WATER | ENERGY | LIFE

CITY OF RIVERSIDE PUBLIC UTILITIES

2025 URBAN WATER MANAGEMENT PLAN

CIVILTEC engineering inc.

JULY 2026

2025 Urban Water Management Plan

DRAFT Submitted: May 2026

Prepared For:
Riverside Public Utilities
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List of Abbreviations

Abbreviation	Description
°F	Degrees Fahrenheit
AB	Assembly Bill
Act	Urban Water Management Planning Act
AF	Acre Foot
AFY	Acre Feet per Year
ASR	Adrenaline Sports Resort
AWWA	American Water Works Association
BTAC	Basin Technical Advisory Committee
CCR	California Code of Regulations
CECs	contaminants of emerging concern
CEQA	California Environmental Quality Act
CFS	Cubic Feet per Second
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Irrigation System
CY	Calendar Year
DAC	Disadvantaged Community
DCA	Disadvantaged Communities Assessment
DCR	DWR SWP Delivery Capacity Report
DDW	SWRCB Division of Drinking Water
DFW	California Department of Fish and Wildlife
DOF	California Department of Finance
DMM	Demand Management Measure
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
EPA	United States Environmental Protection Agency
ET	Evapotranspiration
ETo	Reference Evapotranspiration
FY	Fiscal Year
GCC	Gage Canal Company
GIS	Geographic Information System
GPCD	Gallons per Capita per Day
GPSCD	Gallons per Service Connection per Day
GPM	Gallons per Minute
GSP	Groundwater Sustainability Plan
GWMP	Groundwater Management Plan
HECW	High-Efficiency Clothes Washer
HET	High-Efficiency Toilet

Abbreviation	Description
HGCWD	Home Gardens County Water District
IRWMP	Integrated Regional Water Management Plan
IWMP	Integrated Water Management Plan
JCSDP	Jurupa Community Services District
MCL	Maximum Contaminant Level
MF	Multi-family
MG	Million Gallons
MGD	Million Gallons per Day
MSL	Mean Sea Level
OWOW	One Water One Watershed
PERC	Program for the Expansion of Recharge Capacity
PFAS	Per- and poly-fluoroalkyl substances
RCFC	Riverside County Flood Control
RCSD	Rubidoux Community Services District
RHWC	Riverside Highland Water Company
RPU	Riverside Public Utilities
RWQCP	Riverside Regional Water Quality Control Plant
RWQCB	Regional Water Quality Control Board
SAR	Santa Ana River
SARWQCB	Santa Ana Regional Water Quality Control Board
SAWPA	Santa Ana Watershed Project Authority
SBCFCD	San Bernardino County Flood Control District
SBVWCD	San Bernardino Valley Water Conservation District
SB X7-7	Senate Bill 7 of Special Extended Session 7
SCAG	Southern California Association of Governments
SF	Single Family
SGMA	Sustainable Groundwater Management Act
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
USAWRA	Upper Santa Ana Water Resources Association
UWMP	Urban Water Management Plan
Valley District	San Bernardino Valley Municipal Water District
WBIC	Weather Based Irrigation Controller
WCD	Water Conservation District
WMWD	Western Municipal Water District
WSCP	Water Shortage Contingency Plan
WFF	Water Filtration Facility
WSS	Water Sense Specification

Abbreviation	Description
WTP	Water Treatment Plant
WUE	Water Use Efficiency
WWTP	Wastewater Treatment Plant

Executive Summary

UWMP Requirements

California urban water suppliers that serve more than 3,000 acre-feet per year (AFY) are required to prepare an Urban Water Management Plan (UWMP) every five years. These reports are submitted to the California Department of Water Resources (DWR), who reviews the reports and verifies that they meet the requirements of the California Water Code (CWC). The CWC defines an urban water supplier (Supplier) as an agency that provides water for municipal purposes to more than 3,000 customers or serving more than 3,000 AFY; Riverside Public Utilities (RPU) delivers more than 3,000 AFY and is thus required to prepare a UWMP every five years. RPU's last UWMP was submitted in June 2021 and included data through the end of 2020.

In addition to preparing a 2025 UWMP to meet the 2025 guidelines, RPU prepared a Water Shortage Contingency Plan (WSCP) as a stand-alone document that will be reviewed and considered for adoption alongside the UWMP.

Water Supplies

RPU's primary source of supply is local groundwater. RPU also distributes recycled water for non-potable uses. These two locally controlled supplies have been highly reliable. RPU also has an agreement with Western Municipal Water District (WMWD) to access imported water when needed. This agreement can provide RPU with up to 21,700 AFY of imported water. Since 2009, RPU has been imported-water independent by relying solely on local water supplies to meet the water demands of its service area.

Water Demands

RPU's demands are projected to increase during the next 25 years. The demand projections were developed considering variables like climate, population growth, and customer behaviors. The UWMP includes a description of the Demand Management Measures (DMMs) that RPU has in place to encourage efficient water use by all customers. Through these programs, RPU has seen significant reductions in water use by customers since 2010. When estimating future water demands and population projections within its service area, RPU will incorporate available data and resources to refine its projections such as updated census data or updates to the City's General Plan.

Drought Risk

The UWMP presents a comparison of expected supplies and demands during future conditions. RPU is committed to efficient water use, and if needed RPU can implement its WSCP to reduce demands. Based on current planning assumptions and available data, RPU anticipates that projected water demands can be met through 2050, including under a five-year dry hydrologic scenario.

Thanks to the storage capacity of the groundwater basins, supplies are very reliable from year to year because RPU can pump enough groundwater to meet demands.

In the longer term, continued reliability depends on the continued replenishment of the groundwater basins, removal or treatment of contaminants, and effective management of those basins. RPU is working with regional partners to continue these efforts.

Contingency Planning

If an extended drought or sudden event (like an earthquake) impacted RPU's ability to provide water, the WSCP may need to be implemented. The WSCP defines five stages of shortage and outlines the actions that will be required of customers during each stage. The WSCP also describes the communication protocols to keep customers informed about water use restrictions.

Preparation and Outreach

RPU coordinated with regional partners and sent notifications (Appendix E) to 25 water agencies during the preparation of the UWMP and the WSCP. The draft documents will be available for public review before the RPU Board hearing. If the WSCP needs to be implemented during a water shortage, RPU will evaluate how well it is working and consider making changes.

Chapter 1 - Urban Water Management Plan Introduction and Overview

The Urban Water Management Plan Act (Act) was adopted in 1983 and may be found in the California Water Code, § 10610 - 10656[1]. The City of Riverside – Public Utilities is obligated to prepare and adopt this Urban Water Management Plan (UWMP) in the manner specified in the Act by virtue of meeting the statutory definition of an "urban retail water supplier and retailer".

This UWMP has been prepared in fulfillment of the requirements of the Act and in compliance with the Urban Water Management Plan Guidebook 2025 as provided by the California Department of Water Resources (DWR). The 2025 UWMP Guidebook has been updated from the 2020 Guidebook to reflect the new legislation, and to potentially improve the usefulness of a supplier's 2025 UWMP.

In addition to compliance with state mandate, this UWMP is a living document whose contents fulfill a variety of planning, informational and legal requirements. It will serve as a primary source of integrated water and land use planning at the department, city, and county levels per compliance with SB 610 and SB 221 related to water assessment and procurement of water supplies prior to construction of new development. The accuracy, clarity, completeness and usefulness of this UWMP is defensible and representative of Riverside Public Utilities' best understanding of the state of water management at the time of adoption and/or amendment. To that end, all aspects of water management as they pertain to the Department have been delineated in order to provide developers, planners, government agencies and its customers with the tools they need to fulfill their individual missions and interests.

The UWMP serves as an important source document that summarizes the status of plans for each five-year cycle, for cities and counties as they update their General Plans. Conversely, General Plans are source documents as water suppliers update their UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent. It is crucial that cities, counties and water suppliers work closely when developing and updating these planning documents.

Each UWMP covers data from the corresponding five-year cycle since 1985. UWMPs follow a five-year planning cycle and are identified by their reporting year, which may be based on either fiscal or calendar year basis (e.g. 2015, 2020, 2025).

City of Riverside - Public Utilities Department's (RPU) most recent UWMP was submitted to, reviewed by, and approved by, the California Department of Water Resources (DWR) back on July 1, 2021. This 2025 UWMP will continue to provide guidance to RPU to ensure long-term water supply reliability, regulatory compliance, and sustainable water resource planning for existing and future demands.

1.1 Updated Guidance for 2025 Urban Water Management

Since the previous 2020 UWMP, there have been a few changes in the guidebook. Riverside Public Utilities' 2025 UWMP have reflected these changes where applicable.

[1] California Urban Water Management Planning Act (Water Code § 10610 – 10656)

Updates have included the following:

- Minor changes to the Water Code
- Criteria for suppliers with multiple public water systems
- DWR submittal tables
- Compliance with 2028 Water Loss Standard for Water loss reporting
- Direct potable reuse (highly treated recycled wastewater for drinking water use)
- Lower-income housing
- Reporting groundwater recharge and other water storage

1.2 Submittal Tables

> *§ 10644(a)(2) The plan, or amendments to the plan, submitted to the department … shall include any standardized forms, tables, or displays specified by the department.*

Submittal tables in the UWMP are included in Appendix D.

1.3 Recommended Urban Water Management Plan Organization

Riverside Public Utilities' 2025 UWMP was arranged in the same sequence as the recommended UWMP organization provided in DWR's Final "Urban Water Management Plan 2025." RPU's 2025 Plan consists of the following Chapters:

- Chapter 1 - Urban Water Management Plan Introduction and Overview
- Chapter 2 – Urban Water Management Plan Preparation
- Chapter 3 – Service Area Description
- Chapter 4 – Water Use Characterization
- Chapter 5 – SB X7-7 Baselines, 2020 Targets, and 2025 Reporting
- Chapter 6 – Normal-Year Water Supply Characterization
- Chapter 7 – Water Service Reliability and Drought Risk Assessment
- Chapter 8 – Water Shortage Contingency Plan
- Chapter 9 – Demand Management Measures
- Chapter 10 – Urban Water Management Plan Adoption, Submittal, and Implementation

1.4 Urban Water Management Plans in Relation to Other Efforts

An Urban Water Management Plan is important within a planning process as a whole. Coordination with other planning efforts is especially crucial. Planning documents such as Water Master Plans, Facility Plans, Recycled Water Master Plans, Integrated Regional Water Management (IRWMP) Plans, Regional Climate Action Plans, Groundwater Sustainability Plans (GSPs), Assembly Bill (AB) 3030 Groundwater Management Plans, local and regional Hazard Mitigation Plans, State Water Project Delivery Capability Reports, and other applicable planning

and regulatory documents need to be systematically coordinated and synthesized with the 2025 UWMP to ensure consistency, regulatory compliance, and an integrated, regionally comprehensive planning framework. RPU participates in regional planning efforts with other agencies, some documents include:

- Upper Santa Ana River Integrated Water Resources Management Plan (IRWMP) (Final as of June 2021)
- Arlington Basin Groundwater Sustainability Plan (RPU is acting as an observer)
- Riverside Basin Groundwater Management Plan
- RPU Integrated Water Management Plan (IWMP) (2015)
- RPU Non-Potable Water Master Plan
- San Bernardino Basin Area Technical Advisory Committee Regional Water Management Plan
- Annual Report of the Western-San Bernardino Watermaster

1.5 Department of Water Resources' Review Process

The California Department of Water Resources (DWR) reviews submitted UWMPs to ensure qualified urban water suppliers comply with CWC requirements § 10610 - 10657. RPU will submit the 2025 UWMP to DWR for review.

1.6 Urban Water Management Plans and Grant or Loan Eligibility

§ 10608.56
(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.
(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.
(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.
(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one

or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

§ 10656 An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.

23 CCR Section 596.1(b)(2) "disadvantaged community" means a community with a median household income that is less than 80 percent of the statewide annual median household income.

The 2025 UWMP has been prepared to meet eligibility requirements for grants and/or loan eligibility.

Chapter 2 - Urban Water Management Plan Preparation

2.1 Basis for Preparing a Plan

§ 10617 "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

§ 10608.12

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

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

§ 10620

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

§ 10621(a) Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

RPU is an "*urban water supplier*" that operates as both a retail and wholesale water provider. RPU directly serves water to more than 3,000 customers and supplies more than 3,000 AF of water annually. In addition, RPU provides wholesale water supplies exceeding 3,000 AF to wholesale customers, including Western Municipal Water District (WMWD), and the City of Norco.

Therefore, this UWMP addresses both retail and wholesale reporting requirements. In accordance with Water Code section 10620 and 10621, RPU prepared the 2025 UWMP as an update to the 2020 UWMP and has incorporated updated and new information from the prior 5 years.

2.1.1 Public Water Systems

California Health and Safety Code 116275
(h) "Public Water System" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

RPU is considered a Public Water System (PWS) with more than 3,000 connections and supplies more than 3,000 acre-feet of water annually. Since RPU exceeds the threshold of 3,000 connections and 3,000 acre-feet of water supplied annually, RPU is considered a Retail Supplier.

Table 2-1 – Retail: Public Water Systems (DWR Table 2-1R)

Public Water System Number	Public Water System Name	Number of Municipal Connections 2025	Volume of Water Supplied 2025 (AF)
CA3310031	City of Riverside Public Utilities	68,553	61,479

2.2 Individual or Regional Plans

The 2025 Riverside Public Utilities UWMP is an "Individual UWMP." This plan details only RPU's service area to address all requirements.

2.3 Fiscal or Calendar Year and Units of Measure

The data provided in RPU's 2025 UWMP is in Calendar Year (CY). Units of measurement in RPU's 2025 UWMP is in acre-feet (AF).

2.4 Coordination and Outreach

> *§ 10631*
> *(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision*
> *(f) An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).*
>
> *§ 10642*
> *Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan and the water shortage contingency plan...*

Pursuant to the UWMP Act, RPU sent Notice of Preparation letters to the surrounding water management agencies, water retailers, cities and counties, and public agencies to inform them that RPU was in the process of updating its UWMP. Copies of the Notice of Preparation letters are included in Appendix E. RPU coordinated with its wholesale water supplier, WMWD, in

preparation of the demand and supply estimates presented in the report. RPU also coordinated with its wholesale customers, WMWD and the City of Norco.

In addition to WMWD, RPU requested input, data, and comments from many neighboring agencies while preparing this plan. RPU communicates water supply information to the community throughout the year.

For example, RPU provides water highlights monthly at Riverside Board of Public Utilities (Board) meetings. These highlights include information on current water use, total monthly production, annual rolling production, usage in gallons per capita per day (GPCD), residential usage in gallons per capita per day (R-GPCD), daily consumption, peak demand, and temperature and rainfall. In addition, RPU regularly encourages public water awareness and water conservation at the Board meetings and on its website https://www.riversideca.gov/utilities/.

RPU continues with its outreach efforts to encourage water conservation. RPU's communications have included the use of newspaper advertisements and bill stuffers. RPU has also reached out to customers through social media messaging related to the importance of efficient water use.

Chapter 3 - Service Area Description

§ 10631(a) Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

3.1 General Description

The origins of Riverside's municipal water utility can be traced to the establishment of the Riverside Colony in 1870 as an agriculturally focused community. During that year, a preliminary engineering survey was conducted for the Riverside Upper Canal, intended to support irrigation of mulberry groves. Concurrently, a formal notice of water appropriation was issued to authorize the diversion of flow by gravity from the Santa Ana River.

To expand conveyance capacity, a second facility, the Riverside Lower Canal, was constructed in 1874. This addition increased the system's delivery capacity to approximately 5,000 miners' inches, equivalent to roughly 56,100 gallons per minute (gpm), thereby supporting continued agricultural development.

In 1883, the Riverside was formally incorporated. One of the primary motivations for incorporation was to enable local control over water resources and land distribution, which had previously been managed by the Riverside Land and Irrigating Company. In 1884, a negotiated agreement between this private entity and local irrigators resulted in the formation of the Riverside Water Company. Under this agreement, the Riverside Water Company became the principal water supplier for much of the Riverside area.

By the late 19th century, surface water diversions from the Santa Ana River were no longer sufficient to meet increasing demand. To address this limitation, the Riverside Water Company initiated development of groundwater resources through the drilling of artesian wells. These wells were installed across both Riverside and San Bernardino counties, providing a critical supplemental supply to sustain regional growth and agricultural activity.

As of 2025, RPU is a consumer-owned water and electrical utility, there are 68,553 water connections reliably serving customers within RPU's water service area. The RPU service area is located within the Santa Ana River Valley, approximately 60 miles east of Los Angeles and 100 miles north of San Diego.

The RPU service area encompasses multiple jurisdictions. To characterize its extent, geospatial data were obtained from the California Department of Water Resources (DWR) Open Data Portal[2] and city boundary shapefiles from the Southern California Association of Governments (SCAG)[3]. Overlay analysis indicates that the RPU service area totals approximately 75 square miles, including about 70 square miles within the City of Riverside, 4.96 square miles of unincorporated Riverside County, and a small portion of the City of Corona (0.04 square miles).

However, the City of Riverside boundary encompasses approximately 80 square miles, of which about 10 square miles are served by other potable water providers. These include Western Municipal Water District (WMWD), Eastern Municipal Water District (EMWD), and Riverside Highland Water Company (RHWC)

Table 3-1 – RPU's Service Area

Within RPU's Service Area	
Location	**Area (sq mi)**
City of Riverside	70
City of Corona	0.04
Unincorporated	4.96

3.2 Service Area Boundary Map

§ 10631(a) Describe the service area of the supplier.

The RPU service area is bounded on the north by the City of Colton, to the east by the RHWC and WMWD, to the south by WMWD, and on the west by Home Gardens County Water District (HGCWD), City of Corona, City of Norco, Rubidoux Community Services District (RCSD), and Jurupa Community Services District (JCSDP). A service area map is shown in Figure 3-1. For this UWMP, it was assumed that RPU's water service area would not expand beyond its current boundaries.

The RPU service area overlies several groundwater basins, including Riverside, Arlington, and Chino. The RPU service area is shown relative to groundwater basins in Figure 3-2.

The surface elevation within the RPU service area ranges from more than 1,900 feet above mean sea level (MSL) in the northeast to less than 700 feet above mean sea level in the southwest. The Santa Ana River is the main watercourse that drains the RPU service area. Other major tributaries include the Springbrook, Tequesquite, Prenda, Woodcrest, Mockingbird, and Hole Lake drainages.

[2]https://data.ca.gov/dataset/i03-waterdistricts#:~:text=This%20dataset%20represents%20polygon%20boundaries,of%2012/8/2025.
[3] City Boundaries – SCAG Region | Southern California Association of Governments

Figure 3-1 – Service Area Boundary Map

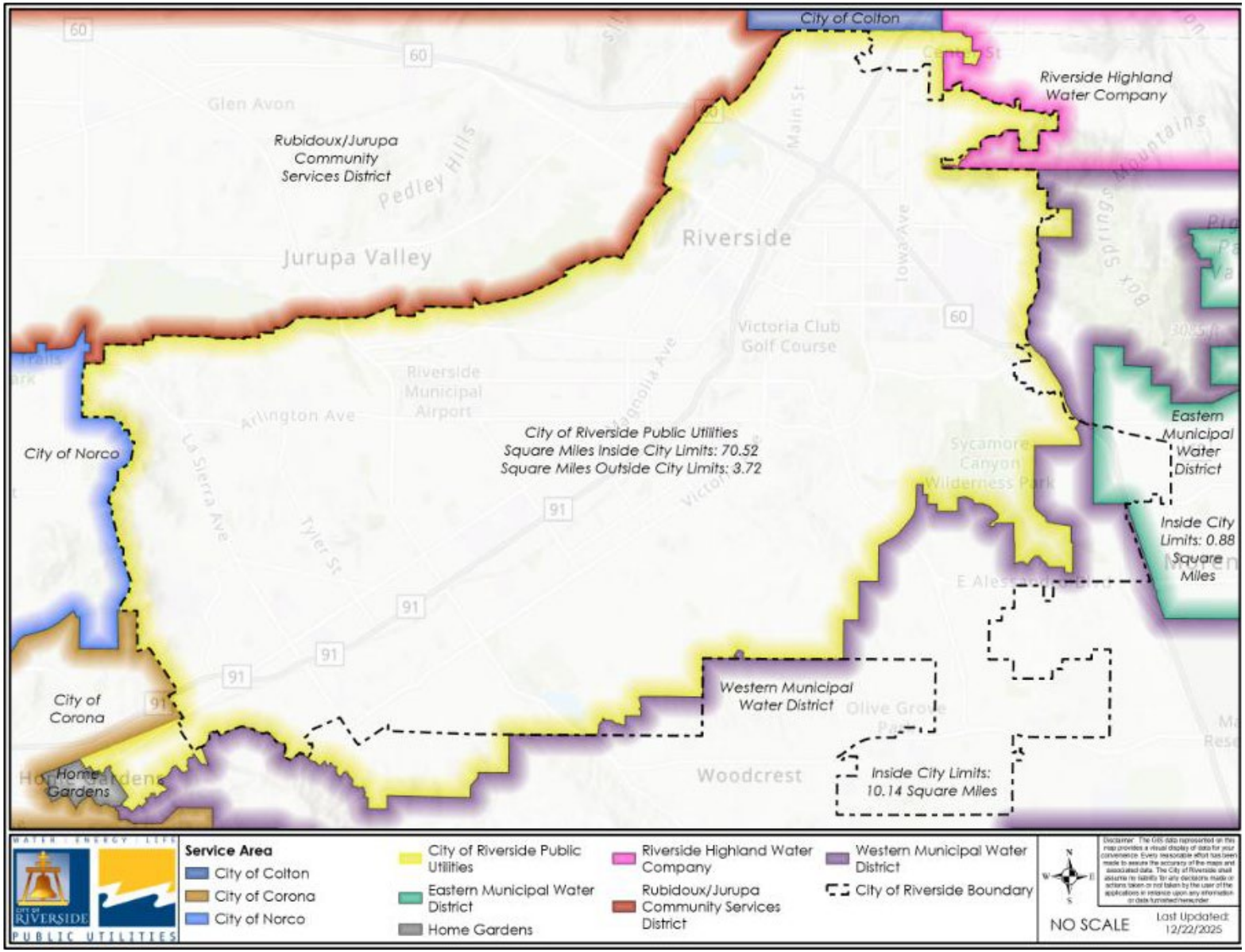
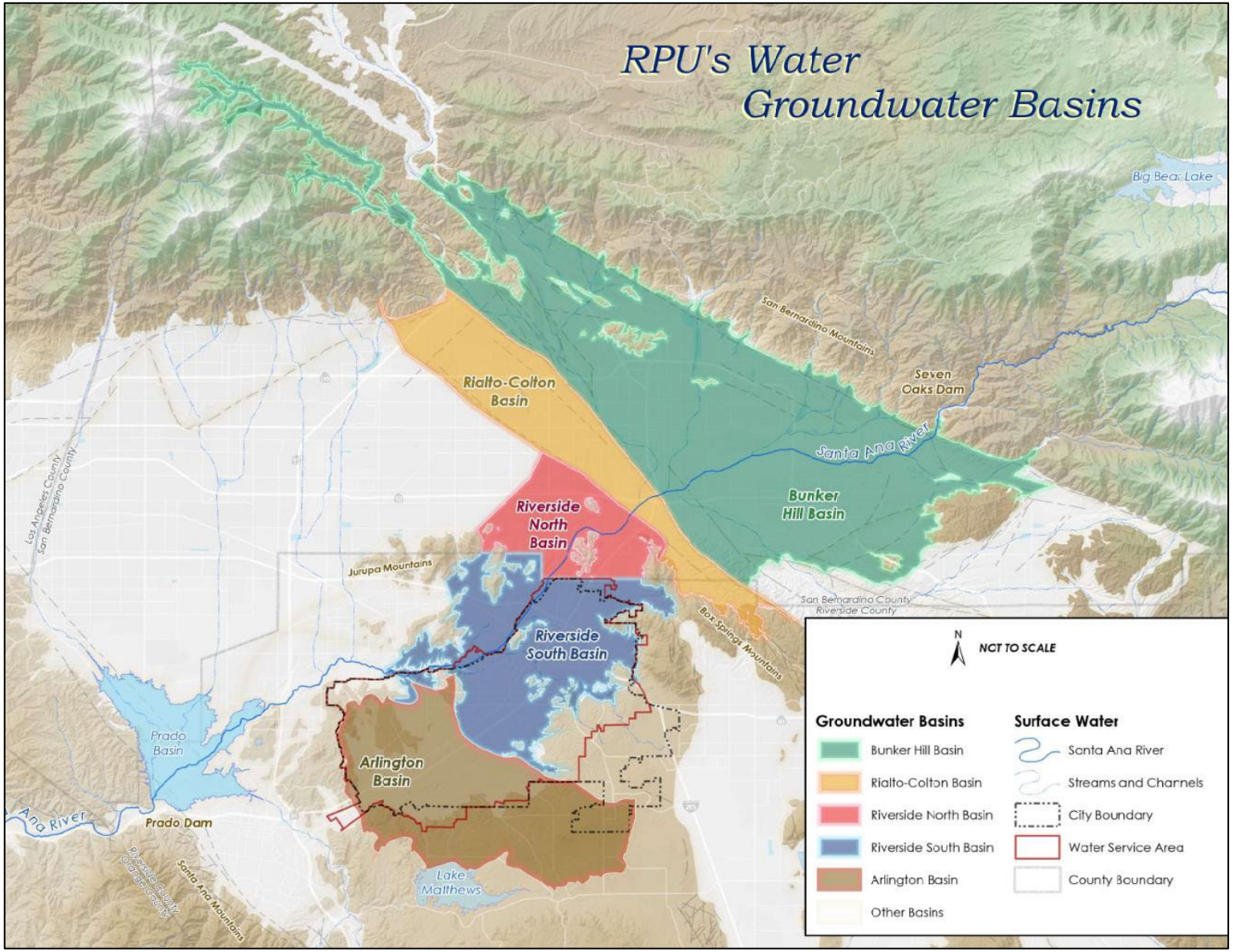


Figure 3-2 – Groundwater Basins Underlying Service Area



3.3 Service Area Climate

§ 10631(a) A plan shall… Describe the service area of the supplier, including … climate…

§ 10630 It is the intention of the Legislature, in enacting this part, to permit levels of water management planning… while accounting for impacts of climate change.

As per the California Irrigation Management Information System, (CIMIS), the RPU service area lies in the South Coast Marine to Desert Transition of Southern California. The climate typically exhibits hot, dry summers and mild, wet winters. Climate is a factor that influences water demand within the RPU service area. The closest active station near or within the service area of RPU is CIMIS Station 044 (University of Riverside).

Most rainfall occurs during November through April. The hottest and driest period of the year is from June through mid-October.

Average temperature, precipitation, and evapotranspiration by month are shown in Figure 3-6. Evapotranspiration (ET) is the water lost to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues). It is an indicator of how much water crops, lawns, gardens, and trees need for healthy growth and productivity. ET from a standardized grass surface is commonly denoted as ETo.

Table 3-2 – Service Area Climate Information (2021-2025)

Year	Average Temperature (F)	Average Min. Temperature (F)	Average Max. Temperature (F)	Average Total Precipitation (Inches)	Total ETo (in)
January	54.0	43.3	65.7	1.4	2.7
February	46.1	44.7	67.3	2.1	3.1
March	55.9	45.9	67.5	1.9	4.3
April	51.1	49.9	74.6	0.1	5.6
May	64.3	54.9	77.1	0.3	6.1
June	59.4	59.8	85.8	0.1	7.0
July	77.3	64.2	92.8	0.0	8.1
August	65.1	65.1	93.7	0.4	7.5
September	74.3	63.3	88.6	0.2	5.5
October	56.4	55.8	82.3	0.2	4.2
November	60.0	48.3	73.6	0.8	3.1
December	45.9	45.2	67.8	1.6	2.1

According to the California Irrigation Management Information System (CIMIS), Reference Evapotranspiration (ETo)4, RPU is located in Zone 9, within the South Coast Marine to Desert Transition region, with a total reference evapotranspiration of 55.1 inches/year, as shown in Figure 3-3, Figure 3-4, and Figure 3-5.

Although ETo values are shown for both Station 044 and Region Zone 9, Region Zone 9 encompasses more than just RPU's service area. Station 044 reflects a more accurate reading for RPU's service area due to the proximity.

Figure 3-3 – Reference Evapotranspiration (ETo) Zones

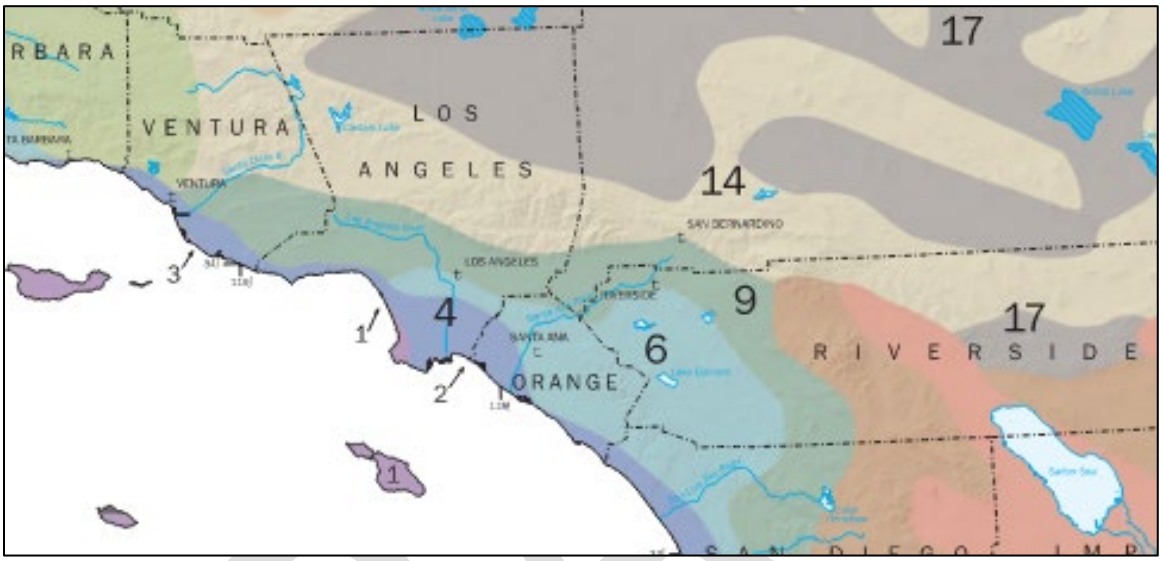


Figure 3-4 – Evapotranspiration (ETo) Zones

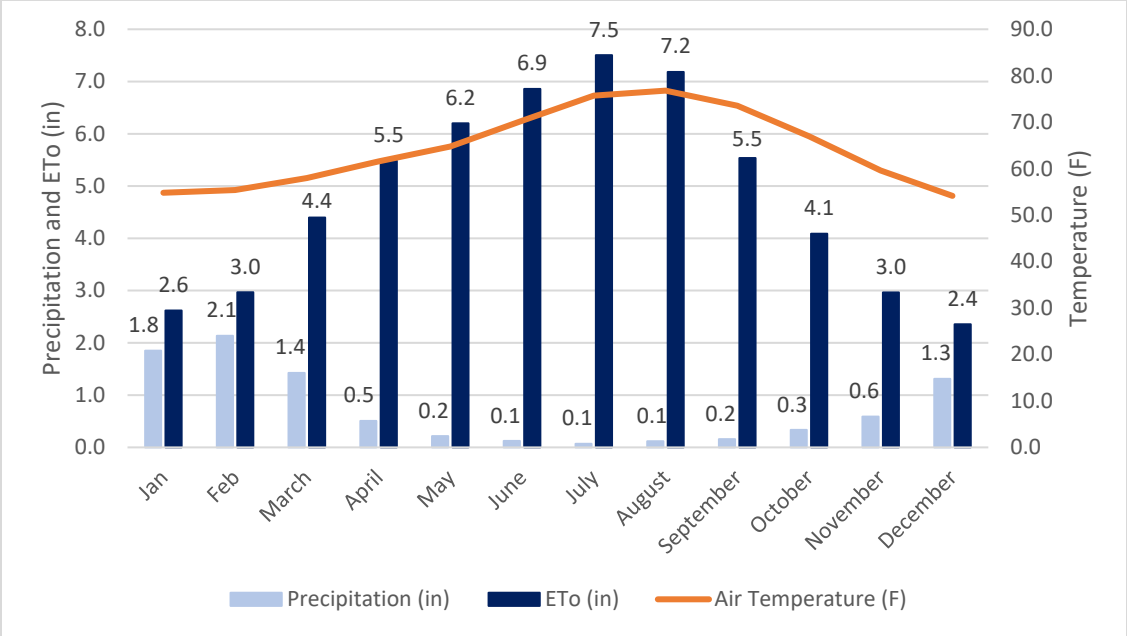
1	**COASTAL PLAINS HEAVY FOG BELT** lowest ETo in California, characterized by dense fog
2	**COASTAL MIXED FOG AREA** less fog and higher ETo than zone 1
3	**COASTAL VALLEYS & PLAINS & NORTH COAST MOUNTAINS** more sunlight than zone 2
4	**SOUTH COAST INLAND PLAINS & MOUNTAINS NORTH OF SAN FRANCISCO** more sunlight and higher summer ETo than zone 3
5	**NORTHERN INLAND VALLEYS** valleys north of San Franciaco
6	**UPLAND CENTRAL COAST & LOS ANGELES BASIN** higher elevation coastal areas
7	**NORTHEASTERN PLAINS**
8	**INLAND SAN FRANCISCO BAY AREA** inland area near San Francisco with some marine influence
9	**SOUTH COAST MARINE TO DESERT TRANSITION** inland area between marine & desert climates
10	**NORTH CENTRAL PLATEAU & CENTRAL COAST RANGE** cool, high elevation areas with strong summer sunlight; zone has limited climate data & the zones selection is somewhat subjective
11	**CENTRAL SIERRA NEVADA** mountain valleys east of Sacramento with some influence from delta breeze in summer
12	**EAST SIDE SACRAMENTO-SAN JOAQUIN VALLEY** low winter & high summer ETo with slightly lower ETo than zone 14
13	**NORTHERN SIERRA NEVADA** northern Sierra Nevada mountain valleys with less marine influence than zone 11
14	**MID-CENTRAL VALLEY, SOUTHERN SIERRA NEVADA, TEHACHAPI & HIGH DESERT MOUNTAINS** high summer sunshine and wind in some locations
15	**NORTHERN & SOUTHERN SAN JOAQUIN VALLEY** slightly lower winter ETo due to fog and slightly higher summer ETo than zones 12 & 14
16	**WESTSIDE SAN JOAQUIN VALLEY & MOUNTAINS EAST & WEST OF IMPERIAL VALLEY**
17	**HIGH DESERT VALLEYS** valleys in the high desert near Nevada and Arizona
18	**IMPERIAL VALLEY, DEATH VALLEY & PALO VERDE** low desert areas with high sunlight & considerable heat advection

[4] California Irrigation Management Information System (CIMIS) – Reference Evapotranspiration Zones

Figure 3-5 – Monthly Average Reference Evapotranspiration by ETo Zone (in/month)

Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	0.93	1.40	2.48	3.30	4.03	4.50	4.65	4.03	3.30	2.48	1.20	0.62	32.9
2	1.24	1.68	3.10	3.90	4.65	5.10	4.96	4.65	3.90	2.79	1.80	1.24	39.0
3	1.86	2.24	3.72	4.80	5.27	5.70	5.58	5.27	4.20	3.41	2.40	1.86	46.3
4	1.86	2.24	3.41	4.50	5.27	5.70	5.89	5.58	4.50	3.41	2.40	1.86	46.6
5	0.93	1.68	2.79	4.20	5.58	6.30	6.51	5.89	4.50	3.10	1.50	0.93	43.9
6	1.86	2.24	3.41	4.80	5.58	6.30	6.51	6.20	4.80	3.72	2.40	1.86	49.7
7	0.62	1.40	2.48	3.90	5.27	6.30	7.44	6.51	4.80	2.79	1.20	0.62	43.3
8	1.24	1.68	3.41	4.80	6.20	6.90	7.44	6.51	5.10	3.41	1.80	0.93	49.4
9	2.17	2.80	4.03	5.10	5.89	6.60	7.44	6.82	5.70	4.03	2.70	1.86	55.1
10	0.93	1.68	3.10	4.50	5.89	7.20	8.06	7.13	5.10	3.10	1.50	0.93	49.1
11	1.55	2.24	3.10	4.50	5.89	7.20	8.06	7.44	5.70	3.72	2.10	1.55	53.1
12	1.24	1.96	3.41	5.10	6.82	7.80	8.06	7.13	5.40	3.72	1.80	0.93	53.4
13	1.24	1.96	3.10	4.80	6.51	7.80	8.99	7.75	5.70	3.72	1.80	0.93	54.3
14	1.55	2.24	3.72	5.10	6.82	7.80	8.68	7.75	5.70	4.03	2.10	1.55	57.0
15	1.24	2.24	3.72	5.70	7.44	8.10	8.68	7.75	5.70	4.03	2.10	1.24	57.9
16	1.55	2.52	4.03	5.70	7.75	8.70	9.30	8.37	6.30	4.34	2.40	1.55	62.5
17	1.86	2.80	4.65	6.00	8.06	9.00	9.92	8.68	6.60	4.34	2.70	1.86	66.5
18	2.48	3.36	5.27	6.90	8.68	9.60	9.61	8.68	6.90	4.96	3.00	2.17	71.6

Figure 3-6 – Historical Climate Data (CIMIS Station 044)



Climate change has the potential to impact water supplies and demands for RPU. Water demands increase if summer temperatures rise. Water supplies could be affected by changes in precipitation and runoff that contribute to groundwater recharge.

RPU participates in regional planning efforts that have considered the potential impacts of climate change. The 2020 Upper Santa Ana River Watershed IRWMP includes a discussion of climate change and its potential impacts on water demand. Some areas identified in the vulnerability assessment include wildfires and potential erosion impacts on water quality, as well as floods and their potential impact on water facilities.

The potential impact of climate change on demand is discussed in this chapter and the potential impact on supplies is discussed in Chapter 6.

Based on historical monthly average data from 1980-2025, annual precipitation is approximately 8.7 inches, and annual evapotranspiration is approximately 58.3 inches.

3.3.1 Impacts of Climate Change

Climate change, as defined by the U.S. Environmental Protection Agency (EPA), refers to significant, long-term alterations in average climatic conditions driven largely by the warming of the Earth. These changes manifest through shifts in temperature, precipitation, and wind patterns. The primary driver of this warming trend is the increased concentration of greenhouse gases resulting from human activities, which has led to measurable increases in atmospheric temperatures.

As global temperatures have risen, the frequency and intensity of extreme heat events such as heat waves and prolonged high-temperature days, have increased. These conditions are expected to continue affecting water supply availability, conveyance systems, and operational reliability for RPU. Warming temperatures influence all components of the hydrologic cycle, altering evaporation rates, precipitation patterns, and runoff timing.

Across California, climate change is projected to produce more variable and extreme weather patterns. The state's water supply system relies on an extensive network of reservoirs and aqueducts that transport water from northern river systems and the Colorado River. A critical component of this system is the Sierra Nevada snowpack, which functions as a natural reservoir by storing water during winter and releasing it gradually during spring and summer. However, rising temperatures are expected to shorten the snow season, resulting in a higher proportion of precipitation falling as rain rather than snow, and earlier snowmelt. Under high greenhouse gas emission scenarios, snowpack levels could decline by approximately 70 to 90 percent, significantly reducing both natural water storage capacity and seasonal runoff, thereby decreasing the water supply.

In response to these evolving conditions, RPU has implemented forward-looking water management strategies, including reducing reliance on imported water and prioritizing local groundwater resources. Groundwater serves as a primary supply source for RPU customers; however, it depends heavily on natural recharge from precipitation and is supplemented by artificial recharge through the State Water Project (SWP) and locally enhanced recharge projects. While this approach has improved system resilience and cost efficiency, increasing variability in precipitation introduces uncertainty in groundwater recharge and long-term availability.

Over time, the increasing frequency and severity of drought conditions have further strained groundwater resources. RPU relies on four interconnected groundwater basins: the Bunker Hill, Rialto-Colton, Riverside North, and Riverside South basins. These basins are regionally shared systems, subject to both climatic influences and operational demands from multiple agencies. Reduced precipitation limits natural recharge, while increased reliance on groundwater pumping, particularly during drought periods and reduced SWP allocations, intensifies stress on these resources.

Historically, more than 65 percent of RPU's water supply has been sourced from the Bunker Hill Basin, making it a key indicator of regional groundwater conditions. Over the past 25 years, groundwater levels in this basin have declined by approximately 125 feet.

Recent observations of snowpack conditions highlight the growing variability in California's hydrologic system. In 2023, snowpack levels reached 237 percent of average due to a series of intense winter storms, representing the highest recorded level since measurements began in the mid-1980s. In 2024, snowpack exceeded 100 percent of normal conditions by the end of March. On April 1, 2025, statewide snowpack measured approximately 96 percent of normal, with below-average snow water content. As of April 2026, there was zero percent of snow cover. Notably, the last consistently normal snowpack measurement prior to this period occurred on April 1, 2010, underscoring the increasing fluctuation in annual conditions.

In addition to hydrologic impacts, rising global temperatures are expected to contribute to significant sea level rise, projected to range from 12 to 79 inches by 2100 under high-emission scenarios. Sea level rises pose risks to coastal infrastructure, including levees, wetlands, and estuarine systems. In particular, the Sacramento-San Joaquin River Delta, a critical hub for California's water supply, faces increased vulnerability to saltwater intrusion. This process could degrade water quality and reduce the reliability of supplies delivered to southern regions of the state.

Overall, climate change is a critical factor influencing water supply availability, reliability, and demand at both local and regional scales. Its effects necessitate adaptive planning and continued evaluation, as discussed in subsequent sections of this report.

3.4 Service Area Population and Demographics

§ 10631(a) (Describe the service area) current and projected population... The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier . . . (population projections) shall be in five-year increments to 20 years or as far as data is available.

3.4.1 Service Area Population

In RPU's 2020 UWMP, the population was determined through using the California Department of Finance figures. This 2025 UWMP uses California Department of Finance (DOF) population projections as RPU's official long-term growth forecast.

RPU's service area is over 80% built out. The population within the service area has had an increasing growth rate since 1990. The population data presented in Table 3-3 was developed and supplied by RPU.

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

RPU Population	2025	2030	2035	2040	2045	2050
	302,398	305,045	307,714	310,407	313,124	315,865

3.4.2 Other Social, Economic, and Demographic Factors

§ 10631(a) Describe . . . other social, economic, and demographic factors affecting the supplier's water management planning.

The Southern California Association of Governments (SCAG) has prepared local profiles for each SCAG member jurisdiction every two years since 2009. The local profiles provide jurisdictions with updated data and analysis to support community planning and outreach efforts. The following information was obtained from the SCAG profile of 2022. Since over 90% of RPU's service area is made up of the City of Riverside, the City of Riverside's demographic factors were considered representative of the RPU service area.

Household Income

As of 2022, the City of Riverside's median household income of $83,448 was 1.26% below the county's median.

Housing

City of Riverside's housing supply is strongly oriented to single-family (SF) homes, with 68.6% of the housing stock in 2022 either detached or attached single-family homes. Multi-family (MF) homes and mobile homes accounted for 28.8% and 2.6%, respectively.

Education Levels

In 2022, 82.6% of the population completed high school or higher, and 24.4% completed a bachelor's degree or higher.

Health Status

According to SCAG, the health status for the City of Riverside is comparable to Riverside County, as shown in Table 3-4.

Table 3-4 – Public Health Indicators

City	Obesity	Asthma	Diabetes	Heart Disease
City of Riverside	35.7%	15.3%	13.0%	6.7%
Riverside County	33.9%	15.6%	12.6%	8.2%

Age Distribution

According to SCAG, the City of Riverside median age is 32.4, whereas the County's median age is 36.3. The population share by age is illustrated in Table 3-5 below.

Table 3-5 – Population Share by Age

City	Age 0-4	Age 5-19	Age 20-34	Age 35-54	Age 55-64	Age 65+
City of Riverside	5.8%	22.3%	25.4%	25.2%	10.0%	11.3%

3.5 Land Uses within Service Area

> *§ 10631(a) The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities…*

Riverside Public Utilities' service area has various planning jurisdictions, each with its own set of land use designations and definitions. The Southern California Association of Governments (SCAG) Land Use database was updated in 2022. Using this database, the land use relevant to RPU's service area was broken down into 7 categories. Each category was broken down into several sub-categories as follows:

1. Single Family Residential
2. Mixed Residential
3. Commercial and Services
4. Landscape
5. Agricultural Irrigation
6. Other Potable
7. Wholesale

Land usage within RPU's service area was analyzed and summarized per SCAG's 2022 database.

SCAG collaborated with local jurisdictions in developing the Connect SoCal plan, which is a long-range planning document for the region that balances future mobility and housing needs with economic, environmental and public health goals. This plan was adopted in 2020 and has been finalized in 2024 and contains plans on improving transportation mobility, promoting sustainable communities and pavement improvements.

SCAG obtained input from local jurisdictions on their current and projected future land use to validate the growth projections with local plans and available land. RPU also coordinated with City planning staff to validate the expected growth in population. Future land usage may vary with the growth in population.

Chapter 4 - Water Use Characterization

4.1 Non-Potable Versus Potable Water Use

The current water code requires a description and quantification of water uses, including recycled water use and potential use, in the service area. By doing so, it is recommended to distinguish between potable and non-potable water usage.

As noted in the latest 2025 guidebook, potable water uses are served by the supplier's potable water sources, and non-potable water uses are served by the supplier's non-potable water sources, such as recycled water, remediated groundwater, or even untreated surface or groundwater supplies.

RPU provides wholesale supply to WMWD and the City of Norco. By agreement, RPU delivers potable water to WMWD and Norco, and it delivers non-potable water to WMWD via the Riverside Canal.

RPU meets the water demands of the retail customers within its service area and other types of demand. These additional water uses include:

- Gage Canal Company (GCC) receives all of its water supply from RPU-owned wells and provides water for its agricultural customers via the Gage Canal. The future projections reported by RPU account for the water delivery obligations to GCC.
- WMWD has leased extraction rights in the Bunker Hill Basin, through an existing agreement. RPU extracts water and delivers it to WMWD through the RPU distribution system. This water use is classified as "wheeled" since RPU does not have the rights to extract it. This "wheeled" water is excluded from RPU demand and RPU demand projections.

RPU's potable distribution system delivers water to RPU retail customers, the City of Norco, and WMWD. RPU's non-potable distribution system delivers water to the GCC and WMWD. RPU's recycled distribution system delivers water to RPU retail customers. All recycled water delivered by RPU is classified as non-potable. All of RPU's retail customers are metered.

4.2 Past, Current, and Projected Water Use by Sector

4.2.1 Water-Use Sectors Listed in Water Code

§ 10631(d)(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

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

(I) Agricultural.

(J) Distribution system water loss.

In the past five years, RPU water use has slightly decreased. RPU does their best to implement water conservation concepts. Riverside's service area water uses are listed below, along with their corresponding definition. The water use sectors are:

4.2.1.1 Single-Family Residential

A single-family dwelling unit. A lot with a free-standing building containing one dwelling unit that may include a detached secondary one dwelling. RPU classifies all water meters smaller than 2 inches as single-family residential.

4.2.1.2 Multi-Family

Multiple dwelling units contained within one building or several buildings within one complex.

4.2.1.3 Commercial

A water user that provides or distributes a product or service. RPU classifies meters that are 2 inches and bigger for commercial use.

4.2.1.4 Industrial

A water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development. This sector is not applicable to RPU.

4.2.1.5 Institutional (and Governmental)

A water user dedicated to public service. This type of user includes, among other users, higher-education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

RPU sales category "Commercial/Institutional" cover both "Commercial" and "Institutional" per the UWMP classification. However, for the purposes of the submittal table entry data, it would fall under Other but will show as Commercial/Institutional under description.

4.2.1.6 Landscape

Water connections supply water solely for landscape irrigation. Such landscapes may be associated with multi-family, commercial, industrial, or institutional/governmental sites, but are considered a separate water use sector if the connection is solely for landscape irrigation.

4.2.1.7 Sales to Other Agencies (Including Exchanges and Transfers)

These are water sales made to another agency (referred to here as water Supplier). Projected sales may be based on projected demand provided by the receiving water Supplier.

4.2.1.8 Conjunctive Use, Groundwater Recharge, Saline Intrusion Barriers

Conjunctive Use

A management strategy where surface water is managed in conjunction with an underground aquifer. For purposes of the UMWP, conjunctive use is seen as a management strategy rather than as a water use. This sector is not applicable to RPU.

Groundwater Recharge

The managed and intentional replenishment of natural groundwater supplies using man-made conveyances such as infiltration basins or injection wells. Water used for groundwater banking or storage may also be reported using this sector. If all, or a portion of, the groundwater recharge water is subsequently pumped out of the basin in the same year, that water will be reported by the Supplier as a supply from groundwater

Saline Water Intrusion

Injection of water into a freshwater aquifer to prevent the intrusion of saltwater. This sector is not applicable to RPU.

4.2.1.9 Agriculture

Water used for commercial agricultural irrigation.

4.2.1.10 Distribution System Losses

Reporting distribution system losses is required by the Water Code.

4.2.2 Optional Water-Use Sectors in Addition to those listed in Water Code

RPU's service area does not include other water demand sectors which are not listed in the CWC.

4.2.3 Past Water Use

Table 4-1 delineates historical water use by water use sector derived from historical water delivery records.

Table 4-1 – RPU Historic Water Demands (2021 through 2024)

Type of Service	Additional Description	CY 2021 (AFY)	CY 2022 (AFY)	CY 2023 (AFY)	CY 2024 (AFY)
Single Family		34,905	32,798	28,408	30,290
Multi-Family		6,160	5,788	5,013	5,345
Commercial / Institutional		15,871	16,057	12,600	13,161
Landscape		2,163	2,113	3,089	3,607
Agricultural Irrigation		1,416	1,513	994	1,186
Other	Fire, Temporary, Special Service	355	552	459	565
Sales to Other Agencies	Wholesale to WMWD	841	1,863	731	19
Sales to Other Agencies	Wholesale to Norco	84	23	-	768
Losses	Potable Losses	5,502	6,086	5,707	6,092
Other	UCR Conveyance	901	992	830	957
	Sub-total for Potable	**68,198**	**67,786**	**57,832**	**61,990**
Agricultural Irrigation	GCC (Upper)	6,303	6,903	4,785	5,606
Agricultural Irrigation	GCC (Lower)	4,253	4,006	3,528	3,443
Other	Overlying Uses	1,050	529	-	-
Sales to Other Agencies	WMWD	1,476	1,465	571	447
Losses	Irrigation Water Losses	666	56	125	105
Other	Recycled Water	174	206	155	166
	Subtotal – Non-Potable	**13,922**	**13,165**	**9,164**	**9,767**
	Total Potable and Non-Potable	**82,120**	**80,950**	**66,996**	**71,758**

4.2.4 Current Water Use

Table 4-2 delineates RPU's current water use by water use sector derived from water delivery records.

Table 4-2 – RPU 2025 Water Demands (DWR Table 4-1R)

Type of Service	Additional Description	CY 2025 (AFY)
Single Family		31,655
Multi-Family		5,586
Commercial / Institutional		13,566
Landscape		3,866
Agricultural Irrigation		1,199
Other	Fire, Temporary, Special Service	500
Sales to Other Agencies	Wholesale to WMWD	867
Sales to Other Agencies	Wholesale to Norco	823
Losses	Potable Losses	4,151
Other	UCR Conveyance	956
	Sub-total for Potable	**63,169**
Agricultural Irrigation	GCC (Upper)	8,947
Agricultural Irrigation	GCC (Lower)	878
Other	Overlying Uses	-
Sales to Other Agencies	WMWD	1,156
Losses	Irrigation Water Losses	621
Other	Recycled Water	164
	Subtotal – Non-Potable	**11,766**
	Total Potable and Non-Potable	**74,935**

4.2.5 Projected Water Use

§ 10635(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

§ 10633(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

§ 10631(d) For an urban retail water supplier, quantify, to the extent records are available,… projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors

The predictability of water usage is an important element in planning future water supplies. The demand projections for 2025 and beyond represent the projected population for that year times the average per-capita demand of 180 GPCD. The distribution of demands across the water use sectors is proportional to the average demand from 2030 to 2050.

RPU has developed its own methodology for demand projections. By utilizing its population projections and its roughly 1% annual growth rate per year in its service area along with the assumption that the demand per user type stayed consistent with its 5-year average, future demands were projected as shown in the following table. Population projections used in this UWMP are based on data from the California Department of Finance (DOF). As shown in the data, there is a downward trend with residential consumption, which is expected to continue. New expanding projects have been considered and are added into the future demand table.

For its wholesale projections, RPU has its demand separated to various agreements. These agreements will remain consistent for projected deliveries and are included as appendices in this UWMP. Appendix G is the water agreement between RPU and WMWD and Appendix H is the water agreement between RPU and the City of Norco. For this 2025 UWMP, it is assumed that no changes will be made to the agreements between WMWD and City of Norco.

Projected recycled water and other non-potable uses are based on current planning strategies and conservation efforts. These projections remain consistent unless otherwise noted by future upgrades as indicated in the recycled water master plan and other planning documents.

Table 4-3 – RPU Projected Water Demands (DWR Table 4-2R)

Type of Service	Additional Description	CY 2030 (AFY)	CY 2035 (AFY)	CY 2040 (AFY)	CY 2045 (AFY)	CY 2050 (AFY)
Single Family		34,622	34,925	35,327	35,539	35,850
Multi-Family		6,110	6,163	6,234	6,272	6,327
Commercial / Institutional		15,608	15,745	15,926	16,022	16,162
Landscape		3,250	3,279	3,317	3,336	3,366
Agricultural Irrigation		1,382	1,394	1,410	1,418	1,431
Other	Fire, Temporary, Special Service	533	537	543	547	551
Sales to Other Agencies	Wholesale to WMWD	2,000	2,000	2,000	2,000	2,000
Sales to Other Agencies	Wholesale to Norco	1,000	1,000	1,000	1,000	1,000
Other	Cal Baptist	150	150	150	150	150
Other	Adrenaline Sports Resort (ASR)	400	400	400	400	400
Other	Riverside Sports and Entertainment District	500	500	500	500	500
Losses	Potable Losses	4,305	4,343	4,393	4,419	4,458
Other	UCR Conveyance	2,000	2,000	2,000	2,000	2,000
	Sub-total for Potable	71,860	72,436	73,200	73,603	74,195
Agricultural Irrigation	GCC (Upper)	4,000	4,000	4,000	4,000	4,000
Agricultural Irrigation	GCC (Lower))	9,500	9,500	9,500	9,500	9,500
Sales to Other Agencies	WMWD	500	500	500	500	500
Losses	Irrigation Water Losses	100	100	100	100	100
Other	Recycled Water	5,700	9,270	9,270	9,270	9,270
	Subtotal – Non-Potable	19,800	23,370	23,370	23,370	23,370
	Total Potable and Non-Potable	91,660	95,805	96,570	96,973	97,565

Water Use for Lower Income Households

> *§ 10631.1(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.*
>
> *(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower-income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower-income households.*
>
> *California Health and Safety Code Section 50079.5 (a)*
>
> *"Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families... In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.*

The DAC areas within the City of Riverside's service area were identified to calculate the approximate projected total percentages for the following sectors:

- Single -Family
- Multi-Family
- Commercial
- Industrial
- Institutional/Government
- Landscape

Once the number of parcels within each sector was identified and organized, the totals for parcels located within the DAC were divided by the total number of parcels in the overall system for each sector to determine the percentage of the DAC portions. These percentages were then applied to the Total System water use projections for each sector to estimate the projected lower-income water use.

Table 4-4 – Low Income – Projected Residential Water Use

Type of Service	Additional Description	CY 2030 (AFY)	CY 2035 (AFY)	CY 2040 (AFY)	CY 2045 (AFY)	CY 2050 (AFY)
Single Family		10,409	10,500	10,621	10,685	10,779
Multi-Family	Apartments, Townhouses, Mobile Homes	1,837	1,853	1,874	1,886	1,902
Total		**12,246**	**12,353**	**12,496**	**12,571**	**12,681**

RPU's water use projections through FY 2030-50 include projected water demands for lower-income single-family and multi-family households. The total number of lower-income households within RPU's service area was estimated based on a review of the DCA GIS portal for

disadvantaged communities from 2023. The median household income ranges from $47,656 to $76,250 in 2023.

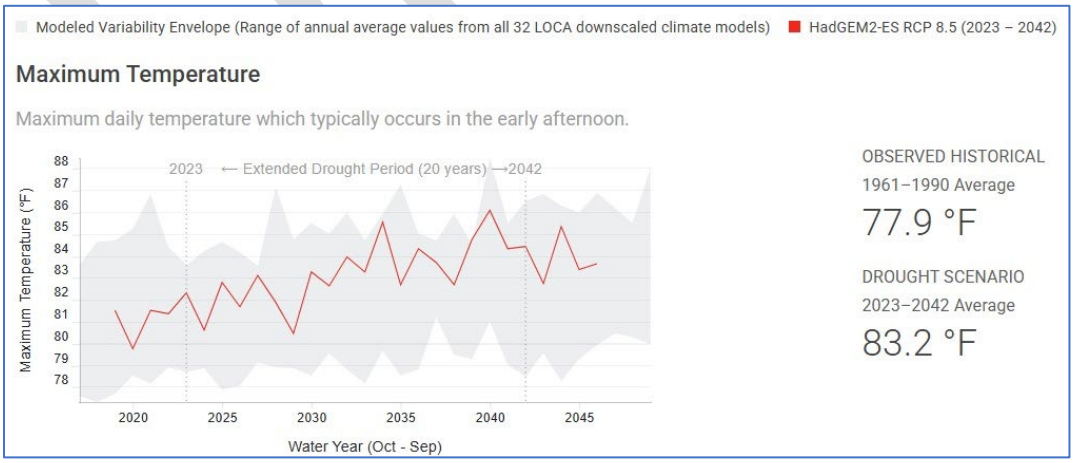
Based on this 26 percent use factor of the total residential water demands, the projected average water demand for lower-income households is about 2,131 AFY for Single Family Residential and 1,029 AFY for Multi-Family Residential by FY 2030-45. The projected water demands for lower-income households were included in RPU's total projected water demands, as indicated in Table 4-3.

Climate Change Considerations

> *§ 10630 It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.*
>
> *§ 10635(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following…*
>
> *(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.*

The maximum temperature of the service area from 2023 through 2045 during the extended drought period is expected to range from approximately 80°F to 86°F, with an average of 83.2°F. This is shown below in Figure 4-1. It is important to note that there is an anticipated rise in temperature as time continues.

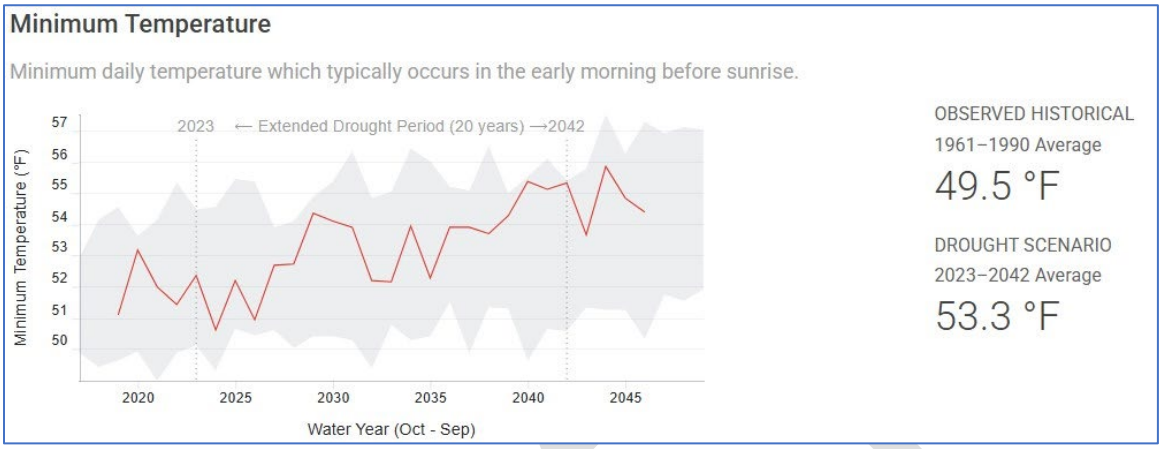
Figure 4-1 – Extended Drought Period Maximum Temperature



The minimum temperature of the service area from 2023 through 2045 during the extended drought period is expected to range from approximately 51°F to 56°F, with an average of 53.3°F.

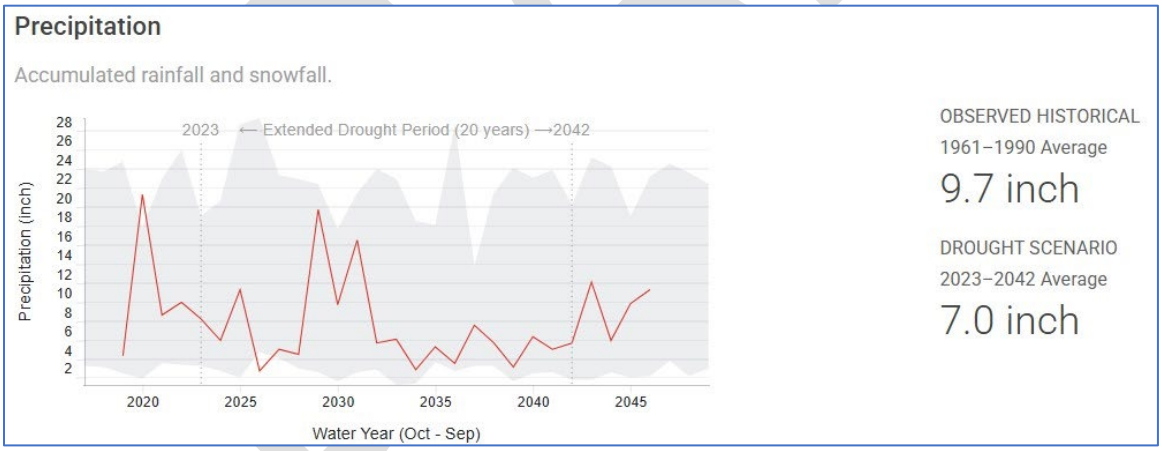
This is shown below in Figure 4-2. As maximum temperatures are projected to continue rising, the same is projected for minimum temperatures in the future.

Figure 4-2 – Extended Drought Period Minimum Temperature



The precipitation during the extended drought period is expected to have elongated periods of low precipitation. The precipitation at the lowest points is around 3 inches of accumulated rainfall and snowfall but may vary to 21 inches during the more favorable periods of rain. While the average of precipitation is expected to be 7 inches, it is inflated due to the years with very infrequent yet significant precipitation. This is shown below in Figure 4-3

Figure 4-3 – Extended Drought Period Precipitation



The expected trend during an extended 20-year drought period is an increase in temperature, with severely elongated periods of low precipitation. As a result, RPU should plan for possible temperature increases and decreases in precipitation. This can be accounted for through various methods, but it is not limited to water conservation methods for customers, increasing system supplies, or demand management measures to promote conservation.

A Drought Risk Assessment (DRA) was done for RPU to take into consideration historical data as well as possible changes in supply and demand under climate change conditions to assess the risk of drought. This analysis can be found in this report in Chapter 7.

Climate change is anticipated to affect water supply and planning by causing increased temperatures and droughts that could cause a long-term water supply shortage. In the case of long-term supply shortage due to these events, a Water Shortage Contingency Plan (WSCP) will be put in place. Chapter 8 of this report details the actions and methodologies of this WSCP.

4.3 Distribution System Water Loss

§ 10631(d)(3)(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34

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

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

4.3.1 Previous Five Years of Distribution System Losses

Distribution system losses are the physical water losses from the water distribution system and the supplier's storage facilities including customer consumption. The American Water Works Association (AWWA) Audit Software was used to obtain the water audit data validity score of its system. Table 4-5 provides a summary of the results for the previous four years and Appendix I contains the AWWA Audits for the past five fiscal years.

Table 4-5 – AWWA Audit Water Losses

Data	CY 2021 (AFY)	CY 2022 (AFY)	CY 2023 (AFY)	FY 2024 (AFY)	FY 2025 (AFY)
Water Supplied	66,440	65,598	57,931	58,792	64,735
Authorized Consumption	61,614	60,101	51,787	52,879	59,708
Water Losses	4,826	5,497	6,144	5,913	5,026
Apparent Losses	440	280	1,100	1,096	291
Real Losses	4,386	5,217	5,044	4,816	4,736
Non-Revenue Water	5,570	6,045	7,368	7,212	6,596
Water Audit Data Validity Score	86	80	72	72	88
Note: 2024 - 2025 were reported on a fiscal year, while 2021 - 2023 were reported on a calendar year basis.					

4.3.2 Progress Toward Meeting the Water Loss Performance Standard

Retail suppliers must report whether their Water Loss Performance Standard has been met. While this standard does not have to be met until 2028, Water Code Section § 10631(d)(3)(C) requires that data be included. The number of connections, volume of total real loss, and volume of total apparent loss come from the latest Water Audit. For RPU, the latest Water Audit covered the period from FY 2024-2025 (July 1, 2024, through June 30, 2025). The 2028 Real and Apparent Water Loss Standards and calculated losses are derived from the Waterboard's calculations.

Utilizing the latest water audit as discussed above, the real water loss of 61.7 gallons per service connection per day (GPSCD) is slightly higher than RPU's calculated standard of 60.9 GPSCD. Real losses are defined as losses in a water system that is attributed to something physical (i.e. water loss through pipeline network, storage tanks, meter connections, etc.). On the other hand, RPU's apparent water losses (3.8 GPSCD) are significantly lower compared to its apparent water loss standard of 17.6 GPSCD. This indicates that RPU is being efficient with its customer meter practices by minimizing errors in billing or unauthorized usage. However, the higher quantity of real losses could indicate leaks that are not being captured, or possibly broken pipelines in its water system. RPU will continue to do its due diligence to meet its real water loss standard before 2028.

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

2028 Real Water Loss Standard (GPSCD)	Number of Connections (per latest AWWA Audit)	Volume of Total Real Loss (AFY)	Real Water Loss (GPSCD)	2028 Apparent Water Loss Standard (GPSCD)	Volume of Total Apparent Loss (AFY)	Apparent Water Loss (GPSCD)
60.9	68,553	4,736	61.7	17.6	291	3.8

Chapter 5 - SB X7-7 Baselines, Targets, and 2025 Reporting

With the adoption of the Water Conservation Act of 2009, also known as SB X7-7, the State of California is required to reduce urban per capita water use by 20 percent by the year 2020. The urban water use target was created to ensure a supplier in the state would achieve a 20% reduction by 2020 as the statewide legislative requirement.

The legislation developed seven methodologies to use along with a set of criteria for adjusting daily per capita water use for the baseline and targets. Riverside Public Utilities used Methodology No.1, Gross Water Use, which follows American Water Works Association (AWWA) Manual M36 guidance for calculating Distribution System Input Volume.

5.1.1 Supplier Met 2020 Target in 2020

RPU used a 10-year baseline period from 1999 through 2008 and obtained a baseline period water use of 266 GPCD. The 20% reduction would bring down the 2020 target GPCD to 213 GPCD.

A summary of all the baselines and targets from the 2020 UWMP is shown in Table 5-1.

Table 5-1 – Baseline and Target Summary for 2020 UWMP

Baseline Period	Start Year	End Year	Average Baseline (GPCD)	2020 Confirmed Target (GPCD)
10-15 Year	1999	2008	266	213
5 Year	2004	2008	269	

The gallons per capita per day (GPCD) calculated for 2020 using the SB X7-7 2020 Compliance Form was 213 GPCD (taken from SBX7-7, 7-F Compliance Form, Table 9). The actual 2020 GPCD calculated was 189 GPCD. RPU was successful and able to achieve the targeted reduction for 2020 as shown in the SB X7-7 Table 9 in Appendix J and in Table 5-2 below.

Table 5-2 – 2020 Compliance

Actual 2020 GPCD	Adjustments (GPCD)	Adjusted 2020 (GPCD)	2020 Confirmed Target (GPCD)	Did Supplier Achieve Target Reduction for 2020
189	0	189	213	YES

5.1.2 Funding Eligibility

§ 10608.56(a) On and after July 1, 2026, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

RPU achieved its 2020 Target, as shown in Table 5-2, and is therefore eligible to receive water-related grants or loans from the State of California in compliance with Water Code Section 10608.56(a) requirements.

5.1.3 Nexus to State Water Board Urban Water-Use Objectives

The State Water Board's Making Conservation A Way of Life Regulation on Urban Water-Use Efficiency Standards, Objectives, and Performance Measures (23 CCR Section 965) uses the 2020 Target as a back stop for the Urban Water Use Objectives (UWUO) calculations. Compliance with the UWUO requirements is under the authority of the State Water Board.

RPU understands that the UWUO requirements are not part of this 2025 UWMP requirements but will need to be met on July 1, 2028.

Chapter 6 - Normal Year Water Supply

6.1 Water Supply Analysis Overview

§ 10631(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier [in five-year increments to 20 years or as far as data is available] providing supporting and related information, including all of the following:

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

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

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

§ 10631(h) The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same give-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

6.1.1 Specific Analysis Applicable to All Water Supply Sources

Local groundwater is the primary source of supply for RPU; however, RPU also distributes recycled water for non-potable uses which is supplied from the City of Riverside Regional Water Quality Control Plant. These two locally controlled supplies have been highly reliable.

RPU has an agreement with WMWD that states RPU has access imported water when needed. This agreement can provide RPU with up to 21,700 AFY of imported water. RPU also has an exchange agreement with the City of Norco for the sale of up to 1,000 AFY and the exchange of water during emergencies.

RPU also has access in the Bunker Hill Basin to additional water available for pumping under the City's various storage accounts including 2,459 AF in Riverside's Holding Account, 8,509 AF under Basin Mitigation Account (accumulated account), and 10,293 AF under the New Conservation Storage Account for the period between 1998 to 2012.

6.2 Water Supply Characterization

6.2.1 Purchased or Imported Water

RPU is able to purchase SWP water from WMWD through a connection at the MWD Henry J. Mills Water Treatment Plant (WTP). Up to 30 cubic feet per second (cfs) or 19.4 million gallons per day (mgd) of imported water can be purchased from WMWD through an existing agreement and conveyed through existing infrastructure. Prior to 2009, imported water was mainly purchased during the peak demand months, when needed.

A copy of the agreement between RPU and WMWD for SWP water is included in Appendix G. As of 2020, RPU and the City of Norco entered into an agreement for the sale of up to 1,000 AFY and the exchange of water during emergencies. A copy of the agreement between the RPU and City of Norco is included in Appendix H.

6.2.2 Groundwater

§ 10631(b)(4) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

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

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

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

(D) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The

description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

RPU operates groundwater extraction facilities within five basins: the Bunker Hill, Rialto-Colton, Riverside North, Riverside South, and Arlington Basins. The Riverside Basin is administratively divided into the Riverside North and Riverside South sub-basins along the San Bernardino-Riverside County boundary. Although these sub-basins are managed separately for administrative purposes, they are hydro-geologically interconnected.

Groundwater produced from the Bunker Hill, Rialto-Colton, Riverside North, and Riverside South basins is conveyed to either the potable or non-potable distribution systems based on well location and local water quality conditions. A substantial portion of the raw groundwater extracted from RPU wells undergoes treatment prior to delivery into the potable system. The City of Riverside anticipates that groundwater treatment requirements will persist and may increase over time.

RPU does not currently have facilities to operate in Arlington Basin; however, it can extract water when deemed economically feasible. Due to water quality concerns, no water has been extracted in the past five years of this study period.

RPU currently has 52 active wells (45 producing potable water and 7 producing non-potable water). RPU has 34 monitoring wells (21 of them being inactive).

Groundwater Judgments

Western-San Bernardino Judgment

The Western-San Bernardino Judgement (*Western Municipal Water District of Riverside County v. East San Bernardino County Water District*, Case No.78426), affects the RPU's groundwater production in several basins (Rialto-Colton Basin, Riverside-Arlington Basin, and the San Bernardino Basin Area (SBBA), which also contains Lytle and Bunker Hill Basin. The Western-San Bernardino Judgement established the entitlements and groundwater replenishment obligations of the two major water agencies, San Bernardino Valley Municipal Water District (Valley District) and WMWD. A copy of the Western-San Bernardino Judgement (Judgement) is included as Appendix K.

The Western-San Bernardino Judgement provides:

- Determination of the safe yield of SBBA
- Clarification of specific amounts of water extraction from SBBA by the plaintiff parties (parties in Riverside County)
- Valley District must replenish their extractions from SBBA by non-plaintiffs (entities in the Valley District service area) in aggregate exceeding 72.05% of the safe yield, which is 167,228 AFY
- WMWD must replenish the Rialto-Colton and Riverside-Arlington basins if the extractions in use in Riverside County in aggregate exceed certain specific amounts
- Valley District must replenish the Rialto-Colton and Riverside -Arlington basins if water levels fall below the specific water level elevations in certain wells.

The adjudication established the Western–San Bernardino Watermaster (Watermaster), composed of two members, one nominated by Valley District, and one nominated by WMWD, both appointed by the presiding judge. The Watermaster is responsible for preparing an annual report that documents groundwater pumping and export activities for the preceding year, as well as groundwater elevations, streamflow, and water quality conditions. The Judgment further required the Watermaster to define base extraction and export rights based on the average annual quantities produced and exported during the five-year period from 1959 through 1963.

A separate but contemporaneous adjudication, the Orange County Judgment *(Orange County Water District v. City of Chino et al.*, Case No. 117628), established water rights within the lower Santa Ana River system. Together, these adjudications help define and coordinate water rights within the upper Santa Ana River watershed, ensuring that sufficient water resources are managed to meet downstream flow obligations imposed under the Orange County Judgment.

Basin Description

Bunker Hill Basin

The Bunker Hill Basin is a valley-fill aquifer system consisting of six confined, water-bearing units situated between the San Andreas and San Jacinto Faults. Recharge to the basin occurs primarily from surface runoff originating in the San Bernardino and San Gabriel Mountains. Anthropogenic influences, including wastewater discharge practices and the use of imported water, have altered the natural recharge regime and contributed to reductions in net groundwater recharge.

Groundwater recharge activities within the basin are actively managed by Valley District, WMWD, and the San Bernardino Valley Water Conservation District (SBVWCD). RPU's export rights from the Bunker Hill Basin, as defined under the San Bernardino Basin Area (SBBA) adjudication, incorporate provisions related to water conservation benefits associated with the operation of Seven Oaks Dam are summarized below.

Table 6-1 – RPU Export Rights from SBBA Reflecting New Conservation

	Export Right (AF)	New Conservation (195 CFS) (AF)	Adjusted Right (AF)
City of Riverside (RW Co and Gage Canal Co)	49,542	1,719	51,261
Agua Mansa and Meeks & Daley Water Co – RPU Share	2,908	100	3,008
Riverside Highland Water Co – RPU Share	440	-	440
Regents of the University of California – Agreement	536	18	554
Total	**53,426**	**1,837**	**55,263**

Rialto-Colton Basin

The Rialto-Colton Basin is bounded by the San Jacinto Fault to the northeast, the Rialto–Colton Fault to the southwest, the San Gabriel Mountains to the northwest, and the Badlands to the southeast. The basin comprises four hydro stratigraphic units, with aquifer conditions ranging from unconfined to partially confined.

Extraction rights established under the Judgment are based on groundwater production during the five-year base period from 1959 through 1963. For the Rialto–Colton Basin, the base period applies only to groundwater utilized within Riverside County. Provided that Valley District maintains specified minimum groundwater elevations within the basin, extractions for use within the San Bernardino Valley are not subject to limitation. The Judgment defines a base period export right of 3,381 acre-feet per year (AFY) for groundwater exported for use within Riverside County. If extractions exceed the base period average over a five-year period or exceed the base period by more than 20 percent in any single year, WMWD is required to replenish the basin in the subsequent year in an amount equal to the excess above the 20-percent peaking allowance, unless offset by previously accrued credits derived from underproduction or imported water.

RPU's allocated export rights from the Rialto-Colton Basin total 2,728 AFY, consisting of 2,418 AFY for the City of Riverside and 310 AFY associated with RPU's shares in Agua Mansa and Meeks & Daley Water Company. According to the 2025 Watermaster Annual Report (Appendix F), WMWD has accumulated a total of 623,962 acre-feet in credits for the Rialto-Colton and Riverside Basins combined.

Riverside North Basin

The Riverside North sub-basin is bounded by the Rialto–Colton Fault to the north, the Arlington Basin to the south, the Box Springs Mountains to the east, and the Chino Basin to the west. The Riverside Basin is an alluvial-fill, predominantly unconfined groundwater system. Under the terms of the Judgment, the basin is administratively divided along county boundaries, with Riverside North located in San Bernardino County and Riverside South in Riverside County.

Extraction rights established by the Judgment are based on groundwater production during the 1959–1963 base period. Provided that Valley District maintains specified minimum groundwater elevations within Riverside North, extractions for use within the San Bernardino Valley are not subject to limitation. The Judgment establishes a base period export right of 21,085 acre-feet per year (AFY) for the use of Riverside North groundwater within Riverside County. If extractions for use in Riverside County exceed the base period average over a five-year period or exceed the base period by more than 20 percent in any single year, WMWD is required to replenish the basin in the subsequent year in an amount equal to the excess above the 20-percent peaking allowance. This replenishment obligation may be offset by previously accrued credits resulting from imported water or production below the base period extraction.

RPU's allocated export rights from Riverside North total 10,902 AFY. According to the 2025 Watermaster Annual Report (Appendix F), WMWD has accumulated a combined total of 623,962 acre-feet in credits for the Rialto–Colton and Riverside Basins.

Riverside South Basin

For the Riverside South sub-basin, the Western–San Bernardino Judgment established a five-year base period extraction of 29,633 acre-feet for use within Riverside County. If extractions exceed the base period average over a five-year period or exceed the base period by more than 20 percent in any single year, Western Municipal Water District (WMWD) is required to replenish the basin in the subsequent year in an amount equal to the excess above the 20 percent peaking allowance. This replenishment obligation may be reduced through the application of credits accrued from prior years due to production below the base period or the importation of supplemental water supplies.

RPU's allocated extraction rights from Riverside South total 16,880 acre-feet per year (AFY). According to the 2025 Watermaster Annual Report, WMWD has accumulated a combined total of 623,962 acre-feet in credits for the Rialto–Colton and Riverside Basins.

Arlington Basin

The Arlington Basin is an alluvial aquifer system located between the Riverside South sub-basin and the Temescal Basin. The basin is not currently utilized by RPU due to elevated concentrations of total dissolved solids and nitrates, which limit its suitability as a potable water source without treatment. However, the City may consider future use of the Arlington Basin if the cost of developing alternative supplies increases to the extent that treatment of this resource becomes economically viable. The Arlington Basin is not subject to adjudication. A Groundwater Sustainability Plan (GSP) is currently being developed to comply with the requirements of the Sustainable Groundwater Management Act (SGMA). RPU is participating in the GSP development process in an observer capacity.

Groundwater Management Information

Groundwater management activities are conducted in coordination with regional agencies, including Western Municipal Water District (WMWD), San Bernardino Valley Water Conservation District (Conservation District), the Santa Ana Watershed Project Authority (SAWPA), and Valley District. The court-appointed Western–San Bernardino Watermaster is responsible for overseeing basin management and reporting on groundwater conditions. On an annual basis, Valley District prepares an engineering report to establish replenishment requirements for the Bunker Hill Basin for the ensuing water year.

In 2005, the Upper Santa Ana Water Resources Association (USAWRA) established the Basin Technical Advisory Committee (BTAC), with Valley District serving as the lead agency, to develop an Integrated Regional Water Management Plan (IRWMP) for the Upper Santa Ana River Watershed. The IRWMP was completed in 2007, with the most recent update finalized in 2020. The plan emphasizes long-term water resource management in the Bunker Hill and Rialto–Colton Basins, with a focus on reducing reliance on imported water supplies. BTAC continues to meet monthly to support coordinated management efforts, including optimization of groundwater recharge and extraction operations.

Valley District has established target groundwater elevation ranges for the Bunker Hill Basin and is required under the Judgment to maintain specified groundwater levels within the Rialto–Colton Basin and Riverside North sub-basin. In 2010, SAWPA adopted the One Water One Watershed (OWOW) IRWMP, which provides a comprehensive planning framework for

the entire Santa Ana River watershed. RPU participated in the development of the OWOW plan and subsequent updates completed in 2014 and 2018.

RPU contributes to regional groundwater management as a member of both USAWRA and BTAC. In collaboration with WMWD, Valley District, and other water retailers producing from the Riverside Basin, RPU also participated in the development of a Groundwater Management Plan (GWMP) for the Riverside North and Riverside South sub-basins. GWMP is intended to enhance long-term sustainability through the coordinated management of groundwater quantity and quality.

As mentioned earlier, RPU does not currently have facilities in operation in the Arlington Basin; however, it can extract water when deemed economically feasible due to water quality concerns.

Other Considerations

The Integrated Regional Water Management Plan (IRWMP) concluded that the Bunker Hill and Lytle sub-basins (collectively within the San Bernardino Basin Area) and the Rialto-Colton Basin are experiencing overdraft conditions; however, available supplies remain sufficient to meet established replenishment obligations. The 2011 Riverside Groundwater Management Plan identified that the Riverside North sub-basin is currently in an over-drafted condition and projected that both Riverside North and Riverside South will continue to experience overdraft under future demand scenarios.

Pursuant to the Judgment, Valley District is responsible for maintaining specified groundwater elevations within the Bunker Hill and Rialto–Colton Basins, as well as within the Riverside North sub-basin. The Judgment also requires Western Municipal Water District (WMWD) to replenish groundwater in the Rialto–Colton, Riverside North, and Riverside South sub-basins when extractions exceed base period allocations. In recent years, WMWD's replenishment obligations have not been triggered, whereas Valley District has continued to implement measures to satisfy its water level maintenance requirements.

The Arlington Basin will be managed in accordance with the Groundwater Sustainability Plan (GSP) currently under development. RPU supports regional groundwater management through ongoing monitoring and reporting efforts. This includes independent monitoring of groundwater levels and water quality within the Bunker Hill, Riverside, Rialto–Colton, and Arlington basins. Additionally, all groundwater production is metered, and extraction data are reported to the Western–San Bernardino Watermaster in accordance with adjudication requirements.

Past Five Years of Groundwater Pumping

RPU's historical groundwater production for retail and wholesale deliveries from the past five years is included in Table 6-2. RPU's groundwater production is conveyed through its potable and non-potable distribution systems to retail customers and wholesale customers; however, it is not feasible to identify which wells produced the water delivered to retail customers and which wells produced the water delivered to wholesale customers. For that, Table 6-2 is showing all groundwater production on one single table.

Table 6-2 – Historical Groundwater Pumping – Retail Deliveries (DWR Table 6-1R)

Groundwater Type	Potable or Non-Potable	Location or Basin Name	2021 (AF)	2022 (AF)	2023 (AF)	2024 (AF)	2025 (AF)
Alluvial Basin	Potable	Bunker Hill	50,604	50,844	42,324	45,116	47,468
Alluvial Basin	Potable	Rialto-Colton	-	-	-	-	-
Alluvial Basin	Potable	Riverside North	6,451	5,791	8,038	8,986	8,097
Alluvial Basin	Potable	Riverside South	14,912	15,170	12,268	12,165	11,938
Alluvial Basin	Non-Potable	Bunker Hill	6,303	6,903	4,785	5,606	8,947
Alluvial Basin	Non-Potable	Rialto-Colton	75	244	158	28	701
Alluvial Basin	Non-Potable	Riverside North	1,215	671	196	253	384
Alluvial Basin	Non-Potable	Riverside South	5,879	5,096	3,846	3,713	1,569
Total			**85,440**	**84,718**	**71,615**	**75,868**	**79,104**
Bunker Hill - WMWD Wheeling			4,727	4,727	4,727	4,727	4,727
RPU's Total Groundwater Production (Including Wholesale Deliveries)			**80,713**	**79,991**	**66,888**	**71,141**	**74,376**
Wholesale to WMWD			841	1,863	731	19	867
Wholesale to Norco			84	23	-	768	823

6.2.3 Surface Water

RPU intends to augment natural recharge in the Bunker Hill and Riverside basins through conjunctive use projects. These projects will provide enhanced groundwater recharge when excess water is available, with the intent of sustaining groundwater production during dry periods. Table 6-9 includes a summary of the projects.

6.2.4 Stormwater

Local stormwater is a possible water supply for RPU's service area. While Riverside County Flood Control (RCFC) and Water Conservation District (WCD) and the San Bernardino County Flood Control District (SBCFCD) own and operate the existing regional flood and control systems in and around RPU's service area, opportunities are available for RPU to capture and recharge additional stormwater.

The IWMP included an assessment of stormwater capture opportunities. The findings of this analysis helped define several potential water supply projects, which were further developed and described in the IWMP. RPU is continuing to investigate and develop these potential projects; they are summarized in Table 6-9.

6.2.5 Wastewater and Recycled Water

§ 10633R The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

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

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

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

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

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

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

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

The City of Riverside – Public Works Department operates and maintains the Riverside Regional Water Quality Control Plant (RWQCP), which has a capacity of 46 mgd. The RWQCP's service area extends beyond RPU's service, it serves some areas in Jurupa, Rubidoux, and Edgemont Community Services Districts.

Tertiary-treated effluent from the RWQCP is discharged into the Santa Ana River (SAR). The RWQCP is required to discharge 25,000 AFY to the SAR, to satisfy part of WMWD's obligation. Originally, the obligation was 15,250 AFY, but the additional flow was a result of mitigation through agreements between the City and California Department of Fish and Wildlife (DFW) and the Center for Biological Diversity. With the reduction, approximately 13,000 to 15,000 AFY of water would be available throughout the year for recycled use, depending on trends in recycled water production.

Recycled Water Coordination

The City of Riverside – Public Works Department and RPU work together to manage and operate the wastewater and recycled water operations and programs. The Public Works Department operates and maintains the RWQCP. The RWQCP is the only wastewater treatment facility that receives wastewater generated within the RPU service boundary.

Wastewater Collection, Treatment, and Disposal

RWQCP collects and treats all wastewater within the RPU service area. The tables below summarize the volume collected from the RPU service area and the volume treated at the RWQCP in 2025

Table 6-3 – Wastewater Collected within the Service Area in 2025 (DWR Table 6-2R)

Name of Wastewater Agency	Wastewater Volume Metered or Estimated	Wastewater Volume Collected from UWMP Service Area in 2025 (AF)	Name of Wastewater Agency Receiving Collected Wastewater	Wastewater Treatment Plant Name	Wastewater Treatment Plant Located within UWMP Area	WWTP Operation Contracted to Third Party
City of Riverside	Metered	29,000	City of Riverside	Riverside Water Quality Control Plant	Yes	No

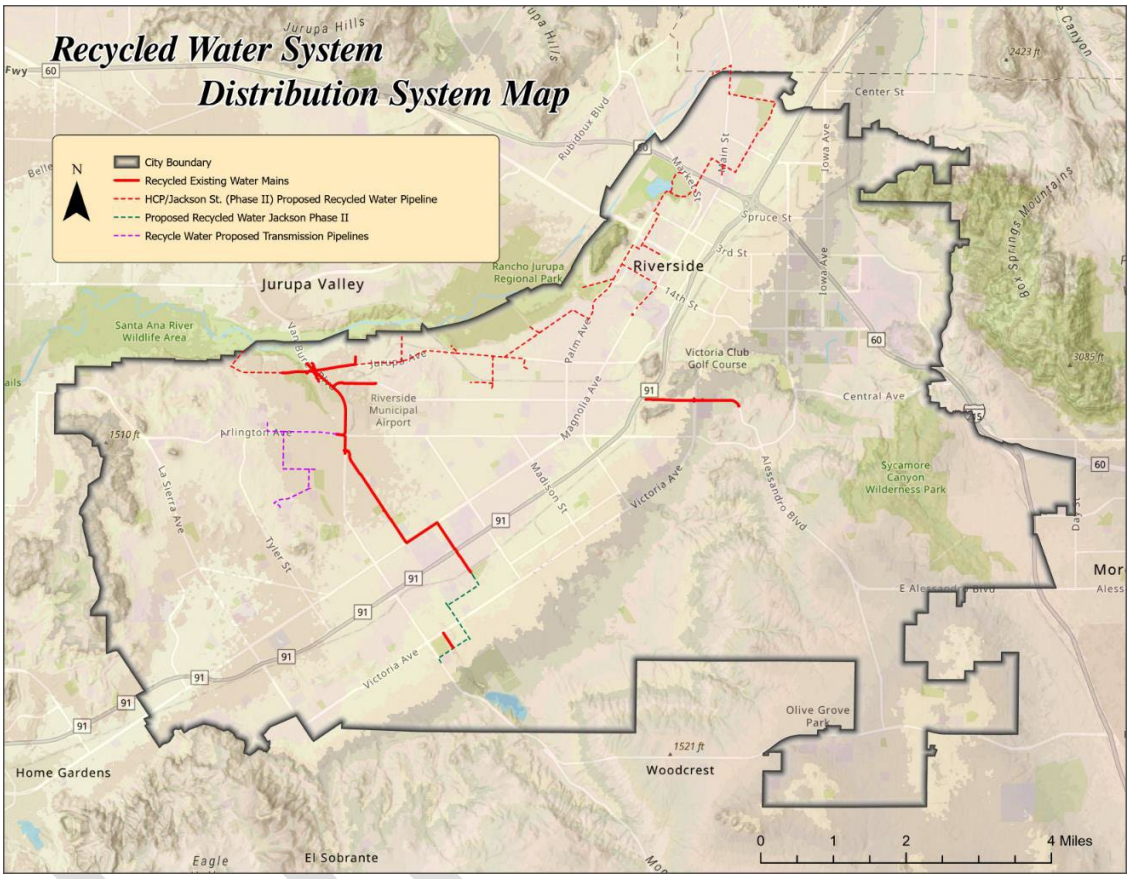
Table 6-4 – Wastewater Treatment and Discharge within the Service Area in 2025 (DWR Table 6-3R)

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number	Method of Disposal	Plant Treats Wastewater Generated Outside the Service Area	Treatment Level	Waste-water Treated	Discharged Treated Wastewater	Recycled within Service Area	Recycled Outside of Service Area	Instream Flow Permit Req'
Riverside Water Quality Control Plant	001	Santa Ana River	CA0105350-011	River Or Creek	Yes	Tertiary	29,000	25,000	164	-	-

Recycled Water System Description

The City currently operates a recycled water distribution system of a combined pipeline length of approximately 8.6 miles. The existing recycled water distribution system is shown below.

Figure 6-1 – Recycled Water Distribution System (Existing and Proposed)



Current, Potential, and Projected Recycled Water Uses

RPU has created potential uses for recycled water within the water system from RWQCP. Expanding the recycled water distribution infrastructure and creating new facilities for groundwater recharge will help implement the potential uses.

Table 6-5 – Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4R)

Use Type	Additional Info	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)	Volume (AF)
Other	Direct use and to WMWD for recharge and non-potable use	200	5,700	9,750	9,750	9,750	9,750	Up to 9,750

Table 6-6 – Recycled Water Use Projections (DWR Table 6-5R)

Use Type	2020 Projection for 2025 (AF)	2025 Actual Use (AF)
Direct use and to WMWD for recharge and non-potable use	5,700	200

Actions to Encourage and Optimize Future Recycled Water Use

The Non-Potable and Recycled Water Master Plan (completed in 2024) and the ordinance titled, "Mandatory Use of Recycled Water (Chapter 14.28 of Riverside Municipal Code) both state how RPU has encouraged and implemented recycled water use. Both are included as appendices, as Appendix L and Appendix M respectively. Per the Non-Potable and Recycled Water Master Plan, there was an overestimation of demand usage related to recycled water compared to the Non-Potable and Recycled Water Master Plan within its Phase 1. The usage was closer to 175 AF to 200 AF and due to the current average annual demand, the total expected increase in recycled water has decreased from 10,026 AFY to 9,720 AFY as shown in the table below.

Table 6-7 – Recycled Water Use Projections (DWR Table 6-6R)

Recycled Water Phase	River Alliance Demand (AFY)	RPU Retail Average Annual Demand (AFY)	Expected Increase in Recycled Water Use (AFY)
Phase 1 (0-5 years)	0	175-200	200
Phase 2 (6-15 year)	4,344	317	4,661
Phase 3 (>15 year)	0	4,410	4,410
Total	**4,344**	**4,927**	**9,720**

6.2.6 Desalinated Water Opportunities

§ 10631(g) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

The Arlington Basin is a local source of groundwater with elevated salt levels. WMWD owns, maintains, and operates the Arlington Desalter to improve the groundwater quality that is supplied to the City of Norco through the five wells in the western part of the basin. The Arlington Basin is not adjudicated and is located downstream of RPU's major water reservoirs. Due to RPU's distance from the ocean, seawater desalination is expected to be cost-prohibitive.

6.2.7 Water Exchanges and Transfers

RPU has multiple interties that can be used to provide additional supply during a state of emergency, as described in its WSCP. RPU is able to receive water through an interconnection with the City of Norco and WMWD during an emergency.

6.2.8 Future Water Projects

§ 10631(f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

RPU has identified several future water supply projects, Table 6-8 provides the summaries.

Bunker Hill Basin Active Recharge Project

This project, led by San Bernardino Valley Water Conservation District (SBVWCD) and WMWD in a collaborative joint-agency project, will utilize existing facilities that has been recently augmented by the newly built Santa Ana River Enhanced Recharge Project basins to assist in capturing stormwater. This project will increase capacity for recharge into the Bunker Hill groundwater basin by an additional 80,000 AF per year overall. As a result of this collaborative effort, RPU's future water supply is expected to increase in 2035 by 2,000 AF.

The Seven Oaks Dam Conservation Project, Enhanced Phase II

This project is a cooperative, interagency project among WMWD, Valley District, RPU, and others that allows the agencies to capture up to 200,000 AFY of previously unallocated stormwater from the SAR. This surface supply is obtained from Seven Oaks Dam, a flood control facility owned by the Army Corps of Engineers, and recharged at new, jointly owned spreading basins immediately downstream from the dam. The cooperative project does not involve the extraction of stored groundwater. Participants, including RPU, would have to use their existing facilities or build new groundwater extraction wells within the Bunker Hill Basin to be able to utilize the allocated water. Phase II of this project is expected to increase RPU's future water supply in 2030 by 1,000 AF.

Program for the Expansion of Recharge Capacity (PERC)

PERC is a comprehensive, multi-year initiative lead by SBVWCD designed with a 50-year planning horizon for the Bunker Hill Basin. By evaluating existing infrastructure and potential new sites, the program identifies strategic opportunities for basin construction, grading modifications, and operational enhancements. Current feasibility reports suggest these improvements could increase the basin's annual recharge capacity by an estimated $8,000$ to $13,000$ acre-feet (AF). The program will potentially increase RPU's water supply starting in 2030 with an approximate 400 AF to about 1,500 AF starting in 2040.

Stormwater Projects

RPU has combined three of its stormwater-related projects into one item RPU will anticipate a gradual increase in future supply based on the proposed implementation years. It will increase from 2,000 AF in 2035, to 4,800AF in 2040 and ultimately to 6,800 AF from these stormwater projects in 2045. The three projects are the following:

Riverside North ASR Project

The project is located on the east side of the SAR, on a tract referred to as the "Flume Well Tract". The implementation of this project would transport stormwater through the in-channel and off-channel to recharge facilities. The off-channel facilities are located west of the SAR on RPU-owned land. The Valley District is in charge of the project and has an implementation year of 2035. With a potential increase in supply for RPU of about 2,000 AF in 2035.

Box Spring Local Stream Recharge and Direct Use

This project would enhance recharge of the Riverside Basin by constructing recharge facilities alongside or integrated with existing RCFC and WCD infrastructure. Stormwater recharge could also be supplemented with recycled water. RPU anticipates an increase in water supply of 2,800 AF around year 2040.

Stormwater Recharge at Columbia, Marlborough, and Kansas Detention Basins

This project would provide groundwater recharge using stormwater. RPU anticipates an increase in water supply of 1,500 AF around year 2045.

Table 6-8 – Future Water Projects (DWR Table 6-7)

Name of Future Projects or Programs	Agency Name	Description	Planned Implementation	Expected Increase in Water Supply to Supplier (AFY)
Bunker Hill Basin Active Recharge Project	WMWD and SBVWCD	This project would provide additional groundwater recharge in the Bunker Hill Basin. Basin Area (SBBA) through the tributaries of the Santa Ana Rivers	2035	2,000
Seven Oaks Dam Phase II Conservation Project (Enhanced)	WMWD, Valley District, and others	Phase II would provide additional groundwater recharge in the Bunker Hill Basin through the Seven Oaks Dam Conservation Project.	2030	1,000
PERC	SBVWCD	This program will evaluate existing infrastructure and potential new sites to identify strategic opportunities for basin construction, grading modifications, and operational enhancements.	2030 through 2040	400-1,500
Stormwater Projects	Various	RPU has combined three of its stormwater-related projects into one item. RPU will anticipate a gradual increase in future supply based on the proposed implementation years. These various stormwater projects will utilize or enhance recharge facilities to increase the water supply to RPU's portfolio in the future.	2035 through 2045	2,000-6,300

6.2.9 Existing and Planned Sources of Water

RPU intends to fully utilize its water rights from the Bunker Hill Basin plus the quantity of water available through conjunctive use. RPU plans to increase the use of recycled water as described above. The balance of RPU's water supply will come from the Rialto-Colton Basin, Riverside North, and Riverside South. RPU's conjunctive use projects in the Riverside Basin will augment the yield of the basin and allow RPU to increase production over historical levels.

Production and recharge associated with RPU's conjunctive use projects will be coordinated with Valley District and WMWD to prevent adverse effects on groundwater levels and quality.

The current and projected supplies available to RPU are shown in Table 6-9 and Table 6-10.

Table 6-9 – Actual Water Supply Volumes (DWR Table 6-8R)

Water Supply	Additional Detail	Potable or Non-Potable	Actual Volume in 2025 (AF)
Groundwater	Bunker Hill	Potable	47,468
Groundwater	Bunker Hill	Non-Potable	8,947
Groundwater	Riverside North	Potable	8,097
Groundwater	Riverside North	Non-Potable	384
Groundwater	Riverside South	Potable	11,938
Groundwater	Riverside South	Non-Potable	1,569
Groundwater	Rialto-Colton	Non-Potable	701
Recycled Water	RWQCP	Non-Potable	200
Purchased or Imported Water	From WMWD	Potable	0
Sub-total for Potable			**68,263**
Sub-total for Non-Potable			**11,040**
Total Production (Potable and Non-Potable)			**79,304**

Table 6-10 – Projected Water Supply Volumes (DWR Table 6-9R)

Water Supply	Additional Detail	2030 (AFY)	2035 (AFY)	2040 (AFY)	2045 (AFY)	2050 (AFY)
Groundwater	Bunker Hill	55,263	55,263	55,263	55,263	55,263
Groundwater	Riverside North	10,902	10,902	10,902	10,902	10,902
Groundwater	Riverside South	16,880	16,880	16,880	16,880	16,880
Groundwater	Rialto-Colton	2,728	2,728	2,728	2,728	2,728
Groundwater	Banking BH Conjunctive Use	0	2,000	2,000	2,000	2,000
Groundwater	Seven Oaks Enhanced Phase II	1,000	1,000	1,000	1,000	1,000
Groundwater	PERC	400	500	1,500	1,500	1,500
Groundwater	Stormwater Projects	0	2,000	4,800	6,300	6,300
Purchased or Imported Water	From WMWD	21,700	21,700	21,700	21,700	21,700
Recycled Water	From RWQCP	5,700	9,750	9,750	9,750	9,750
	Total	**114,573**	**122,723**	**126,523**	**128,023**	**128,023**

6.2.10 Special Conditions

Climate Change Effect

The Upper Santa Ana River Watershed IRWMP included a discussion of climate change and its potential impact on water resources. That discussion is reproduced here.

The following vulnerabilities were identified for the Upper SAR Basin. The vulnerabilities were listed in rank order by the BTAC subcommittee updating the IRWMP. In all cases, actions identified in the IRWMP address vulnerabilities.

1. Uncertainty around the Sacramento-San Joaquin Bay Delta, especially given dependence on snowpack for water supplies, may make imported supplies less reliable. The Region's ability to capture additional stormwater and store it in the large underlying groundwater basins will provide some ability to offset this vulnerability. In addition, the Region plans to maximize the import of water during wet years and store it in the large underlying groundwater basins, which will also help offset this vulnerability.

2. Current groundwater capture facilities are not operationally equipped to capture less frequent, but more intense storm events. As much of the Region's water supply ultimately falls on precipitation, either as rain or snow, in the local mountains, the ability to capture more intense storm flows is crucial. As these flows are often intense and of short duration, further development of additional facilities to capture and recharge the tail end of an intense storm becomes crucial in the Region. Plans for these facilities are discussed elsewhere in the IRWMP. Furthermore, through a partnership between SBVWCD and Valley District, RPU has actively participated in several recharge initiatives. Notable among these are the Enhanced Recharge Project, which became operational in 2024, PERC project, and local stormwater projects. these projects are well-suited to increase the Region's capacity to recharge water.

3. More frequent drought periods will result in more frequent and intense wildfires. Water quality and the ability to capture storm flows will be reduced. Wildfires are already a concern in the region and have historically caused water quality and flood control issues. Should climate change increase drought periods and result in more frequent and intense wildfires, water quality and flood control will be further impacted.

4. Increased surface water temperatures will degrade water quality and negatively impact aquatic life, especially in mountain areas. High gradient stream systems located in mountainous areas support a number of species that exist in a narrow geographic range limited by altitude. Some of the more sensitive species, such as the mountain yellow-legged frog, are listed by the U.S. Fish and Wildlife Service, and active restoration and recovery programs are underway. Increases in surface water temperature will negatively impact aquatic life as already narrow geographic ranges will be further reduced.

5. Uncertainty related to managing intense winter storms to protect downstream life and property will make holding water in the flood system for recharge more difficult. As seasonal storms become less frequent and more intense, flood management may

become more complex. However, collection of water for recharge during intense storm events is difficult, and most efforts are focused on "scalping" the tail of a storm flow. The high-volume flows move downstream, and the tailing, less intense flows can be collected by rubber dams or other structures. These structures are intended to be deflated or moved during high-flow events. Planning is underway for a number of these facilities within the watershed.

6. Higher temperatures will result in increased water demand for landscape irrigation. As days with highs over 95 degrees become more frequent, absent any intervention, landscape irrigation demands would increase. RPU with other departments of the City of Riverside have provided two drought-tolerant demonstration gardens, one at the Janet Goeske Senior Center and the Kathleen Gonzalez demonstration garden co-located with the Casa Blanca Library and RPU Customer Resource Center. At both locations the public can see and better understand the benefits of drought-tolerant landscaping. Additionally, like in most parts of California, numerous incentive programs are underway to increase water use efficiency by the homeowner, especially outdoor use. These programs will need to be continued or even expanded to counteract increasing temperatures in the future.

7. Decreased runoff and subsurface flows from the mountain front areas as the result of more frequent and severe droughts. As drought conditions become more frequent, it becomes more important to capture storm flows when they are available. Further development of recharge facilities within the IRWM Region and imports of water during wet years for underground storage allows the Region to store water in the wet years for use during periods of drought. The Bunker Hill Subbasin is a tremendous resource, and the cooperative management of the basin has created a structure where more water could be stored in wet years.

Most of the IRWM Region's vulnerabilities are addressed by work already occurring in the upper watershed. More active stormwater capture and more active recharge of imported water in wet years will help prepare the Region for changed climatic conditions. RPU will remain committed to study and develop actions to address the impact of climate change in the region.

Furthermore, RPU will remain actively advocating to protect and enhance recharge facilities to ensure the sustainability of the groundwater basins.

RPU recognizes the unique challenges and opportunities confronting the City of Riverside as climate impacts worsen.. The City's Office of Sustainability, in conjunction with RPU, where legally permissible, will evaluate current climate conditions impacting or being impacted by the City's water supply such as temperature, pollution, and carbon sequestration benefits resulting from tree canopies, green spaces, and tributaries to the Santa Ana River. An assessment of current climate conditions impacting the City's water supply has been prepared (Appendix R) to help inform the City's sustainability and water management policies regarding the effects of climate change and to provide a summary of how Riverside should respond to meet these challenges.

6.3 Energy Use

§ 10631.2(a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

(1) An estimate of the amount of energy used to extract or divert water supplies.

(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.

(3) An estimate of the amount of energy used to treat water supplies.

(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.

(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.

(6) An estimate of the amount of energy used to place water into or withdraw from storage.

(7) Any other energy-related information the urban water supplier deems appropriate.

Energy intensity is defined as the total amount of energy an urban water supplier expends per AF to convey water from the point where the supplier acquires the water to the point of delivery.

Depending on the energy usage of the supplier and how many water delivery products the supplier serves, there are three tables that could be used to calculate the energy intensity. Water delivery products are defined as: Retail Potable, Retail Non-Potable, Agricultural, Wholesale Potable, Wholesale Non-Potable, Environmental, and Other.

RPU maintains records of energy consumption at its facilities that are water management-focused.

RPU maintains records of energy use at its facilities dedicated to water management. RPU compiled energy consumption data for fiscal year 2024-2025, the most recent 12-month period for which completed data were available. The energy consumption data are summarized in Table 6-11, and the estimated energy intensity is shown in Table 6-12.

Table 6-11 – Energy Use for FY2024-2025

Water Management Activity	Energy Consumption (kWH)
Extract/Divert	6,992,557
Convey	11,999,014
Treatment	8,122,574
Distribution System	18,288,146
Non-treated	525,421
Total	45,927,712

Table 6-12 – Energy Intensity for FY 2024-2025 (DWR Table O-1A)

Recommended Energy Reporting									
	Water Volume Units Used	Extract and Divert	Place into Storage	Conveyance	Treatment	Distribution	Total Utility	Hydro Power	Net Utility
Volume of Water Entering Process	AF	79,953	-	79,953	79,953	79,953	79,953	-	79,953
Energy Consumed (kWh)	N/A	6,992,557	-	11,999,014	8,122,574	18,288,146	79,953	-	45,402,291
Energy Intensity	N/A	268.4	-	460.6	-	311.8	1,742.7	-	1,742.7
Quantity of Self-Generated Renewable Energy									
O kWh									
Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)									
Combination of Estimates and Metered Data									
Data Quality Narrative									
RPU has access to high-quality electricity consumption data from meters. RPU's water production volumes are metered.									
Narrative									
RPU's primary uses of energy for water management include groundwater wells to extract water, booster pumping stations to raise water to higher-elevation areas, and treatment to meet quality objectives.									

Chapter 7 - Water System Reliability & DRA

7.1 Constraints on Water Sources Considerations

§ 10631(b)(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

§ 10634 The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

§ 10635(b)(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

§ 10635(b)(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

Even though there have been several multi-year droughts (1984 to 1990, 1999 to 2002, 2006 to 2009, 2012 to 2016, and 2018 to 2022), RPU's water sources have remained reliable. RPU has not experienced any major deficiencies in water supply. Local water retailers, water management agencies, and RPU are partnering to expand groundwater production across the Bunker Hill, Rialto-Colton, Riverside North, and Riverside South sub-basins to strengthen water supply reliability. RPU collaborates with the different agencies through SAWPA, the USAWRA, and BTAC to address the various groundwater management issues. Developing groundwater models, sharing groundwater quantity/quality data, and partnering on regional projects, and conducting source water assessments are the methods that RPU collaborates on with other agencies.

RPU produces groundwater from wells spatially distributed across the Bunker Hill Basin, Riverside North, and Riverside South. Prior to delivery to the main transmission mains, some treatment occurs at the wellhead or regional facilities. The production from wells and/or treatment facilities is blended and chlorinated within the major transmission mains prior to distribution from the Linden Evans Reservoir.

RPU regularly monitors the quality of its water supply and annually shares their summary reports with its customers. The most recent Annual Water Quality Report (2024) is attached as Appendix N.

RPU continues to monitor its water supply and test for more than 200 regulated and unregulated contaminants to stay informed of potential new contaminants of emerging concern (CECs).

Per- and poly-fluoroalkyl substances (PFAS) - man-made fluorinated organic compounds used in manufacturing of common items such as carpet, clothing, fabric, food packaging, nonstick cookware, and fire-retardant forms- moved from CECs to regulated compounds at the Federal level in 2024 and SWRCB is aligning their notification levels with federal regulations. PFAS are synthetically made to be resistant to both water and liquids, and are not easily destroyed, giving

them their nickname, "forever chemicals". Table 7-1 shows the latest federal MCL's and notification and response levels per SWRCB.

Table 7-1 – SWRCB Notification and Response Levels

Abbreviation	Chemical name	CA Notification Level (ppt)	CA Response Level (ppt)	EPA MCL (ppt)
PFOA	Perfluorooctanoic acid	4	10	4
PFOS	Perfluorooctane sulfonic acid	4	40	4
PFBS	Perfluorobutane sulfonic acid	500	5,000	1.0 (unitless) Hazard Inde (HI)[1]
PFHxS	Perfluorohexane sulfonic acid	3	10	
PFHxA	Perfluorohexanoic acid	1,000	10,000	--
PFHpA	Perfluoroheptanoic acid	--	--	--

1. The Hazard Index (HI) is made up of a sum of fractions. Each fraction compares the level of each PFAS measured in the water to the highest level determined not to have risk of health effects. These highest levels are PFHxS (10 ppt), PFNA (10 ppt), PFBS (2000 ppt), GenX (10 ppt).

7.1.1 Groundwater

A majority of RPU's water supply, with approximately 60 percent originating from the Bunker Hill Basin. RPU's water rights are based on the long-term safe yield from the Bunker Hill Basin which includes wet, dry, and normal periods. The Bunker Hill Basin is considered reliable during single and multi-year dry periods. The Western-San Bernardino Judgement (Judgement) permits producers to increase groundwater supply production by up to 20 percent in any single year for peaking purposes for the Riverside Basin and up to 30 percent for the Bunker Hill Basin.

The Western-San Bernardino Watermaster annually reviews the groundwater conditions to assess the groundwater levels. Historically, the Watermaster allowed additional extraction (beyond the water rights) from the Bunker Hill Basin to decrease groundwater levels so that the basin stays optimal.

As part of the 2011 Riverside Basin Groundwater Management Plan, the safe yield for the Riverside and Arlington Basins were quantified based on 42 years of historical production and hydrologic conditions (1965 to 2007). This period includes wet, dry, and normal hydrologic cycles representing long-term climatological conditions. The calibrated groundwater model of the Riverside and Arlington basins estimated the safe yield to be 27,000 AF in Riverside North and 35,100 AF in Riverside South.

In general, the natural quality of water in local groundwater basins is acceptable and reliable. RPU continues to monitor potential new regulations for CECs, such as PFAS compounds, microplastics, and 1,4-dioxane. Additionally, RPU will evaluate holding responsible parties accountable for hazards that could impact groundwater quality, and plan for additional treatment accordingly. These hazards include migrating contaminant plumes, chemical spills, agricultural return flows, leaky underground storage tanks, and septic systems. While chemical spills and leaking tanks initially tend to affect a small number of wells, contaminant plumes, agricultural drainage, and septic systems can impact entire regional aquifers.

Previous improper waste disposal practices created plumes that can potentially impact a number of RPU wells. RPU has implemented several measures such as well replacement, wellhead treatment pilot studies, and a water treatment feasibility study to help address the contaminated groundwater.

RPU has also improved the quality of its domestic water by successfully implementing a comprehensive strategy that focused on pollution prevention and source water protection.

7.1.2 Surface Water

The quantity of surface water recharge depends on the hydrologic conditions in the Santa Ana River Watershed. Through the use of groundwater basins as storage, RPU is not reliant on surface water flows to directly meet demands during a dry period. RPU's supply reliability is not impacted by short-term fluctuations in local surface water supply.

7.1.3 Recycled Water

The primary source of recycled water is local groundwater that was once used as potable water then reclaimed at the RWQCP. RPU reuses available recycled water from the RWQCP and considers this supply to be 100 percent reliable during single or multi-year dry periods. The RWQCP treats effluent to tertiary standards and monitors the quality to ensure compliance with the discharge permit from Santa Ana Regional Water Quality Control Board (SARWQCB) and the regulations set by the Division of Drinking Water (DDW).

7.1.4 Imported Water Supply

RPU has the ability to receive SWP water from MWD through WMWD (through an agreement/contract). This imported supply has not been utilized since 2008. Imported water is treated at the Mills WTP in Riverside prior to delivery to RPU from WMWD. SWP water quality maintained and governed by the standards established by DWR. The salinity can be measured by Total Dissolved Solids (TDS) of SWP water delivered to WMWD is usually less than 300 milligrams per liter (mg/L) but was as 430 mg/L during the 1977 drought. DWR and/or MWD regularly conduct sanitary surveys and monitor the quality of the water according to set regulations and standards.

DWR prepares a biennial report to assist SWP contractors and local planners in assessing the near and long-term availability of supplies from the SWP. Currently, the DWR has released the Draft State Water Project Delivery Capability Report (2025). This report indicates historical deliveries through the SWP, existing capabilities, and future capabilities. Additionally, the report indicates ongoing environmental, infrastructure, and policy planning efforts related to the project.

7.2 Water Service Reliability Assessment

§ 10635(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section

10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

7.2.1 WSRA Year Type Characterization and Comparison

RPU has assumed that 100 percent of its groundwater and recycled water supplies would remain available during a single dry year and multiple dry years. The availability of imported water has been adjusted based on the reliability assessment by MWD and WMWD.

Comparisons of expected supply and demand during a normal year, single dry year, and multiple dry years are shown in the tables below.

In general, groundwater and recycled water supplies are less vulnerable to seasonal and climatic changes than surface water (i.e., local and imported) supplies. RPU has been able to increase production from local groundwater basins during previous droughts pursuant to the Western-San Bernardino Judgment. The Western-San Bernardino Watermaster also independently reviews groundwater conditions annually to assess the change in groundwater levels. Historically, the Watermaster permitted additional extraction beyond the specified water rights from the Bunker Hill Basin to decrease higher-than-optimal groundwater levels in the basin. This was permitted to help prevent liquefaction and water levels rising into basements.

The reliability of imported water from MWD is described in the DWR SWP Delivery Capability Report (DCR). For multiple dry years, the DCR identifies 1987 through 1992 as the six-year dry period. Over the course of the six-year dry period, the average SWP supply available to MWD is estimated to be 30 percent of its Table A-amount as of January 2026. MWD has defined 1988 through 1992 as the five-year dry period for reliability planning. MWD has undertaken storage programs and supply diversification programs, and MWD's UWMP shows 100 percent reliability during these conditions

7.2.1.1 Types of Years

Average Year (Normal Year)

The normal year conditions represent the water supplies a Supplier considers available during normal conditions. This could be a single year or averaged range of years that most closely represents the average water supply available to the Supplier. In this Guidebook, DWR uses the terms *average* and *normal* interchangeably when addressing the water year type.

As mentioned above for this condition, it is assumed that RPU would utilize 100 percent of its groundwater and recycled water supplies will be available along with its max purchase water allocation of 21,700 AF. RPU would also assume its three other water supply sources (groundwater, recycled water, and imported water) related as shown in Chapter 6 will be available to use. The future demands take into account service area population growth and potential changes in per-capita consumption as shown in Chapter 4.

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

	2030 (AFY)	2035 (AFY)	2040 (AFY)	2045 (AFY)	2050 (AFY)
Supply	114,573	122,723	126,523	128,023	128,023
Demand	91,660	95,806	96,570	96,973	97,565
Difference	22,913	26,917	29,953	31,050	30,458

Single Dry Year

The single dry year is recommended to be the year that represents the lowest water supply available to the Supplier.

Assuming the same supply would be available during a single dry year as to a normal year, the supply and demand projections would be the same.

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

	2030 (AFY)	2035 (AFY)	2040 (AFY)	2045 (AFY)	2050 (AFY)
Supply	114,573	122,723	126,523	128,023	128,023
Demand	91,660	95,806	96,570	96,973	97,565
Difference	22,913	26,917	29,953	31,050	30,458

Five Consecutive Dry Years

The five-consecutive year drought for the DRA is defined as the driest five-year historical sequence for the Supplier (Water Code Section 10612).

The table below shows the projected reduction in the overall water supply in RPU's water system, using the supply available during the multiple dry years of 2021 through 2024.

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

		2030 (AFY)	2035 (AFY)	2040 (AFY)	2045 (AFY)	2050 (AFY)
First Year	Supply	114,573	122,723	126,523	128,023	128,023
	Demand	91,660	95,806	96,570	96,973	97,565
	Difference	22,913	26,917	29,953	31,050	30,458
Second Year	Supply	114,573	122,723	126,523	128,023	128,023
	Demand	91,660	95,806	96,570	96,973	97,565
	Difference	22,913	26,917	29,953	31,050	30,458
Third Year	Supply	114,573	122,723	126,523	128,023	128,023
	Demand	91,660	95,806	96,570	96,973	97,565
	Difference	22,913	26,917	29,953	31,050	30,458
Fourth Year	Supply	114,573	122,723	126,523	128,023	128,023
	Demand	91,660	95,806	96,570	96,973	97,565
	Difference	22,913	26,917	29,953	31,050	30,458
Fifth Year	Supply	114,573	122,723	126,523	128,023	128,023
	Demand	91,660	95,806	96,570	96,973	97,565
	Difference	22,913	26,917	29,953	31,050	30,458

7.2.2 WSRA Description of Management Tools and Options

§ 10635(a) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

RPU is committed to decreasing their dependence on imported water. RPU coordinates with other agencies to plan regional supply projects that will enhance local groundwater resources.

In addition to the Demand Management Measures (Chapter 9, Section 9.1), RPU implements various conservation measures/programs that correlate with the Demand Management Measures. RPU has also inquired about using additional recycled water from the RWQCP, either directly or through groundwater recharge.

7.3 Drought Risk Assessment

> *§ 10612 "Drought Risk Assessment" means a method that examines water shortage risks based on the driest five-year historic sequence for the agency's water supply, as described in subdivision (b) of Section 10635.*
>
> *§ 10635(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:*
>
> *(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.*
>
> *(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.*
>
> *(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.*
>
> *(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.*

CWC requires every urban water supplier to include a drought risk assessment (DRA) for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The DRA allows these suppliers to see how projected water used under a hypothetical five-year drought condition would affect its supply portfolio and demonstrate how critical water management is to an urban water supplier. The DWR created this assessment to help evaluate its appropriate water shortage response actions prior to an actual extended drought period of five-years.

As part of the DRA, the urban water supplier assesses its water supply reliability over a five-year period from 2026 through 2030 that examines water supplies, water uses, and the resulting water supply reliability under a reasonable prediction for five consecutive dry years.

As noted in sections above, the average year demand represents demands available during normal conditions. This could be a single year or an average range of years that most closely represent the average water supply available to the Supplier. The normal year demands for the period from 2026 through 2030 will be the same as the DRA demand for RPU. These demands

were calculated by utilizing the current 2025 demand (Table 4-2) and the projected 2030 demand (shown in Table 4-3) and extrapolating linearly for the years between. The projected DRA demand from 2026 through 2030 is shown in Table 7-5.

RPU's water supplies are not expected to reduce if RPU's service area were to experience 5 dry years. RPU's available groundwater supplies are based on current production rights, not the historical hydrology. No additional recycled water use is included in the DRA since there are distribution infrastructure projects that are still in the works. The increase in recycled water use is not anticipated and thus the DRA does not include increased recycled water use in the 5-year DRA.

Table 7-5 – Five-year Drought Risk Assessment (DWR Table 7-5R)

2026	Total
Total Water Use (AF)	78,298
Total Supplies (AF)	107,473
Surplus/Shortfall w/o WSCP Action	29,175
WSCP - supply augmentation benefit (AF)	0
WSCP - use reduction savings benefit (AF)	0
Revised Surplus/(shortfall)	0
2027	**Total**
Total Water Use (AF)	81,812
Total Supplies (AF)	107,473
Surplus/Shortfall w/o WSCP Action	25,661
WSCP - supply augmentation benefit (AF)	0
WSCP - use reduction savings benefit (AF)	0
Revised Surplus/(shortfall)	0
2028	**Total**
Total Water Use (AF)	85,484
Total Supplies (AF)	107,473
Surplus/Shortfall w/o WSCP Action	21,989
WSCP - supply augmentation benefit (AF)	0
WSCP - use reduction savings benefit (AF)	0
Revised Surplus/(shortfall)	0
2029	**Total**
Total Water Use (AF)	89,320
Total Supplies (AF)	107,473
Surplus/Shortfall w/o WSCP Action	18,153
WSCP - supply augmentation benefit (AF)	0
WSCP - use reduction savings benefit (AF)	0
Revised Surplus/(shortfall)	0
2030	**Total**
Total Water Use (AF)	93,875
Total Supplies (AF)	107,473
Surplus/Shortfall w/o WSCP Action	13,598
WSCP - supply augmentation benefit (AF)	0
WSCP - use reduction savings benefit (AF)	0
Revised Surplus/(shortfall)	0

Chapter 8 - Water Shortage Contingency Plan

The Water Shortage Contingency Plan (WSCP) included in this chapter reflects the Agency's plan being formally adopted by July 1, 2026, in compliance with California Water Code Section 10632 and applicable Department of Water Resources (DWR) requirements.

To maintain consistency with the chapter numbering outline in the 2025 DWR Urban Water Management Plan Guidebook, this chapter is labeled as *Chapter 8 – Water Shortage Contingency Plan.*

The Agency is in the process of updating its water conservation ordinance to align with *Making Conservation a California Way of Life* requirements. Certain provisions in the WSCP, identified with asterisks (*), are associated with these forthcoming ordinance updates, including removal of the term "minimal" and restrictions related to the irrigation of non-functional turf with potable water. The ordinance has not yet been adopted, thus the WSCP reflects the Agency's enforceable authority at the time of adoption, and these asterisked provisions will be implemented in accordance with the ordinance once adopted.

The inclusion of these provisions does not affect the Agency's compliance with applicable WSCP requirements at the time of adoption.

RPU's WSCP is included as Appendix O of the 2025 UWMP.

Chapter 9 - Demand Management Measures

Demand Management is an integral part of sustainably managing water resources in California. The increase in water demand, coupled with reduced supplies or shifts in supply due to climate change and other factors, can compromise water reliability if no mitigation measures are implemented. RPU remains committed to implementing water conservation programs. This chapter provides information on the various measures RPU takes, as well as the benefits that water conservation has had on its water system.

9.1 Demand Management Measures for Retail Suppliers

§ 10631(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

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

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

(i)Water waste prevention ordinances.

(ii)Metering.

(iii)Conservation pricing.

(iv)Public education and outreach.

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

(vi)Water conservation program coordination and staffing support.

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

This section highlights programs that RPU has in place to assist its wholesale customers.

9.1.1 Implementation over the Past Five Years

§ 10631(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1)(A) …a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.

RPU maintains records of each of the programs described below, including the extent of each program, the expenditures, and the anticipated water savings. This information has been summarized in the section labeled "Other Demand Measurements" within Section 9.1.3.

9.1.2 Planned Implementation to Achieve Water Use Targets

§ 10631 (e)(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand

management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

RPU will continue to implement water conservation programs and work collaboratively with WMWD to provide water conservation programs and assess any new water conservation programs to ensure they are beneficial for its residents. The implementation of the DMMs illustrates how RPU was successful and able to achieve the targeted reduction for 2020.

9.1.3 Required Demand Management Measures

Water Waste Prevention Ordinances

RPU has a Water Conservation Ordinance that is included in Appendix P of this UWMP. The Water Conservation Ordinance includes a prohibition on the unreasonable use of water and establishes additional water conservation requirements, including limits on irrigation and water use under various shortage stages. The Ordinance states:

No person shall waste water or use it unreasonably. Unreasonable use of water includes, but is not limited to, the following:

- Irrigation runoff, including the application of potable water to outdoor landscapes in a manner that causes runoff to adjacent property, non-irrigated areas, walkways, roadways, parking lots, or structures,
- Use of a hose to wash a motor vehicle, unless fitted with a shut-off nozzle,
- Use of potable water on driveways and sidewalks,
- Use of potable water in a fountain or decorative water feature, except where water is part of a recirculating system,
- Watering landscapes during and within 48 hours after measurable rainfall,
- Serving of drinking water other than upon request in eating or drinking establishments,
- Irrigation with potable water of ornamental turf on public street medians,
- Irrigation with potable water of landscapes outside newly constructed homes and buildings in a manner inconsistent with California regulations,
- Hotels and motels must provide guests with the option of choosing not to have towels and linens laundered daily.

Metering

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

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

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

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

All connections in RPU's service area are currently metered. RPU also has a meter testing and replacement policy for small and large distribution and large production meters. Small meters are replaced at the 14-year mark, and 10% of those removed and replaced are tested following the American Water Works Association (AWWA) practices outlined in the M6 manual. All large distribution meters are scheduled to be tested and verified by RPU personnel for their accuracy. RPU uses manual readings from distribution meters installed in the field for billing and reporting purposes and utilizes SCADA data for monitoring and operational needs only. All large production meters are scheduled to be tested and verified by a third party for their accuracy at least once annually.

The testing cycle for large meters (3" and above) is built into RPU's asset management program, and meters are tested every 6, 12, or 24 months, depending on the volume of water used by the customer. The largest users are tested every 6 months. Under RPU's large distribution and production meter testing policy, corrective measures are taken for meters found out of compliance. If there is an accuracy issue with meters tested during the large meter testing program by RPU staff, RPU replaces them with new accurate meters.

RPU is currently investigating a transition to the use of Advanced Metering Infrastructure (AMI), or "smart meters," that would capture and transmit water use data electronically. The use of these meters would allow RPU to monitor consumption on a shorter time frame than the current monthly meter reads. This technology can also be used to provide reporting capability to customers so they can monitor their water use and see how their water use compares to similar households. This transition will require a significant investment of resources and will likely be phased in overtime in the next few years.

Conservation Pricing

In the RPU service area, 100 percent of service connections are metered, and residential customers are billed on an increasing block rate structure with seasonal rates to promote water conservation. The current rate structure, which is in effect from 2023 through 2028, includes three tiers of quantity-based rates for single-family residential customers and two tiers of quantity-based rates for multi-family residential customers (with 2 to 4 units). The rate structure includes seasonal rates for residential and commercial customers to promote water conservation and is based upon the varying costs of RPU's sources of supply. Future pricing structures will be evaluated by the Board of Public Utilities and the City Council after the current rate plan expires to further support conservation pricing.

Public Education and Outreach

RPU's Customer Engagement Team provides extensive public education, outreach and marketing campaigns. These include marketing rebates, sharing best practice on water use efficiency via back of bills or bill inserts, providing school education programs, information booths at a range of public events, newsletters, press releases, websites, online tools, direct emails and social media campaigns.

Working collaboratively with RCRCD, RPU has been offering regular Landscape Classes, both in-person and virtually to encourage customers to improve their outdoor water-use efficiency by incorporating drought tolerant plants and reducing turf and other water-intensive landscaping.

Since the early 2000s, RPU has provided a dedicated water conservation education program for 3rd and 5th-grade students. The program is popular and seen an increase in participation. Current data show that, on average, 4,000 students participate in either Water Cycle classes (5th grade) or Water Pollution Solution classes (3rd grade) each year. Classes have been offered

virtually since COVID, which has meant that a greater number of students are able to participate, contributing to the program's success.

Since 2022, RPU has increased the water conservation program offer, added funding to commercial and residential turf replacement projects, and reinstated the RPU element of HE toilet and washer rebates. RPU has also made improvements to the Kathleen Gonzales waterwise garden, including irrigation improvements and new signage to help support customers with their own waterwise projects.

RPU has recently completed a multi-organizational Pump Pod project, working with Metropolitan Water District of Southern California, WMWD and Riverside Fire Department. This innovative project helps to conserve water while firefighters undertake essential training. The Pump Pod can help save approximately 4.5 million gallons (MG) of water each year, which contributes significantly to RPU's water savings.

Programs to Assess and Manage Distribution System Real Loss

RPU has performed water loss audits per the AWWA M-36 manual. The results of these audits have been used to focus efforts to reduce water losses. RPU has used the water audit results to:

- Refine data collection practices and establish routine business practices
- Refine, enhance, and expand ongoing programs based on economic justification
- Conduct detailed planning, budgeting, and launch of comprehensive improvements for metering, billing, and infrastructure management
- Establish mid-range (5-year horizon) apparent and real loss reduction goals
- Perform benchmarking

RPU has an active program to repair leaks as they are detected. RPU has a proactive water main replacement program that identifies high-risk pipelines based on age, leak history, and pipe material. RPU's annual budget for the main replacement program varies from year to year and will range approximately from $4.6 million to $10.3 million for the next few years. RPU has four construction crews dedicated to main replacement and four maintenance crews dedicated to leak repairs for a total of 44 personnel with their associated equipment and support staff. In addition, about 5 members of the engineering staff dedicate a majority of their time to planning and developing pipeline replacement projects.

RPU has developed a non-revenue water team to analyze all system aspects from billing to system modeling. The team reviews data to identify areas of the system where leaks or water loss appear evident. The results of the system analysis are used to aid RPU in its infrastructure and Capital Improvement Plan planning to best control losses.

Water Conservation Program Coordination

Since 2004, the Water Conservation program was funded by a City Council-approved Water Conservation Surcharge. In 2024, the Council directed RPU to cease collecting the surcharge and the remaining funds are currently being drawn down through existing programming.

Other Demand Management Measures

As well as participating in MWD's SoCal Water$mart rebate program, RPU has re-established several rebates to complement those offered by MWD. These include high-efficiency toilets, clothes washers, turf replacement, and weather-based irrigation controllers.

Residential and CII Water Surveys

RPU has been providing indoor and outdoor water surveys to single-family residential and multi-family residential accounts since 1989, as well as commercial, industrial, and institutional customers.

High-Efficiency Clothes Washers (HECW) Rebate Program

The High-Efficiency Clothes Washer Rebate is an energy and water conservation program that provides RPU's residential customers a rebate when replacing clothes washers with high-efficiency clothes washers (HECW).

Smart Irrigation Program

In 2011, RPU launched a Smart Irrigation Program targeting customers with the most outdoor water savings potential in RPU's service area. The program provides a certified water audit and offers qualified customers free installation of smart irrigation controllers and high-efficiency sprinkler nozzles to achieve water savings. Since its inception, the Smart Irrigation Program has installed 2,028 WBICs and 96,150 high-efficiency sprinkler nozzles at customers' sites, saving an estimated 157,000,000 gallons over the devices' lifetime.

Turf Replacement Program

RPU's revised Turf Replacement Program has been in place since 2022. The Program provides incentives for RPU residential and commercial water customers replacing existing lawn areas with water-efficient, California-friendly plants. By replacing large turf areas with drought-tolerant, California-friendly landscaping and using efficient irrigation, outdoor water use can be reduced by up to 50 percent.

High-Efficiency Toilet (HET) Incentive Program

The High-Efficiency Toilet (HET) Incentive Program is a water conservation rebate program that offers RPU's customers the opportunity to replace high water-use toilets or upgrade Ultra Low Flush Toilet models with water-saving HET models. HETs are the new standard in water-efficient toilets and use only 1.28 gallons of water per flush (gpf) or less. There are also Dual Flush HETs that offer a separate, low water use flush for liquids that only use between 0.8 and 1.1 gpf. This can mean up to 4,000 gallons of water saved each year.

Weather-Based Irrigation Control (WBIC) Rebate Program

A Weather-Based Irrigation Controller (WBIC) is a sprinkler control device that automatically adjusts irrigation schedules according to changing weather or environmental conditions. The WBIC rebate program provides rebates for residential customers who install these systems. Studies have shown that by using a WBIC, a household can reduce its outdoor water use by about 20 percent. That translates into savings of about 40 gallons per day, or 14,600 gallons per year.

High-Efficiency Sprinkler Nozzles Rebate Program

The High-Efficiency Sprinkler Nozzles Rebate Program provides incentives for RPU's residential water customers who replace standard, pop-up sprinkler head spray nozzles with newer water-efficient sprinkler head spray nozzles. Using pop-up sprinkler spray heads with new water-efficient nozzles can save more than 6,600 gallons of water per nozzle over 5 years. Water-efficient sprinkler nozzles apply water more evenly than conventional spray nozzles, thus saving water and reducing the amount of run-off.

Commercial Water Efficiency Rebates

This program is coordinated with MWD. It includes several rebate programs focused on commercial customers, including:

- High-Efficiency, Ultra Low-Flush and Zero Water Urinals
- Connectionless Food Steamers
- Weather-Based "Smart" Irrigation Controllers
- Central Computer Irrigation Controllers. These sophisticated systems are designed for larger irrigated areas such as golf courses, parks, schools, and large commercial complexes. Central computer irrigation controllers consist of a master controller (often a personal computer), which tells the valves in remote locations to open and close.
- High-Efficiency Nozzles for Pop-Up Spray Heads
- High-Efficiency Nozzles for Large Rotary Heads
- In-Stem Flow Regulators - The in-stem regulator controls water flow in irrigation systems at the head.
- Laminar Flow Restrictors - Laminar flow devices avoid drawing air into the water stream, allowing them to produce a non-aerated, clear stream of water while inhibiting bacterial growth and transmission.
- Conductivity Controllers - Conductivity controllers can lower the cost of operating a cooling tower by providing greater control over the tower's blowdown and subsequent makeup water.
- Dry Vacuum Pumps - Liquid ring vacuum pumps use large quantities of water to create a liquid seal and enable suction. Dry vacuum pumps, on the other hand, use machined parts with extremely close tolerances to create suction. Both types of vacuum pumps are used in manufacturing facilities, including medical and dental manufacturing, among other uses.
- Air-Cooled Ice Machines - Air-cooled ice machines use less water and energy than conventional ice machines and make ice more quickly and efficiently.

Chapter 10 - Plan, Adoption, Submittal, and Implementation

The procedures for adopting and implementing the UWMP and WSCP are critical and should be transparent to customers and any stakeholders. Water agencies are encouraged to host public hearings and any additional meetings necessary before implementing the 2025 UWMP.

10.1 Plan Completion Timeline

Riverside Public Utilities is reporting on a calendar year basis. This report included data through the end of December 31, 2025.

10.2 Notice of Plan Preparation

> *§ 10621(b) Every urban water supplier required to prepare a plan shall…at least 60 days prior to the public hearing on the plan…notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*

10.3 Notice of Public Hearing

All water agencies, including RPU, must hold a public hearing before adopting the 2025 UWMP as stated in the water code.

10.3.1 Notice to Cities and Counties

> *§ 10621(b) Every urban water supplier required to prepare a plan shall…at least 60 days prior to the public hearing on the plan…notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*
>
> *§ 10642 …The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area…*

10.3.2 60 Day Notification

The Water Code states that cities and counties must be notified that the Supplier will be reviewing the UWMP and considering amendments to the UWMP. This notice must be sent at least 60 days before the public hearing to provide an opportunity for the cities and counties involved to participate in the UWMP process.

The 60-day notification letters were sent on January 27, 2026, informing involved agencies of the preparation of the RPU's 2025 UWMP. The letters are included in Appendix E.

10.3.3 Notice of Public Hearing

RPU sent out a notice of public hearing to the cities and agencies listed in Table 10-1, as well as their customers. RPU encouraged the involvement of its customers as part of the UWMP process.

The public hearing notification letters were issued on April 8, 2026. In addition, a public notice was published on May 11, 2026, and May 18, 2026. The letters are included in Appendix E.

Table 10-1 – Coordination with Appropriate Agencies (DWR Table 10-1R)

Coordinating Agencies	60 Day Notice	Notice of Public Hearing
City		
City of Riverside Planning Development	Yes	Yes
City of San Bernardino Municipal Water Department	Yes	Yes
City of Rialto Water and Wastewater Utilities	Yes	Yes
City of Colton	Yes	Yes
City of Loma Linda Public Works	Yes	Yes
City of Redlands Municipal Utilities	Yes	Yes
City of Corona Department of Water and Power	Yes	Yes
City of Norco Public Works	Yes	Yes
City of Jurupa Valley	Yes	Yes
County		
Riverside County Planning Department	Yes	Yes
Riverside County Flood Control and Water Conservation District	Yes	Yes
Other		
San Bernardino Valley Municipal Water District	Yes	Yes
San Bernardino Valley Water Conservation District	Yes	Yes
Western Municipal Water District	Yes	Yes
Eastern Municipal Water District	Yes	Yes
West Valley Water District	Yes	Yes
East Valley Water District	Yes	Yes
Rubidoux Community Services District	Yes	Yes
Jurupa Community Services District	Yes	Yes
Home Gardens County Water District	Yes	Yes
Gage Canal Company	Yes	Yes
Riverside Highland Water Company	Yes	Yes
Elsinore Valley Municipal Water District	Yes	Yes
Fontana Water Company	Yes	Yes
University of California, Riverside	Yes	Yes
CURE – added upon request	No	Yes

10.4 Public Hearing and Adoption

Per the 2025 UWMP Guidebook, all water agencies shall include the adoption resolution within the UWMP.

> *§ 10642 Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon…. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.*
>
> *Government Code Section 7291 …every local public agency… serving a substantial number of non-English-Speaking people, shall employ a sufficient number of qualified bilingual persons in public contact positions or as interpreters to assist those in such positions, to ensure provision of information and services. in the language of the non-English-speaking person.*

The public hearing for the 2025 UWMP was held on June 8, 2026. The 2025 UWMP was adopted by the City Council on June 23, 2026, by Resolution No. XX-XX-XX (see Appendix Q). Both meetings included a presentation of the baseline values, water use targets and implementation plan.

10.5 Plan Submittal

> *§ 10621(e) Each urban water supplier shall update and submit its 2025 plan to the department by July 1, 2026…*
>
> *§ 10635(c) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.*
>
> *§ 10644(a)(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption.*

The 2025 UWMP and WSCP were submitted on June X, 2026, to the California Department of Water Resources.

10.5.1 Submitting a UWMP and Water Shortage Contingency Plan to DWR

The online submittal tool, WUEdata, was used to submit the UWMP electronically. WUEdata is the online submittal tool developed by DWR. Once the DWR completes the plan review, it will issue a letter to the agency stating the results of the review.

10.5.2 Submitting a UWMP, Including WSCP, to the California State Library

No later than 30 days after adoption, the City shall submit a CD or hardcopy of the adopted 2025 UWMP, including the adopted WSCP, to the California State Library at:

California State Library

Government Publications Section
Attention: Coordinator, Urban Water Management Plans
P.O. Box 942837
Sacramento, CA 94237-0001

10.5.3 Submittal to Cities and Counties

No later than 30 days after adoption, RPU shall submit a copy of the adopted 2025 UWMP, including the adopted WSCP, to any city or county to which the City provides water. This copy may be in an electronic format.

10.6 Public Availability

> *§ 10645(a) Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.*
>
> *(b) Not later than 30 days after filing a copy of its water shortage contingency plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.*

Within 30 days after submitting the 2025 UWMP to DWR, the City will make the 2025 UWMP and WSCP available at the City's office during normal business hours and on the City's website. https://riversideca.gov/utilities/about-rpu/urban-water-management-plan

10.7 Notification to Public Utilities Commission

> *§ 10621(c) An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.*

According to the water code, a City or District that is regulated by the California Public Utilities Commission (CPUC) must submit its UWMP and WSCP to the CPUC as part of its general rate case filings. RPU is not regulated by the CPUC, and therefore not required to notify or submit its UWMP or WSCP to CPUC.

10.8 Plan Implementation

§ 10621 An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10.9 Amending an Adopted Urban Water Management Plan or Water Shortage Contingency Plan

§ 10621(d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

§ 10644(a)(1) Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

10.9.1 Amending a UWMP or WSCP

If RPU amends the adopted 2025 UWMP or WSCP, the amendment must undergo the same notification, public hearing, adoption and submittal process required for the original plan.

10.9.2 Submitting Revised Water Shortage Contingency Plan

§ 10644(b) If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared…no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

If RPU wants to revise its WSCP after the DWR has accepted the 2025 UWMP, it must submit to DWR an electronic copy through the WUEData Portal of its revised WSCP within 30 days of its adoption.

10.10 California Department of Water Resources Review of Submitted Plans

RPU understands that in the event that after the 2025 UWMP is adopted and submitted to the DWR for compliance and review, DWR may contact RPU as needed during the review process.

DWR will cross reference with the provided UWMP checklist (Appendix C) to determine whether the UWMP addresses the water code requirements. DWR will issue a letter to RPU with the results once the review process is complete.

Appendix A – Urban Water Management Planning Act

Appendix B - Water Conservation Act of 2009

Appendix C - 2025 UWMP Checklist

Appendix D - 2025 UWMP Submittal Tables

Appendix E – Public Hearing Notice and Notice of Preparation Letters

Appendix F - 2025 Western San-Bernardino Watermaster Annual Report

Appendix G - Water Agreement - WMWD

Appendix H - Water Agreement – City of Norco

Appendix I – Past 5 Years AWWA Audits

Appendix J - 2020 UWMP - SBX7-7 Table 9: 2020 Compliance

Appendix K - Western-San Bernardino Judgement

Appendix L - 2024 Non-Potable and Recycled Water Master Plan

Appendix M - Mandatory Use of Recycled Water - Chapter 14.28 of Riverside Municipal Code

Appendix N - Water Quality Report 2024

Appendix O - RPU Water Shortage Contingency Plan – Adopted June 2026

Appendix P - Ordinance 7556 - Water Conservation Program

(Appendix is Still pending)

Appendix Q - Resolution Adoption Plan of 2025 UWMP and WSCP