The requirement applies to abandoned wells as well as functional activities that could potentially lead to “source water contamination” according to EPA regulations (IWRP, 2007). Additionally, well owners are responsible for destroying abandoned wells per the Public Health and Safety Code, Part 9.5, Section 115700.



Figure 5.3 Well 10 Water Quality Sampling Cabinet

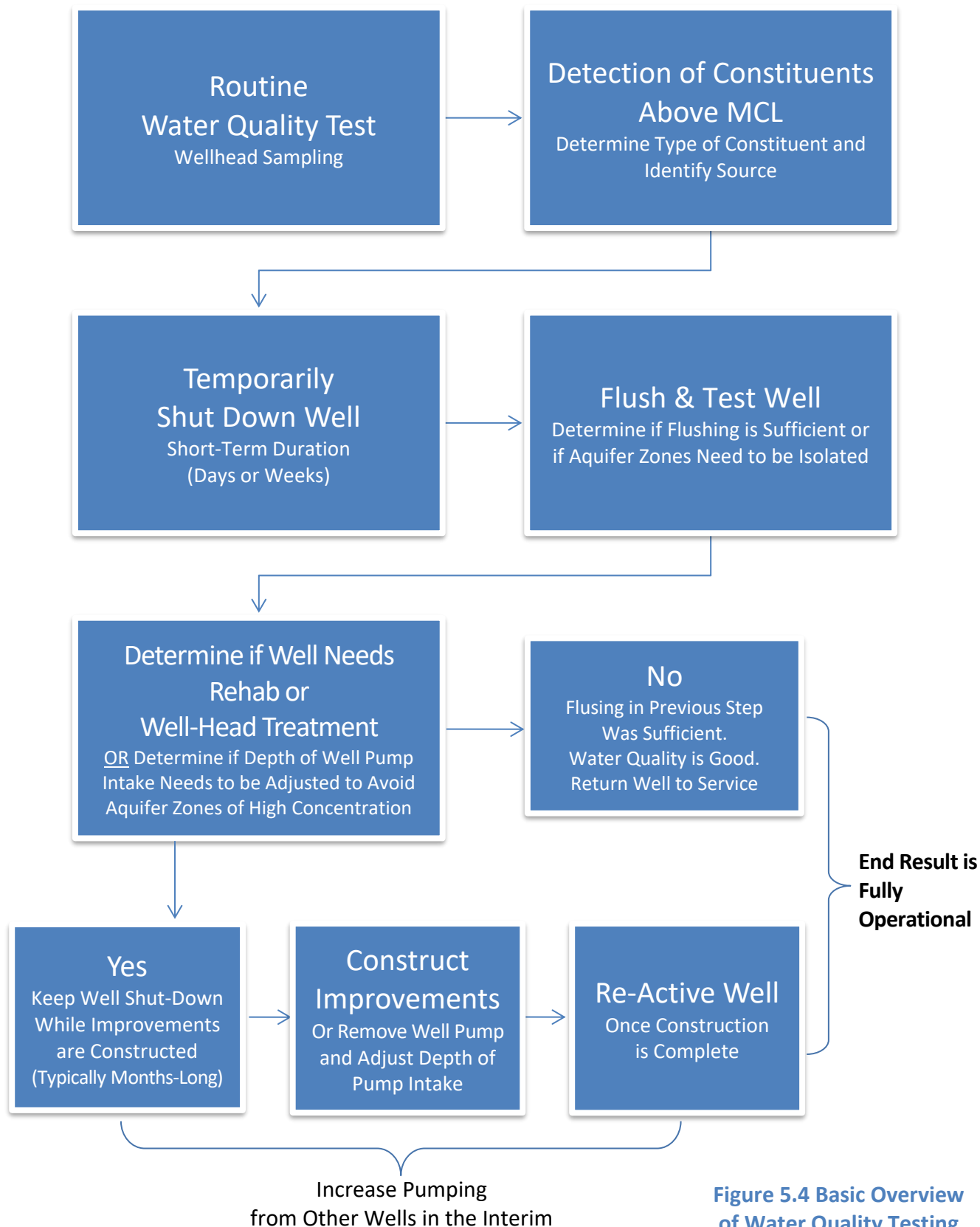


Figure 5.4 Basic Overview of Water Quality Testing



5.4.2. Groundwater Contamination Response

Currently, the District has a Water Shortage Contingency Plan (WSCP) Contingency Plan (WSCP), Cross Connection Control Plan (CCCC), and Sewer System Management Plan (SSMP) and Spill Emergency Response Plan (SERP) that work in conjunction to handle the effects of potential groundwater contamination and mitigate disasters such as sudden water shortages. This information is provided in **Section 8**.

The WSCP can provide guidance for dealing with the effects of a water shortage, which may be due to groundwater contamination. The District also has emergency response policies in place to respond to emergencies. Two recent tests of the District's emergency response network were seen in the year

2020, when the District responded to the Covid-19 pandemic, and in 2021, when Governor Newsom issued a State of Emergency due to drought that required

Statewide correspondence with Level 2 of agency's WSCP. In the event of a groundwater contamination shortage, the District will work in conjunction with FMWD and the County's Emergency Operations Center to deal with the effects of potential water shortages.

The District will work with FMWD and the County's Emergency Operations Center.

5.4.3. Sanitary Surveys by DDW

The quality of water dictates numerous management strategies a water purveyor will implement, including, but not limited to, the selection of water sources, treatment alternatives, blending options, and modifications to existing treatment facilities. A direct result from the degradation of a water source is increased treatment cost before consumption. The poorer the quality of the source water, the greater the treatment cost. This in turn can decrease water supply reliability by potentially decreasing the total supply.

A Watershed Sanitary Survey examines the potential sources of contaminants in the watersheds and includes recommendations for managing these effects. Per DDW guidelines, the Watershed Sanitary Surveys must be updated every five (5) years. Since the District does not use any surface water directly, the District does not prepare Watershed Sanitary Surveys. However, the District is still subject to periodic inspections by DDW staff every three (3) years. The Sanitary Surveys conducted by DDW include inspection and evaluation of the following:

1. Water Sources
2. Treatment
3. Distribution System
4. Finished Water Storage
5. Pumping Facilities
6. Monitoring & Reporting



7. System Management/Operation
8. Operator Compliance (with State Requirements)

5.4.4. Impacts on Management & Reliability

As a result of the District's water quality policies, the District has not experienced water quality issues that affect its ability to meet demands. As shown in Figure 5.4, when wells are offline, additional groundwater will be available through other wells to supplement water supplies.

The District will also be constructing additional wells over the course of this UWMP planning period (2050), to create greater operational flexibility and redundancy. Therefore, the District does not anticipate any significant impacts to water supply reliability due to water quality issues.

6

Section 6: Water Use

Water use within the District's service area includes residential, commercial, institutional, and landscape irrigation.

6.1. OVERVIEW

The District's water consumption is subject to significant change from year to year. Further, water use within the District's service area is also variable over the course of a given month or due to climate conditions. This section explores the water usage trends within the District and quantifies total water usage per customer type. In addition, the provisions of Senate Bill x7-7 (Water Conservation Act) are explored in detail.

6.2. COVID PANDEMIC'S EFFECT ON THE WATER SYSTEM

As a result of the Coronavirus Disease 2019 (COVID-19) Pandemic, Commercial and Institutional water use had declined. On

March 19, 2020, an Executive Order and Public Health Order directed all Californians to stay home, except to go to an essential job or to shop for essential needs. It was then modified on May 4, 2020. The Regional Stay Home Order, announced December 3, 2020, triggered additional restrictions after the region was announced to have less than 15% ICU availability. It prohibited private gatherings of any size, closed sector operations except for critical infrastructure and retail, and required 100% masking (with certain exceptions as indicated in guidance for use of face coverings) and physical distancing. The Regional Stay Home Order was lifted January 25, 2021. During his 2021 State of the State Address Governor, Gavin Newsom reported that California had administered nearly eleven (11) million



doses of the vaccine, and that the State was well on its way to seeing an end to this pandemic.

The DDW has stated that the PWS operations are designated as essential functions and staff and suppliers are not restricted by any current orders. This has allowed water system operators and maintenance workers to keep the PWS providing safe and clean drinking water to its customers.

The COVID-19 pandemic temporarily altered water-use patterns and utility operations across California. Stay-at-home orders in 2020 and 2021 led to higher residential water use, while commercial, industrial, and institutional demand declined due to

The Covid-19 Pandemic has impacted water use in the residential and commercial sectors.

widespread facility closures. Many agencies observed shifts in peak-hour demand and changes in spatial distribution, with more water used in neighborhoods and

less in business districts. Although these patterns gradually normalized as restrictions eased, the pandemic highlighted how quickly demand can shift during major disruptions.

Water utilities also experienced operational and financial impacts during the pandemic.

Many households faced economic hardship, leading to increases in delinquent customer payments and reduced revenue stability for some agencies. Utilities also had to deal with staffing shortages, supply-chain delays, and the need for enhanced safety protocols to maintain essential services. While most systems remained resilient, the pandemic underscored the importance of emergency planning, financial reserves, and operational flexibility for maintaining reliable water service during large-scale disruptions.

6.3. CURRENT DISTRICT WATER NEEDS

Water use within the District's service area includes residential potable use, landscape irrigation use, commercial and institutional uses, and of course water losses. Water use is variable and depends on a number of factors which include seasonal climate changes, demographic shifts, changes in land use or redevelopment, and of course legislation. Since the District's service area is largely residential, changes in residential plumbing fixtures and customer usage habits can significantly affect water usage.

6.4. CLIMATE IMPACTS ON WATER USE

California faces changes in water use habits due to a variety of issues including population growth, regulatory restrictions, and climate change (including the severe drought of 2020-2022). More specifically, weather unpredictability (more extreme drought and flood events) poses additional



challenges to water agencies, not only due to impacts on water supplies but also due to impacts on water demands.

Since the preparation of the 2020 UWMP, there have been local and statewide influences on water use in the District. California experienced a multi-year drought from 2020 through 2022, with precipitation consistently below average and record-high temperatures which exacerbated water

Snowpack, a critical water source, fell to 35% of average by April 1, 2022.

scarcity. Water year 2022, covering October 2021 to September 2022, ended with 77% of average precipitation, following an even drier 2021,

making the three-year stretch drier than the previous record dry period of 2013–2015. Snowpack, a critical water source, fell to 35% of average by April 1, 2022, despite a strong start in December. Drought severity varied regionally, with the Central Valley and northern basins experiencing the most extreme conditions.

Environmental Impacts: The drought led to dry soils, reduced water availability, and increased wildfire risk. Wildfire activity fluctuated, with 4.3 million acres burned in 2020, decreasing to 2.57 million acres in 2021 and 362,455 acres in 2022, reflecting both drought intensity and mitigation efforts. Reduced snowpack and low

precipitation stressed rivers, reservoirs, and groundwater systems, affecting ecosystems and water supply reliability.

Agricultural and Economic Impacts:

Agriculture was heavily affected, particularly in the Sacramento Valley and rice-producing counties. In 2022, 750,000 acres of farmland were idled, more than half in the Sacramento area. Direct economic losses to farm activity were estimated at \$1.2 billion in 2022, up from \$810 million in 2021, with additional losses of \$845 million in food processing industries, totaling \$2 billion in value-added losses and 19,420 jobs lost. Increased evapotranspiration due to higher temperatures further stressed crops, requiring more irrigation to maintain productivity.

Regional and Temporal Variability:

Drought intensity varied across the state and over time. In 2020, drought conditions were less severe, while 2021 and 2022 saw widespread and more intense drought, particularly in the Central Valley. Northern California basins faced early water curtailments, and the Sacramento Valley experienced unprecedented climatological stress due to limited groundwater pumping capacity. Despite these challenges, mitigation measures such as land idling, water trading, and increased groundwater pumping helped reduce potential losses.



Changes in water usage habits have a special concern for the State due to the interdependence of many agencies for the transfer and use of water. For example, some agencies are unable to produce water locally and are entirely dependent on imported water sources, while others are able to produce all water locally (i.e., groundwater). Also, some agencies are able to reduce demands with minimal economic impacts (only water sales revenues), while

other agencies will suffer economically (i.e., agricultural & industrial users) if required by State or local agencies to reduce water consumption.

The State will likely face challenges in the near future to find the correct balance of water supply allocations.

Therefore, the State will likely face challenges in the near future to find the correct balance of water supply allocations to meet demands under various weather conditions. For State Water Project (SWP) water rights holders, this is an extremely critical issue.

6.4.1. California Water Plan Update 2023

DWR's California Water Plan Update 2023 emphasizes the urgency of climate change impacts, the need for watershed resilience, and the importance of equity in water management. It is designed to ensure that all Californians benefit from water resources that are sustainable and resilient to climate

change. There are three themes including:

Addressing Climate Urgency: The plan recognizes the increasing variability in California's hydrology due to climate change and promotes adaptive infrastructure and emergency planning to enhance resilience.

Strengthening Watershed Resilience: It encourages coordinated efforts at the watershed level to integrate engineered systems with natural processes, to achieve multiple benefits across water, agriculture, and ecology.

Achieving Equity: For the first time, the update includes a dedicated chapter on the challenges and resources of California Native American Tribes, ensuring that Indigenous knowledge and priorities are integrated into statewide planning.

6.5. WATER USE

6.5.1. Past Water Use

As the population of the District has mildly increased over the past two decades, overall water use within the District's service area has increased steadily. Annual water consumption from 2015 to 2020 listed in the 2020 UWMP ranged from a high of 4,216 AF in 2020 to a low of 3,647 AF in 2015 with an average of 3,869 AF as shown in **Table 6.1**.



Table 6.1 District Past Water Use

Year	Total Potable Consumption (AF)	Per Capita (GPCD)
2015	3,647	100.5
2016	3,775	104.0
2017	3,917	107.9
2018	3,884	106.9
2019	3,774	103.8
2020	4,216	115.9
Average:	3,869	106.5

As indicated by **Table 6.1**, water use has been fluctuating, although generally trending upward since 2015. This correlates to the increasing population that is shown in **Section 2**. Based on the values shown in **Table 6.1**, water use had increased by nearly 14% since 2015.

6.5.2. Recent Water Use

Table 6.2 shows the District's water consumption over the past five (5) years. As indicated by **Table 6.2**, water demands within the District's service area over the past five (5) years were met by groundwater from the Verdugo Groundwater Basin (Basin) and imported water from FMWD.

Table 6.2 District Recent Water Use

Year	Total Potable Consumption (AF)	Per Capita (GPCD)
2021	3,819	125.4
2022	3,362	110.4
2023	3,055	97.3
2024	3,384	107.5
2025	3,492	110.7
Average:	3,423	110.3
2020 Water Use Target:		142

Annual water use since 2021 has ranged from approximately 3,647 AF to 4,174 AF, with an average 3,423 acre-feet per year (AFY). As indicated by **Table 6.2**, water use has been fluctuating, although generally trending downward since 2021.

6.6. WATER USE BY SECTOR

6.6.1. Service Connections/Accounts

The District maintains records of water consumption and, as of July 1, 2025, bills its customers on a monthly basis for water and sewer service. Prior to this customers were billed bi-monthly. Approximately eighty percent (80%) of the District's water demand is residential. CII sectors account for approximately under seven percent (7%) of the District's potable water supply. The remaining portion of the District's demand pertains to fire service and irrigation purposes. The District does not provide any

sales to agriculture, nor other agencies, saline water intrusion barriers, groundwater recharge, or conjunctive use. Water losses due to leakage or inaccurate water meters, are calculated in accordance with CWC 10631(e)(3)(B). The total number of service connections and water consumption is shown in **Table 6.3**, respectively.

Table 6.3 Service Connections (2025)

Sector	Service Accounts
Single Family Residential	6,947
Multi-Family Residential	699
Commercial/Institutional	536
Industrial	0
Landscape Irrigation	75
Other	0
Total Connections:	8,257

Nearly ninety-three percent (93%) of the total service connections are residential (single- or multi- family), since the District consists primarily of residential properties. Single-family comprises the largest individual sector with eighty-four percent (84%) of the total service connections. Commercial and institutional accounts comprise approximately six-and-a-half percent (6.5) of the total accounts. The District currently has no

industrial accounts. The District has approximately seventy-five (75) landscape irrigation accounts, including the Two Strike Park located in La Crescenta-Montrose. There are multiple grass-covered landscapes in its service area (including sports fields and parks). The parks and schools within the District are not District-owned, but the District meters these locations and bills for the use of water.

The District's water rates are listed in **Section 9.4**. Water sales data is compiled by District water staff and submitted to DWR in the Electronic Annual Report (eAR). The total water consumption by customer type since 2021 is shown on **Table 6.4**. As indicated by **Table 6.4**, Single-Family Residential accounts are the highest consuming sector in the District since most of the District is zoned for single-family accounts (with higher densities for multi-family accounts).



Figure 6.1 Two Strike Park located in La Crescenta-Montrose

Table 6.4 Recent Water Demand by Sector (AF)

Sector	2021	2022	2023	2024	2025
Single Family Residential	2,481	2,158	1,881	2,142	2,088
Multi-Family Residential	830	763	729	800	856
Commercial	149	152	152	190	165
Institutional	134	135	124	136	157
Industrial	0	0	0	0	0
Landscape Irrigation	223	155	169	117	226
Other	2	0	0	0	0
Total Water Sales:	3,819	3,362	3,055	3,384	3,492
Water Loss (Real Loss + Apparent Loss)	378	227	412	270	174*
Total Water Consumption (Total Supply into System):	4,197	3,589	3,467	3,655	3,666

*Estimated Water Loss value for 2025 was determined from District internal supply/demand data. However, value cannot be verified until validation of 2025 Water Audit and has therefore been excluded from the average.

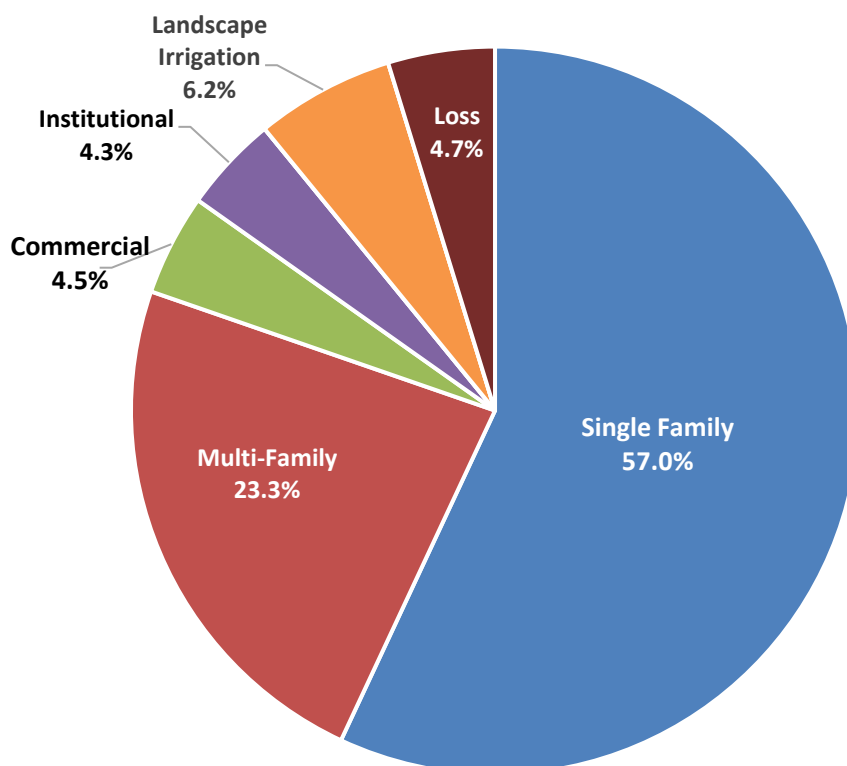


Figure 6.2 Current Water Demand by Sector (in 2025)



6.6.2. Distribution System Losses

As indicated by **Table 6.4**, the District's Water Loss ranged from 174 to 412 AF, which on average is approximately eight percent (8%) of the total water supply into the District's distribution system. Water Loss is determined as the sum of apparent loss and real loss, as determined in each year's Validated Water Loss Audit. Examples of Water Loss consists of routine flushing, unmetered use, and main breaks, to name a few. Although water losses have cost impacts on water agencies, they cannot be prevented entirely.

Instead, effort is directed at controlling the quantity of water losses (to a cost-effective extent) in order to reduce the cost impact of water losses on water operations. For this reason, the District's Staff prepares annual Water Loss Audits, using AWWA software. The 2024 Audit shows that the District's Leakage Index (the ratio of real loss to unavoidable loss) was 0.9, which is below the 10th percentile of Water Purveyors. The District's Validated Water Loss Audits can be found on DWR's WUE Portal:

wuedata.water.ca.gov/awwa_plans

6.6.3. 2028 Water Loss Standard

California Water Code (CWC) Section 10608.34 requires SWRCB to develop water loss performance standards for urban retail

water suppliers. Executive Orders B-37-16 and B-40-17 direct SWRCB and DWR to minimize water waste through system leaks. Water loss performance standards became effective in 2023. As part of a proposed water conservation regulation, urban retail water suppliers (not individual households or businesses) will be held to "urban water use objectives." An urban water use objective is the sum of standard-based budgets for a subset of water uses, such as residential outdoor use, as further described in **Section 6.7**.

Retail Suppliers must meet water loss standards by January 1, 2028, calculated on a system level. Ongoing compliance will be on a three-year average basis. The baseline period for the 2028 Water Loss Standard is 2017-2020. Real loss and apparent losses used to calculate the standard are the average real losses and apparent losses in the baseline period. SWRCB staff can initiate an adjustment process for any system that has significant changes in data compared to the baseline if at least three (3) compliance assessments have passed. Suppliers can request an adjustment to the baseline period data if significant data improvements have been made.

Suppliers must either meet their apparent loss standard (equivalent to their baseline period (2017-2020) apparent losses) or submit an inventory of all apparent losses.



Meeting the apparent loss standard is not required as long as an inventory of apparent losses is submitted.

The District's Baseline Real Loss is 25.8 gallons per service connection per day (GPSCD) and Real Loss Standard is 24.2 gpscd, resulting in a Required Real Loss Reduction from Baseline of 6%. Apparent Loss Standard is 9.1 gpscd.

6.7. URBAN WATER USE OBJECTIVE

The "Making Conservation a California Way of Life" regulation went into effect on January 1, 2025 and establishes unique efficiency goals for each urban retail water supplier in California and provides those suppliers flexibility to implement locally appropriate solutions. The regulation seeks to cultivate long-term practices that help communities adapt to California's ongoing water challenges. The regulation requires suppliers to:

- Annually calculate urban water use objectives for a subset of urban water uses: residential indoor water use, residential outdoor water use, real water loss, and commercial, industrial, and institutional (CII) landscapes with dedicated irrigation meters (DIMs).
- Carry out performance measures for CII water use.
- Annually report to SWRCB.

This District's Compliance Summary Report,

prepared by SWRCB staff on February 23, 2026, summarizes the supplier's compliance with annual reporting requirements under the "Making Conservation a California Way of Life" regulation for the state fiscal year 2024-2025. This report was due on January 1, 2026.

6.7.1. Key Highlights from the Report

The following points are a summary of Sections 3 through 7 of the District's Compliance Summary Report:

- The report was submitted on time, on December 2, 2025.
- The supplier has met its calculated objective for fiscal year 2024-2025.
- The supplier has no approved variances or temporary provisions for fiscal year 2024-2025.
- The report contains zero (0) data quality flags.

6.7.2. Objectives Calculated with Future Standards

The water use objectives will become progressively lower as standards change through 2040. **Table 6.5** compares the current water use objective and reported water use to future efficiency requirements; the full summary can be found in Section 8 of the District's Compliance Summary Report. While this table does not capture how future water use objectives will be influenced by changes in local climatology,



service area population, square footage of irrigated landscapes, and other data that will factor into future water use efficiency

objectives, it is provided as a tool for local planning purposes.

Table 6.5 Objectives Calculated with Future Standards

Fiscal Year	FY 24-25 Use (AF)	Calculated/Projected Objective (AF)	Current use lower than objective?
24-25	3,661.8	4,313.6	Yes
25-26	3,661.8	4,151.6	Yes
30-31	3,661.8	3,950.9	Yes
35-36	3,661.8	3,619.4	No (objective is 1.2% lower)
40-41	3,661.8	3,430.4	No (objective is 6.3% lower)

As **Table 6.5** shows, the District has met its calculated objective for fiscal year 2024-2025. The District's Compliance Summary Report can be located on DWR's WUE Portal:

wuedata.water.ca.gov/uwuo_plans

2020 UWMPs, and allows DWR to enforce compliance to the new water use standards. In essence, the bill requires each urban retail water supplier to develop urban water use targets to help meet the twenty percent (20%) goal by 2020 and an interim 10 percent goal by 2015.

6.8. WATER CONSERVATION ACT

6.8.1. Act Background (SBx7-7)

Due to the limited amount of water allowed to be pumped in the San Joaquin Delta, the California State Legislature drafted the Water Conservation Act of 2009 (SBx7-7) to protect statewide water sources. The legislation called for a twenty percent (20%) reduction in water use in California by the year 2020. The legislation amended the Water Code to call for 2015 and 2020 water use targets in the 2010 UWMPs, updates or revisions to these targets in the 2015 and

The bill establishes methods for urban retail water suppliers to determine their targets to help achieve statewide water reduction targets, which may or may not be a strict twenty percent (20%) level. The retail water supplier must select one of the four target-setting methods as described in **Section 2.4.3**. The retail agency may also choose to comply with SBx7-7 as an individual or as a region in collaboration with other water suppliers. Under the regional compliance option, the retail water supplier is mandated to report the water use target for its

individual service area. The bill also includes reporting requirements in the 2010, 2015, and 2020 UWMPs. Beginning in 2016, failure to comply with interim and final targets makes a retail agency ineligible for grants and loans from the state needed to attain water self-sufficiency by 2020; however, if an agency which is not in compliance documents a plan and obtains funding approval to come into compliance, it could then become eligible for grants or loans.

In addition to an overall statewide 20 percent water use reduction, the objective of SBx7-7 is to reduce water use within each hydrologic region in accordance with the agricultural and urban water needs of each region. Currently, DWR recognizes 10 separate hydrologic regions in California as shown in **Figure 6.4**. Each hydrologic region was established for planning purposes and corresponds to the State's major drainage areas. The service area of the District is located in the South Coast Hydrologic Region (HR), as shown in **Figure 6.5**.

Wholesale water suppliers, including FMWD, are not required to determine baseline daily per capita water use, urban water use target, interim urban water use target, or compliance daily per capita water use. Instead, wholesale water suppliers are required to include in their UWMPs discussions of programs they intend to implement to support the retail water suppliers, such as the District, in attaining their reduction goals and targets.



Figure 6.3 California's 2020 Water Conservation Goals

6.8.2. Exempt Agencies

If an agency has a baseline per capita water use of 100 GPCD or less, that agency will not have to adhere to any reduction targets as that agency is already considered water efficient. In such a case, that agency must document in subsequent UWMPs that its water usage is still under 100 GPCD.



Figure 6.4 California's 2020 Water Conservation Goals



Figure 6.5 South Coast Hydrologic Region



6.8.3. SBx7-7 Baseline & Target

The District previously established water use targets for 2015 and 2020. DWR provided guidelines for determining these targets in its *Methodologies* guidebook for the 2010 and 2015 UWMPs. In the 2010 and 2015 UWMPs, the District's baseline water use and targets were determined based on the procedures shown in **Figure 6.6** and **Figure 6.7**.

If an agency's 10-year baseline is slightly higher than the Hydrologic Region's target, that agency still must achieve a five percent (5%) reduction from its 5-year baseline. If an agency has a per capita water use of 100 GPCD or less, that agency will not have to adhere to any reduction targets as that agency is already considered water efficient.

Since the District does not use recycled water, a 10-year instead of a 15-year rolling average was previously calculated. The District's baseline water use is 160.6 GPCD, which was calculated from a 10-year period from January 1, 1996 to December 31, 2005. **Table 6.6** shows historic (January 1, 1996 to December 31, 2005) water use and provides the base period annual water use used to calculate the baseline water use for District. The data was used to calculate the continuous 10-year and 5-year average

baseline. Regardless of the compliance method adopted by the District it will need to meet the minimum water use target of five percent (5%) reduction from a 5-year baseline as calculated. Values for 1996 to 2007 are from the 2010 UWMP.

As shown in **Table 6.7**, the District's 10-yr and 5-yr baselines were determined to be 160.6 GPCD and 159.1 GPCD, respectively. The District's baseline water use was then compared to the regional compliance target to determine the applicable reduction amounts per the SBx7-7 additions to the water code. The legal stipulations applicable to the District and the required target to be enforced by DWR are shown in **Table 6.7**.

The selected SBx7-7 target is 142 GPCD [five percent (5%) reduction from the South Coast HR's target] because this amount is greater than 128 GPCD [twenty percent (20%) from its 10-year baseline]. Since the District's minimum reduction requirement of 151 GPCD [five percent (5%) reduction from 5-yr. Baseline] is greater than the regional target of 149 GPCD, the District must select **Method 3** (142 GPCD) as its 2020 water use target. Therefore, the District's compliance target for 2020 per capita water consumption was 142 GPCD in accordance with Section 10608.22 of the Code.

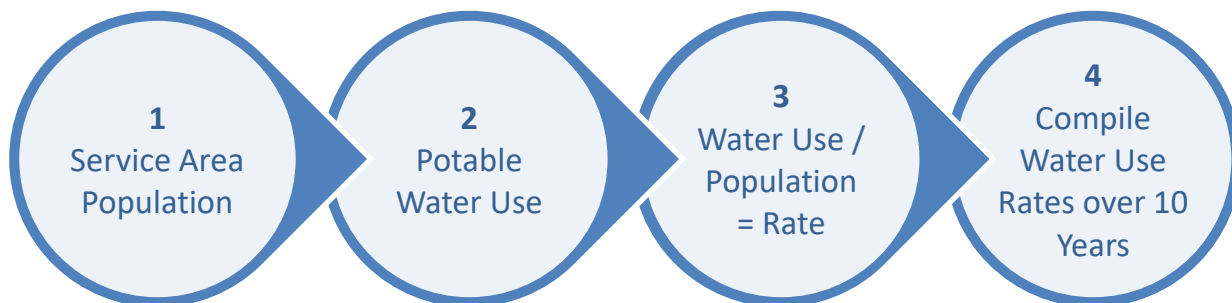


Figure 6.6 Procedure for Determining Baseline Per Capita Water Use

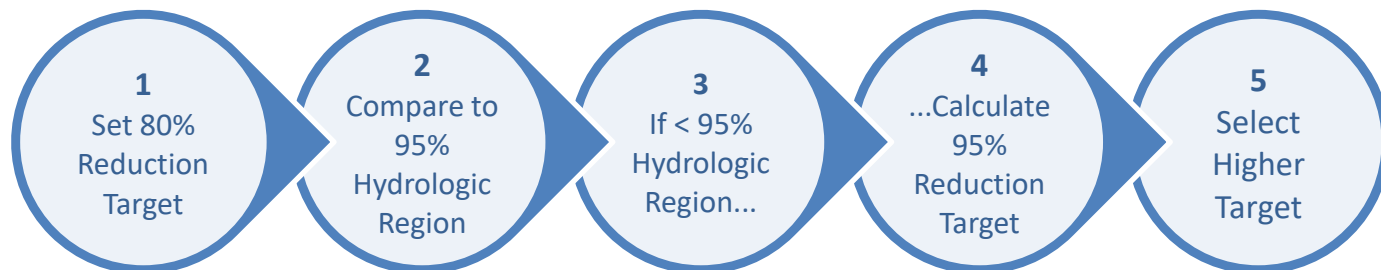


Figure 6.7 Procedure for Determining Target Per Capita Water Use

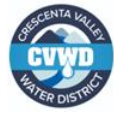


Table 6.6 Crescenta Valley Water District Water Use (GPCPD)

Year	Service Area Population	Total Potable Consumption (AF)	Per Capita (GPCD)
1996	30,390	5,277	155.0
1997	30,475	5,497	161.0
1998	30,560	5,076	148.3
1999	30,645	5,608	163.4
2000	30,731	5,717	166.0
2001	30,817	5,635	163.0
2002	30,903	5,792	167.0
2003	30,989	5,724	164.7
2004	31,075	5,726	165.2
2005	31,162	5,327	152.6
2006	31,249	5,463	156.8
2007	31,336	5,525	155.2
10-yr. Baseline (1996-2005) (SB7: 10608.20)			160.6
5-yr. Baseline (2003-2007) (SB7: 10608.22)			158.9
State Hydrologic Region Baseline			180
State Hydrologic Region Target			149

Table 6.7 Crescenta Valley Water District SBx7-7 2020 Water Use Targets

Min. Reduction Requirement (10608.22)	20% Target (10608.20) (b)(1)	5% Reduction from Regional Target (10608.20) (b)(3)
151	128	142
2020 Per Capita Target:		142
Interim (2015) Target:		151



6.8.4. SBx7-7 Target Compliance

Although the requirements of SBx7-7 were stringent, the District has seen an increase in water efficiency in the past ten years. This is due in part to State legislation, stricter conservation measures, saturation of water-saving plumbing fixtures, and overall water conservation awareness. As indicated by **Table 6.7**, the District has already achieved not only its interim (2015) target, but also its final 2020 target. The District can maintain its consumption rates below the SBx7-7 target by continuing to focus on water conservation.

6.9. PROJECTED WATER DEMAND

Future water use projections must consider significant factors which will affect water demand, such as development and/or redevelopment, and climate patterns. Climate conditions will continue to be a major influence on demand as it will lead to more frequent and severe drought conditions, that will increase demand at times when these supplies are limited.

6.9.1. Passive Savings

The District should experience modest increases in its water consumption in spite of population increases through 2050. This is due to “passive savings.” Passive savings would be realized by more homes being equipped with water-saving fixtures and landscapes. As a result of ongoing water

conservation programs to educate the District’s water customers, water customers will become more aware of water conservation and District-specific policies such as limitations on landscape irrigation and car washing. These “passive savings” will assist in offsetting a portion of new water demands from anticipated population growth in the District.

For future water demand projections in this UWMP, these “passive savings” were calculated by analyzing the declines in water consumption rates. Beginning with a consumption rate of **109.3 GPCD** (average of the past 10 years), the rate of decline in GPCD is projected to be half a percent (0.5%) annually. It is assumed that water use efficiency will continue to increase through water code changes over the next twenty-five years.

6.9.2. Low-Income Water Demands

One significant change to the UWMP Act since 2005 is the requirement for retail water suppliers to develop water use projections for “low-

Over time, “Passive Savings” will help offset water demands from new growth in the District.

income” households at the single- family and multi-family level. These projections assist retail suppliers with compliance with Section 65589.7 of the Government Code, which requires suppliers to grant priority for the



provision of service to low-income households. Consistent with this Code section, a low-income household is defined as a household earning eighty percent (80%) or less of the area's median income.

The 2010 UWMP utilized the Regional Housing Needs Assessment (RHNA) or Regional Housing Needs Plan information to obtain a percentage of low-income households within an area. The information was developed by the Local Council of Governments, in coordination with the California Department of Housing and Community Development. The RHNA plan lists every city within the Southern California region and provides percentages of very low- and low-income households. The area the District mainly serves is La Crescenta-Montrose, an unincorporated area and a census-designated place.

Existing and projected housing needs for Los Angeles County were incorporated into the most recent RHNA Subcommittee's report titled 6th Cycle Final RHNA Allocation Plan of the Southern California Association of Governments (SCAG). This plan covers the planning period from October 2021 to October 2029. Based on the RHNA plan, the percentage of very low- and low-income households combined was 43.7% within unincorporated areas. This value is not a valid representation and will not be used.

Instead, a percentage was obtained from

records from the US Census Bureau. It provides information regarding the breakdown of households per income range and the percentages for each range. Based on their latest records (2024), approximately 5.1% of households is considered in poverty.

Therefore, from inference, it is estimated that approximately 5.1% of the projected water demands within the District service area will be for housing needed for low-income households.

6.9.3. Projected Water Use by Sector

For planning purposes, the District's projected water use for 2030-2050 is broken down by sector in **Table 6.8**. The estimates per sector are based on the ratios of water use by sectors shown in **Table 6.4**, the population projections shown in **Table 2.5**, and a "passive savings" of half a percent (0.5%). **Figure 6.8** also shows the Projected Water Demand by Sector (in 2050).

Table 6.8 Projected Water Demand by Sector

Sector	2030	2035	2040	2045	2050
Water Service Area Population	28,649	29,719	30,788	31,857	32,926
Consumption Rate (GPCD) <i>Including 0.5% Annual Passive Savings</i>	106.6	104.0	101.4	98.9	96.5
Demands					
Single Family Residential	1,957	1,979	2,000	2,018	2,034
Multi-Family Residential	724	732	740	747	753
Commercial	147	149	150	152	153
Institutional	125	126	128	129	130
Landscape Irrigation	162	164	166	167	169
Total Water Sales:	3,115	3,151	3,184	3,213	3,238
Water Loss (Real Loss + Apparent Loss)	307	311	314	317	320
Total Water Consumption (Total Supply into System):	3,422	3,462	3,498	3,530	3,558

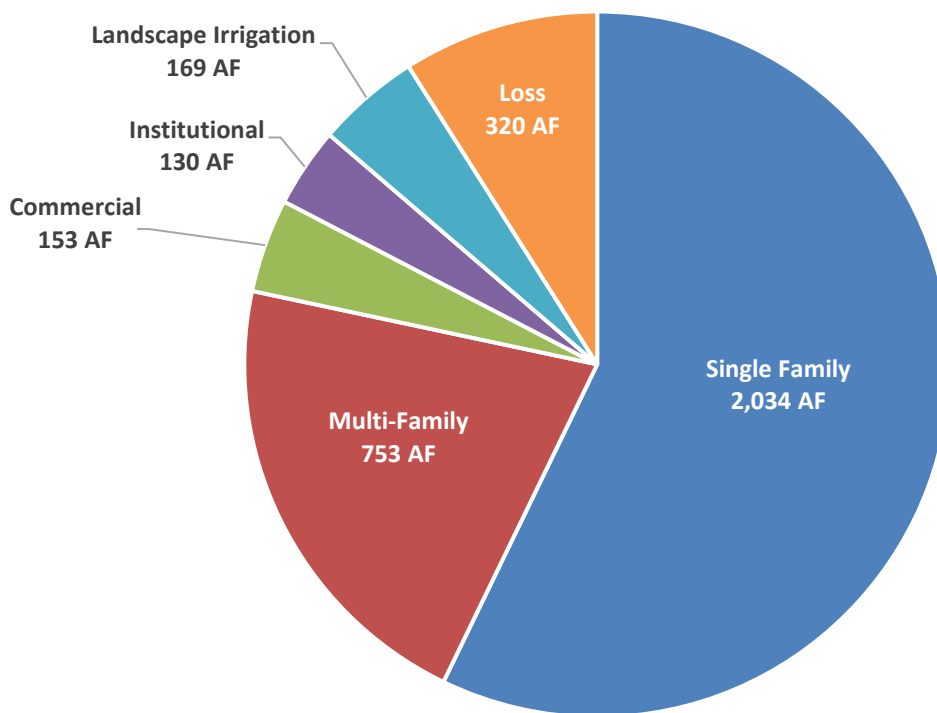


Figure 6.8 Projected Water Demand by Sector (in 2050)



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Section 7: Reliability Planning

The recent drought in the Lower Colorado River Basin (pictured), has brought changes to water supply management.



7.1. OVERVIEW

Drought conditions continue to be a critical issue for Southern California's water supply. The recent drought of 2020-2022 has impacted deliveries of imported water to Southern California cities. The documented deliveries of water from the State Water Project (SWP) for Water Year 2022 (October 1st, 2022, to September 30, 2023) indicate that the volume of water delivered to SWP Contractors was the lowest since Water Year 2020. Therefore, it is important that agencies manage water consumption and reduce reliance on imported water through local groundwater and surface water supplies. Water agencies should prepare for prolonged droughts for up to five (5) years to ensure a reliable supply of water.

Since the District does rely on imported water, drought conditions are a critical issue for the District's water supply. A strong understanding of water supply sources, and the current state, regional, and local issues affecting those sources, are a first step to properly managing supply and demand. Water agencies should prepare for prolonged droughts for up to five (5) years to ensure a reliable supply of water.

This Section discusses historic and recent droughts in the State and in the region. This Section also compares projected supply to projected demand over a 25-year planning period (through 2050) for various climate scenarios. Demand and supply projections are provided in **Table 7.1 - Table 7.7**.



7.2. HISTORIC DROUGHTS

Climate data has been recorded in California since 1858. Since then, California has experienced several periods of severe drought, including: 1928-34, 1976-77 and 1987-91, 2007-2009, 2011-2017 and most recently in 2020-2022. In addition to these, California has also experienced several periods of less severe drought. Among the previously listed droughts, the year 1977 is still considered to be the driest year of record in the Four Rivers Basin by DWR (these rivers flow into the Sacramento Delta and are the source of water for the State Water Project) which had an all-time low of 15 million acre-feet of average annual runoff.

In 1983, as a result of previous droughts, the State legislature enacted the UWMP Act, which requires the preparation of an UWMP. Several subsequent amendments have been made to the Act to include such elements as public coordination, recycled water, and contingency response plans are included in UWMPs.

In 1991, as a result of the 1987-1991 drought, over one hundred water agencies and environmental groups came together to form the California Urban Water Conservation Council (CUWCC) to manage the impacts of drought and promote water conservation. In January 2018, the CUWCC became the California Water Efficiency Partnership (CalWEP), and consists of over

two hundred water agencies and private companies. CalWEP assists its member agencies with public policy, research, and education tools.

As a result of the drought of 2007-2009, Governor Schwarzenegger signed the Water Conservation Act of 2009 (SBx7-7), requiring mandatory water conservation up to twenty percent (20%) by 2020.

In January of 2014, Governor Brown declared a state of emergency and directed state officials to take all necessary actions to prepare for water shortages. As the drought continued into Water Year 2015, Governor Brown issued an executive order in April 2015, which mandated a statewide twenty-five percent (25%) reduction in water use, with each agency assigned specific target reductions.

At the local level, water agencies have enacted their own ordinances to deal with the impacts of drought. The District's Water Shortage Contingency Plan (WSCP), as contained in **Section 8**, deals with Water Conservation.

7.3. RECENT DROUGHT (2020-2022)

California experienced a significant and prolonged drought in 2020-2022. The drought depleted reservoir levels across the state, as reflected by **Figure 7.1**. On July 8, 2021, Governor Newsom declared a state of emergency and issued an Executive Order

calling for a statewide voluntarily reduction of fifteen percent (15%) from consumer’s 2020 levels in order to preserve the State’s surface and groundwater supplies, better prepare for the potential for continued dry conditions next year, and to join existing efforts by agricultural water users, public water systems, and governmental agencies to respond to water shortages. On October 19, 2021, Governor Newsom issued an Executive Order declaring a statewide drought emergency.



Figure 7.1 Governor Newsom at Lake Mendocino in Ukiah on April 21, 2021

In May 2022, Governor Newsom ordered the SWRCB to evaluate the adoption of regulations banning irrigation of “non-functional” turf (or grass), such as decorative grass adjacent to large industrial and commercial buildings. The ban would not include residential lawns or grass used for recreation, such as school fields, sports fields, and parks. The DWR estimated this ban alone would result in potential water savings of several hundred thousand acre-

feet. An acre-foot of water serves the needs of approximately three households for a year.

In March 2024 DWR finalized the 2024 State Water Project Long-Term Drought Plan. The 2024 State Water Project Long-Term Drought Plan consolidates information and actions taken during past droughts along with descriptions of the actions taken by the SWP to plan for and prepare for future droughts.

The scope of the SWP’s drought planning activities is driven by the role the SWP plays within California’s water management system during times of drought. The SWP’s planning is specific to its role as a wholesale water provider. The SWP’s drought planning is different from the planning by other water managers that are responsible for providing water directly to end-use customers. For these water managers, drought planning generally includes identifying a portfolio of different water supplies

and demand management actions that ensure a minimum amount of water can be provided with a set degree of certainty.

2024 SWP Drought Plan consolidates information and actions taken during past droughts.

Retail water suppliers have a “duty to serve” water demand within their service areas and must have detailed contingency plans for meeting demand during drought conditions.



Although the recent droughts have more significantly impacted northern and central-valley agencies that use SWP water for agriculture, the District is indirectly impacted by the recent drought conditions on Northern California Waters since this water source is the majority source of water imported from the MWD.

7.4. STATE WATER SUPPLY RELIABILITY

As a result of continued drought challenges to the State's water supplies, SWP Contractors understand the unpredictability of imported water allocations from the SWP.

With participation of the SWP Contractors, DWR strives to meet the water needs of Southern California by developing new projects to increase the capacity of its supplies while encouraging its member agencies to develop local supply projects to meet the needs of its customers. Also, DWR is committed to developing and maintaining high-capacity storage reservoirs, including both DWR-owned and Contractor-owned (such as Diamond Valley Lake, an MWD-owned reservoir, the largest in Southern California), to meet the needs during times of drought and emergency.

The large reservoirs help to avoid the repercussions of reduced supplies not only from the SWP but also the Colorado River Aqueduct (CRA). Throughout the Southern California Region, a total of three (3) DWR-

owned reservoirs, nine (9) MWD-owned reservoirs, and twenty-four (24) SDCWA reservoirs contain up to 2.2 million acre-feet (MAF) of water storage.

One of the State's largest reservoirs, Lake Oroville in Butte County, experienced low water conditions at Enterprise Bridge (**Figure 7.5**). On this date (October 4, 2022), the water storage was 1.22 MAF, thirty-five percent (35%) of the total capacity.

Figure 7.6 shows an aerial view of high-water conditions at Enterprise Bridge. On this date (June 12, 2023), the water storage was 3.52 MAF, one hundred percent (100%) of the total capacity. Rainfall during the 2024-2025 water year was also below the average, with a total recorded rainfall at the District's Main Office of 13.02 inches.

7.4.1. State Water Project (SWP) Reliability

As a SWP contractor, MWD has a "Table A" allocation of up to 1,911,500 acre-feet per year (AFY). Since MWD began receiving SWP water, however, the average amount of water received each year was approximately 58% of the full Table A amount. On an annual basis, each of the twenty-nine (29) SWP Contractors request amounts of SWP water based on their anticipated yearly demand. Each SWP contractor's Water Supply Contract contains a "Table A" amount that identifies the maximum amount of water



that a contractor may request. However, the amount of SWP water actually allocated to contractors each year is dependent on a number of factors that can vary significantly from year to year. The availability of SWP

SWP supplies are typically less than the maximum "Table A" amounts requested by the Contractors each year.

supplies is generally less than their full Table A amounts in many years and can be significantly less in very dry years. After receiving the requests, DWR assesses the amount of water supply available based on precipitation, snowpack on Northern California watersheds, volume of water in storage, projected carry over storage, and Sacramento-San Joaquin Bay Delta regulatory requirements. For example, according to the State Water Project Delivery Reliability Report (2023), the total SWP annual delivery of water to contractors

ranged from a low of 278 thousand acre-feet (TAF) in 2022 to a high of 3,094 TAF in 2017. Due to the uncertainty in water supply, contractors are not typically guaranteed their full Table A amount, but instead receive a percentage of that amount based on available supply. For instance, the current DWR Notice to Contractors 26-01 (January 2026) indicated that the initial allocation is set at thirty percent (30%), which higher than the ten percent (10%) per initial allocation. For MWD, the current allocation based on the Notice to Contractors for this year is set at 573,450 AF.

The reliability of the SWP impacts the Contractors ability to plan for future growth and supply. SWP Contractors can seek out other local supply sources or transfer agreements (such as transfers with Colorado River rights holders). Although not directly important for the District, matters involving the SWP do impact the District indirectly.



Figure 7.2 Lake Oroville During Drought of 2020-2022 (October 4, 2022)



Figure 7.3 Lake Oroville After Drought (June 12, 2023)

Data as of Midnight: 03-May-2026

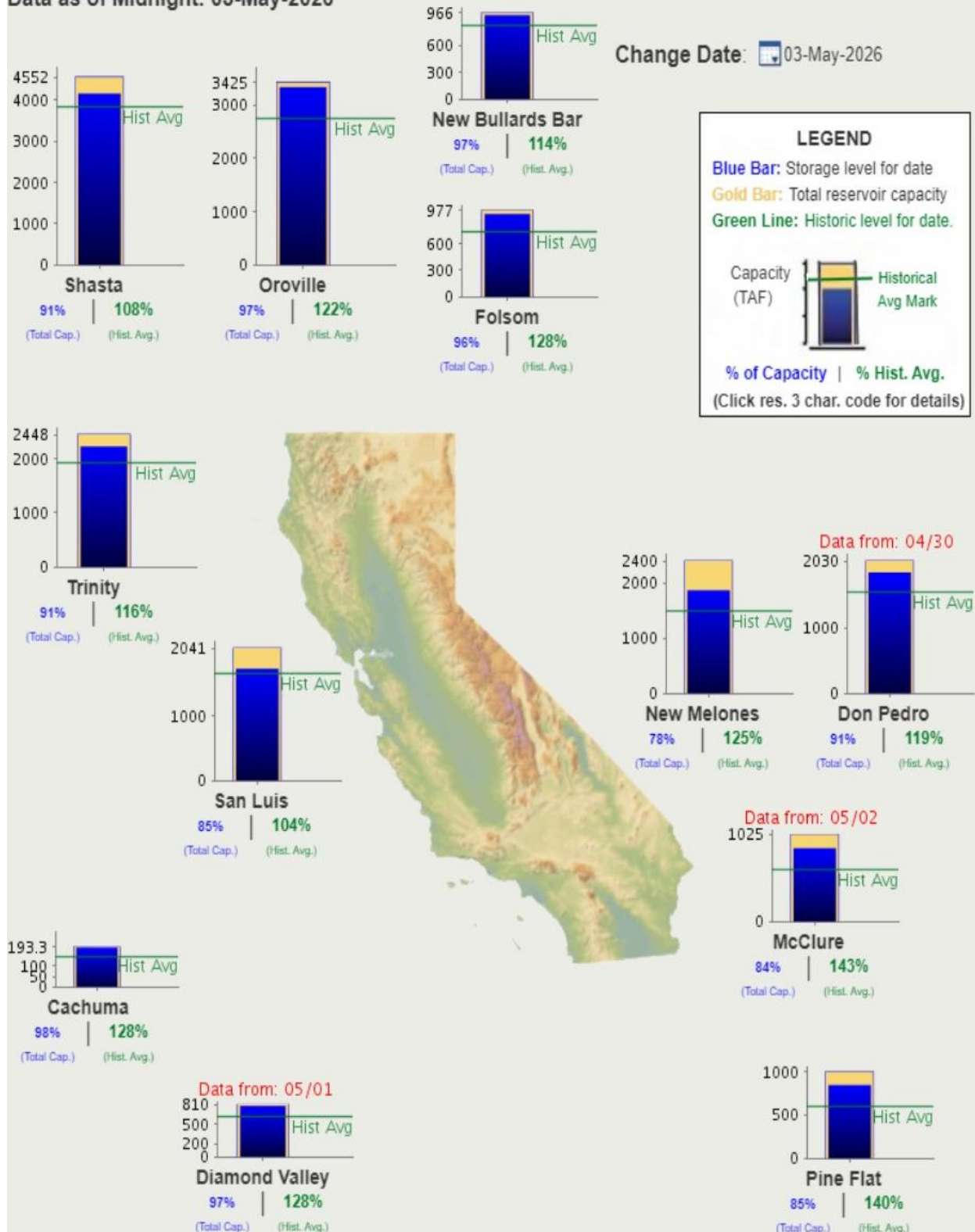


Figure 7.4 California State Reservoir Levels (May 2026)

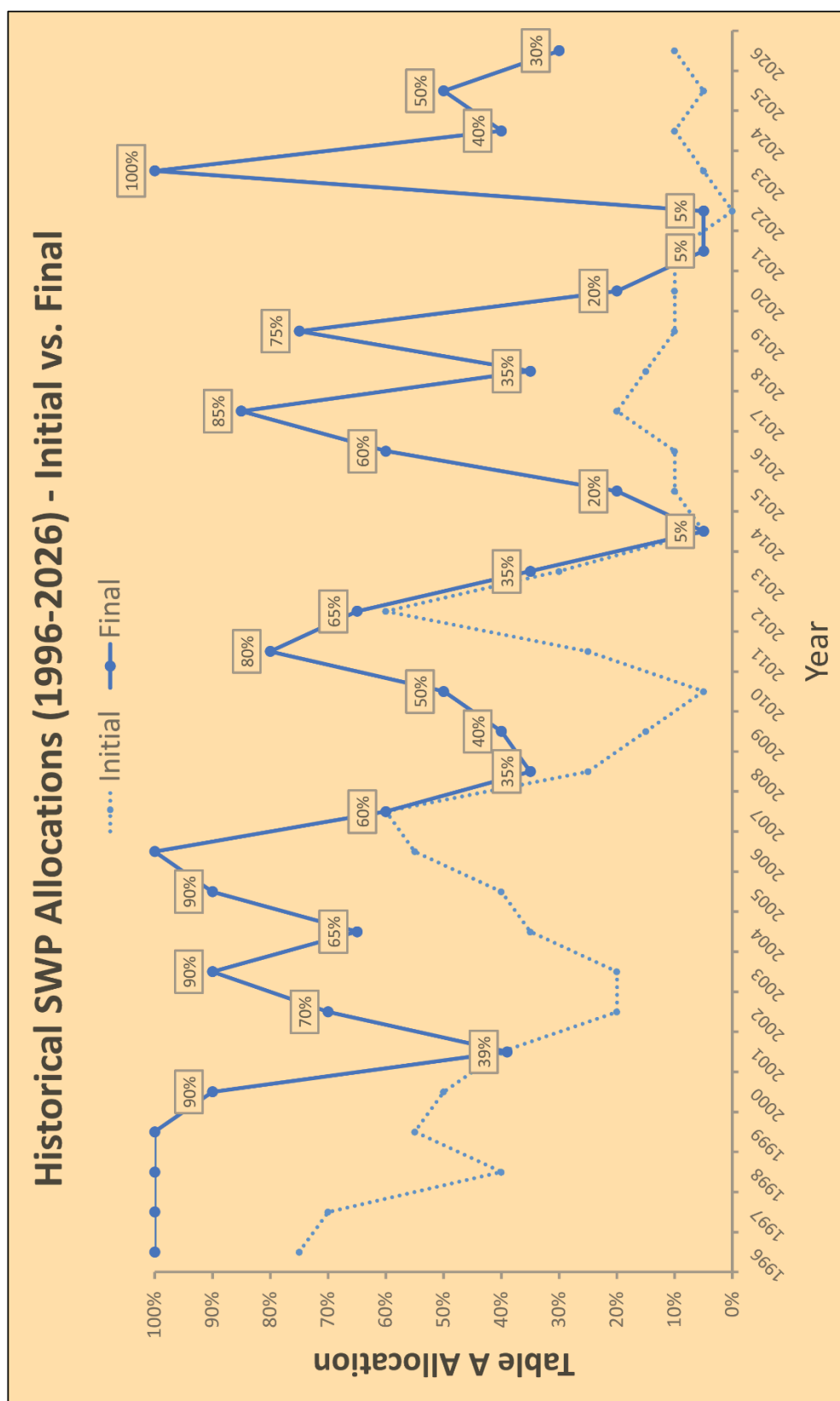


Figure 7.5 SWP Table A Deliveries



7.5. COLORADO RIVER RELIABILITY

Since 2020, the Colorado River has been under severe stress due to more than two decades of drought and very low runoff. Water levels in Lakes Mead and Powell dropped to historic lows in 2021 and 2022, which forced the United States Department of the Interior - Bureau of Reclamation (Reclamation) to take emergency actions to keep the system functioning. These actions included releasing extra water from upstream reservoirs to help stabilize Lake Powell and declaring the first-ever Tier 1 shortage in 2022.

From 2023 through 2025, conditions improved slightly after a strong winter, but long-term challenges remained. The federal

California, Arizona, and Nevada agreed to conserve up to 3 MAF of water through 2026.

government and the seven (7) Basin States began working on new operating rules to replace the current guidelines that expire in 2026. During this period, the Lower Basin states—California, Arizona, and Nevada—agreed to conserve up to 3 MAF of water through 2026, supported by federal funding. These conservation efforts helped slow the decline of Lake Mead but did not solve the long-term supply and demand imbalance in the river.

Negotiations for new post-2026 operating

guidelines have become the main focus. Modeling has shown that without major changes, the risk of critically low reservoir levels will continue to increase. The new rules, expected to take effect in 2027, will likely reshape how shortages are shared and how the major reservoirs are operated. For California water agencies, these developments highlight the increasing uncertainty of Colorado River supplies and the need to plan for continued conservation, efficiency, and diversified water sources

Over the past six-months, Lake Mead has stayed at approximately thirty-one to thirty-two percent (31–32%) of capacity, with storage measured at approximately 8.3 MAF out of 26.1 MAF as of April 2026. Month-to-month changes have been small, showing a system that is no longer in freefall but still far from recovery. Snowpack feeding the Colorado River has been well below normal, with a snow water equivalent at approximately twenty-one (21%) of median in April 2026, limiting the potential for significant inflows. Reclamation’s 24-Month Study continues to project Tier 1 shortage operations through 2026, meaning mandatory reductions will remain in effect.

7.5.1. Competition for Water Rights

For Colorado River rights holders, the “*Law of the River*” is essentially a compilation of numerous compacts, state and federal laws, court decisions and decrees, contracts, and



regulatory guidelines which define rights to water from the Colorado River. These documents apportion the water and regulate the use and management of the Colorado River among the seven basin states and Mexico. A brief listing of these compacts and acts include:

- Colorado River Compact (1922)
- Boulder-Canyon Project Act (1928)
- CA Seven Party Agreement (1931)
- Arizona v. California (1964)
- CO River Basin Project Act (1968)
- Arizona v. California (1979)
- Quantification Settlement Agreement (2003)

Per the 2003 Quantification Settlement Agreement (QSA), California's allocation has been confirmed at 4.4 MAF per year, with MWD maintaining just over 1 MAF in rights. Likewise, the Coachella Valley Water District (CVWD) holds rights to the CRA. As SWP contractors, MWD's and CVWD's extractions from the CRA impact their annual requests for SWP Table A amounts.

7.6. DISTRICT SUPPLY RELIABILITY

As the District obtains its water sources from a combination of local groundwater and imported water, the supply reliability is based on the reliability of the Verdugo Groundwater Basin, the Colorado River, and the Sacramento-San Joaquin River Delta. The

basin is considered to be a reliable source of supply since its current storage levels far exceed any planned pumping.

MWD is participating in the development of groundwater, groundwater recovery, recycled water systems, desalination opportunities, and collection of urban return flows to augment the reliability of the imported water system. There are various factors that may impact reliability of supplies, such as legal, environmental, water quality, and climatic, which are discussed. The water supplies are projected to meet full-service demands; MWD's 2020 UWMP finds that MWD is able

Supply reliability is based on the Verdugo Basin, Colorado River, and Sacramento-San Joaquin River Delta.

to meet with existing supplies full service demands of its member agencies in 2025 through 2045 during normal years, single dry year, and multiple dry years.

MWD's 2020 Integrated Water Resources Plan (IRP) update describes the core resource strategy used to meet full-service retail demands under all foreseeable hydrologic conditions from 2025 through 2045. The foundation of MWD's resource strategy for achieving regional water supply reliability consists of developing and implementing water resources programs and activities through its IRP preferred resource mix. This preferred resource mix

includes conservation, local resources, such as water recycling and groundwater recovery, Colorado River supplies and transfers, SWP supplies and transfers, in-region surface reservoir storage, in-region groundwater storage, out-of-region banking, treatment, conveyance and infrastructure improvements. FMWD is reliant on MWD for all of its imported water. With the addition of planned supplies under development, MWD's 2020 UWMP found that MWD will be able to meet full-service demands from 2025 through 2045, even under a repeat of the worst drought. MWD's single dry year is based on the drought in 1977. MWD's five-consecutive dry years is based on from 1988 to 1992, which represents as the driest five-consecutive year historic sequence for MWD's water supply. In addition to meeting full-service demands from 2025 through 2045, MWD projects reserve and replenishment supplies to refill system storage.

7.6.1. Reliability of Alternative Sources

Since recycled water is produced from wastewater, this source has the advantage of consistently being available during any type of average, single-dry, or multiple-dry year as discussed in **Section 4**. If the District were to use recycled water at some point in the future, it would genuinely add to the District's overall supply reliability, especially since approximately five percent (5%) of the District's water is used for landscape

irrigation (i.e. lawns, parks, athletic fields, etc).

7.7. DROUGHT RISK ASSESSMENT

The quantity of supply available from different water supply sources can vary from one year to the next depending on hydrologic conditions. The drought risk assessment is an assessment of the reliability of the District's water supplies by comparing projected future water demands with expected available water supplies under three different hydrologic conditions: (1) normal water year, (2) single dry year, and (3) multiple dry years. For the sake of this UWMP, the multiple dry-year period is taken to be five (5) years. Future supply and demand conditions can be determined from the following data:

- Population forecasts (**Section 2.5**)
- Water supply capacity (**Section 3**;))
- Recent water use trends (**Section 6**)

7.7.1. Basis for Projected Demands

To project future demands, it was assumed that total demand will change annually based on changes in population multiplied by the individual demand per-person ("per-capita" consumption rate). The per-capita rates used in the future projections were based on actual water use data from the last ten (10) years. The District's averages for the last ten (10) years were used as the basis to project demands through the year 2050. To



project demands and supplies, the following was assumed:

- Consumption rate of 109.3 gallons per capita per day (GPCD) as the average consumption of the District in the last 10 years
- *Decreasing* consumption rate (from 109.3 GPCD) starting in 2026 with a passive savings of half a percent (0.5%) annually. This brings the 2026 consumption rate to **108.8 GPCD**

Although a constant consumption rate provides a more conservative approach, the decreasing consumption rate scenario provides a realistic basis for planning purposes since it considers gradual improvements in water-use efficiency. Since 2020, the District has seen a 4.54% decrease in GPCD, revealing an increase in water use efficiency. The District's consumption rate in 2020 was 115.9 GPCD, and the District's consumption rate in 2025 was 110.7 GPCD. This amounts to an average decrease of approximately 1.1% annually.

For drought-period demands, is expected that there will be a small degree of increase due to the lack of rainfall on landscapes. To project demands during single and multiple (five) year drought periods, the following increase factors will be assumed:

- Dry Year: Eleven percent (11%)
- Multiple Dry Years: Fifteen percent (15%), Twenty-One percent (21%), Twenty-Two percent (22%), Fifteen percent (15%), and negative five percent (-5%)

These values are also reflected in **DWR Submittal Table 7-1 in Appendix E**. During the recent drought of 2011 to 2017, water agencies in the State experienced an increase in water demands, until former Gov. Brown's Emergency Declaration in 2015. Nevertheless, the increase factors listed are reasonable for the purposes of demand projections since they provide reasonable estimates of increases in water use for irrigation during dry-years.

7.7.2. Basis for Projected Supplies

As for projected supplies, because the District's supplies are generally drought-proof as stated previously in this Section, it is very unlikely that supplies will be restricted, even during multi-year periods. Thus, for conservative planning purposes, the District's projected water supplies will be based off of 75% of its active well capacity and imported/purchased water. With a current total supply capacity of approximately 3,563 gpm (including CVWD's 11 wells, Glendale's Well # 16 and Imported water supplies through FMWD), 75% capacity equates to approximately 2,673 gpm, or approximately 4,461 acre-feet per year (AFY).



7.7.3. Tabular Comparisons

Table 7.1 - Table 7.7, shown on the following pages, provide an analysis of the District’s supply and demand projections to the year 2050. **Figure 7.6 to Figure 7.7** show a visual

pie-chart for the year 2050. Based on the data contained in these tables, the District can expect to meet future demands for all climate conditions through 2050.



Table 7.1 Crescenta Valley Water District Water Supply Availability & Demand Projections
Normal Water Year (AF)

Water Sources	2030	2035	2040	2045	2050
Population					
Water Service Area Population	28,649	29,719	30,788	31,857	32,926
Consumption Rate (GPCD) ¹ <i>Including 0.5% Annual Passive Savings</i>	106.6	104.0	101.4	98.9	96.5
Supply					
Groundwater Pumped (Total) ²	1,778	1,799	1,817	1,834	1,849
Recycled Water	0	0	0	0	0
Purchased Water	1,644	1,663	1,680	1,696	1,709
Total Anticipated Use of Supplies³ <i>(Estimated Production)</i>	3,422	3,462	3,498	3,530	3,558
Minimum Available Supply	4,461	4,461	4,461	4,461	4,461
Demand					
Estimated Potable Water Demand	3,422	3,462	3,498	3,530	3,558
Estimated Recycled Water Demand	0	0	0	0	0
Total Estimated Demand	3,422	3,462	3,498	3,530	3,558
Compare to Avg. Demand from 2016-2025 (3,668 AF)	93%	94%	95%	96%	97%
Supply/Demand Comparison					
Supply-Demand (Difference)	0	0	0	0	0
Supply/Demand (%)	100%	100%	100%	100%	100%
Available Supply Capacity ⁴	1,039	999	963	931	903

Notes:

- Total Demand = Consumption Rate x Projected Population
 - Average consumption rate of last 10 years = 109.3 gallons per capita per day (GPCD)
 - Estimated starting consumption rate in 2026 = 108.8 GPCD
 - Approximate “passive” savings: 0.5% per year
 - Projected “passive” savings: 0.5% per year = 96.5 gpcd by 2050**
- Groundwater production capacity (total available supply) represents the District’s active wells:
 - Wells in District area: CVWD’s 11 wells
 - Wells outside District area: Glendale Well #16
Total well capacity: 2,228 gpm (3,794 AFY)
- Projected groundwater pumping and purchased water is set equal to the projected water consumption (demands) shown in **Table 6.8 of Section 6**.
- No other potable supply sources are expected to become available.



**Table 7.2 Crescenta Valley Water District Water Supply Availability & Demand Projections
Single Dry Year (AF)**

Water Sources	2030	2035	2040	2045	2050
Population					
Water Service Area Population	28,649	29,719	30,788	31,857	32,926
Consumption Rate (GPCD) <i>Including 0.5% Annual Passive Savings</i>	106.6	104.0	101.4	98.9	96.5
Supply					
Groundwater Pumped (Total)	1,974	1,997	2,017	2,036	2,052
Recycled Water	0	0	0	0	0
Purchased Water	1,825	1,846	1,865	1,882	1,897
Total Anticipated Use of Supplies (Estimated Production)	3,799	3,843	3,883	3,918	3,949
Minimum Available Supply	4,461	4,461	4,461	4,461	4,461
Normal Year Supply	3,422	3,462	3,498	3,530	3,558
% of Normal Year	111%	111%	111%	111%	111%
Demand					
Total Dry Demand	3,799	3,843	3,883	3,918	3,949
Normal Year Demand	3,422	3,462	3,498	3,530	3,558
% of Normal Year	111%	111%	111%	111%	111%
Supply/Demand Comparison					
Supply-Demand (Difference)	0	0	0	0	0
Supply/Demand (%)	100%	100%	100%	100%	100%
Available Supply Capacity	662	618	578	543	512

Notes:

1. Dry Demand = Normal Year Demands x Single Dry Year Increase of 111%.
2. All other items determined in similitude to **Table 7.1**.



**Table 7.3 Crescenta Valley Water District Water Supply Availability & Demand Projections
Multiple Dry Years (2026-2030) (AF)**

Water Sources	2026	2027	2028	2029	2030
Population					
Water Service Area Population	28,259	28,357	28,454	28,552	28,649
Consumption Rate (GPCD) <i>Including 0.5% Annual Passive Savings</i>	108.8	108.3	107.7	107.2	106.6
Supply					
Groundwater Pumped (Total)	2,058	2,162	2,176	2,048	1,689
Recycled Water	0	0	0	0	0
Purchased Water	1,903	1,999	2,012	1,894	1,562
Total Anticipated Use of Supplies (Estimated Production)	3,961	4,161	4,189	3,942	3,251
Minimum Available Supply	4,461	4,461	4,461	4,461	4,461
Normal Year Supply	3,444	3,439	3,433	3,428	3,422
% of Normal Year	115%	121%	122%	115%	95%
Demand					
Total Dry Demand	3,961	4,161	4,189	3,942	3,251
Normal Year Demand	3,444	3,439	3,433	3,428	3,422
% of Normal Year	115%	121%	122%	115%	95%
Supply/Demand Comparison					
Supply-Demand (Difference)	0	0	0	0	0
Supply/Demand (%)	100%	100%	100%	100%	100%
Available Supply Capacity	500	300	272	519	1,210

Notes:

1. Dry Demand = Normal Year Demands x Multiple Dry Year Increases of 115%, 121%, 122%, 115%, and 95%.
2. All other items determined in similitude to **Table 7.1**.



**Table 7.4 Crescenta Valley Water District Water Supply Availability & Demand Projections
Multiple Dry Years (2031-2035) (AF)**

Water Sources	2031	2032	2033	2034	2035
Population					
Water Service Area Population	28,863	29,077	29,291	29,505	29,719
Consumption Rate (GPCD) <i>Including 0.5% Annual Passive Savings</i>	106.1	105.6	105.1	104.5	104.0
Supply					
Groundwater Pumped (Total)	2,050	2,162	2,185	2,064	1,709
Recycled Water	0	0	0	0	0
Purchased Water	1,895	1,999	2,020	1,909	1,580
Total Anticipated Use of Supplies (Estimated Production)	3,945	4,161	4,205	3,973	3,289
Minimum Available Supply	4,461	4,461	4,461	4,461	4,461
Normal Year Supply	3,431	3,439	3,447	3,455	3,462
% of Normal Year	115%	121%	122%	115%	95%
Demand					
Total Dry Demand	3,945	4,161	4,205	3,973	3,289
Normal Year Demand	3,431	3,439	3,447	3,455	3,462
% of Normal Year	115%	121%	122%	115%	95%
Supply/Demand Comparison					
Supply-Demand (Difference)	0	0	0	0	0
Supply/Demand (%)	100%	100%	100%	100%	100%
Available Supply Capacity	516	300	256	488	1,172

Notes:

1. Dry Demand = Normal Year Demands x Multiple Dry Year Increases of 115%, 121%, 122%, 115%, and 95%.
2. All other items determined in similitude to **Table 7.1**.



**Table 7.5 Crescenta Valley Water District Water Supply Availability & Demand Projections
Multiple Dry Years (2036-2040) (AF)**

Water Sources	2036	2037	2038	2039	2040
Population					
Water Service Area Population	29,932	30,146	30,360	30,574	30,788
Consumption Rate (GPCD) <i>Including 0.5% Annual Passive Savings</i>	103.5	103.0	102.5	101.9	101.4
Supply					
Groundwater Pumped (Total)	2,073	2,186	2,209	2,086	1,727
Recycled Water	0	0	0	0	0
Purchased Water	1,917	2,021	2,042	1,929	1,596
Total Anticipated Use of Supplies (Estimated Production)	3,990	4,207	4,251	4,015	3,323
Minimum Available Supply	4,461	4,461	4,461	4,461	4,461
Normal Year Supply	3,470	3,477	3,484	3,491	3,498
% of Normal Year	115%	121%	122%	115%	95%
Demand					
Total Dry Demand	3,990	4,207	4,251	4,015	3,323
Normal Year Demand	3,470	3,477	3,484	3,491	3,498
% of Normal Year	115%	121%	122%	115%	95%
Supply/Demand Comparison					
Supply-Demand (Difference)	0	0	0	0	0
Supply/Demand (%)	100%	100%	100%	100%	100%
Available Supply Capacity	471	254	210	446	1,138

Notes:

1. Dry Demand = Normal Year Demands x Multiple Dry Year Increases of 115%, 121%, 122%, 115%, and 95%.
2. All other items determined in similitude to **Table 7.1**.



**Table 7.6 Crescenta Valley Water District Water Supply Availability & Demand Projections
Multiple Dry Years (2041-2045) (AF)**

Water Sources	2041	2042	2043	2044	2045
Population					
Water Service Area Population	31,002	31,216	31,429	31,643	31,857
Consumption Rate (GPCD) <i>Including 0.5% Annual Passive Savings</i>	100.9	100.4	99.9	99.4	98.9
Supply					
Groundwater Pumped (Total)	2,094	2,207	2,230	2,106	1,742
Recycled Water	0	0	0	0	0
Purchased Water	1,936	2,041	2,062	1,947	1,611
Total Anticipated Use of Supplies (Estimated Production)	4,030	4,249	4,291	4,052	3,353
Minimum Available Supply	4,461	4,461	4,461	4,461	4,461
Normal Year Supply	3,505	3,511	3,518	3,524	3,530
% of Normal Year	115%	121%	122%	115%	95%
Demand					
Total Dry Demand	4,030	4,249	4,291	4,052	3,353
Normal Year Demand	3,505	3,511	3,518	3,524	3,530
% of Normal Year	115%	121%	122%	115%	95%
Supply/Demand Comparison					
Supply-Demand (Difference)	0	0	0	0	0
Supply/Demand (%)	100%	100%	100%	100%	100%
Available Supply Capacity	431	212	170	409	1,108

Notes:

1. Dry Demand = Normal Year Demands x Multiple Dry Year Increases of 115%, 121%, 122%, 115%, and 95%.
2. All other items determined in similitude to **Table 7.1**.



**Table 7.7 Crescenta Valley Water District Water Supply Availability & Demand Projections
Multiple Dry Years (2046-2050) (AF)**

Water Sources	2046	2047	2048	2049	2050
Population					
Water Service Area Population	32,071	32,285	32,499	32,712	32,926
Consumption Rate (GPCD) <i>Including 0.5% Annual Passive Savings</i>	98.4	97.9	97.4	97.0	96.5
Supply					
Groundwater Pumped (Total)	2,113	2,227	2,249	2,123	1,756
Recycled Water	0	0	0	0	0
Purchased Water	1,953	2,059	2,079	1,963	1,624
Total Anticipated Use of Supplies (Estimated Production)	4,066	4,285	4,328	4,086	3,380
Minimum Available Supply	4,461	4,461	4,461	4,461	4,461
Normal Year Supply	3,536	3,542	3,547	3,553	3,558
% of Normal Year	115%	121%	122%	115%	95%
Demand					
Total Dry Demand	4,066	4,285	4,328	4,086	3,380
Normal Year Demand	3,536	3,542	3,547	3,553	3,558
% of Normal Year	115%	121%	122%	115%	95%
Supply/Demand Comparison					
Supply-Demand (Difference)	0	0	0	0	0
Supply/Demand (%)	100%	100%	100%	100%	100%
Available Supply Capacity	395	176	133	375	1,081

Notes:

1. Dry Demand = Normal Year Demands x Multiple Dry Year Increases of 115%, 121%, 122%, 115%, and 95%.
2. All other items determined in similitude to **Table 7.1**.

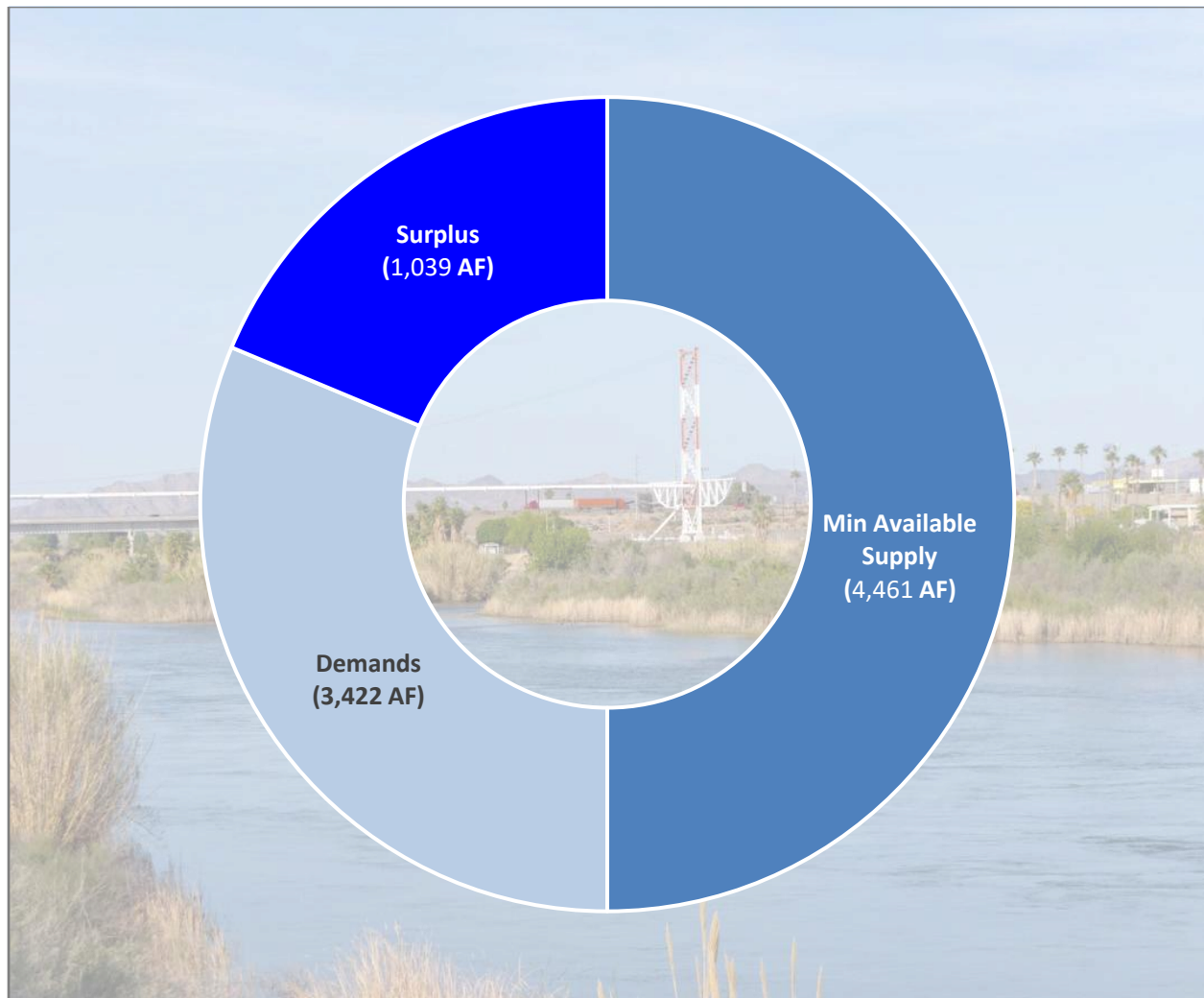


Figure 7.6 Projected Normal Water Supply: Year 2030

Notes:

1. See Notes Under **Table 7.1**.
2. Surplus = Minimum Available Supply – Demands

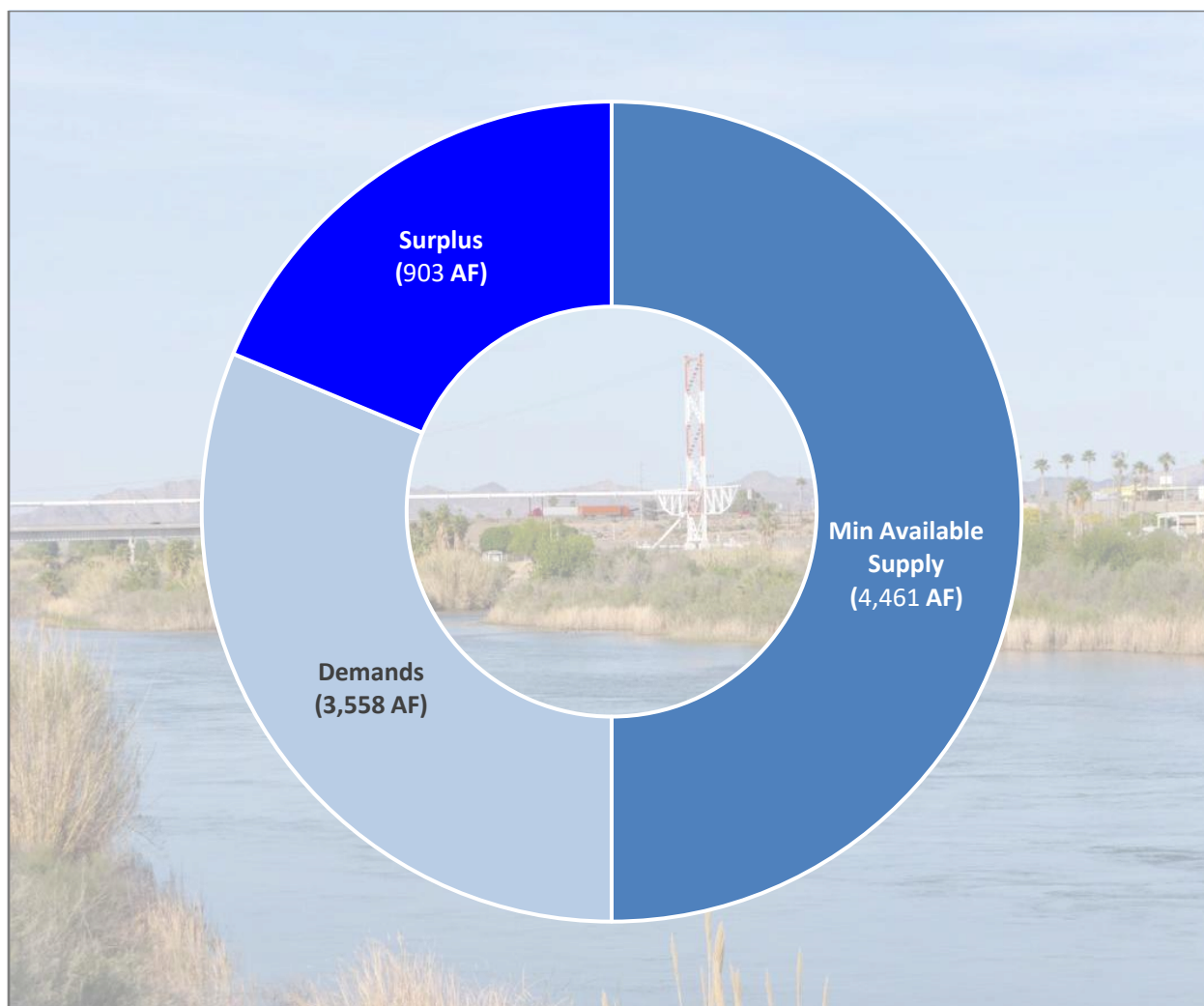


Figure 7.7 Projected Normal Water Supply: Year 2050

Notes:

1. See Notes Under **Table 7.1**.
2. Surplus = Minimum Available Supply – Demands



7.8. ENSURING ADEQUATE SUPPLY

As indicated by **Table 7.1** to **Table 7.7** and **Figure 7.6** to **Figure 7.7**, the District will be able to meet demands from 2030 through 2050 for all future climatic conditions. If supplies need to be increased in the future, this can most likely be accomplished through re-activation of the District's Water Treatment Plant and expansion to accommodate additional wells, through the drilling of new wells, additional imported water, or through purchasing of recycled water. Besides expanding water supplies, there is also the measure of demand management (water conservation), which has more immediate impacts and helps demands to be met using the supplies that are already at hand.

Finally, droughts will be addressed by following the criteria of the District's Water Shortage Contingency Plan (WSCP) along with implementation of the regional contingency plans. These programs are discussed in **Section 8**. For these reasons, the District is confident that an adequate amount of supply can be provided to meet demands for all weather conditions through 2050.

7.9. WSCP SUPPLY AUGMENTATION

Although the District does not expect to have a water supply shortage through 2050, as indicated by **Table 7.1** to **Table 7.7**, severe and extent droughts may cause the WSCP to be enacted. The District will rely on the implementation of the WSCP to augment the District's reduced supply during consecutively dry years. The WSCP supply augmentation benefits during a five-year drought are shown in standard These values are also reflected in DWR Submittal Table 7-5 in **Appendix E**.



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Section 8: Contingency Planning

Diesel-powered pumps can provide emergency water supplies during sudden catastrophes.



8.1. INTRODUCTION

In addition to prolonged droughts that can gradually decrease water supplies, water supplies may be interrupted in a number of sudden, catastrophic ways. Sudden catastrophes may include earthquakes, power outages, pumping equipment failures, or spikes in groundwater contaminants that cannot be remedied quickly. Water shortages can also be a result of intentional or accidental manmade catastrophes, such as acts of terrorism or chemical spills into nearby canals or groundwater spreading grounds. It is important that the Crescenta Valley Water District (District or CVWD) has a plan in place to manage its water system during short or long-term water shortages. Long term, water shortages can be addressed through

conservation and supply augmentation. Short-term water shortages are best handled through a “Contingency Plan.” A Water Shortage Contingency Plan (WSCP) is a required component of the District’s UWMP, which provides guidance on stages of action to be undertaken by the District in response to water supply shortages. A WSCP is an independent document that is incorporated into the District’s UWMP.

This Section serves as the District’s WSCP. The District’s response to water shortages will be a coordinated effort between District staff and other local and regional water agencies, including MWD and FMWD. During a water shortage emergency, the District will activate this WSCP. The intent of the plan is to reduce the effect of shortages on the District’s



customers. In compliance with the Water Code requirements, this plan has six water shortage levels (up to 10-, 20-, 30-, 40-, 50-percent, and greater than fifty percent (50%) shortage compared to the normal reliability condition).

8.2. NEED FOR CONTINGENCY PLANS

The recent drought of 2020-2022 significantly depleted the State's supply of water and posed a challenge to many agencies throughout the State. Following the drought, the State experienced a wet winter in 2022. Climate-driven weather extremes, long-term water supply uncertainty, and aging infrastructure are stressing a system built for a different era. The modernized California Water Plan 2028 is allowing the state's opportunity to respond with a clear, actionable, and durable approach to statewide water planning.

The WSCP is the District's operational plan in the event of a water shortage. Water shortages would occur when available water supplies are insufficient to meet normal customer water demands. Various causes can bring about a water shortage, including population growth, climate change, drought, natural disasters, and other catastrophic events.

The WSCP shall address the following ten elements:

1. Water supply reliability analysis
2. Annual water shortage assessment procedures

3. Six standard water shortage stages
4. Shortage response actions
5. Communication protocols
6. Compliance and enforcement
7. Legal authorities
8. Financial consequences of WSCP implementation
9. Monitoring and reporting
10. WSCP refinement procedures

In addition, the modernization of the California Water Plan 2028 is being directed by Senate Bill 72 (SB 72). This legislation provides a clear directive: move statewide water planning from description to direction. The California Water Plan 2028 will be modernized to:

- Identify and evaluate effective water management strategies, informed by economic considerations
- Quantify beneficial uses of water at a watershed scale throughout California
- Expand engagement across all sectors as DWR develops the Water Plan
- Establish clear water supply targets that help align state, regional, and local actions

8.2.1. Recent California Water Code Amendments

There have been minor changes to the California Water Code (CWC) affecting the 2025 UWMPs, with only some affecting WSCPs. The changes are described in **Section 1.3**. In addition, the following measures were taken in recent years that affect WSCPs:



Starting January 1, 2025, major water suppliers were required to significantly reduce water delivery by 2040 to build drought resilience into everyday life.

The 2025 update to Title 24 (including the forthcoming enforcement beginning January 1, 2026 for many permit-applications) introduces a number of changes targeting reducing water consumption and improving system efficiency. Among the most important provisions:

- Lower maximum flow-rates for toilets, showerheads, and faucets (for example, toilets continue to be capped at approximately 1.28 gallons per flush in many cases).
- Requirements to reduce pipe sizing and hot-water wait times to reflect lower-volume fixtures and shorter delivery distances.
- Enhanced documentation and compliance measures: designers must show that plumbing layouts meet both water efficiency and energy criteria under Title 24 Part 6 and CALGreen (Title 24, Part 11).
- Greater emphasis on seismic bracing of plumbing and efficient plumbing system design, reflecting California's dual challenges of drought and quake-risk.

The SWRCB has adopted emergency regulations to encourage Californians to use water wisely and make conservation a way of life.

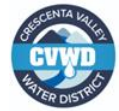
8.3. LEGAL AUTHORITY

As indicated by **Sections 8.1** and **8.2**, the District has the legal obligation to prepare and implement a WSCP during times of drought or sudden supply interruptions. This WSCP includes a listing of shortage response actions per CWC § 10632 (a)(3)(A), including the means by which the District will declare a water shortage and authorize response actions. The remaining Sections of this WSCP describe the District's response actions in greater detail.

8.4. WATER SUPPLY RELIABILITY ANALYSIS

Southern California is expected to experience an increase in regional demands in the years 2030 through 2050 as a result of population growth. Although increases in demand are expected, future demands are effectively limited due to the requirements of SBx7-7. It can be reasonably expected that the majority of agencies have met or were near their compliance targets for 2020 and will continue to meet, or will soon meet, their per-capita usage limit in the future.

The data in the MWD 2020 UWMP shows supply reliability projections for average and single dry years and is important to effectively project and analyze supply and demand over the next 25 years for many regional agencies. Projected supplies during single and multiple dry year scenarios indicate MWD's projected supply will exceed its projected single dry year demands in all years. Likewise, for average



years, MWD supply exceeds projected demands for all years.

Due to the semi-arid nature of the District's climate and as a result of past drought conditions, the District is vulnerable to water shortages due to its climatic environment and seasonally hot summer months. Section 7 describes the water availability during single and multiple dry year scenarios. **Table 7.1** summarize the supply and demand comparisons during normal, single-dry year, and multiple dry year, respectively. As shown, the District is capable of providing a reliable supply of water to meet the future demands.

8.4.1. WSCP Re-Adoption

Once the WSCP is revised, the District Board will be required to re-adopt the revised WSCP. This will require a public hearing to receive public comments on the WSCP. The revised WSCP will replace the former WSCP, and will then remain effective until the District elects to update the WSCP.

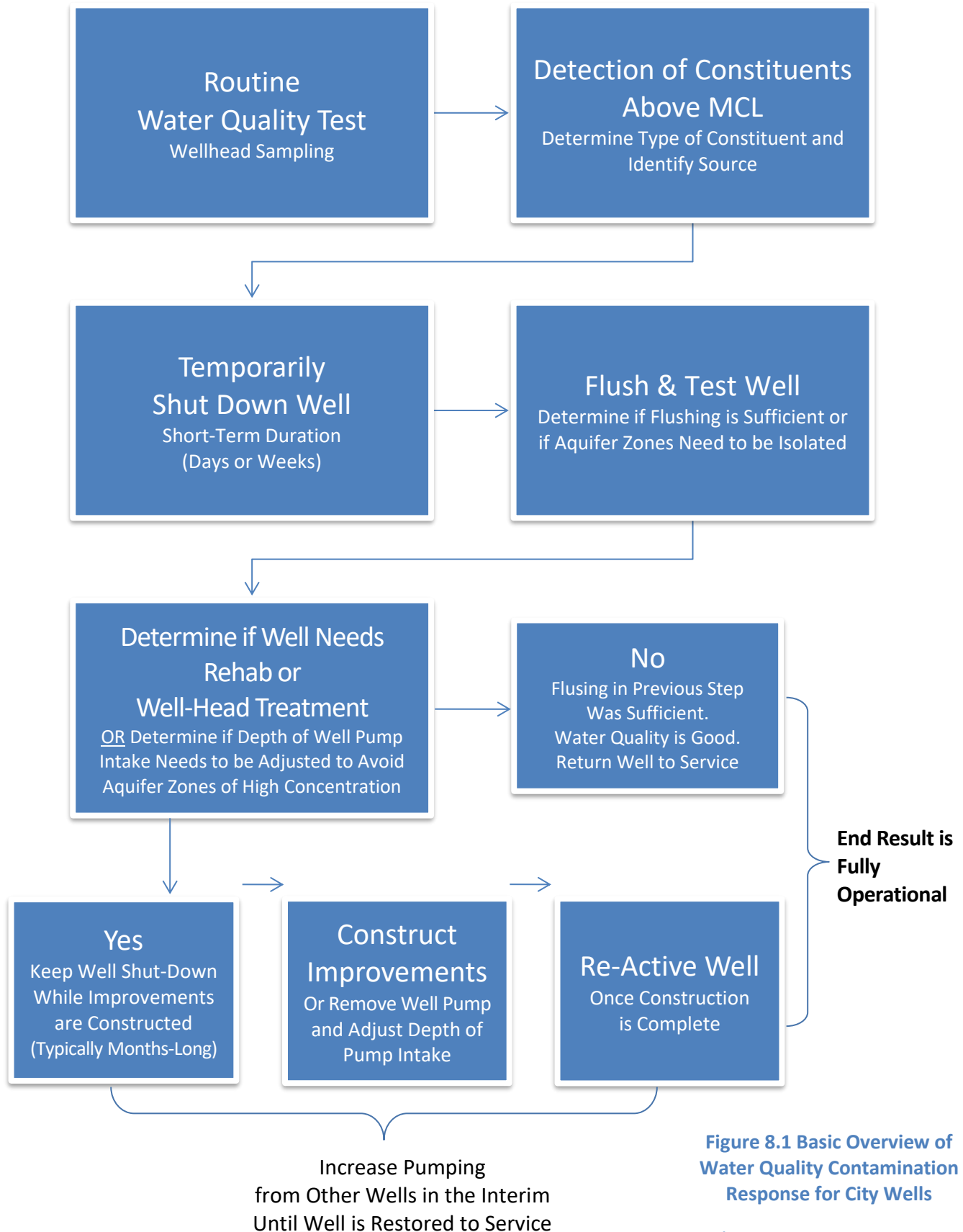
A WSCP previously submitted in 2020 or later may be reused; however, it must first be reviewed, and if no updates are needed, it can be readopted as is. It must be indicated in the UWMP that a review was conducted and that a previous WSCP is being readopted. Even when no changes are made, the WSCP must undergo a new review and adoption process as part of the 2025 UWMP document. **Section 7** of the 2025 UWMP may be used as a reference to the readopted WSCP.

8.5. District Staff Response

The District has completed a planning process to prepare for the impacts of hazards that could impact the District's service area. The District worked with its neighbors and stakeholders to prepare a detailed, multi-hazard plan and to identify steps to be taken in advance to mitigate impacts from those hazards. Through the hazard mitigation planning process, the District engaged its customers to inform them about risk and seek their input on ways that the District can reduce that risk and become more resilient.

The Crescenta Valley Water District Hazard Mitigation Plan (**Appendix L**) is the District's first formal plan pursuant to the Disaster Mitigation Act of 2000 (Public Law 106-109). The plan promotes sound policy to protect the District's critical assets from the impacts of natural hazards. It identifies resources, information, and strategies for reducing risk from those hazards. Elements and strategies in the plan were selected because they meet a program requirement and because they best meet the needs of the District and its community.

All residential and commercial the District customers are the ultimate beneficiaries of this hazard mitigation plan. The plan strives to reduce risk for District assets that are vital for its continuity of operations following hazard





events. The District provides essential services (water supply and wastewater collection), and its ability to continue to provide these services will be critical to the area's ability to recover from a hazard event. This plan provides a viable planning framework for all hazards that are likely to impact the District. Participation in development of the plan by key stakeholders helped ensure that outcomes will be mutually beneficial. The plan's goals and recommendations lay the groundwork for implementing local mitigation activities and partnerships.

8.6. ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

Under CWC Section 10632(a)(2), beginning by July 1, 2022, each urban water supplier is required to prepare their annual water supply and demand assessment (Annual Assessment) and submit an Annual Water Shortage Assessment Report to DWR. The Annual Water Shortage Assessment Report will be due by July 1 of every year, as required by CWC Section 10632.1.

This section outlines CVWD's procedures used in conducting an Annual Assessment, including the following: 1) written decision-making process for determining water supply reliability; and 2) key data inputs and assessment methodology for evaluating the

water supply reliability for the current year and one dry year.

8.6.1. DECISION-MAKING PROCESS

CVWD's Annual Assessment will be primarily based on daily recorded water production and supply figures, which are reported to the General Manager on a daily basis throughout the year. Water consumption is monitored regularly through the metering of all CVWD service connections in its distribution system. To determine its water supply reliability and actual reductions in water use during declared water shortages or emergencies, CVWD can rely on its daily records as well as the CVWD Water Production Reports including the monthly totals. These periodical analyses are used by CVWD to manage resources to meet projected demands and adjust to changing conditions (i.e., precipitation) throughout the year.

As of 2022, City staff has reviewed water production data and water consumption data starting in January of that year, with the intent to prepare an Annual Water Shortage Assessment Report to the City Council by May each year. The Final Report can then be submitted to DWR by July 1 of each year, which are shown on DWR's WUE Portal:

wuedata.water.ca.gov/wsda_plans



Figure 8.2: Sample Annual Assessment Decision-Making Process Timeline

8.6.2. KEY DATA INPUTS AND ASSESSMENT METHODOLOGY

This section defines the key data inputs and assessment methodology used to evaluate the water supply reliability for the anticipated conditions for the current year and for one dry year that follows. The Annual Assessment determination will focus on the current year unconstrained demand, infrastructure constraints, and total water supply availability. Moreover, the Annual Assessment will consider the current year’s weather, population growth, policies in place that will impact demands, and other influencing factors. The current year available supply will incorporate the hydrological regulatory conditions for the current year and following dry year.

8.6.3. LOCALLY APPLICABLE EVALUATION CRITERIA

The locally applicable evaluation criteria that will be consistently relied on for each Annual Assessment include the following:

- 1) Assumed unconstrained demand (i.e., demand without any conservation measures) for current year and one dry year
- 2) Assumed total water supply availability for current year and one dry year
- 3) Existing infrastructure capabilities and plausible constraints
 - Any known issues with the water facilities (including water quality conditions limiting local sources)
 - Planned power outages for operation and maintenance
 - New construction and repairs
 - Environmental mitigation measures



- Other constraints that may affect near-term water supply reliability

8.7. SHORTAGE STAGES AND SHORTAGE RESPONSE ACTIONS

8.7.1. MWD STAGES OF ACTION

CVWD works in conjunction with FMWD and MWD to implement conservation measures within the framework of MWD's Water Shortage and Drought Management (WSDM) Plan. The WSDM Plan was developed in 1999 by MWD with assistance and input from its member agencies. The plan addresses both surplus and shortage contingencies. MWD's WSDM Plan documents the stages of action that it would undertake in response to a water supply shortage. FMWD's water supply shortage stages reflect MWD's WSDM Plan.

The WSDM Plan guiding principle is to minimize adverse impacts of water shortage. The plan guides the operations of water resources (local resources, Colorado River, SWP, and regional storage) to ensure regional reliability. It identifies the expected sequence of resource management actions MWD will take during surpluses and shortages of water to minimize the probability of severe shortages, which require curtailment of full-service demands. Mandatory allocations are avoided to the extent practical; however, in the event of an extreme shortage, an allocation plan will be implemented.

In addition to its WSDM Plan, MWD developed a Water Supply Allocation Plan (WSAP), which provides a standardized methodology for allocation of supplies during times of extreme shortage (Stage 7 in MWD's WSDM Plan). During a shortage, CVWD's imported water supplies will be allocated based on the methodology documented in FMWD's Allocation Plan, which typically mirrors the MWD allocation plan.

The description of shortage stages below is from MWD's 2020 UWMP, page 2-29:

“Shortage: Metropolitan can meet full-service demands and partially meet or fully meet interruptible demands, using stored water or water transfers as necessary.

Severe Shortage: Metropolitan can meet full-service demands only by using stored water, transfers, and possibly calling for extraordinary conservation.

Extreme Shortage: Metropolitan allocates available supply to full-service customers.

The WSDM Plan also defines six shortage management stages to guide resource management activities. These stages are not defined merely by shortfalls in imported water supply, but also by the water balances in Metropolitan's storage programs. Thus, a 10 percent shortfall in imported supplies could be



a stage one shortage if storage levels are high. If storage levels are already depleted, the same shortfall in imported supplies could potentially be defined as a more severe shortage.

When Metropolitan must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. Under most of these stages, Metropolitan is

still able to meet all end-use demands for water. For shortage stages 1 through 3, Metropolitan will meet demands by withdrawing water from storage. At shortage stages 4 and 5, Metropolitan may undertake additional shortage management steps, including issuing public calls for extraordinary conservation and exercising water transfer options, or purchasing water on the open market.”

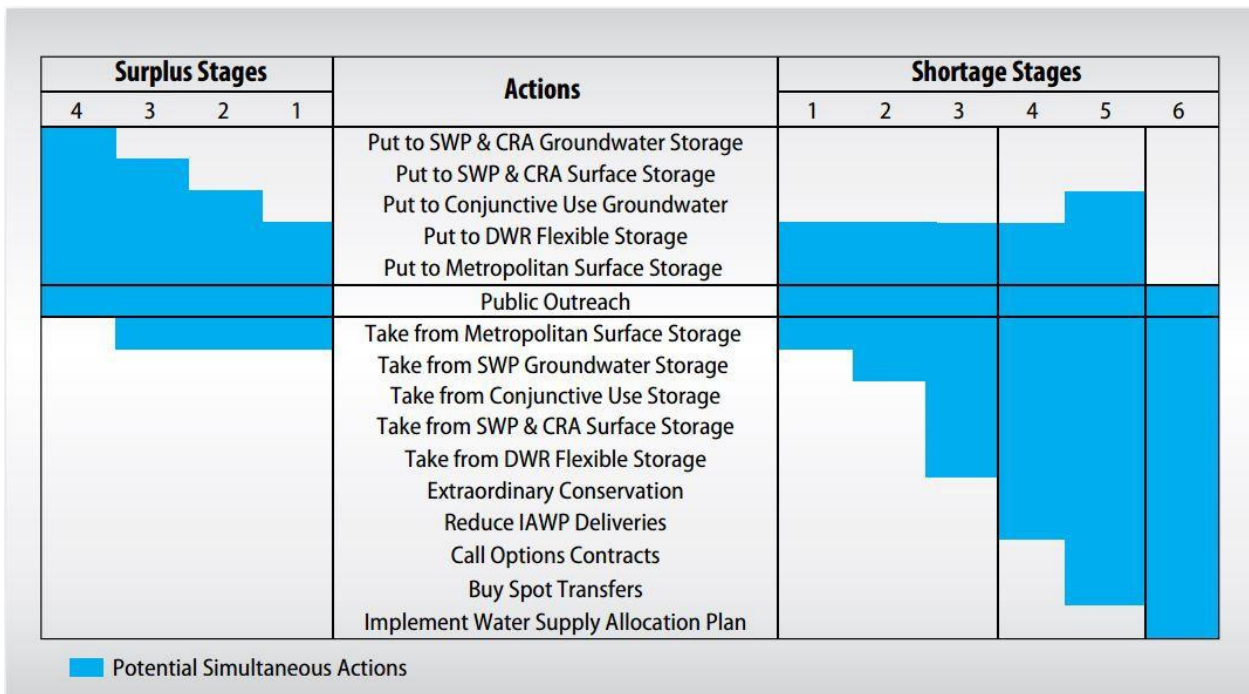


Figure 8.3 MWD WSDM Surplus & Drought Stages



8.7.2. MWD WATER SUPPLY ALLOCATION PLAN (FOR WSDM SHORTAGE STAGE 7)

In February 2008, MWD's Board of Directors adopted a WSAP, which includes a methodology for calculating supply allocations in the event that MWD enters a Shortage Stage 7 and is unable to meet the demands of its member agencies. MWD revised its WSAP in 2014 to include the following updates: new FY 12-13 to FY 13-14 baseline, implement a Conservation Demand Hardening Adjustment, create a separate Groundwater Replenishment Allocation for applicable agencies, and replace WSAP Penalty Rates with Allocation Surcharges based on the marginal costs of turf removal. It should be noted that the WSAP is not a rationing plan. Rather, it is a pricing plan where water is allocated at regular prices and agencies that choose to take more than the allocated water pay surcharges. The surcharge pricing mechanism acts to discourage the use of water above the allocation. The WSAP uses a combination of estimated total retail demands and historical local supply production within the member agency service area to estimate the demands on MWD from each member agency in a given year. Based on a number of factors, including storage and supply conditions, MWD then determines whether it has the ability to meet these demands or will need to allocate its limited supplies among its member agencies. Thus, implicit in MWD's decision not to implement an allocation of its supplies is that, at a minimum, MWD will be able to meet the

demands identified for each of the member agencies.

According to MWD's 2015 IRP, the approach seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level and takes into account growth, local investments, changes in supply conditions and the demand hardening aspects of non-potable recycled water use and the implementation of conservation savings programs. The methodology attempts to allocate supplies based on an estimate of an agency's relative need for imported water using the following process:

- 1) Establish a baseline for total retail demands (and adjust for growth) to determine the allocation year total retail demands. ("What are your total water demands?")
- 2) Estimate the amount of local supplies to be utilized in the allocation year and subtract from total retail demands. This is the allocation year baseline demand on MWD. ("How much imported water do you need from MWD?")
- 3) Apply the minimum allocation percentage (per the regional shortage level) to the allocation year baseline demand and provide minor adjustments based on various criteria. ("Restrict normal supply deliveries and provide allocation.")

8.7.3. BASE PERIOD CALCULATIONS (USED TO DETERMINE WSAP REDUCTIONS)

The Base Period is calculated using data from FY 2012-13 and FY 2013-14. Base Period wholesale demands are based on the two-year average of demands on MWD during the Base Period, including full-service, seawater barrier, seasonal shift, and surface storage operating agreement demands.

Local supplies for the base period are calculated using a two-year average of groundwater production, groundwater recovery, Los Angeles Aqueduct supply, surface water production, and other imported supplies. Non-potable recycling production is not included in this calculation, which, according to MWD, is intended to address the impact of demand hardening due to recycled

water use. Total potable retail demands for the Base Period are then calculated by adding the Base Period wholesale demands on MWD and the Base Period local supplies.

8.7.4. WSAP ALLOCATION YEAR CALCULATIONS

The next step is to estimate water needs in an allocation year by (1) adjusting the Base Period total retail demands for population or economic growth, and (2) accounting for changes in local supplies.

The Base Period retail demands are adjusted for growth using the average annual rate of population growth occurring since the two-year base period based on county-level data generated by the California Department of Finance.



Figure 8.4: MWD's Diamond Valley Lake (Potential Reserves for WSAP Allocations)



Next, these growth-adjusted demands are adjusted again to account for (1) gains and losses of local supply, and (2) extraordinary increases in production during the base year. According to MWD, these adjustments are made to give a more accurate estimate of actual supplies in the allocation year, and, in turn, more accurately reflect an agency's demand for MWD supplies.

The adjustment for gains in local supplies is intended to account for planned or scheduled gains in local supply production above the Base Period, which are not due to extraordinary actions to increase water supply in the allocation year. These previously scheduled increases in supply programs (i.e., San Diego County Water Authority/Imperial Irrigation District) or local production are added to the base period local supplies. Again, new supplies from non-potable recycling projects are not counted as local supplies.

While the local agency does become more reliable with the addition of the new supplies,

assuming that the new supplies are available during an allocation, the benefits of these programs are partially offset because the impact of adding the new supplies to the Base Period local supplies is to reduce an agency's dependence on MWD and thus their allocation under the WSAP.

Alternatively, only a portion of the additional supplies from what are termed "extraordinary increases in production" are added back to Allocation Year local supplies depending on the retail shortage level. Extraordinary increases in production include such efforts as purchasing transfers or mining of groundwater basins. By adding only a percentage of the yield from these supplies to Allocation Year local supplies, it has the effect of "setting aside" the majority of yield for the agency who procured the supply.

Table 8.1 reflects the set of percentages used in the WSAP to establish water allocations for each agency.

Table 8.1: Water Allocation Percentages

Regional Shortage Level	Regional Shortage Percentage	Wholesale Minimum Percentage	Maximum Retail Impact Adjustment Maximum
1	5%	92.5%	2.5%
2	10%	85.0%	5.0%
3	15%	77.5%	7.5%
4	20%	70.0%	10.0%
5	25%	62.5%	12.5%
6	30%	55.0%	15.0%
7	35%	47.5%	17.5%
8	40%	40.0%	20.0%
9	45%	32.5%	22.5%
10	50%	25.0%	25.0%



8.7.5. FMWD SHORTAGE STAGES OF ACTION

FMWD's plan mirrors MWD's plan with two exceptions. The first exception is that since FMWD does not take delivery of any Seawater Barrier water and FMWD is considered ineligible for the Replenishment Allocation, reference to those deliveries has been deleted.

The second exception is because of the way the water is allocated, without a further adjustment, total water allocated to FMWD's member agencies will never match the total water allocated to FMWD. Thus, an adjustment has been added to prorate the difference between the amount allocated to FMWD by MWD and the initial allocation by FMWD.

Additionally, FMWD will reconcile overuse and underuse of member agency allocations at the same time that MWD does, typically at the end of every 12 months. Any allocation under used by agencies will be pooled together in one pot to be distributed to those agencies who overuse their allocation. Any agency using that pooled water will be charged the regular FMWD Tier 1 or Tier 2 rate for having taken the water plus fifty percent (50%) of MWD's penalty rate. Any penalties assessed would go into the Water Resource and Conservation Fund.

FMWD only assesses fifty percent (50%) of the surcharge against its retail agencies in

situations where FMWD is not subject to the Allocation Surcharge from MWD. In cases where FMWD as a whole is subject to the Allocation Surcharge from MWD, member retail agencies that have overused their allocation will take on the obligation proportionally and be subject to one hundred percent (100%) of the surcharge.

8.7.6. Supply Allocation Formula Elements

The following are the elements of the allocation formula:

Base Period Demands – A two-year average of historical water use utilizing data from FY 2012-13 and FY 2013-14. Water use is divided into three components: total retail demand, locally produced water, and imported water.

Growth Adjustment – Retail demands are adjusted for growth between the base period and the time of allocation based on county level estimates of average annual growth in population. Growth for Los Angeles County is 0.46%. Agencies have an option to use weighted average population and job growth instead based on an appeal process to MWD.

Local Supplies – The amount of local supplies that are planned to be utilized in an allocation year.

Extraordinary Allocation Year Local Supplies – These are previously unscheduled local water supplies to be utilized in an allocation year, including transfers, recycled water,



desalination, and recovery of groundwater. This amount is credited without reduction in the Wholesale Minimum Allocation. In addition, it decreases both the Retail Impact Adjustment and the reliance on MWD.

Conservation Demand Hardening Adjustment – An adjustment is made for demand hardening due to active conservation based on GPCD. Calculation considers conservation savings, dependence on MWD and the associated Regional Shortage Level percentage.

Regional Shortage Percentage – This is the percentage of shortage between supplies and demands and will be declared by MWD’s Board. **Table 8.1** contains the percentages used to establish water allocations for agencies.

Wholesale Minimum Allocation – This is the first step in the formula and provides the minimum imported water allocation from MWD. It is calculated as an allocation baseline demand on MWD (Base Period Demands minus Local Supplies) multiplied by the Wholesale Minimum Percentage of the associated Regional Shortage Level.

Retail Impact Adjustment – This is the maximum additional allocation an agency may receive based on impacts to retail customers. Those agencies with less local supplies would receive a higher adjustment than those agencies with more local supplies.

This adjustment is calculated as a percent dependence on MWD times the allocation baseline demand on MWD multiplied by the Retail Impact Adjustment factor of the associated Regional Shortage Level.

Minimum Per-Capita Adjustment – An adjustment made should gallons per capita per day for an agency drop to 100 GPCD or lower.

Total FMWD Allocation – A preliminary allocation is provided to agencies based on calculations, which mirror MWD’s WSAP. Without a further adjustment, total water allocated to FMWD’s member agencies will never match the total water allocated to FMWD. Thus, an adjustment has been added to prorate the difference between the amount allocated to FMWD by MWD and the initial allocation by FMWD.

Allocation Surcharge – Previously known as WSAP Penalty Rates, an Allocation Surcharge will be in effect based on the costs to implement outdoor water use reductions through turf removal programs. The Allocation Surcharge would provide a price signal based on the marginal conservation costs incurred to reduce water use in dry and shortage years.

8.7.7. Conservation Plan Ordinance

FMWD’s Conservation Plan (adopted April 2009; revised plan adopted June 2021) establishes a comprehensive staged water



conservation program, which will encourage reduced water consumption within FMWD through conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within FMWD. In June 2021, FMWD amended its Conservation Plan to conform to six standard water shortage levels as required by CWC Section 10632(a)(3)(A) and to better align with long-term water use goals. Along with permanent water conservation requirements, FMWD's Water Conservation Plan consists of six stages, which are described in **Table 8.2**, to respond to a reduction in potable water available to FMWD for distribution to its customers. Stage 1 conservation requirements are in effect at all times unless a mandatory conservation stage has been implemented by the Board of Directors.

8.7.8. CVWD STAGES OF ACTION

CVWD has adopted a Water Conservation Program. The purpose of this program is to provide water conservation regulations, in a phased approach, to minimize the effect of a shortage of water supplies on the customers

of CVWD during various critical stages of a water shortage. Along with permanent water conservation requirements, CVWD's Water Conservation Program consists of six stages, as shown in **Table 8.2**, to respond to a reduction in potable water available to CVWD for distribution to its customers with Phase 1 conservation requirements in effect at all times unless a mandatory conservation stage has been implemented by CVWD Board of Directors.

8.7.9. PROHIBITIONS

CVWD's Water Conservation Plan promotes the efficient use of water, reduce or eliminate water waste, complement CVWD's Water Quality regulations and urban runoff reduction efforts, and enable implementation of CVWD's Water Shortage Contingency Measures. Prohibitions include, but are not limited to: restrictions on outdoor watering, washing of vehicles, food preparation establishments, repairing of leaks and other malfunctions, swimming pools, decorative water features, construction activities, and water service provisions, which can be found in **Table 8.3**.

Table 8.2: Water Supply Shortage Stages and Conditions – Rationing Stages

Stage No.	Water Supply Conditions	% Shortage
Phase 1 - Color Code "Blue"	Standard Water Conservation. FMWD can meet all Member Agency demands. Voluntary water conservation applies.	Up to 10%
Phase 2 - Color Code "Green"	Increased Water Conservation. Some supplies have been impacted, and consumers should increase efforts to conserve.	10% to 20%
Phase 3 - Color Code "Yellow"	Extraordinary Water Conservation. MWD is withdrawing water from most of its storage programs to meet demands. Extraordinary conservation is called for from consumers.	20% to 30%
Phase 4 - Color Code "Orange"	Allocation. MWD has implemented its allocation plan to its member agencies. Thus, supplies are limited.	30% to 40%
Phase 5 - Color Code "Red"	Critical. Water supplies are reduced drastically.	40% to 50%
Phase 6 - Color Code "Purple"	Emergency. Water supplies are only available for health and safety needs.	Greater than 50%

Table 8.3: Mandatory Prohibitions

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Hose washing of sidewalks, walkways, driveways, or parking areas, tennis courts, patios, porches or other paved areas shall not be permitted. Exception: Flammable or other dangerous substances may be disposed of by direct hose flushing by public safety officers for the benefit of public health and safety. Businesses or schools required to hose down public eating areas will be provided with access to a water broom.	Phase 1 - Color Code "Blue"
Use of water for any purpose which results in overspray, excessive runoff onto hardscapes, driveways, streets, adjacent lands or into gutters shall not be permitted.	
Water used to clean, fill or maintain levels in decorative fountains or similar structures must be part of a recirculation system.	
Leaks from any facility both inside and outside of a customer's premises must be repaired within seventy-two hours after the customer is notified of, or discovers the leak. Failure to affect the repair of any leak shall subject said customer to all penalties provided herein for waste of water.	
No watering, sprinkling or irrigating shall take place between the hours of nine a.m. (9:00AM) and five p.m. (5:00PM) in any landscaped or vegetated areas, including, but not limited to, golf courses, parks, cemeteries and	



Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
school areas landscaped with, but not limited to, grass, lawn, groundcover, shrubbery, annual and perennial plants, crops, trees, and California-friendly plantings. With the exception of drip irrigation systems or weather based irrigation controllers, residential timers shall not run for more than a total of 10 minutes per station.	Phase 1 - Color Code "Blue"
Hand watering of non-turf areas is allowed using a hose with a positive shut-off nozzle or watering can within the allowable times as specified above.	
No watering, sprinkling or irrigating shall take place in any landscaped or vegetated areas on days when the wind is blowing causing overspray. No irrigation or watering of turf or ornamental-landscapes during and 48 hours following measurable precipitation.	
The washing of commercial and non-commercial privately owned automobiles, trucks, trailers, motor-homes, boats, buses, airplanes and other types of vehicles is restricted to use of a hand-held bucket and quick rinses using a hose with a positive shut-off nozzle. Exceptions: the use of wash water which is on the immediate premises of a commercial car wash or commercial service station; where health, safety and welfare of the public is contingent upon frequent vehicle cleaning, such as garbage trucks and vehicles which transport food and perishables.	
Owners of outdoor swimming pools, wading pools or spas, when these are not in use, are requested to use covers to minimize the evaporation of water.	
Water for construction purposes including but not limited to de- brushing of vacant land, compaction of fills and pads, trench backfill and other construction uses, shall be used in an efficient manner which will not result in runoff.	
The use of potable water from fire hydrants shall be limited to firefighting related activities or other activities immediately necessary to maintain the health, safety, and welfare of the residents of the city.	
No restaurant, hotel, café, cafeteria or other public place where food is sold, served or offered for sale, shall serve drinking water to any customer unless expressly requested by a customer.	
Hotels, motels, and other commercial lodging establishments are requested to post notices informing their guests about CVWD's water conservation policy and urging guests to conserve water. Water	



Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
conservation notices will be provided by CVWD.	Phase 1 - Color Code "Blue"
Hotels, motels and other commercial lodgings are requested to post notices giving their guests the option of not laundering towels and linens daily.	
Where applicable, restaurants must utilize water conserving nozzles.	
Watering Days: Odd/Even assigned days	Phase 2 - Color Code "Green"
Watering Days: Tuesday, Thursday, Saturday	Phase 3 - Color Code "Yellow"
Residential and commercial landscape irrigation is limited to no more than two (2) days per week on Tuesday and Saturday. Exempt are public areas owned or operated by School Districts or public use areas greater than 4,000 square feet.	Phase 4 - Color Code "Orange"
The filling, refilling or adding of water to indoor and outdoor pools, wading pools, or spas is prohibited. Exemptions: Commercial Repairs mandated by the Federal Virginia Graeme Baker Act, or adding water for the prevention of equipment failure is permissible, however, the District strongly urges that a cover be used to prevent evaporation and thereby reducing the frequency of refilling.	Phase 4 - Color Code "Orange"
The use of water to clean, maintain, fill, or refill decorative fountains or similar structures is prohibited. Exemptions: Adding water for the prevention of equipment failure is permissible.	Phase 4 - Color Code "Orange"
Vehicle washing is restricted to the use of a hand-held bucket and quick rinses using a hose with a positive shut-off nozzle.	Phase 4 - Color Code "Orange"
Fix leaks within 48 hours.	Phase 4 - Color Code "Orange"
1 day limit per week year-round irrigation.	Phase 5 - Color Code "Red"
All outdoor water use is prohibited.	Phase 6 - Color Code "Purple"
Fix any leaks within 24 hours.	Phase 6 - Color Code "Purple"

Table 8.4: Consumption Reduction Methods

Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction (%)
Phase 1 Conservation Measures	“Blue”	Up to 10%
Phase 2 Conservation Measures	“Green”	10% to 20%
Phase 3 Conservation Measures	“Yellow”	20% to 30%
Phase 4 Conservation Measures	“Orange”	30% to 40%
Phase 5 Conservation Measures	“Red”	40% to 50%
Phase 6 Conservation Measures	“Purple”	>50%

8.7.10. CONSUMPTION REDUCTION METHODS

Methods to reduce the use of potable water exist in all Water Shortage Levels are listed in **Table 8.4**.

8.8. CATASTROPHIC SUPPLY INTERRUPTION

Given the great distances imported water supplies travel to reach the FMWD service area, the region is vulnerable to interruptions along hundreds of miles of aqueducts, pipelines and other facilities associated with delivering the supplies to the region. Additionally, this water is distributed to customers through an intricate network of pipes and water mains that are susceptible to damage from earthquakes and other disasters, natural or otherwise.

8.8.1. MWD Response

MWD has comprehensive plans for stages of actions it would undertake to address a catastrophic interruption in water supplies

through its WSDM and WSAP Plans. MWD also developed an Emergency Storage Objective to mitigate potential interruption in water supplies resulting from catastrophic occurrences within the Southern California region, including seismic events along the San Andreas Fault. In addition, MWD is working with the state to implement a comprehensive improvement plan to address catastrophic occurrences that could occur outside of the Southern California region, such as a probable maximum seismic event in the Delta, which could cause levee failure and disruption of SWP deliveries.

In July 2019, MWD’s Board adopted amendments to their Administrative Code allowing deliveries of member agency water supplies in MWD’s system during an emergency. With these enabled deliveries, MWD’s member agencies will be able to deliver their water through MWD’s system under specific emergency conditions. Emergency deliveries using a portion of MWD’s system can only be made if MWD is



unable to make deliveries to a member agency due to physical damage to its system resulting from a natural disaster or other emergency, and there are no alternatives.

8.8.2. CVWD Response

For a sudden or catastrophic water supply interruption, CVWD has developed an Emergency Preparedness and Disaster Response Plan, as required by the State Water Resource Control Board, and a Hazard Mitigation Plan to ensure the most effective use of its resources for the benefit and protection of facilities and employees, in addition to the preservation of a reliable water supply for its customers.

Power Outage – In the event of a power outage, CVWD maintains five emergency standby power generators. One of the emergency generators is stationary and dedicated to power water supply wells and the auxiliary equipment at the Glenwood Nitrate Operations Center. Four emergency generators are portable and are mounted on trailers. They can be mobilized to any pump station for movement of water out of a reservoir into a higher pressure zone. Each pump station site is equipped with emergency power receptacles and transfer switches, which allow personnel to hook up the portable generators. The fourth generator is located at CVWD's Administrative Office. CVWD also has Universal Power Supply systems on the computer systems at the Administrative Office, the Supervisory Control

and Data Acquisition (SCADA) systems at the Glenwood Nitrate Operations Facility and at booster station at well sites. In addition, FMWD operates standby emergency generators, which could be used by CVWD.

Water Outage – In the event of a water outage, CVWD has the ability to receive water from the City of Glendale, La Cañada Irrigation District, and Los Angeles Department of Water and Power (LADWP) through emergency water supply interconnections.

City of Glendale Emergency Interconnection:

- Glendale/CVWD emergency interconnection was installed in 2004 and allows for CVWD to receive up to 5.0 cubic feet per second (cfs) from Glendale.
- Glendale and CVWD also have an agreement for emergency hydrant-to-hydrant interconnections that allows CVWD to take water from Glendale or for Glendale to take water from CVWD.

La Cañada Irrigation District (LCID) Interconnection:

- CVWD has an interconnection with LCID that allows CVWD to take water from LCID into CVWD's Zone 3.
- LCID has two interconnections with CVWD that allows LCID to take water from CVWD into LCID westerly zones.

**LADWP Interconnection:**

- CVWD to receive up to 2.2 cfs or 1.9 MGD from LADWP, which will provide an emergency water supply to FMWD through a metered connection.
- LADWP to receive up to 2.2 cfs from CVWD through a booster pump system that will provide LADWP water in emergency situations.

CVWD is an active member of the southern region of the statewide Water Agency

Response Network (WARN), a mutual aid coalition of water departments and agencies which allows for coordination of resources during disasters or catastrophic events.

Supplemental Water Supplies - Supplemental water supplies to help offset future shortages due to drought would be available through FMWD via MWD and their WSDM. The WSDM is referenced in FMWD's 2020 UWMP and described in detail in MWD's 2020 UWMP.

Preparation actions for possible catastrophes are summarized in **Table 8.5**.

Table 8.5: Preparation Actions for Catastrophe

Possible Catastrophe	Preparation Actions
Regional Power Outage	• Emergency Preparedness and Disaster Response Plan • Standby Emergency Power Generators • Interconnections with nearby agencies • Water Agency Response Network Membership • Supplemental Water Supplies
Earthquake	
Supply Contamination	
Terrorist Act which Interrupts Service	
Other(s)	

8.8.3. SEISMIC RISK ASSESSMENT AND MITIGATION PLAN INTRODUCTION

Earthquakes can vary significantly in magnitude and the amount of damage caused. Major earthquakes can cause loss of electrical power, damage to CVWD's structures and equipment, disruption of service, and injuries to staff. This section provides a description of CVWD's procedures (i.e., response and mitigation) after an earthquake event.

As mandated in CWC Section 10632.5, beginning January 1, 2020, water suppliers are required to include a seismic risk assessment and mitigation plan as part of their WSCP to assess the vulnerability of each of the various facilities of their water system and mitigate those vulnerabilities. If an urban water supplier does not have a seismic risk assessment and mitigation plan, the urban water supplier may instead, per CWC Section 10632.5(c), include a local hazard mitigation plan (LHMP) or a multi-hazard mitigation plan. This requirement is satisfied by the incorporation of elements and analyses from CVWD's Hazard Mitigation Plan (**Appendix L**). The complete RRA documents are not presented within this plan due to the highly confidential nature of the reports. CVWD applied for a planning grant in March 2019 and was awarded funding by the Federal Emergency Management Agency in April 2020 to complete a LHMP.

8.8.4. CVWD LHMP

During the LHMP process, residents and officials from neighboring agencies were asked to contribute by sharing local knowledge of the area's vulnerability to hazards and by suggesting ways CVWD can mitigate disasters. CVWD also formed a Steering Committee made up of local stakeholders, who oversaw the plan's development and outreach. The committee met on a monthly basis for approximately seven months and meetings were open to the public. The LHMP process was started in late 2020, with a seismic evaluation, and is was completed in the Fall of 2021.



Figure 8.5: The Five Phases of Emergency Management

8.8.5. LHMP Goals and Objectives

The six goals of CVWD's LHMP are listed below:

- 1) Protect life and property
- 2) Maintain continuity of essential water and sewer services
- 3) Increase public awareness of the risk of loss of water/sewer service



- 4) Facilitate partnerships with recognized stakeholders within the Crescenta Valley and implement a coordination plan between the stakeholders
- 5) Protect local water supply sources
- 6) Protect against environmental consequences caused by water and sewer system failure initiated by natural hazards

The CVWD Steering Committee members identified the following plan objectives:

- Implement activities that assist in protecting lives by making CVWD's infrastructure, critical facilities, and other properties more resistant to natural hazards
- Protect water quality and supply
- Properly address aging infrastructure issues to reduce/minimize future hazards and disasters
- Raise awareness and communicate to the Crescenta Valley Community about the risks to CVWD assets
- Leverage grant funding and low interest loan programs to implement hazard mitigation capital projects
- Establish policies to ensure mitigation projects are prioritized for critical facilities, services, and infrastructure
- Create, rehabilitate, enhance, and preserve local ecosystems to serve as natural hazard mitigation functions

8.8.6. SEISMOLOGY OF WATER FACILITIES & VULNERABILITY

According to the maps provided on the California Office of Emergency Services' online planning tool (My Plan) and the California Geological Survey's online earthquake hazards zone application (EQ Zapp), no portion of the CVWD system is crossed by a known fault line as shown in **Figure 8.6**. Furthermore, based on the CVWD seismic evaluation, none of CVWD's pipelines, wells, booster pump stations, reservoirs, or other water facilities are located in areas containing soft, fine grained soils, which amplify the earthquake energy during an earthquake. All water facilities are located in areas of very dense and stiff soil. Therefore, there are no CVWD potable water structures with an extremely high risk of earthquake damage. There are, however, areas with increased risk due to landslides, liquefaction, and some CVWD facilities that are more susceptible to earthquake damage than other facilities.

An earthquake is caused by the shifting of tectonic plates beneath the Earth's surface. Ground shaking from moving geologic plates collapses buildings and bridges, and sometimes triggers landslides, avalanches, flash floods, fires and tsunamis.

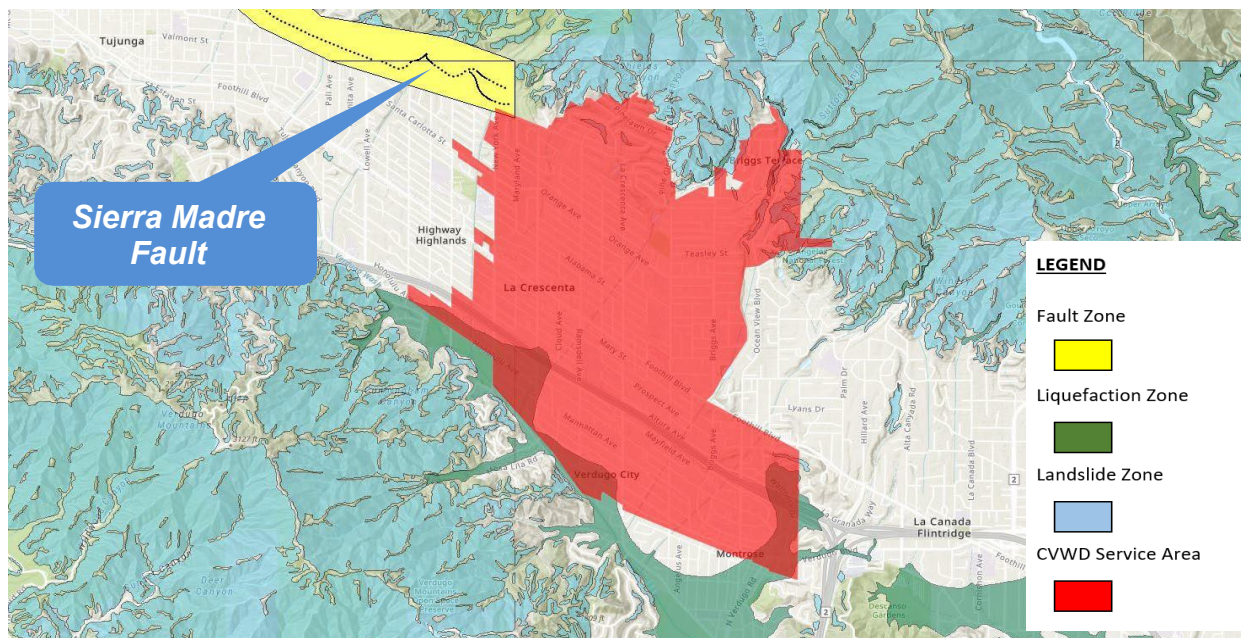


Figure 8.6: Seismic Hazards within CVWD Service Area (California Geological Survey)

The strong ground motion of earthquakes has the potential to cause a great deal of damage to drinking water and wastewater utilities, particularly since most utility components are constructed from inflexible materials (i.e., concrete, metal pipes). Earthquakes create many cascading and secondary impacts that may include, but are not limited to:

- Structural damage to facility infrastructure and equipment
- Water tank damage or collapse
- Water source transmission line realignment or damage
- Damage to distribution lines due to shifting ground and soil liquefaction, resulting in potential water loss, water service interruptions, low pressure, contamination and sinkholes and/or large

pools of water throughout the service area

- Loss of power and communication infrastructure
- Restricted access to facilities due to debris and damage to roadways Additional seismic risks will be further described in the CVWD LHMP.

8.8.7. Hazard Mitigation Plan

CVWD published its Hazard Mitigation Plan (**Appendix L**) to replace its existing ERP in order to meet the requirements of America's Water Infrastructure Act of 2018 (AWIA).

The Hazard Mitigation Plan provides CVWD staff with the necessary information, strategies, procedures, and mitigation actions to address earthquake emergencies. CVWD's Hazard Mitigation Plan policies are intended



to guide disaster management planners and emergency responders, and to provide a consistently high level of preparedness at all the facilities.

Per the Hazard Mitigation Plan, after a major earthquake, the Emergency Operations Center (EOC) will be activated if potential or significant damage has occurred in CVWD's service area, and the situation cannot be handled by routine public safety response or immediate mutual aid assistance. The General Manager shall assess the situation and establish the incident command post as necessary. In the event of an emergency, CVWD personnel will be required to inspect all water facilities for apparent signs of damage or abnormal conditions and conserve the existing water supply in the reservoirs from loss through water line breaks in the distribution system.

8.8.8. CVWD SEISMIC EVALUATION

As part of the LHMP preparation process, CVWD performed a seismic evaluation in 2020 involving seismological and geological investigations of the CVWD service area that was used to evaluate the susceptibility of the water system to damage following an earthquake. The purposes of the seismic evaluation were as follows:

- Determine the probability of damage to potable water structures and identify the expected functionality of essential features of the system after a major

earthquake in the service area.

- Identify the amount of potable water structures located in high hazard areas (i.e., liquefaction zones, soft soils, landslide risk zones).
- Protect human life against earthquake hazard as it affects the existing water system.

Figure 8.8 and **Figure 8.7** show some of the results of the seismic evaluation regarding the potential for damage due to the impacts of a major earthquake event. The evaluation used the aftermath of the 1994 Northridge earthquake as a basis.

8.8.9. MITIGATION ACTIONS

Hazard mitigation may occur during any phase of a threat, emergency, or disaster. Mitigation can and may take place during the preparedness (before), response (during), and recovery (after) phases. The process of hazard mitigation involves evaluating a hazard's impact and identifying and implementing actions to minimize or eliminate the impact.

As part of the LHMP planning process and risk assessment, CVWD's Core Planning Team developed a mitigation action plan, consisting of pre-mitigation projects, to present how CVWD can reduce the risk and vulnerability of people, property, infrastructure, natural and cultural resources, and economic impacts to future disaster losses, including earthquake



events. Emphasis was placed on both existing and future development.

Pre-mitigation projects to mitigate earthquake events may include, but are not limited to, the following:

- New Portable Emergency Electrical Generators – four (4) new portable generators to be staged at Booster Pump Station sites to move water to higher elevations.
- New Seismic Sensors & Valve Actuators on Reservoir Inlet/Outlet Valves (4 sites) to close valve and save water.
- Emergency Preparedness Education Site and Water Refilling Station at Rosemont Reservoir.

Specific seismic mitigation actions/measures will be further described in the CVWD LHMP.

8.9. COMMUNICATION PROTOCOLS

CVWD's communication protocol includes the various channels that CVWD will utilize to convey critical messages regarding water shortage allocations and voluntary and mandatory actions. The goal of CVWD is to provide more public outreach to help increase awareness of water shortages. A strong communication strategy and a common understanding on the water supply situation and necessary actions between CVWD and its customers, the public, elected officials, and other key stakeholders are essential should

the WSCP need to be activated. How the water shortage messages are addressed to the public are described in this communication protocol. The communication protocol will be in place prior to a water supply shortage and be initiated in Stage 2 Increased Voluntary Conservation. Activation of the communication protocol will continue through all subsequent water shortage stages. CVWD will ensure outreach efforts are reaching key audiences as needed.

It is important to communicate to its customers the following when urgent conservation is needed:

- Which shortage stage is being implemented;
- What response actions are triggered to save water;
- Why water needs to be saved; and
- What actions CVWD is taking to respond to the water supply situation.

8.9.1. COORDINATION

The goal of CVWD's outreach plans during dry periods and water shortages is to maintain effective coordination with key audiences. In order to maintain reliability in this communication, CVWD will work closely with the Board of Directors. During dry periods or other times of limited supply, the frequency and extent of coordination will increase to

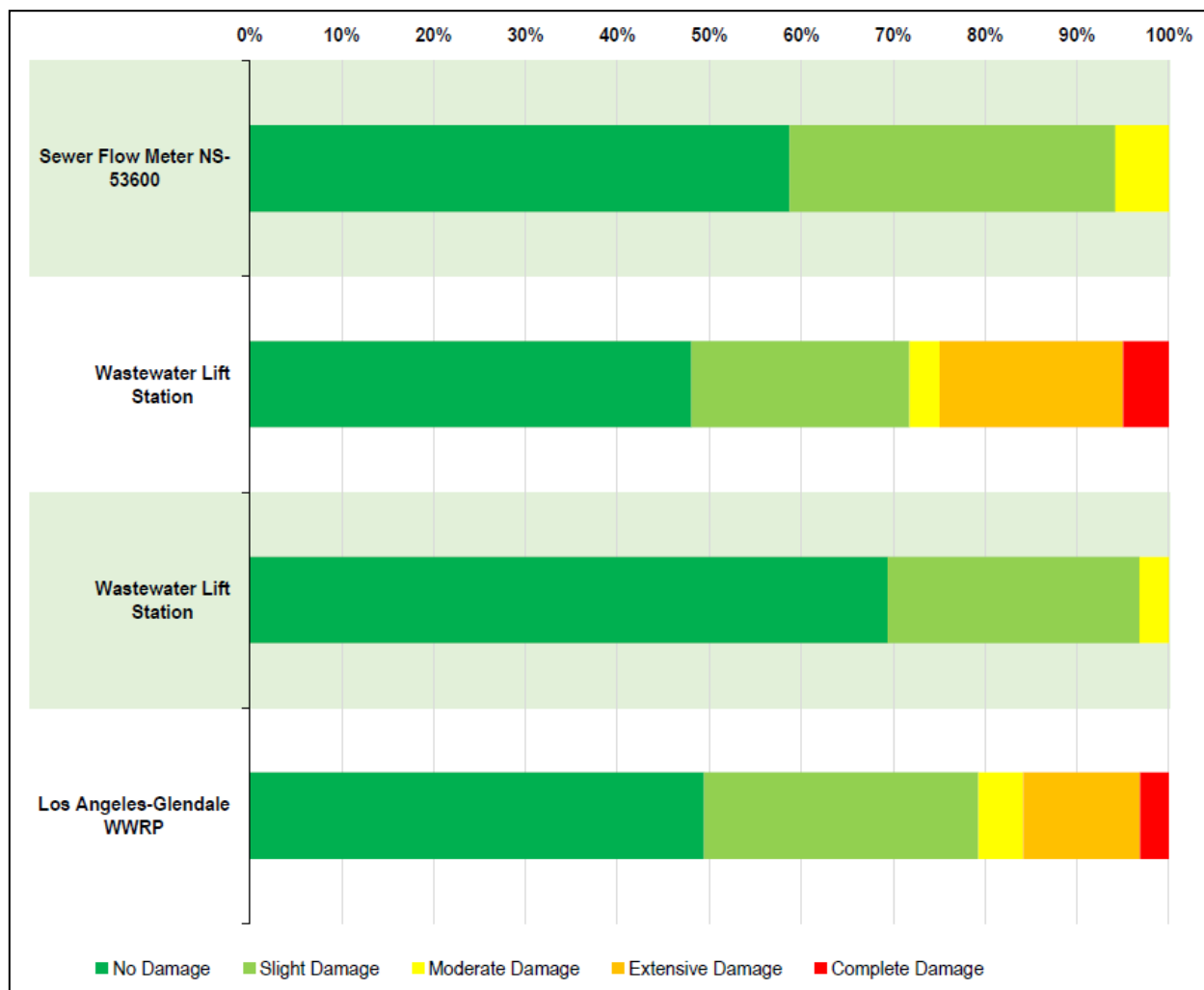


Figure 8.8: Probability of Damage to Facilities from a Magnitude 6.9 Event (2020 Seismic Evaluation)

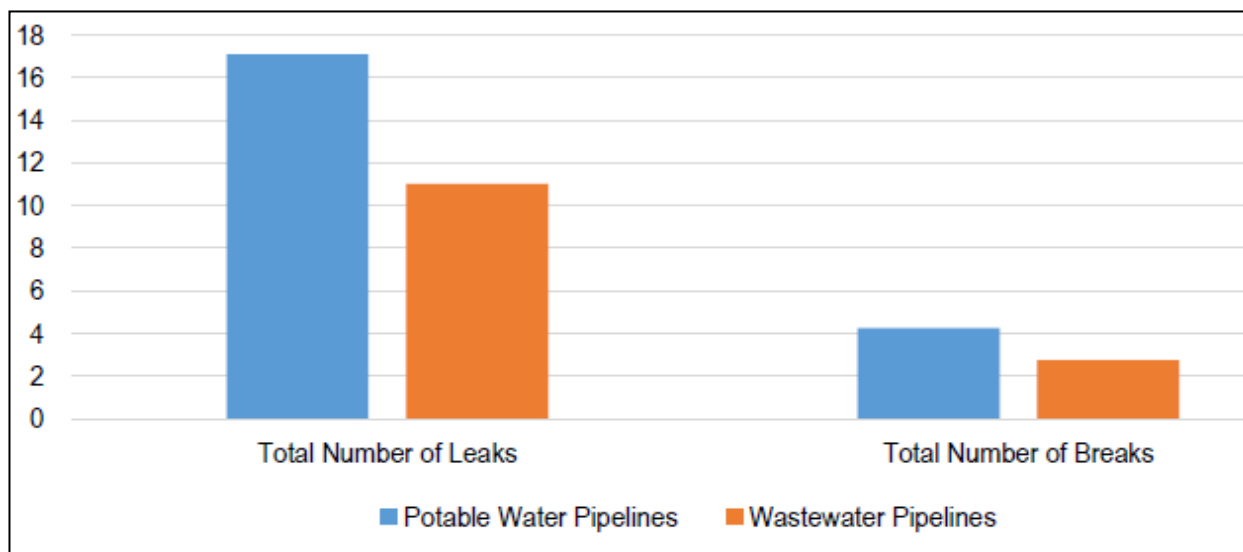


Figure 8.7: Pipeline Repairs Required after a Magnitude 6.9 Event (2020 Seismic Evaluation)



8.9.2. COMMUNICATION GOALS

Communication objectives during an existing or anticipated water shortage condition include the following:

- Motivate key audiences (i.e., customers) to increase conservation in following any voluntary or mandatory actions called for at the current stage of the WSCP.
- Raise awareness of the drought, regulations, or other conditions affecting water sources and supplies.
- Educate customers, key stakeholders, elected officials, and the general public about water supply reliability, water quality, and water delivery.
- Prepare customers for any potential escalation of the supply shortage stages.

8.9.3. COMMUNICATION PROTOCOL FOR CURRENT OR PREDICTED SHORTAGE

A current or predicted shortage, as determined by CVWD's Annual Assessment, will be addressed to the public and its customers upon submittal of the Annual Water Shortage Assessment Report to DWR by July 1 of every year. This notice may be conducted by CVWD's website, signage in front of the CVWD office, and wholesale agency coordination.

8.9.4. COMMUNICATION PROTOCOL FOR SHORTAGE RESPONSE ACTIONS TRIGGERED OR ANTICIPATED TO BE TRIGGERED

CVWD's customers and public will be notified about any triggered or anticipated to be triggered shortage response actions. CVWD monitors and measures the projected supply and demand for water by its customers monthly and recommends the stage of conservation required to the Board of Directors. After Stage 3, 4, 5 or 6 is declared, and at each regular board meeting, the Board of Directors will consider a report by the General Manager concerning the then current water supply status. The Board will change the stage designation as appropriate; however, unless it is an emergency, the Board will not impose mandatory measures without first conducting a duly-noticed public hearing pursuant to Water Code Sections 350 et seq., or 375 et seq. The appropriate stage of water conservation and the shortage response action triggered by the stage is then declared in a public notification posted on CVWD's website and published in a daily newspaper.

8.9.5. OTHER RELEVANT COMMUNICATION PROTOCOLS

To reduce water use consumption during any water shortage stage, CVWD will increase its public education and outreach efforts to build awareness of needed actions from the public. Moreover, CVWD will regularly revise its outreach campaign to reflect current supply conditions. Key communication strategies and



associated water shortage stage implementation are listed below:

- Promote available water assistance resources for vulnerable populations; specialized outreach for impacted industries (Stages 3 and 4).
- Keep stakeholders aware of conditions (all Stages).
- Proclaim stage change to key stakeholders and the general public (all Stages).
- Conduct meetings with elected officials and other key civic and business leaders (Stage 2).
- Encourage reduced optional outdoor use through outreach (Stages 3 and 4).

CVWD may implement these communication strategies through its newsletters, website, and social media platforms to reflect supply conditions. In addition, CVWD may conduct news briefings or other media outlets (i.e., TV, radio, newspapers) to announce changes in supply conditions.

8.9.6. CRISIS COMMUNICATION PROTOCOL

In the event of a catastrophic supply interruption due to a natural disaster or damage to CVWD's facilities, CVWD will implement communication procedures in accordance with local, regional, state, and federal emergency response guidelines as outlined in its Hazard Mitigation Plan.

Depending upon the severity of the emergency and potential damage to CVWD's facilities, CVWD may determine that it is necessary to utilize the Standardized Emergency Management System (SEMS) response and the Incident Command System (ICS). Public information and crisis communication are an integral part of the ICS structure. National Incident Management System (NIMS), SEMS, and ICS have been integrated into the Hazard Mitigation Plan. It provides for a strategic response by all employees and assigns specific responsibilities in the event the plan is activated.

When an incident occurs, the General Manager (Emergency Response Manager), District Engineer (Emergency Operations Center Manager) and the Operations Manager (Field Crew Supervisor) will go to the designated EOC and begin implementation of CVWD procedures and employ appropriate strategies from the shortage stages in **Table 8.2**.

Crisis communication efforts will concentrate on providing information to the public and external audiences. Furthermore, outreach messaging will reflect emergency conditions and the need to focus on health and public safety. CVWD will keep the Board of Directors informed of incident status and coordinate with public health officials.



CVWD will maintain communication with FMWD and its customers. Situation status reporting will be conducted during each operational shift during an event. In addition, CVWD may also authorize release of public information to news media to announce conditions and explain needed action. Finally, CVWD will ensure ongoing coordination with emergency response services with daily advisories or alerts as needed.

8.10. COMPLIANCE AND ENFORCEMENT

The District will use all means at its disposal to communicate compliance with its WSCP, including, but not limited to:

- Direct mailings
- Billing messages
- Website posts

- Press releases
- Social media posts
- Newspaper advertisements
- Speaker groups
- Waste of water reporting

8.10.1. PENALTIES OR CHARGES

Any customer who violates provisions of CVWD's Water Conservation Plan Ordinance by either excess use of water or by specific violation of one or more of the applicable water use restrictions for a particular mandatory conservation stage may be cited by CVWD and may be subject to written notices, surcharges, fines, flow restrictions, service disconnection, and/or service termination, which are detailed in **Table 8.6**.

Table 8.6: Penalties and Charges

Penalties or Charges	Stage When Penalty Takes Effect
Written Notice (Warning)	First Violation (Any Phase)
Written Notice with Description of Penalties	Second Violation (Any Phase)
Flow restrictors (installation: \$150, removal: \$100) for a period of not less than 48 hours	Third Violation (Any Phase)
Flow restrictors (installation: \$200, removal: \$150) for a period of not less than one week OR Discontinuation of water service	Flagrant Disregard of ordinance or Multiple Violations (Any Phase)

For any violations subsequent to the second violation, if the penalty assessed is, or includes the installation of a flow-restrictor or the discontinuance of water service to the customer for any period of time, notice of the fact of the violation will be delivered 15 working days before the penalty is to be enacted, in the following manner:

- Personal delivery of written notice to the customer at their residence or place of business and obtain their signature of delivery.
- Return receipt delivery to customer at their residence or place of business.



All notices will contain, in addition to the facts of the violation, a statement of the possible penalties for the present violation for which the notice was written and each subsequent violation, a statement of the anticipated date of the penalty, if any, will be enacted for the present violation, and a statement informing the customer of the customer's right to a hearing on the violation.

8.10.2. APPEAL REGARDING VIOLATIONS

Any customer against whom a restriction or limitation is levied has the right to a hearing and a right to appeal to the Board of Directors. Written request from customer to the District must be received within 15 working days of the date of notification of the violation. Before the hearing can be scheduled, all existing plumbing fixtures in the structure must be retrofitted exclusively with water-conserving plumbing fixtures including low flush or high efficiency toilets, low flow showerheads, and aerators. A water audit will be used to verify installation.

Enactments of the appropriate penalty will be deferred until the appeal is resolved.

If the appeal decision is not in favor of the customer, the determined penalty will be enacted within 10 days after the customer is advised of the decision in writing through certified mail, return receipt requested.

8.11. LEGAL AUTHORITIES

Under California law, including CWC Chapter 3 (commencing with Section 350) of Division 1, Parts 2.55 and 2.6 of Division 6, Division 13, and Article X, Section 2 of the California Constitution, the CVWD Board is authorized to implement the water shortage response actions outlined in this section. In all water shortage cases, shortage response actions to be implemented will be at the discretion of the CVWD Board 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 drought conditions, the state will defer to implementation of locally adopted water shortage contingency plans to the extent practicable. CVWD will 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.

8.11.1. FINANCIAL CONSEQUENCES OF WSCP IMPLEMENTATION

CVWD has established a target reserve of funds within its annual budget to address the issue of lost revenue during a water shortage or drought situation. CVWD has an established reserve level that includes a 25



percent rate stabilization fund, which can offset short-term loss of revenue. The total target reserve level consists of \$1,000,000, 3 months of operations and maintenance costs (less the cost of imported water) and twenty-five percent (25%) of expected rate revenue.

In the case of a long-term water shortage or drought situation, CVWD has instituted a tiered rate structure on its customers to offset the loss of revenue that will occur. Such measures are listed in **Table 8.7** and **Table 8.8**.

Table 8.7: Proposed Measures to Overcome Revenue Impacts

Name of Measures
Reserve Funds
Rate Stabilization Fund
Rate Structure Adjustment

Table 8.8: Proposed Measures to Overcome Expenditure Impacts

Name of Measures
Obtain Alternative Sources of Funding
Defer Certain Expenditures

8.12. MONITORING AND REPORTING

Under normal water supply conditions, potable water production figures are recorded daily. Water Production totals are reported to the General Manager and the Management staff on a daily basis and monthly totals are incorporated into CVWD's Water Production Report.

During any declared water shortage emergency, the General Manager and the Management staff will compare the daily water production to a maximum water supply capacity and a targeted daily production to

see if the reduction goals are being met. Those daily updates will be forwarded to CVWD's Board of Directors semi-monthly. Corrective action may be taken by the CVWD Board of Directors if reduction goals are not met.

During local water shortage emergencies due to a natural disaster, production figures will be monitored daily by the General Manager and the Management staff. Reports will be provided to the CVWD Board of Directors as necessary. Water use Monitoring Mechanisms are listed in **Table 8.9**.



Table 8.9: Water Use Monitoring Mechanisms

Mechanisms for Determining Actual Reductions	Type of Data Expected
Daily Records	Potable water production figures

8.12.1. SPECIAL WATER FEATURE DISTINCTION

As required under CWC 10632(b), water features that are not pools or spas must be analyzed and defined separately from pools and spas in the WSCP. Non-pool or non-spa water features may use recycled water, whereas, for health and safety considerations, pools and spas must use potable water. Although CVWD does not currently use recycled water and does not have the ability to use recycled water due to a lack of infrastructure, CVWD would use non-potable water for non-pool water features if and when recycled water supply ever becomes available to CVWD. Furthermore, the WSCP requires potable water recirculation for fountains and decorative water features.

8.13. WSCP ADOPTION AND REFINEMENT PROCEDURES

To encourage broad community participation in the WSCP preparation process, CVWD provided 60-day notification letters to agencies within CVWD's service area. Copies of the draft WSCP were made available for public review at the CVWD office prior to the public hearing. Shortly

before the public hearing, a two-week and a one-week notice was published in the local press alerting the public of the public hearing. At a subsequent board meeting following the public hearing, CVWD's final WSCP was approved and adopted by its Board of Directors on May 26, 2026. **Appendix B** contains the Board resolution adopting the WSCP. The final plan was submitted to DWR within 30 days of Board adoption and includes all information necessary to meet the requirements of CWC Section 10632.

By July 1, 2026, CVWD's approved WSCP was filed with DWR. Also by July 1, 2026, CVWD's plan was submitted to the California State Library, County of Los Angeles, and cities within its service area. CVWD will make the plan available for public review no later than 30 days after filing with DWR.

8.13.1. WSCP REFINEMENT PROCEDURES

This section discusses the process for reviewing and updating the WSCP to ensure it remains actively used, relevant and appropriate to the community, and consistent with applicable state and local requirements. It is vital that CVWD's WSCP



remain up to date so as to best ensure shortage risk tolerance is adequate, appropriate water shortage mitigation strategies are implemented as needed, proper procedures for water efficient practices are in place for the community, and better alignment with long-term water use goals.

The CVWD Core Planning Team is responsible for maintaining this plan and updating it as needed. The Director of Engineering and the Regulatory and Public Affairs Manager are the primary CVWD staff members who will carry out this process, under the direction of the General Manager or other appropriate staff member.

The General Manager, or their designee, will serve as the WSCP project manager and will coordinate maintenance of the plan, conduct the formal review process, and direct the plan updates. The project manager will assign tasks, which may include collecting data, developing new or updated water shortage mitigation measures, updating sections of the plan, and presenting the plan to others.

9

Section 9: Conservation Measures

Conservation measures are an essential part of the District's policies.



9.1. OVERVIEW

As a result of diminished existing supplies and difficulty in developing new supplies, water conservation is important to Southern California's sustainability. In Water Year 2018- 2019, Governor Brown signed SB 606 and AB 1668 into law. The legislation required DWR, the State Water Resources Control Board (SWRCB), and three other state agencies to develop a long-term water conservation framework to "make conservation a California way of life." In order to conform to the Water Action Plan, including meeting the SBx7-7 target (20 percent by 2020), many water agencies had to re-examine traditional conservation programs.

The District acknowledges that efficient water use is the foundation of its current and future water planning and operations policies. The District implements water conservation through a combination of programs, resources, and policies, and prioritizes efforts and programs that are cost-effective for its operation. To assist the District with updating its water conservation policies to State standards, in 2012 the District became a signatory to the California Urban Water Conservation Council (CUWCC) by signing the Memorandum of Understanding Regarding Urban Water Conservation (MOU), originally drafted in 1991. In January 2018, the CUWCC became the California Water Efficiency Partnership



(CalWEP). CalWEP is a quasi-governmental agency that works in conjunction with the Department of Water Resources (DWR) to promote water conservation through “Best Management Practices” (BMPs), which were defined roughly as policies, programs, practices, rules, regulations, or ordinances that resulted in a more efficient use or conservation of water.

The main purpose of CalWEP is to assist its member agencies with public policy, research, and education tools. Regarding the UWMPs, CalWEP works with DWR to help form conservation policies contained in the UWMPs. In previous UWMPs, BMPs were equivalent to the fourteen (14) Demand Management Measures (DMMs) defined in the UWMP Act. As of the 2015 UWMPs, DWR streamlined the fourteen (14) DMMs into six (6) generalized categories, with an additional seventh (7th) optional category.

9.2. DWR DMMs FOR 2025 UWMPs

The 2025 UWMP Guidebook contains the same DMM categories for the 2025 UWMPs. The DMMs are intended to reduce long-term urban demands from what they would have been without their implementation. The DMMs are in addition to programs which may be instituted during occasional water supply shortages.

- i. Water Waste Prevention Ordinances

- ii. Metering
- iii. Conservation Pricing
- iv. Public Education & 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 with previous UWMPs, agencies that are members of CalWEP can submit the BMP annual reports in lieu of providing a description of each DMM in the UWMP.

9.3. CalWEP BMPs

An active member of the CalWEP is one that signs the MOU and implements the water conservation measures stipulated by the CalWEP. According to CalWEP, an agency “implements” a conservation measure by achieving *and* maintaining the level of



Figure 9.1 CUWCC became CalWEP in January 2018



Figure 9.2 Agricultural Fallowing Helps Conserve Water in the Palo Verde Valley

activity called for in each BMP's definition as described in the MOU. This requires a minimum level of staffing and funding efforts. To document the implementation, an agency is required to submit annual BMP reports to CalWEP that document the implementation of each BMP.

The District is currently a member of CalWEP and is currently implementing BMP reporting and implementation requirements as described in this Section.

9.3.1. 2025 Updates to CalWEP BMPs

The CalWEP BMPs remain the same for the 2025 UWMPs. The CalWEP BMPs are broad measures aimed at reducing water use

either directly or indirectly. **Figure 9.3** provides a comparison of the DWR and CalWEP conservation measures. As shown in the figure, there are two (2) distinct categories of conservation measures (rebates & services). The services category (highlighted in blue and green in **Figure 9.3**), includes conservation measures that are currently active in the District.

9.4. DISTRICT CONSERVATION MEASURES

Water conservation is an integral part of the District's water policies. The District, in conjunction with FMWD and MWD, plays an active role in promoting water use efficiency in its service area. To this end, the District established Water Conservation Program



(Phase I), which was adopted by the Board of Directors in April 2015 as Resolution No. 682, originally adopted in 2009. On May 2017, the District amended Resolution No. 681, which adopted a water conservation alert system. To this day, the District is continuously

working with FMWD and MWD towards implementing the BMPs through means of various conservation measures. **Table 9.1** provides a status overview of the District's Conservation Measures.

Table 9.1: Conservation Measures

BMP	Description
BMP 1: Utility Operations	<i>Deals with water waste prohibitions, water efficiency ordinances, metering, conservation pricing, and other items related to managing water use.</i>
BMP 2: Public Education & Outreach	<i>Deals with outreach efforts including emails, newsletters, advertisements, presentations, promotions, etc. related to outreach & education.</i>
BMP 3: Residential Programs	<i>Deals with showerheads, faucets, toilets, turf removal, and leak detection surveys related to residential water use.</i>
BMP 4: Landscape Programs	<i>Deals with toilets, urinals, steamers, cooling towers, food/restaurant equipment, medical equipment, and items related to commercial, institutional, and industrial water use.</i>
BMP 5: Commercial, Industrial, & Institutional Programs	<i>Deals with establishing parameters for large landscapes, including measurements, budgets, audits, prohibitions, incentives, etc., related to large landscapes.</i>
Other	Any additional BMPs supported by District are listed on the following pages.

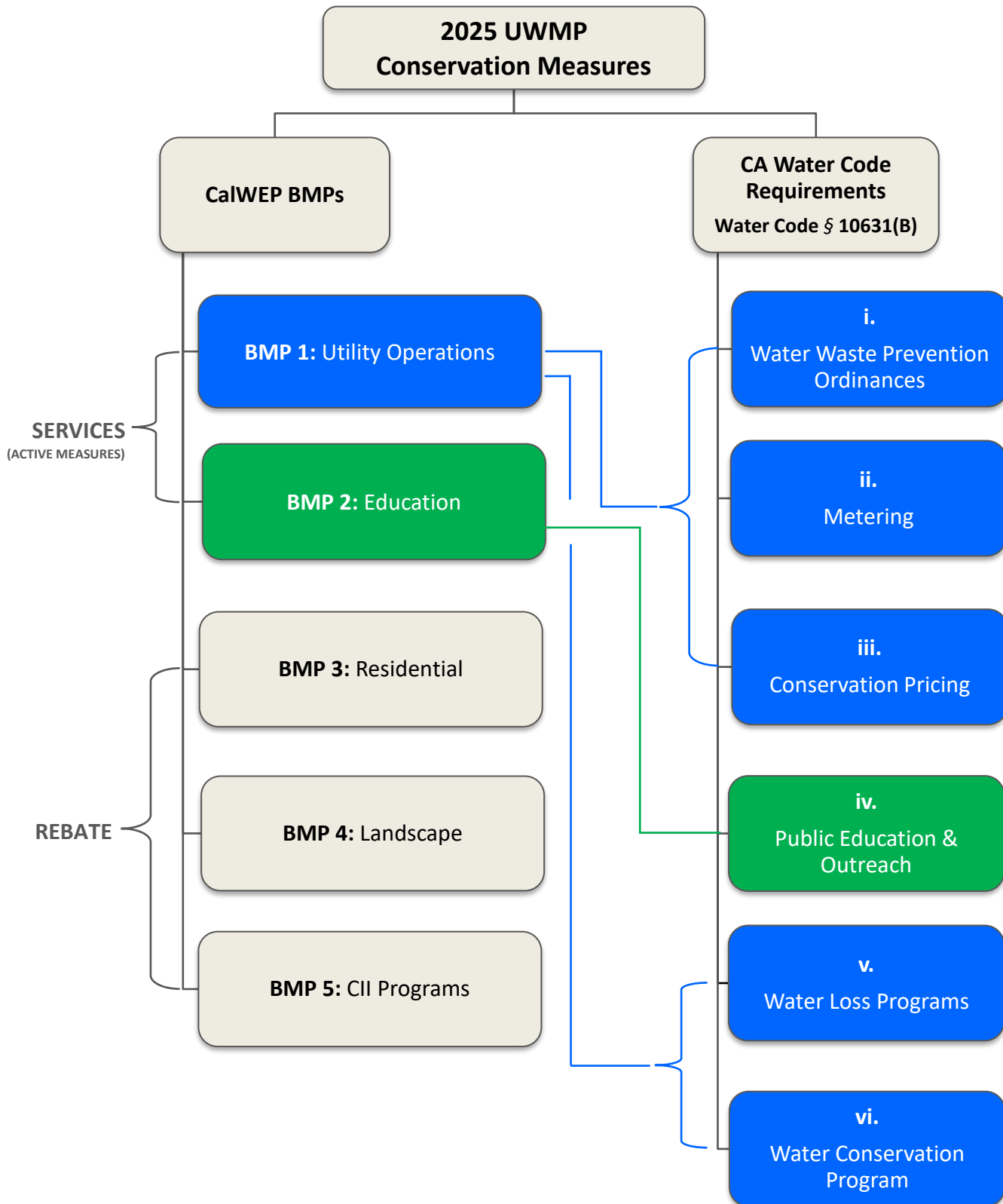


Figure 9.3 Conservation Measures for 2025 UWMPs: CalWEP and DWR Compared

9.4.1. DMM No. 1: Water Waste Prevention

This BMP deals with water waste prohibitions, water efficiency ordinances, metering, conservation pricing, and other items related to managing water use.

The District adopted Water Conservation Alert System (Resolution No. 681) and Water Conservation Program (Phase I) (Resolution No. 682) as water conservation ordinances.



Figure 9.4 Water Waste is Prohibited by District Ordinance

Water Conservation Alert System – The Water Conservation Alert System has been amended as a Phase II of the goal to reduce the risk and severity of water shortages and to notify its customers of the current conservation stage. The stages are color coded and described in **Table 9.2**.

Link to the District's ordinances found here:

www.cvwd.com/ordinances

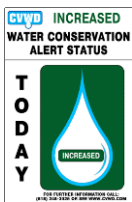
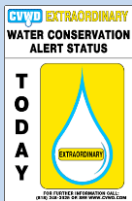
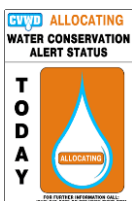
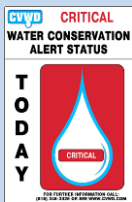
Water Conservation Program (Phase I) –

The Water Conservation Program (Phase I) was amended in April 2015 stating waste water prohibitions to its customers. The prohibitions apply to the following:

- Water hose usage
- Leaks
- Windy and rainy days
- Construction water restrictions
- Hotels/Motels
- Prohibiting outdoor watering during or 48 hours following a rain event
- Overspray and Runoff
- Irrigation Times
- Vehicle Washing
- Fire hydrants
- Reporting of waste water
- New Development
- Fountains
- Hand Watering
- Swimming pools
- Drinking water
- Pre-rinse spray valve

The District Rules and Regulations contain a Water Waste Prohibition Policy allowing termination of water service to customers who do not comply with a notice to remedy their wasteful practice. Additionally, the Rules and Regulations contain a leak repair policy whereby a financial incentive (one-time bill adjustment) is provided for customers who promptly fix internal/external plumbing leaks. The aforementioned sections of the Rules & Regulations are included in Appendix C.

Table 9.2: Water Conservation Alert System Codes

Alert Sign	Code	Description (as mentioned in Res. No. 681)
	Blue	Color Code “Blue” is defined as the <u>Standard Water Conservation Alert</u> . FMWD can meet all Member Agency demands. Standard water conservation applies as defined in Appendix G of District’s Rules and Regulations. Currently (2021), District has issued this alert as its current conservation status.
	Green	Color Code “Green” is defined as an <u>Increased Water Conservation Alert</u> , some supplies have been impacted and customers should increase efforts to conserve by following strict water conservation practices indoors and limiting outdoor water use to odd or even days, based on ending number of customer address.
	Yellow	Color Code “Yellow” is defined as an <u>Extraordinary Water Conservation Alert</u> , when MWD is pulling water from most of its storage programs to meet demands. Extraordinary conservation is called for from customers. Customers are requested to minimize indoor water use and water outdoors no more than three (3) days per week. Outdoor irrigation will be permitted only on Tuesday, Thursday, and Saturday.
	Orange	Color Code “Orange” is defined as an <u>Allocation Water Conservation Alert</u> , when MWD has implemented its allocation plan to its member agencies. Customers are requested to minimize indoor water use and severely limit outdoor water use as further detailed in Appendix G of District’s Rules and Regulations.
	Red	Color Code “Red” is defined as a <u>Critical Water Conservation Alert</u> , when water supplies are drastically reduced. Customers are requested to minimize indoor water use and water outdoors no more than one (1) day per week.
	Purple	Color Code “Purple” is defined as an <u>Emergency Water Conservation Alert</u> , when water supplies are only available for health and safety needs. Customers are requested to minimize indoor water use and curtail all outdoor water use.



The District staff works cooperatively with property owners to reduce water waste. The District's billing software automatically flags high usage thresholds from meter reading data for additional staff follow-up. Also, the District's field staff reports all visible water waste situations observed to Customer Service for additional follow-up by the District's staff.

The District has an ongoing leak detection program with a database of all recent leaks within the distribution system. The location, size, length, installation date, material, and pressure are recorded and continuously accessible to District staff.. The District has not conducted an evaluation of the water savings attributable to this BMP.

9.4.2. DMM No. 2: Metering

As of July 1, 2025, all District water accounts are metered and billed monthly based on commodity rates. The District has a commodity rate structure based upon a billing unit of 1,000 gallons, commonly stated as a unit. The water rate structure is a three-tier increasing block rate. A summary of the water rates is shown in **Table 9.3** and on the District's website:

www.cvwd.com/water-rates

The District began working on the Water Meter Replacement Program in 2012 to replace 3/4" & 1" water meters that were

beyond their useful life with new "Smart Meters". The plan was to replace 4,000 meters from FY 12/13 to FY 15/16. The District's field crews completed this task and continue to replace meters. To date, approximately 7,000 meters have been replaced.

The District is currently applying for grants to fund replacement of the larger sized water meters.

The "Smart Meter" that the District chose to replace the older meters with was the Sensus iPERL meter. The iPERL meter offers low flow accuracy with high flow durability. The innovative magnetic technology allows for the capture of previously unmeasured low flow and drives additional revenue for the utility. The meter is one hundred percent (100%) lead-free with no moving parts and maintains its accuracy over a 20-year lifetime. The iPERL has Advance Metering Infrastructure (AMI) connectivity and 14 conditions. Diagnostic and lifetime alarms allow for quick resolution to issues experienced in the field.



Figure 9.5 Water Meter with AMI Technology

In August 2020, the District awarded a consulting contract to UtiliWorks Consulting, Inc. (UtiliWorks) to provide professional services in assisting the District for the procurement and installation of the AMI Communications Network as the next phase towards District having a fully function AMI system.

The District used in-house crews from October 2024 to May 2025 to connect 90%+ of meters to AMI.

9.4.3. DMM No. 3: Conservation Pricing

All of the District's utility water accounts are metered and billed monthly based on commodity rates. The District has a commodity rate structure based upon a billing unit of 1,000 gallons, commonly abbreviated as a unit.

The District does not have a way of measuring wastewater directly from a residential unit to the sewer, so to get a reasonable estimate of the amount of flow

for wastewater, the District bases it on a customer's average water use during the winter months (December through March). Most water during the winter is used indoors and goes into the sewer system. Typically, outdoor irrigation is minimal during the winter months.

The District calculates customer monthly wastewater charges based on the previous year average winter-time water use (i.e., 2021 wastewater charge will be based on December 2019 to March 2020 average winter-time water use) and it will remain in effect for a full year (from July 2021 to June 2022). In July of each year, customer monthly wastewater charges will be recalculated based on the previous year average winter water use.

The previous rate structure was implemented in the 2016/2017 fiscal year and was developed as part of a cost-of-service study and reflects the cost of providing wastewater service to individual residences. Effective July 1, 2025, wastewater is now charged per person, as shown in **Table 9.3**.

The District offers a Low-Income Program to qualifying residents where a twenty-five percent (25%) discount on a combined bill for water (up to 26 units), wastewater and/or wastewater standby charges. This program may be modified or terminated



without prior notice and is provided to qualified customers on a first-come, first-served basis until the program funds are no longer available.

The District has not conducted an evaluation of the water savings attributable to this BMP; however, the District will continue to make customers aware of the rate structure

and use it as a tool to affect water conservation.

Since the 2020 UWMP, the District has increased its rates towards efforts of water conservation. **Table 9.3** provides a summary of the District's current water and sewer rate structures. **Table 9.4** provides a summary of the rates stated in the 2020 UWMP for comparison.

Table 9.3 Current Water & Sewer Rates (as of 7/1/2024)

Sector	Water		Sewer	
	Rate Structure	Rate	Rate Structure	Rate
Single-Family	Tier 1: 0 – 10 Units	\$5.96/Unit	--	Bi-Monthly: \$47.79 \$1.93/Unit
	Tier 2: 11 – 26 Units	\$11.09/Unit		
	Tier 3: 27+ Units	\$15.63/Unit		
Multi-Family	>0 Units	\$9.45/Unit	--	Bi-Monthly: \$31.25 \$2.15/Unit
Commercial / Institutional	>0 Units	\$9.45/Unit	Customer Charge	Bi-Monthly: \$0
			Quantity Charge per 1,000 gal of water use	Bi-Monthly: \$5.10
			Minimum Charge for Each User	Bi-Monthly: \$31.25
Schools	Elementary Schools	\$9.45/Unit	Elementary Schools	\$84.86 per 100 ADA ^[1]
	Middle Schools	\$9.45/Unit	Middle Schools	\$169.73 per 100 ADA
	High Schools	\$9.45/Unit	High Schools	\$254.59 per 100 ADA Customer Charge: \$31.25
Irrigation	Tier 1: 0 – 80 Units	\$6.30/Unit	Not Applicable	Not Applicable
	Tier 2: 81+ Units	\$11.88/Unit		

[1] ADA = Average Daily Attendance

[2] Unit = 1,000 gallons (1 kGal)

Table 9.4 Past Water & Sewer Rates in 2020 UWMP (as of 09/01/2019)

Sector	Water		Sewer	
	Rate Structure	Rate	Rate Structure	Rate
	Tier 1: 0 – 10 Units	\$5.17/Unit		



Sector	Water		Sewer	
	Rate Structure	Rate	Rate Structure	Rate
Single-Family	Tier 2: 11 – 26 Units	\$8.14/Unit	--	Bi-Monthly: \$47.79 \$1.93/Unit
	Tier 3: 27+ Units	\$12.27/Unit		
Multi-Family	>0 Units	\$7.33/Unit	--	Bi-Monthly: \$31.25 \$2.15/Unit
Commercial / Institutional	>0 Units	\$7.33/Unit	Customer Charge	Bi-Monthly: \$0
			Quantity Charge per 1,000 gal of water use	Bi-Monthly: \$5.10
			Minimum Charge for Each User	Bi-Monthly: \$31.25
Schools	Elementary Schools	7.33	Elementary Schools	\$84.86 per 100 ADA ^[1]
	Middle Schools	7.33	Middle Schools	\$169.73 per 100 ADA
	High Schools	7.33	High Schools	\$254.59 per 100 ADA Customer Charge: \$31.25
Irrigation	Tier 1: 0 – 80 Units	\$5.66/Unit	Not Applicable	Not Applicable
	Tier 2: 81+ Units	\$10.89/Unit		

[1] ADA = Average Daily Attendance

[2] Unit = 1,000 gallons (1 kGal)

9.4.4. DMM No. 4: Public Education & Outreach

This BMP deals with outreach efforts including emails, newsletters, advertisements, presentations, promotions, etc., related to outreach & education.

- **School Programs** - All of the District's public schools within the District's service area fall under the Glendale Unified School District (GUSD). The District has been working with GWP to maintain a strong commitment to support educational excellence in the GUSD. With this in mind, GWP provides "LivingWise," a water and energy classroom program to sixth grade students in both public and private schools.

The program was created by a group of teachers for the National Energy Foundation. It is a comprehensive set of 17 hands-on learning activities that use science and other core subjects so that "LivingWise" means being "water wise," "energy wise," and making "wise decisions" to protect the environment.

Each teacher and student receives a LivingWise 86-page workbook and a kit filled with such items as low-flow showerheads, kitchen faucet aerators and toilet leak detection tablets as well as an energy efficient nightlight, a fluorescent light bulb and a CD-Rom computer disk with a "conservation entertainment experience."



Because many of the lessons require the students to complete an activity at home, parents and other family members learn conservation practices right along with their students. At the end of the program, the students practice what they have learned by installing the water and energy saving kit items in their homes.

In addition to Glendale's program, the District had previously sponsored school assemblies from "Shows that Teach" and "Mad Science" for both public and private schools. Both assemblies offered different interactive lessons that always included water conservation and were geared towards the water cycle, water runoff, water quality, and water supplies and distribution systems. Each elementary school in the District's service area was invited to participate every year. However, these assemblies have not taken place in the past 2-3 years.

FMWD also offers volunteering opportunities, called Foothill Water Conservation Corps, to assist in water conservation and education outreach. These volunteers participate in presentations for water conservation at clubs or events, setting up and manning booths at fairs and other community functions. Not only does this aid in spreading awareness but provides incentives for students to earn community service hours at a professional setting.

The District provides water conservation literature, brochures, posters, landscape advice and tips, home water conservation devices etc., directly to the public and its customers. These materials are available at the district's Administrative Office and during special events. In addition, the District posts online classes and other information on its social media platforms. The District also maintains a library of water resource education conservation films and videos for loan to local organizations. MWD will also provide speakers to various groups upon request.

Currently, the District does not directly measure the effectiveness of this conservation measure. In general, however, more public awareness and education programs give customers increased knowledge of water conservation opportunities. Implementation of this conservation measure is expected to help the District achieve its water use targets by educating water users about the importance of improving water use efficiency and avoiding water waste.

9.4.5. DMM No. 5: Programs to Assess and Manage Distribution System Real Loss

The District monitors water loss in its distribution system on an annual basis. It is the District's highest priority to repair all known distribution system and service



connection leaks immediately. In the past five years, non-revenue water averaged 8.5 percent.

A significant portion of non-revenue water could be attributed to meter inaccuracy. As previously mentioned, the District embarked on a meter replacement program from mid-June 2012 through the end of 2021 to replace its meters installed with AMIs. The District was under contract with Aqua-Metric for the procurement and installation of the AMI Communication Network.

Distribution system leaks are the most-likely culprit for loss of water. The District has and will be continuing on its water main replacement program and is planning on a 20-year schedule to replace its deficient pipelines. The District prioritized its pipe replacement program by leak history, pipe size, fire-flow rates, and age. The District will be working on an updated water master plan, which will further address deficiencies in the system within the next few years.

The District has not developed a formal methodology to estimate the water savings attributable to this BMP. There are, however, real water savings as a result of the proactive pre-screening leak detection and repair programs, and the completion of the AMI program, which maintain an acceptable non-revenue water loss of 8 percent.

9.4.6. DMM No. 6: Water Conservation Program Coordination and Staffing Support

As a small District, conservation activities are typically a part-time effort. While the District Water Resources & External Affairs Specialist and the Regulatory Program Manager take the lead on conservation activities, District water staff assists with conservation efforts. Typical water conservation coordination duties include answering questions of the public, coordinating with State and local agencies, and providing information to customers on water conservation. Collectively, the District water staff provides the following services:

- Planning conservation policy
- Implementing conservation policy
- Interaction with the District Manager, Board, and State agencies

The District keeps up-to-date on Federal and State to requirements to develop new conservation policies for its service area. New conservation policies are enacted only if required or if they result in a substantial benefit to the District. The associated costs are approximately \$1,000 per month.

9.4.7. DMM No. 7: Other Conservation Measures

In addition to the six (6) DMMs described, the District participates in programs that assist residential buildings, commercial,

industrial, and institutional buildings (also known as CII properties), and large landscapes. These three (3) programs are described.

9.4.8. DMM No. 7a: Residential Programs

Water Survey Assistance – the District offers formal water audits for qualified residents (those using over 22 units of water per billing period). There is a budget limit of \$6,000 per year which covers 35 audits. The service is performed by a contractor, WaterWise Consulting.



Figure 9.6 Residential Water Survey

In addition to water audits, customers now get AMI leak notifications directly via email and the District's customer service staff respond to residential and commercial requests for investigation of high-water bills. The investigation consists of meter leak tests, meter accuracy testing, property leak checks, irrigation system analysis, or a complete "on-premises" water audit. A water bill adjustment is given to all customers who demonstrate that

they have repaired an on-site leak along with proof of the repair. This appears to be an effective water conservation measure which potential savings are outlined on the audit forms.

In addition, the District's utility billing software identifies customers who exceed a higher-than-normal usage threshold in a given billing period, which prompts staff to further investigate as described. Staff costs for this included measure are part of customer service duties.

The District also participates in various FMWD/MWD programs aimed at increasing landscape water use efficiency for residential customers, including rebate programs that provide financial incentives. SoCal Water\$mart, formerly Save Water Save A Buck, is the conservation rebate program offered through MWD. The program offers rebates for high-efficiency clothes washers (HEWC), premium high-efficiency toilets (PHET), weather-based irrigation controllers (WBIC), soil moisture sensor system (SMSS), rotating sprinkler nozzles, rain barrels/cisterns, and turf removal, as described.

- Weather-Based Irrigation Controllers Program** – This program, previously called the "Smart Timer Rebate Program," started in FY 2004/05. Under this regional program, residential and small commercial properties



are eligible for a rebate when they purchase and install a weather-based irrigation controller, which has the potential to save 13,500 gallons a year per residence. Rebates start at \$80 per controller for landscapes less than 1 acre in area and \$35 per station for more than 1 acre.

- **Rotating Nozzle Rebate Program –**

This rebate program started in 2007 and is offered to both residential and commercial customers. Through this program, site owners will purchase and install rotary nozzles, which can use up to twenty percent (20%) less water than conventional fan spray nozzles, in existing irrigation systems. These sprinklers reduce runoff onto sidewalks and into local storm drain system and provide uniform water distribution onto the landscape. MWD offers \$2 per nozzle with a minimum of 30 nozzles.

- **Rain Barrels & Cisterns Program –**

Residential and commercial customers can receive rebates for installing rain barrels and/or cisterns to collect rainwater for re-use for watering their landscapes. Customers may receive rebates starting at \$35 per barrel or \$250-\$350 per cistern. The barrels and cisterns must adhere to specified design guidelines. For the past seven years, the District participated in a Rain Barrel and Drought-Tolerant Landscape Event that took place at Descanso Gardens (La Cañada Flintridge, CA). the District co-sponsored the event along with FMWD and the Cities of Burbank, Glendale,

Pasadena, and South Pasadena. As a result of the event, over 1,000 rain barrels were purchased by local residents.

- **Soil Moisture Sensor System Program.**

For large residential sites, a soil moisture sensor, which measures soil moisture content in the active root zone, can be installed to receive rebates starting at \$80 or \$35 per SMSS. The sensor must be connected to a compatible irrigation system controller.

- **Turf Removal Program –** Through this program, residential and small commercial customers of participating retail water agencies are eligible to receive a minimum of \$2 per square foot of turf removed for qualifying projects.

- **Residential Plumbing Retrofit** -The District participates in the distribution of low-flow showerheads, aerators, hose shut-off nozzles, water buckets, and toilet-tank leak detection kits at its customer service counter and various local outdoor events. Assuming each device saves 3 gallons per day, approximately 3.4 AF are saved annually.

Additionally, The District through FMWD/MWD offered rebates through SoCal Water\$mart program for high-efficiency clothes washers and premium high-efficiency toilets.

The District also works with the local building/planning departments of the City of La Cañada-Flintridge, City of Glendale, and County of Los Angeles to assure enforcement of the ultra-low-flush toilet (ULFT) installation requirements for new construction, and supports the prohibition of the sale of toilets using more than 1.1 gallons per flush (gpf). Developers' needs for fire-flow certificates, "will-serve" certificates, and ultimately water service connections are used as ways to ensure compliance.

Another program offered by MWD offered rebates for HETs (1.28 gpf) for both residential and CII customers. Starting November 11, 2015, rebates are only eligible for Premium HETs (1.1 gpf or less) and no longer available for HETs at 1.28 gpf.

- High-Efficiency Washing Machine Rebates** - Starting in 2002, District passed along MWD's high efficiency washing machine rebate. The District promotes the program on its website and with flyers posted at the administration office and distributed at local events.

Residents in the District's service area are eligible to receive a \$85 rebate when they purchase a new High Efficiency Clothes Washer (HECW) as the District supplements MWD's rebate. Rebates are available on a first-come, first-served basis, while funds

last. To qualify for a rebate, the HECW must have a water factor of 4.0 or less. An HECW with a water factor of 4.0 will use approximately 14 gallons of water per load compared to a conventional top-loading clothes washer which can use 40 gallons or more per load. Depending on use, these machines can save 10,000 gallons of water per year. Participants are encouraged to contact their local gas and/or electric utility as additional rebates may be available.



Figure 9.7 High-Efficient Washing Machines

9.4.9. DMM No. 7b: Programs for CII Properties

The District has a relatively small number of commercial accounts and no industrial accounts. The vast majority of businesses within the District do serve as small mom and pop shops or local restaurants. The District currently offers financial incentives under MWD's SoCal Water\$mart Program, which offers rebates for various water efficient devices to some CII customers.

SoCal Water\$mart – MWD launched this program on July 1, 2008 and offers rebates



to assist CII customers in replacing high-flow plumbing fixtures with low-flow fixtures. Rebates are available only on those devices listed in **Table 9.5** and must replace higher water use devices. Installation of devices is the responsibility of each participant. Participants may purchase and install as many of the water saving devices as are applicable to their site.

The District also provided a list of restaurants to MWD for retrofit of a pre-rinse spray valve. Due to very limited number of CII customers, the District has no formal plans to initiate an active CII replacement program beyond the programs offered by MWD.

Table 9.5: CII Retrofit Devices & Rebate Amounts under SoCal Water\$mart Program

Retrofit Device	Rebate Amount
High Efficiency Toilet	\$40
Ultra-Low & Zero Water Urinal	\$200
Connectionless Food Steamers	\$485 per compartment
Air-Cooled Ice Machines	\$1,000
Cooling Tower Conductivity Controller	\$625
pH / Conductivity Controller	\$1,750
Dry Vacuum Pumps	\$125 per 0.5 HP
Weather Based Irrigation Controller and Computer Irrigation Controller	\$35 per station and \$80 per controller
Rotating Nozzles for Pop-up Spray Head Retrofits	\$2 (minimum of 30 per rebate)

9.4.10. DMM No. 7c: Large Landscape Programs

The District supports large landscape conservation through FMWD/MWD's regional programs including:

SoCal Water\$mart Program – The District, through FMWD/MWD, offered rebates through SoCal Water\$mart program for landscape plumbing retrofitting. Landscape

rebates are available for WBIC, SMSS, rotating sprinkler nozzles, and turf removal. The available landscape programs are listed:

- Weather-Based Irrigation Controllers Program (WBIC)
- Rotating Nozzle Rebate Program
- Rain Barrels & Cisterns Program
- Soil Moisture Sensor System Program (SMSS)
- Turf Removal Program

California Friendly Landscape Training – On behalf of its member agencies, FMWD supports MWD’s California Friendly Landscape and Gardening Training, which provides education to residential homeowners and professional landscape contractors on a variety of landscape water use efficiency practices. These classes are hosted by MWD’s member agencies to encourage participation across the county. The Professional Training Program course consists of four consecutive classes in landscape water management, each building upon principles presented in the preceding class. Each participant receives a bound handbook containing educational materials for each class. These classes are offered throughout the year and taught in both English and Spanish languages.

In addition, the District takes advantage of regional and local efforts which target and market to large landscape properties using bill inserts and direct marketing efforts. The District also sponsors three or more independent water efficient gardening classes per year. Topics include turf removal, design, placement, irrigation, plant selection, composting, gardening with worms, and efficient watering practices.

The California Irrigation Management Information System (CIMIS) provides real time weather information to assist in irrigation scheduling (including ETo).

Although CIMIS was initially designed to help agricultural growers and turf managers develop water budgets for determining when to irrigate and how much water to apply, the user base has expanded over the years.



Figure 9.8 CIMIS Stations Measure Rainfall and ETo

In addition to those mentioned, current CIMIS data users include local water agencies, fire fighters, air control board, pest control managers, etc. These stations can provide evapotranspiration (ETo) information for the purpose of developing landscape water budgets and irrigation scheduling.

9.5. CONTINUED IMPLEMENTATION

The District is a retail water agency. Therefore, this BMP does not apply. The District is a member agency of FMWD. FMWD provides financial incentives or equivalent resources, as appropriate and beneficial to distributing retail agencies, to advance water conservation efforts and effectiveness.

