2022 Drought Contingency Plan PUBLIC DRAFT

FEBRUARY 2024

CITY OF RIALTO

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Prepared by Water Systems Consulting, Inc

ACKNOWLEDGEMENTS

The 2022 Drought Contingency Plan PUBLIC DRAFT was prepared by Water Systems Consulting, Inc. The primary authors are listed below.

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ACRONYMS & ABBREVIATIONS

AF	Acre-feet
AFY	Acre-feet per year
AMI	Advanced Metering Infrastructure
AWIA	America's Water Infrastructure Act of 2018
AWSDA	Annual Water Supply and Demand Assessment
AWUR	Annual Water Use Report
BH	Bunker Hill
BRIC	Building Resilient Infrastructure and Communities
BTAC	Basin Technical Advisory Committee
CAL OES	California Office of Emergency Services
CII	Commercial, Industrial, Institutional
CIMIS	California Irrigation Management Information System
CIP	Capital Improvement Program
CSB	City of San Bernardino
CWC	California Water Code
DCP	Drought Contingency Plan
DIM	Dedicated Irrigation Meter
DWR	Department of Water Resources
DWSRF	Drinking Water State Revolving Fund
EBX	East Branch Expansion
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FUWC	Fontana Union Water Company
GAC	Granular Activated Carbon
GC	Groundwater Council
GIS	Geographical Information Systems
GMZ	Groundwater Management Zone

GPCD	Gallons per Capita per Day
IBANK	California Infrastructure & Economic Development Bank
IRP	Integrated Resource Plan
IRUWMP	Integrated Regional Urban Water Management Plan
IRWM	Integrated Regional Water Management
IX	Ion Exchange
LCGW	Lytle Creek Groundwater
LCSW	Lytle Cree Surface Water
MGD	Million Gallons per Day
MTBE	Methyl tert-Butyl Ether
NO_2	Nitrogen Dioxide
PERC	Program for the Expansion of Recharge Capacity
PRV	Pressure Relief Valve
PSPS	Public Safety Power Shutoffs
RC	Rialto-Colton
RIV	Riverside North
RWQCB	Regional Water Quality Control Board
RWS	Rialto Water Services
SAR	Santa Ana River
SBB	San Bernardino Basin
SBV	San Bernardino Valley
SBVWCD	San Bernardino Valley Water Conservation District
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SOR	System Optimization Reviews
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
TCE	Trichloroethylene

TDS	Total Dissolved Solids
TIN	Total Inorganic Nitrogen
US	United States
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
UWUO	Urban Water Use Objective
WFF	Water Filtration Facility
WIFIA	Water Infrastructure Finance & Innovation Act
WS	Workshop
WSCP	Water Shortage Contingency Plan
WTP	Water Treatment Plant
WVWD	West Valley Water District
WWTP	Wastewater Treatment Plant

1.0 Introduction

Drought is a common threat to water resources within the City of Rialto (City) and the surrounding region. As a result, the City, in partnership with the United States Bureau of Reclamation (USBR) and local stakeholders, has developed a Drought Contingency Plan (DCP) to proactively plan for and protect the City against drought.

The DCP was developed by City staff and active engagement with local stakeholders that composed the DCP Drought Task Force. Drought Task Force members participated in many workshops to learn about the DCP and provide input on key elements of this plan.

IN THIS SECTION

1.1 USBR WaterSMART Drought Response Program

USBR supports proactive drought planning and water management through the WaterSMART Drought Response Program. This program provides financial assistance and advisory services for activities that can help prepare for and respond to drought, including drought contingency planning, drought resiliency projects, and emergency response actions. Drought resiliency projects include any specific project that increases the reliability of water supplies, improves water management, or provides benefits for fish, wildlife, and the environment (US Bureau of Reclamation, 2023). The DCP is organized into seven elements. Each element is briefly described in Table 1-1.

Table 1-1. DCP Elements

No.	Element	Description
1	Introduction	• Purpose, Goals, Approach • Agency Overview • Supply and Demand
2	Drought Monitoring	• Drought Indices • Shortage Stages
3	Vulnerability Assessment	• Risks and Impacts of Drought on Critical Resources • Future Conditions
4	Mitigation Actions	• List of Prioritized Actions that Address Vulnerabilities
5	Response Actions	• Related to Shortage Stages
6	Operational & Administrative Framework	• Roles, Responsibilities, and Resources
7	Plan Update Process	• Plan Evaluation and Future Updates

The DCP provides many benefits to the City and participants of this DCP, including:

- A comprehensive evaluation of water supply vulnerabilities, focused on the City and the surrounding areas.
- An opportunity to collaborate to identify new projects that benefit multiple agencies.
- A database of actions and projects that mitigate the identified vulnerabilities and help position the agencies for future grant funding opportunities to implement drought mitigation actions.
- An opportunity to promote consistent actions and messaging on drought and response actions throughout the City.

Three Important Questions Drive the DCP:

1. How will we recognize the next drought in the early stages?
2. How will drought affect us?
3. How can we protect ourselves from the next drought?

1.2 Plan Area

The Upper Santa Ana River (SAR) watershed is part of the largest stream system in Southern California and covers 852 square miles within San Bernardino and Riverside counties. The Upper SAR is defined by the area that contributes surface runoff to the Riverside Narrows at U.S. Geological Survey (USGS) Gage 11066460. Details on the Upper SAR are provided in the 2020 IRUWMP.

There are many water suppliers within the Upper SAR. This DCP focuses on the City and includes details on water suppliers that provide service to customers that are located within the City limits. The City of Rialto and its relation to the Upper SAR watershed is shown in Figure 1-1.

Figure 1-1. City of Rialto and the Santa Ana River Watershed

The City sits at the base of the San Bernardino Mountains in the interior valley known as the San Bernardino Valley within the Upper SAR. This DCP focuses on the Western San Bernardino Valley, a subset of the greater San Bernardino Valley Region, specifically focusing on the City of Rialto. The City obtains water service from three different entities: the City's water system, referred to as the Rialto Utility Authority (RUA); West Valley Water District (WVWD); and Fontana Union Water Company (FUWC). RUA was formed in 2001 as a Joint Powers Authority (JPA) between the City and the Rialto Redevelopment Authority. The City owns the water and wastewater systems, but leases them to RUA to operate and maintain. Rialto, in 2012, entered into a concession agreement with Rialto Water Services, Inc. (RWS) to assist in operating the water and wastewater systems. RWS has also contracted with Veolia Water West Operating Services, Inc. (Veolia) for operating support services. The City of Rialto (Rialto) is the official water supplier recognized by the State and is used in this DCP to refer to the water system owned by the City.

The Rialto municipal water system provides potable and recycled water to retail customers primarily within the City and serves approximately one-half of the City population between Interstate 10 and State Route 210. The City boundary and service areas of the three water agencies that supply the City are shown in Figure 1-2. This DCP focuses on the City boundary and acknowledges the integrated nature of regional water resources and water management in this area and therefore incorporates participants and activities that lie outside the City boundary.

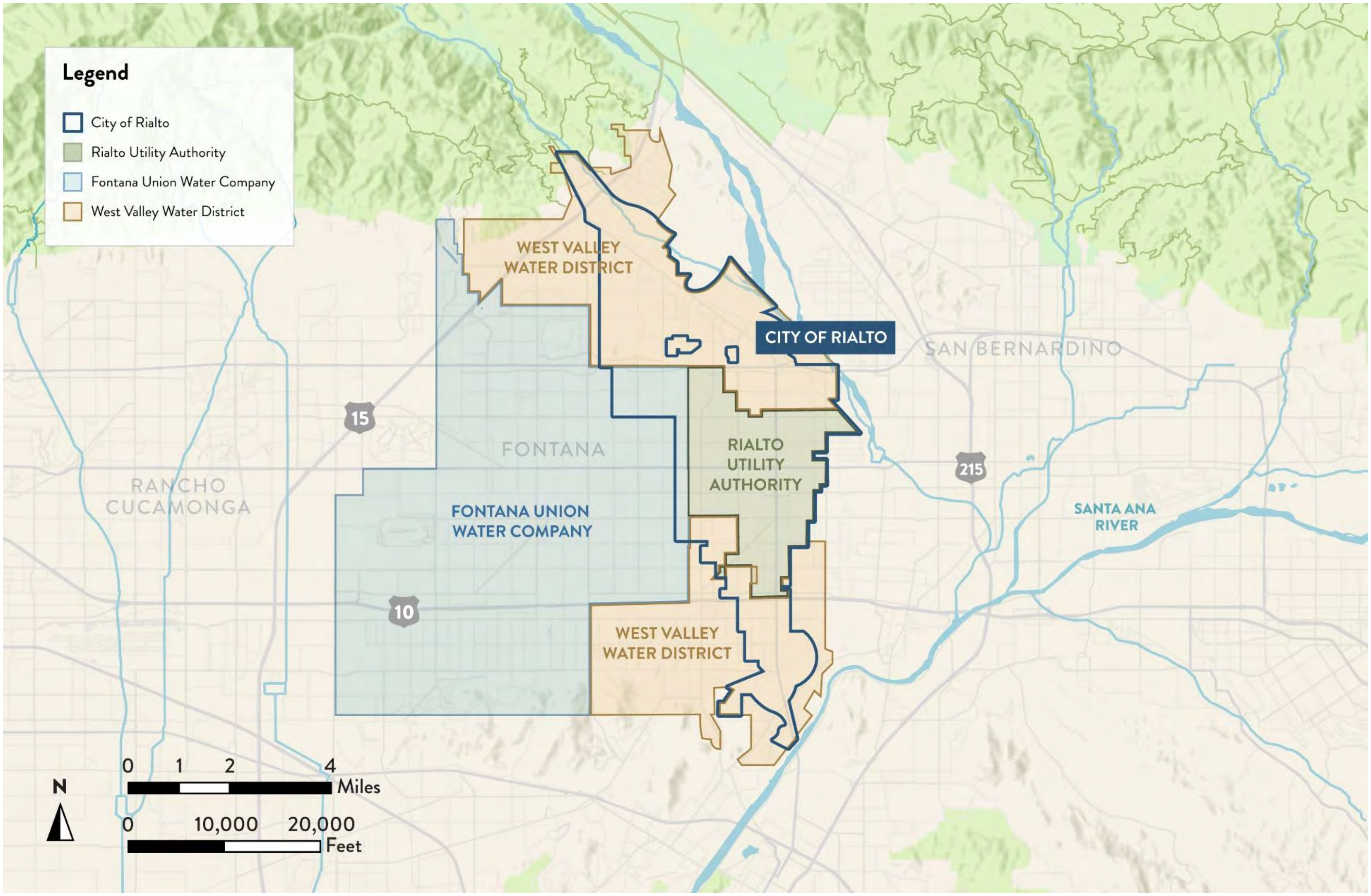


Figure 1-2. City and Water Service Providers

1.3 Drought Task Force

The City recruited, convened, and engaged a Drought Task Force comprised of City staff and water managers from other agencies in the Western San Bernardino Valley that serve portions of the City or are directly engaged with the City in managing shared water resources. The Drought Task Force members offer informed perspectives to support effective drought contingency planning as a continuation of ongoing planning and existing partnerships.

Drought Task Force participants included representatives from the following agencies:

- City of Rialto (including operations staff)
- City of Colton
- Fontana Union Water Company
- San Bernardino Valley
- West Valley Water District

The service areas for these agencies are shown in Figure 1-4. Although the City of Colton does not directly serve customers within the City limits, the City of Colton participates in the same groundwater management councils and has a similar supply portfolio as agencies in the Western San Bernardino Valley.

Drought Task Force members participated in seven interactive workshops to inform key milestones and decisions within the DCP. The Task Force helped prioritize actions to increase regional water supply reliability and proactively address the region's vulnerabilities to drought and other supply interruption. A summary of the various workshops conducted as part of this DCP is provided in Table 1-3. Complete workshop summaries are provided in Appendix A.

1.4 Outreach and Engagement

A key component of the DCP development includes outreach and engagement, facilitated through a Drought Task Force. The Drought Task Force was developed at the start of the DCP to provide diverse perspectives that represent interests within the planning area to help inform this DCP. The Drought Task Force is discussed in more detail in the following section. The various stakeholder groups involved in this DCP, and their role are summarized in Table 1-2.

Table 1-2. Key Stakeholders and Roles

		ROLE			
		Inform / Educate	Gather Perceptions / Opinions	Advise	Decide
STAKEHOLDER GROUP	City Staff	✓	✓	✓	✓
	Drought Task Force	✓	✓	✓	✓
	USBR Technical Grant Contact			✓	
	Rialto Utilities Commission	✓			
	General Public	✓			
		OUTREACH One-way communication to educate and inform.	**ENGAGEMENT** Multi-directional communication to inform plan decisions.		

1.5 DCP Development Process

This DCP was developed using published regional resources and through collaboration among City staff and the Drought Task Force. Development of the DCP was organized into five key steps, as shown below in Figure 1-3.

Figure 1-3. DCP Key Steps

Table 1-3. Summary of Drought Task Workshops

Workshop No.	Topic	Workshop Goals
1	Drought Task Force Kickoff	• Introduce DCP and various components. • Identify opportunities for the DCP to build on and integrate with other regional initiatives. • Identify desired outcomes for the DCP. • Build shared clarity on project, Task Force's role, and engagement activities.
2	Drought Monitoring and Response	• Review and update existing drought monitoring procedures for the City (how water supply conditions are monitored, how future supply conditions are projected) and identify any new ideas or planned procedures. • Review the various response actions in the City's current Water Shortage Contingency Plan and develop a model framework of response actions that aligns with the California Water Code (CWC) six standard shortage stages. Maintain consistency with State drought response regulations.
3	Drought Response Part 2	• Continuation of Workshop 2. Review the various response actions in the City's current Water Shortage Contingency Plan and develop a model framework of response actions that aligns with the CWC six standard shortage stages and actions. Maintain consistency with State drought response regulations.
4	Education and Engagement	• Identify key communication topics and strategies for engaging with customers. • Discussions to be documented in an Education and Engagement Plan and included as an Appendix C.
5	Vulnerability Assessment	• Summarize previously identified vulnerabilities, refine and expand as needed. • Rank vulnerabilities in terms of impact to drought resilience.
6	Mitigation Actions	• Identify existing projects and planning efforts that will mitigate vulnerabilities. • Brainstorm potential additional drought mitigation actions and benefits. • Prioritize actions and discuss implementation considerations.
7	Draft DCP Plan	• Review the draft DCP and solicit input/comments.

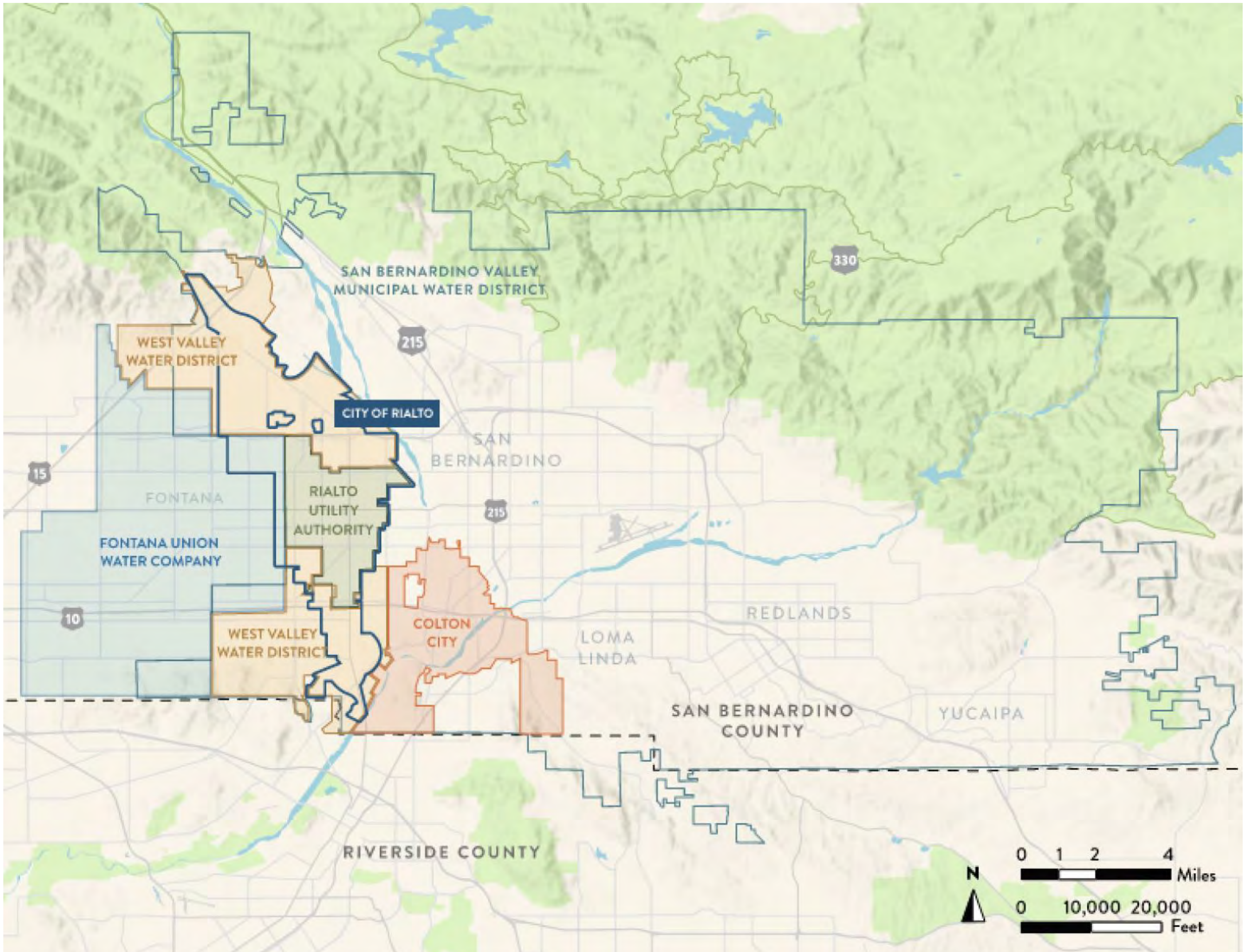
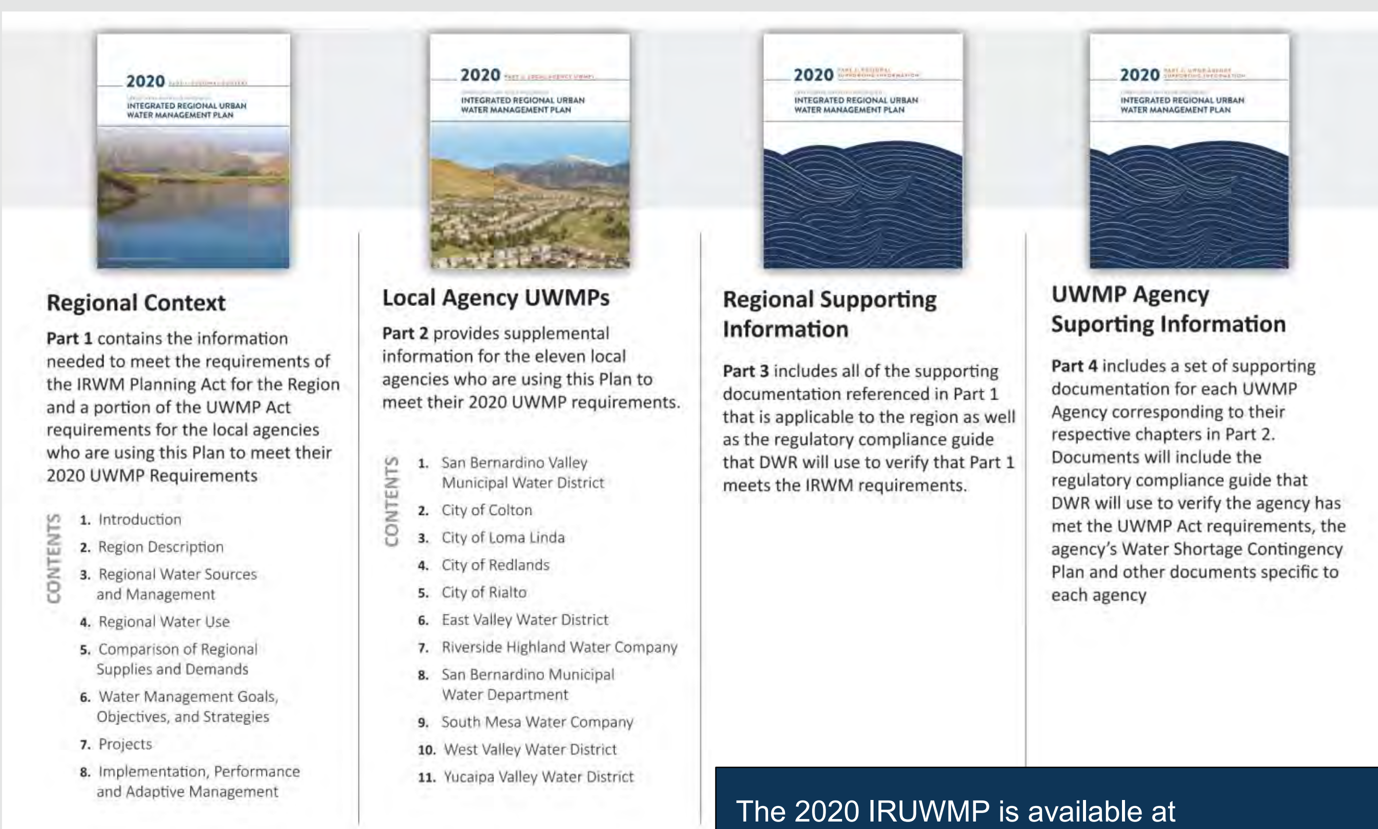


Figure 1-4. Drought Task Force Participants Service Areas, in Relation to City Limits

1.6 Consistency Among Regional Documents

The City and the other members of the Drought Task Force have participated in many regional planning efforts. The San Bernardino Valley Region continues to actively plan for and implement projects and opportunities to increase the resiliency of regional supply sources. As a result, many existing planning documents have been completed and were used to inform this DCP. Notably, population, supply, and demand projections were developed as part of the 2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan (2020 IRUWMP), finalized in 2021. The 2020 IRUWMP is a foundational part of water planning in the region and integrates with many other regional and local planning efforts for planning consistency. The 2020 IRUWMP provides detailed information about the region, including population, land uses, climate characteristics, and regional demand and water supply sources. Additionally, the management of water supply sources within the region is explained. The 2020 IRUWMP also includes a project list to support the region's goals and objectives. The 2020 IRUMWP project list was integrated into the mitigation actions developed for this DCP. This DCP also builds upon the projections developed in the 2020 IRUWMP for the City of Rialto.

2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan



The 2020 IRUWMP is available at https://www.sbvmwd.com/reports/reports/-folder-1120.

1.7 Regional Drought and Integrated Regional Water Management Goals

As part of the 2020 IRUWMP, regional water managers, including those on the Drought Task Force, developed five goals to guide integrated regional water management (IRWM) efforts, shown in Figure 1-5. These goals are consistent with the purpose of this DCP and are used as the regional drought goals for this DCP.

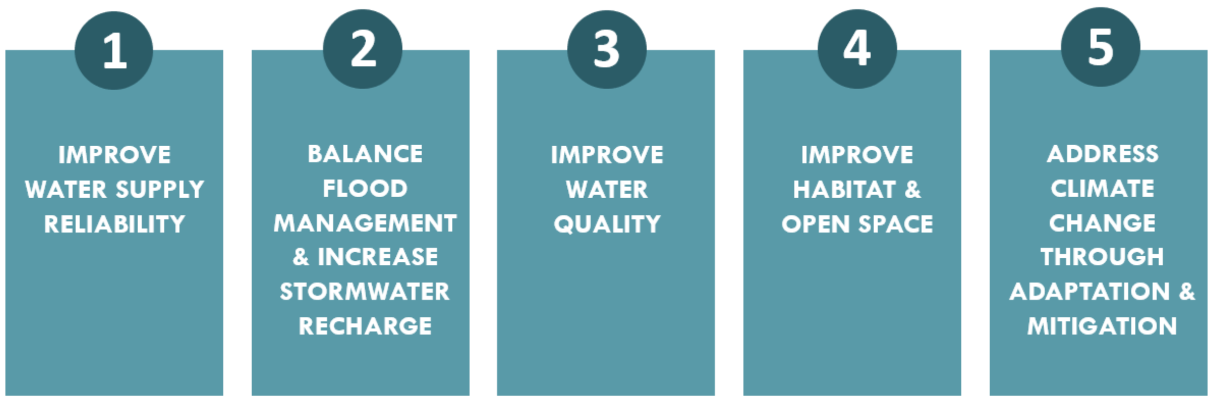


Figure 1-5. 2020 IRUWMP Goals

2.0 Plan Area Background

The City is located in San Bernardino County, within the Upper Santa Ana River (Upper SAR) Watershed. Customers located within the City obtain water service from either the City through the Rialto Utility Authority, West Valley Water District, or Fontana Union Water Company. Population and demand estimates for the City and water resources used in the Western San Bernardino region are described in this section.

IN THIS SECTION

- Climate
- Population
- Demand
- Supply

2.1 Climate

Climate in the region is characterized by relatively hot, dry summers and cool winters with intermittent precipitation. Historical precipitation and temperature data from the California Irrigation Management Information System (CIMIS), published by the California Department of Water Resources (DWR) for station 44 at the University of California, Riverside was used to analyze historical trends in this area. Between 1990 and 2020, the annual average temperature was 64°F, as shown in Figure 2-1. The 2020 IRUWMP provides additional information on the climate within the SAR watershed. Potential impacts from climate change are discussed in Section 4.0 of this DCP.

The Basin Technical Advisory Committee (BTAC) for the San Bernardino Basin also maintains a record of historical precipitation, including a log of the cumulative departure from mean precipitation since 1930. This data is based on the average precipitation in the Lytle Creek, Santa Ana River and Mill Creek areas and is updated every year and published in the BTAC's Annual Regional Water Management Plan. The historical precipitation for the region, as of 2022, is provided in Figure 2-2. The cumulative departure from mean precipitation indicates that the region has historically experienced long periods of below-average precipitation lasting more than 30 years, such as during the period from 1947 to 1977. The region is currently experiencing another extend dry period which began in 1999 and has been more severe than prior droughts.

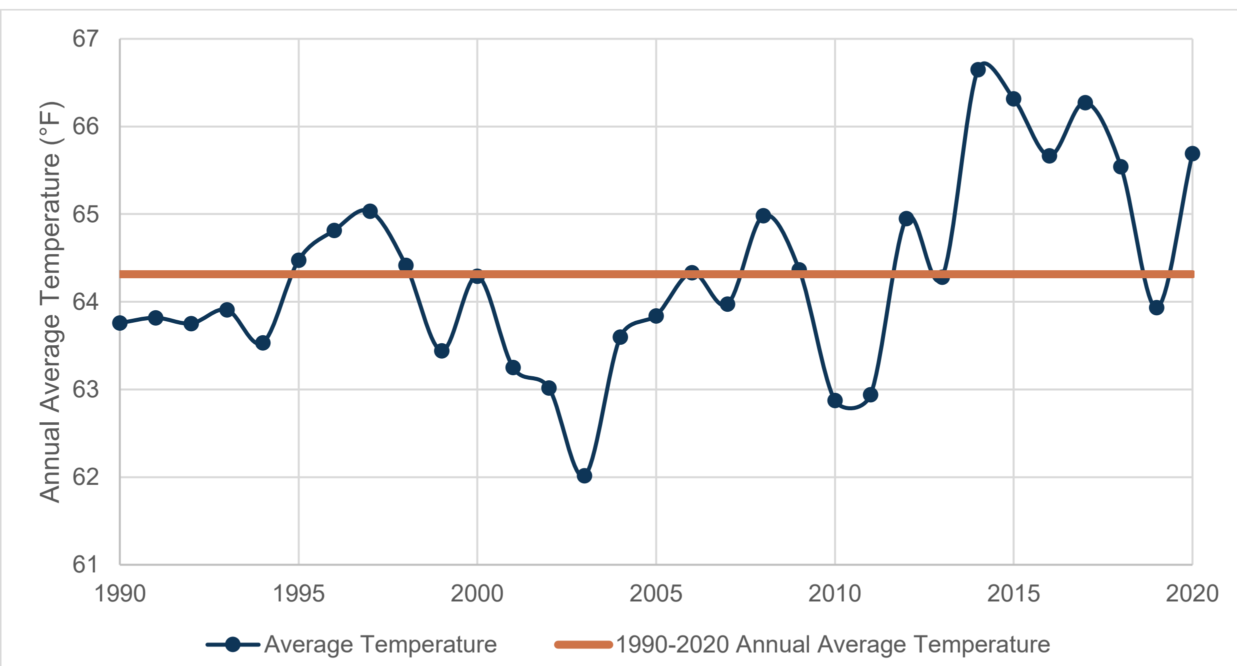


Figure 2-1. Historical Average Temperature (California Department of Water Resources, 2022)

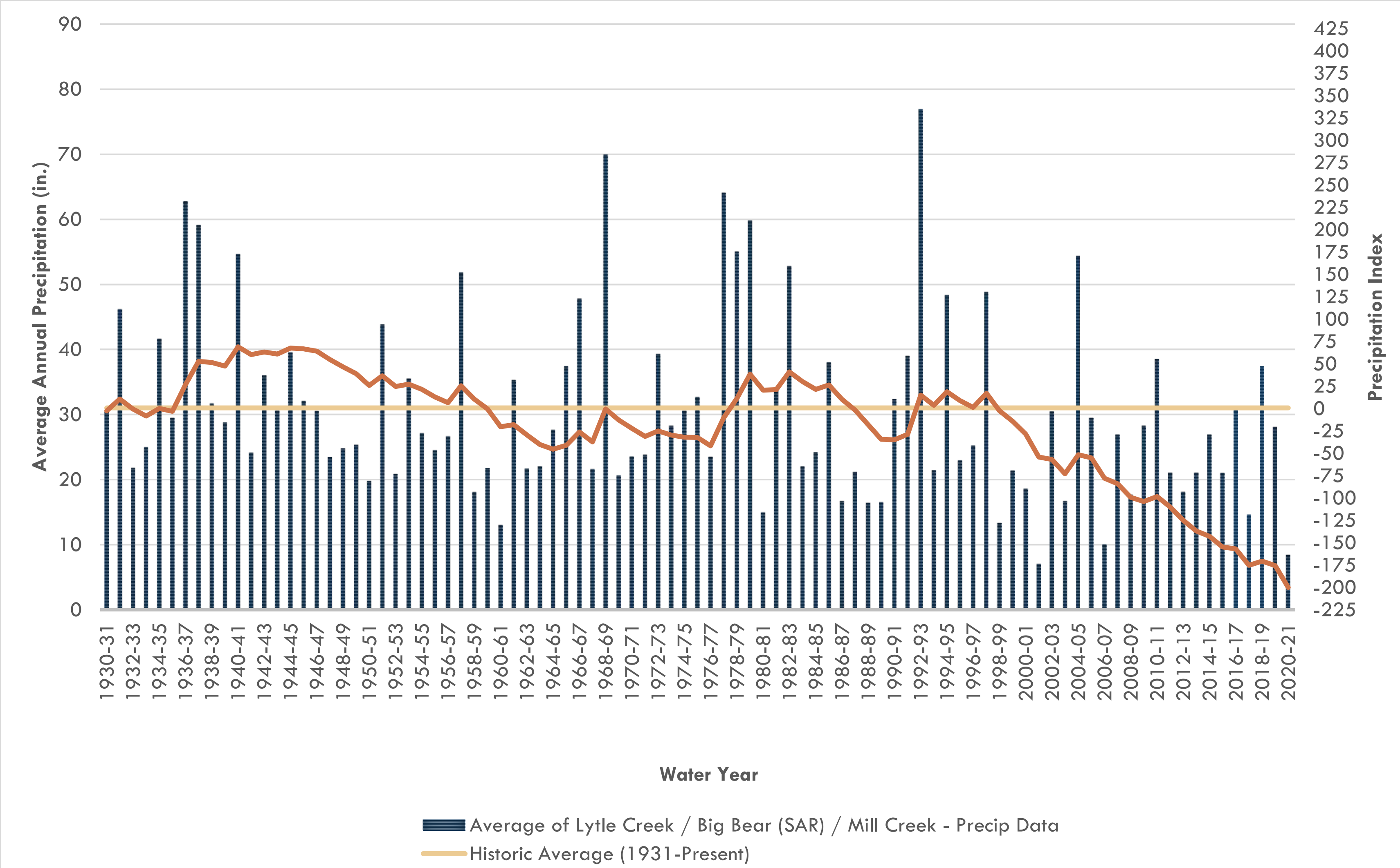


Figure 2-2. San Bernardino Basin Precipitation Index (Basin Technical Advisory Committee, January 2023)

2.2 Population

2.2.1 Population within the City of Rialto

The total population within the City of Rialto was calculated using Geographic Information Systems (GIS) spatial analysis tools and based on published 2020 Census data and projected future population growth estimated by the Southern California Association of Governments (SCAG). SCAG developed a demographics and growth forecast for the 2020 Connect SoCal Regional Transportation Plan that includes estimated population, households, and employment in 2020, 2035, and 2045 for each traffic analysis zone (TAZ). The City boundary was intersected with a GIS shapefile of the SCAG TAZs to calculate the estimated growth rates for 2035 and 2045. These rates were applied to the 2020 Census population for the City to estimate future population within the City. The percentage of the City served by each water supplier is provided in Table 2-1 and results of the projected population estimate is provided in Figure 2-3.

Table 2-1. Percent of City Served by Water Agency

Water Agency	Percent of City Served by Agency based on Area
Rialto	52%
West Valley Water District	43%
Fontana Union Water Company	5%

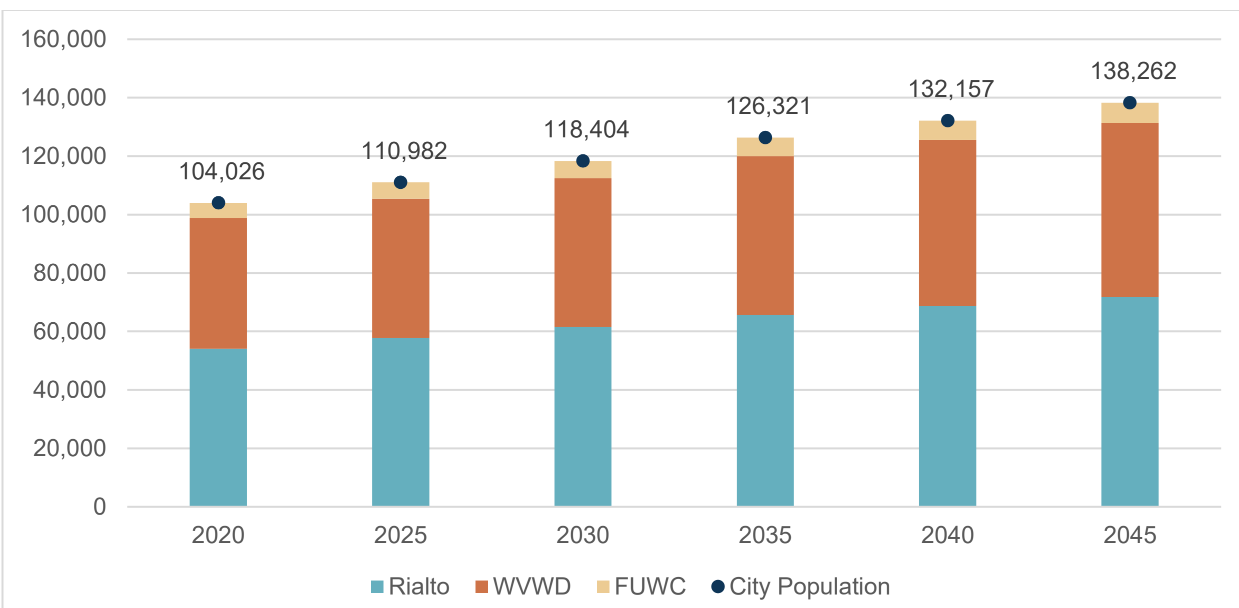


Figure 2-3. City Population Served by Water Agency

2.3 Demand

2.3.1 City Land Use

SCAG's growth projections are based on local and regional land use data. The land use information was intersected with the City boundary using GIS to identify the various types of land uses and associated customer demand within the City's jurisdiction. The various land uses identified within the City are presented in Figure 2-4, and the breakdown of land use type within the City is shown in Figure 2-5. Based on this analysis, the majority of land within the City is designated as single-family residential.

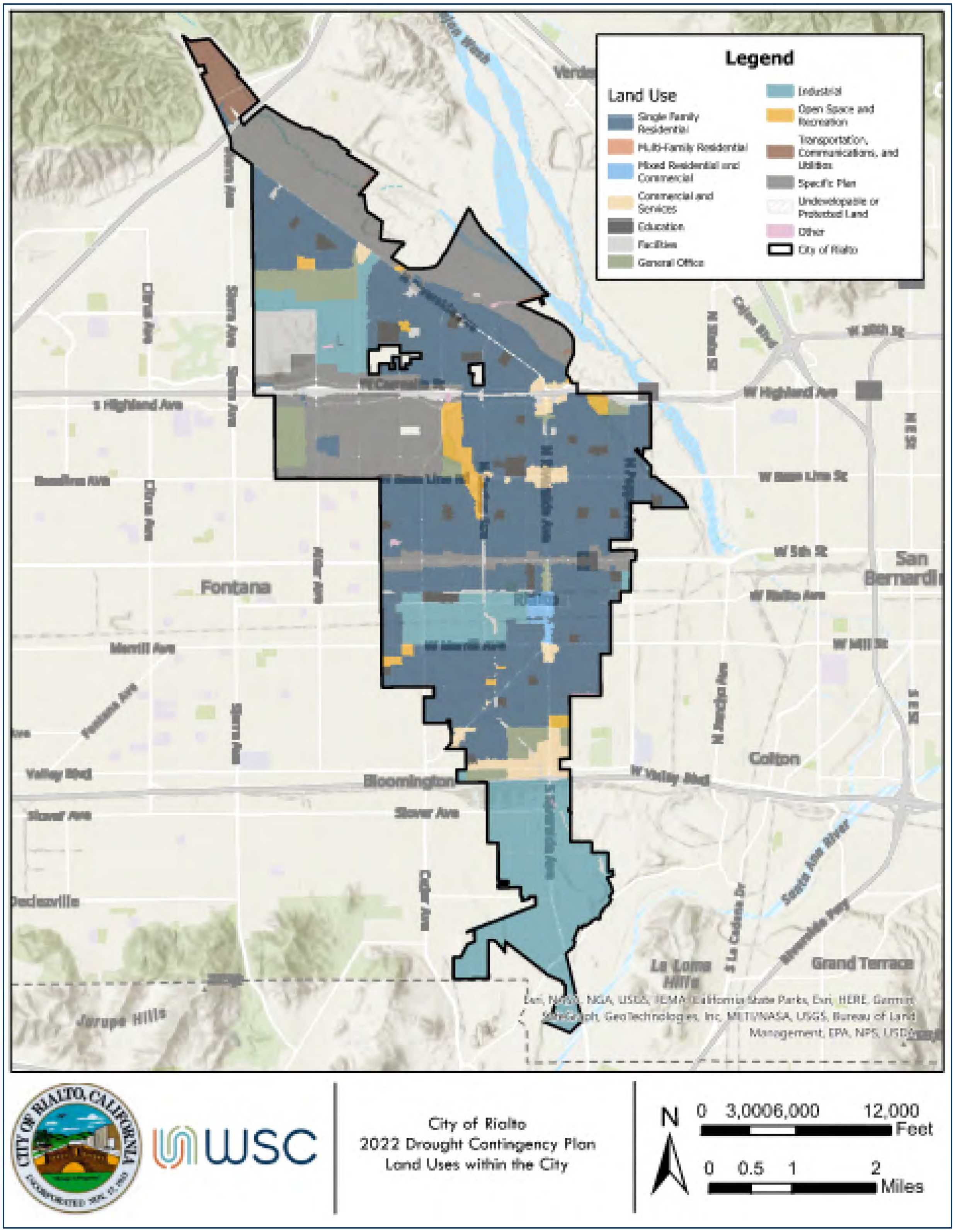


Figure 2-4. Land Uses within the City of Rialto

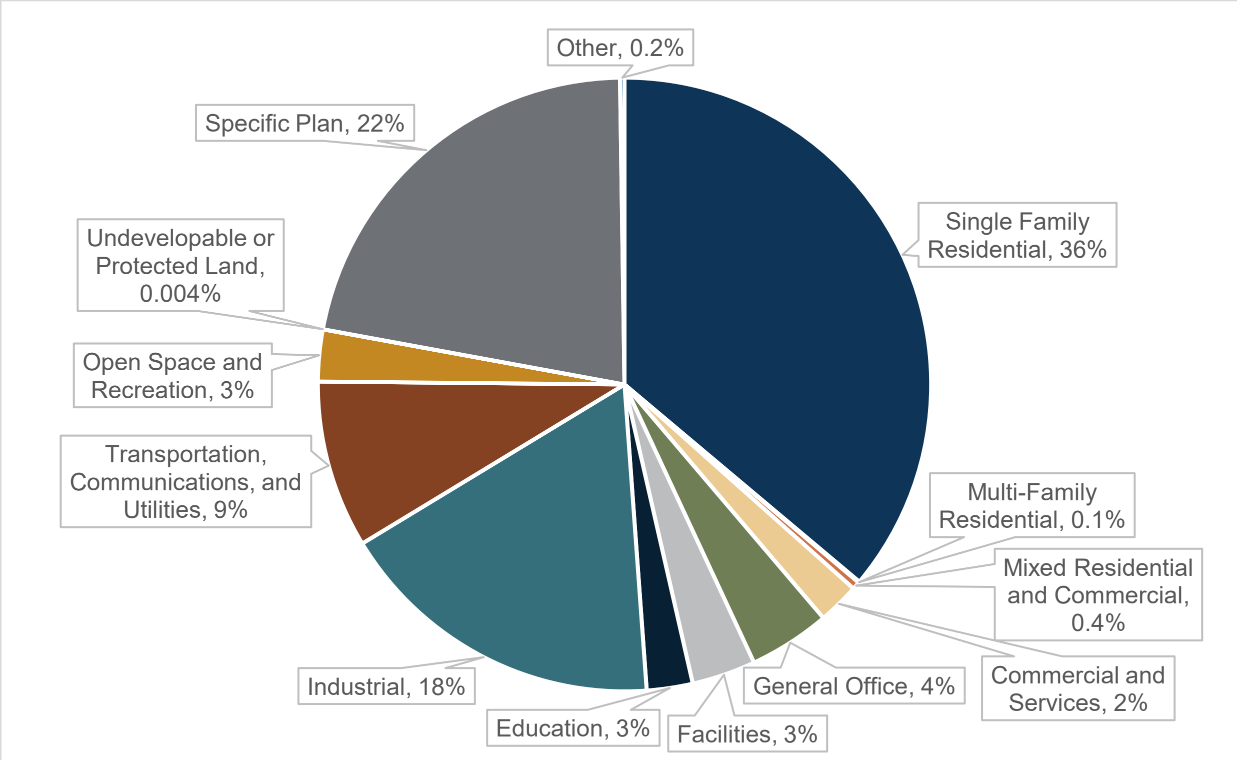


Figure 2-5. Designated Land Uses within the City of Rialto

2.3.2 Estimated City Demand

To estimate demand within the City, the weighted average of gallons per capita per day (gpcd) based on 2020 gpcd data was applied to the City population. The weighted average gpcd, provided in Table 2-2, was applied to the City population identified in Figure 2-3 to estimate future demand, as summarized in Table 2-3.

Table 2-2. City of Rialto GPCD

Water Agency	Estimated 2020 City Population within Water Supplier Service Area	2020 GPCD
Rialto Utility Authority	54,094	143
West Valley Water District	44,731	201
Fontana Union Water Company	5,201	149
Total City Population	104,026	
Weighted Average GPCD		**169**

Table 2-3. City of Rialto Projected Demand, AFY

	2025	2030	2035	2040	2045
City Population	110,982	118,404	126,321	132,157	138,262
Average gpcd	169	169	169	169	169
Demand, AFY	**21,009**	**22,414**	**23,913**	**25,018**	**26,174**

Note: City population determined using GIS tools and based on 2020 Census population and estimated growth rates from SCAG.

2.3.3 Urban Water Use Objectives

The California State Water Resources Control Board (SWRCB) is in the process of developing and adopting Urban Water Use Objectives (UWUO) for retail water suppliers. Rialto, WVWD, and FUWC will be required to comply with these new regulations. The UWUOs focus on water use efficiency and align with the Making Conservation a California Way of Life regulation.

The UWUO were not yet developed at the time of the 2020 IRUWMP and are not factored into the demand projections presented in the 2020 IRUWMP and in this DCP. Achieving compliance with the UWUO will require significant reductions in water demand by 2035 below what was projected in the 2020 IRUWMP as well as significant staff time to collect, refine and report customer and demand data to the SWRCB to monitor efforts and results toward compliance. The proposed UWUO requirements are extensive and are likely to drive many of the priorities and actions for Rialto over the next 10+ years related to conservation, customer education and engagement, demand management, and water loss reduction. These efforts also align with the components of the DCP and will contribute to enhanced drought preparedness. Therefore, this DCP is structured to align with and support compliance with the proposed UWUO as well as other State water supply and demand management and reporting requirements. Elements of UWUO regulations are integrated with the Drought Monitoring process (Section 3.0) and Mitigation Actions (Section 5.0).

2.3.3.1 UWUO Overview

The UWUO is composed of several standards to create one comprehensive objective, as shown in Figure 2-6.

Figure 2-6. Urban Water Use Objectives Regulation Overview

Based on draft regulations published at the time of this DCP, only the indoor residential standard and water loss standard have been finalized.

Indoor Residential

The indoor residential water use standard was set as part of Senate Bill (SB) 1157, which adopts recommendations made by DWR and the State Water Board to reduce indoor water use targets from 55 gpcd to 47 gpcd by 2025 and 42 gpcd by 2030.

Outdoor Residential

Outdoor residential use is expected to be based on the amount of irrigable area and an increasingly stringent landscape efficiency factor with compliance progress measured annually through 2035, when the efficiency factor is proposed to remain constant. The SWRCB is assisting agencies in calculating outdoor residential use budgets by providing aerial imagery that delineates irrigable irrigated, irrigable but not irrigated, and non-irrigable areas. This data has been provided to suppliers and is expected to be updated in five-year cycles.

Commercial, Industrial, and Institutional Landscape

Commercial, industrial, and institutional (CII) standards will be based on total gallons used and will require implementation of dedicated irrigation meters or in-lieu technologies, and other performance measures for conservation. Additionally, CII customer accounts will need to be classified into specific and general categories for reporting and compliance over the course of several years yet to be determined by the State.

Water Loss

The water loss component of the UWUO is a standalone component that must be met on its own. For Rialto, the water loss standard is 18 gallons per connection per day by 2028. Based on average water loss from 2017-2019 compared to the calculated 2028 standard, Rialto's water losses are approximately 261 AFY greater than its water loss standard.

Additionally, an Annual Water Use Report (AWUR) will be required starting January 1, 2024 to document progress toward complying with the UWUO regulations.

Based on draft regulations published at the time of this DCP, the SWRCB can issue informational orders (2024), written notices (2025), conservation orders (2026), or civil liability fines (2027) to water suppliers that do not meet their UWUO.

2.3.3.2 Rialto Preliminary UWUO Estimate

WSC prepared a preliminary evaluation of the UWUO for the Rialto water service area. Historical Rialto residential water use is shown in Figure 2-7. Based on average water use from 2017 through 2019, reductions in water use (shown in Figure 2-8) for Rialto's service area will be required to meet the UWUO.

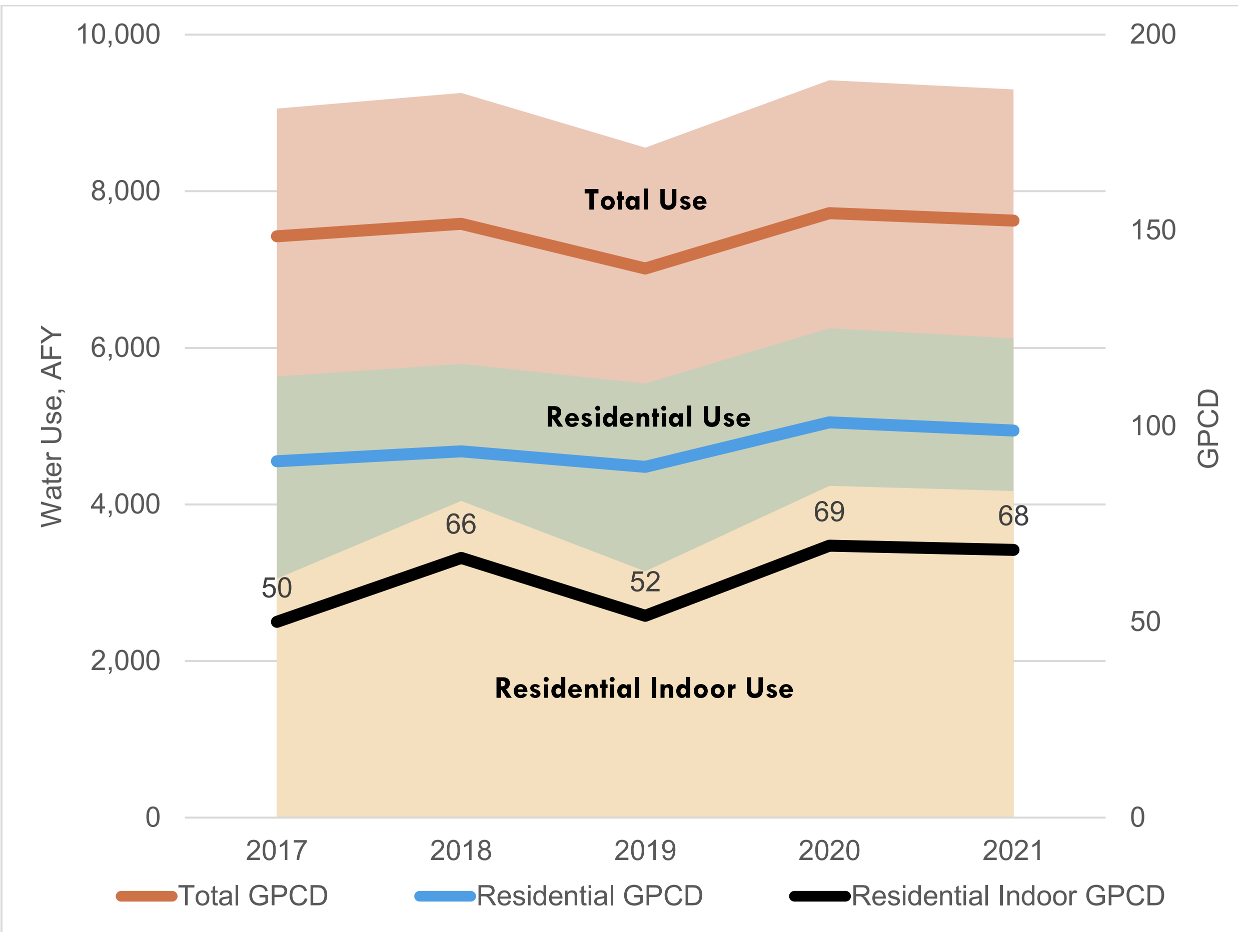


Figure 2-7. Rialto Historical Total and Residential Water Use

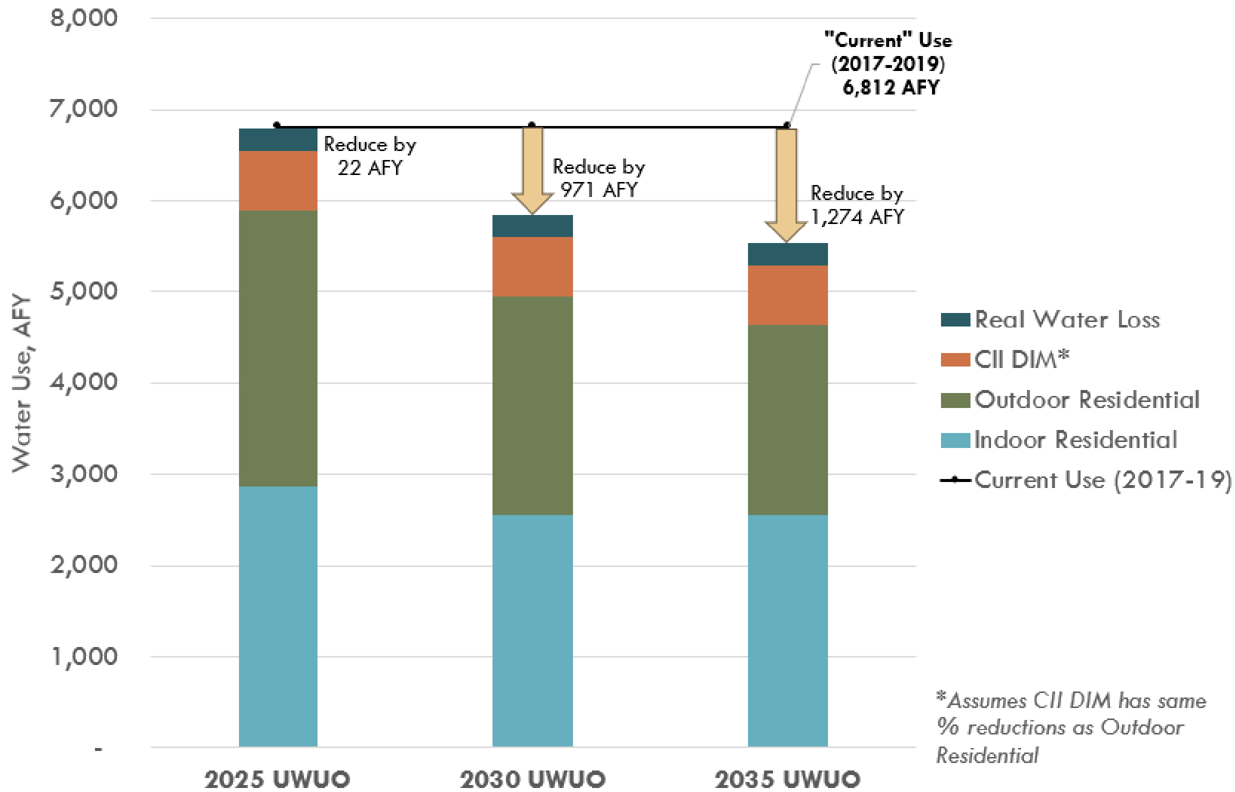


Figure 2-8. Preliminary UWUO Estimate

Based on the draft State guidance and preliminary estimates shown, it is expected that Rialto will need to reduce its overall water demand by 19% by 2035. As a starting point, Rialto should consider focusing on reducing indoor residential water use, since residential water use is Rialto's largest customer category. To assist in achieving reductions, a UWUO Roadmap was created based on the preliminary estimate to help guide Rialto staff in meeting the State requirements and achieving compliance. The UWUO Roadmap is included as a mitigation action and detailed in Appendix G. Additionally, an Education and Engagement Plan has been developed and is included in this DCP to support response and mitigation actions, as described in Section 4.2.2. The complete Education and Engagement Plan is provided in Appendix C.

Although not explicitly calculated for WVWD and FUWC, WVWD and FUWC will likely need to reduce customer water use to comply with the UWUO regulations.

2.4 Supply

The 2020 IRUWMP provides a comprehensive explanation of the region, including descriptions of all the water agencies in the area and the regional water sources and management. In this region, a variety of sources are used: imported water, groundwater from many different basins, recycled water, and transfers, exchanges, and groundwater recharge programs are exercised. For a complete description of the many sources used in this region, refer to Part 1, Chapter 3 of the 2020 IRUWMP. The 2020 IRUWMP is available on San Bernardino Valley's website at https://www.sbvmwd.com/reports/reports/-folder-1120.

Rialto generally relies on groundwater from the San Bernardino Basin (SBB) (which includes the Bunker Hill subbasin and Lytle Creek subbasin), Rialto-Colton, and Riverside North groundwater basins. A portion of the Bunker Hill subbasin supply is delivered through a shared system of wells and conveyance facilities called the Baseline Feeder. Rialto also has rights to surface water from Lytle Creek that is treated at WVWD's Oliver P. Roemer Water Filtration Plant (Roemer WFF). Rialto has a 25% share of the original 6 million gallons per day (MGD) plant capacity of Roemer WFF. Rialto historically used a small amount of recycled water to serve one irrigation customer, although this use has recently been discontinued and may not resume. In the future, Rialto may contribute to the purchase of imported water from the State Water Project (SWP) to recharge the Rialto-Colton Basin, if a recharge site can be developed.

WVWD uses these same sources, as well as SWP water purchased from San Bernardino Valley and treated at Roemer WFF. FUWC uses many of the same sources, as well as groundwater from the Chino Basin. Details on each of these water supply sources are provided in Part 1, Chapter 3 of the 2020 IRUWMP and attached as Appendix C to this DCP.

The various sources used to meet demands within the service areas of Rialto, WVWD, and FUWC are identified in Figure 2-9 and Figure 2-10.

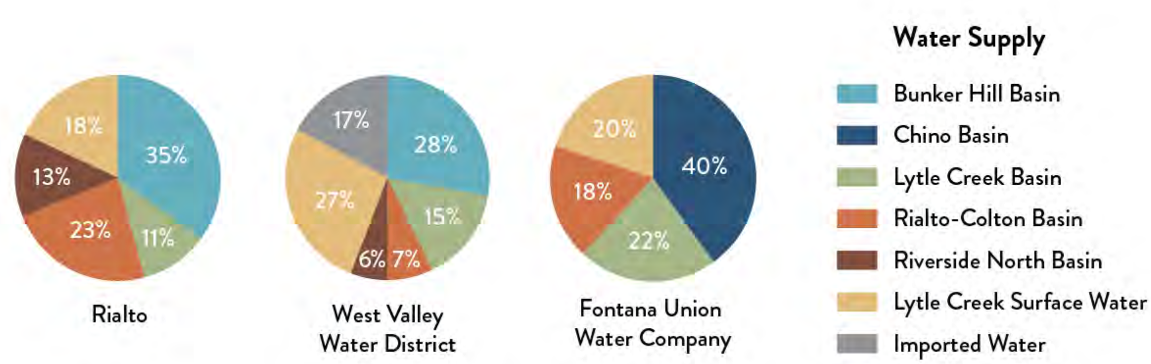


Figure 2-9. Regional Supply Sources used by City Suppliers, Percentage of Agency 2020 Portfolio

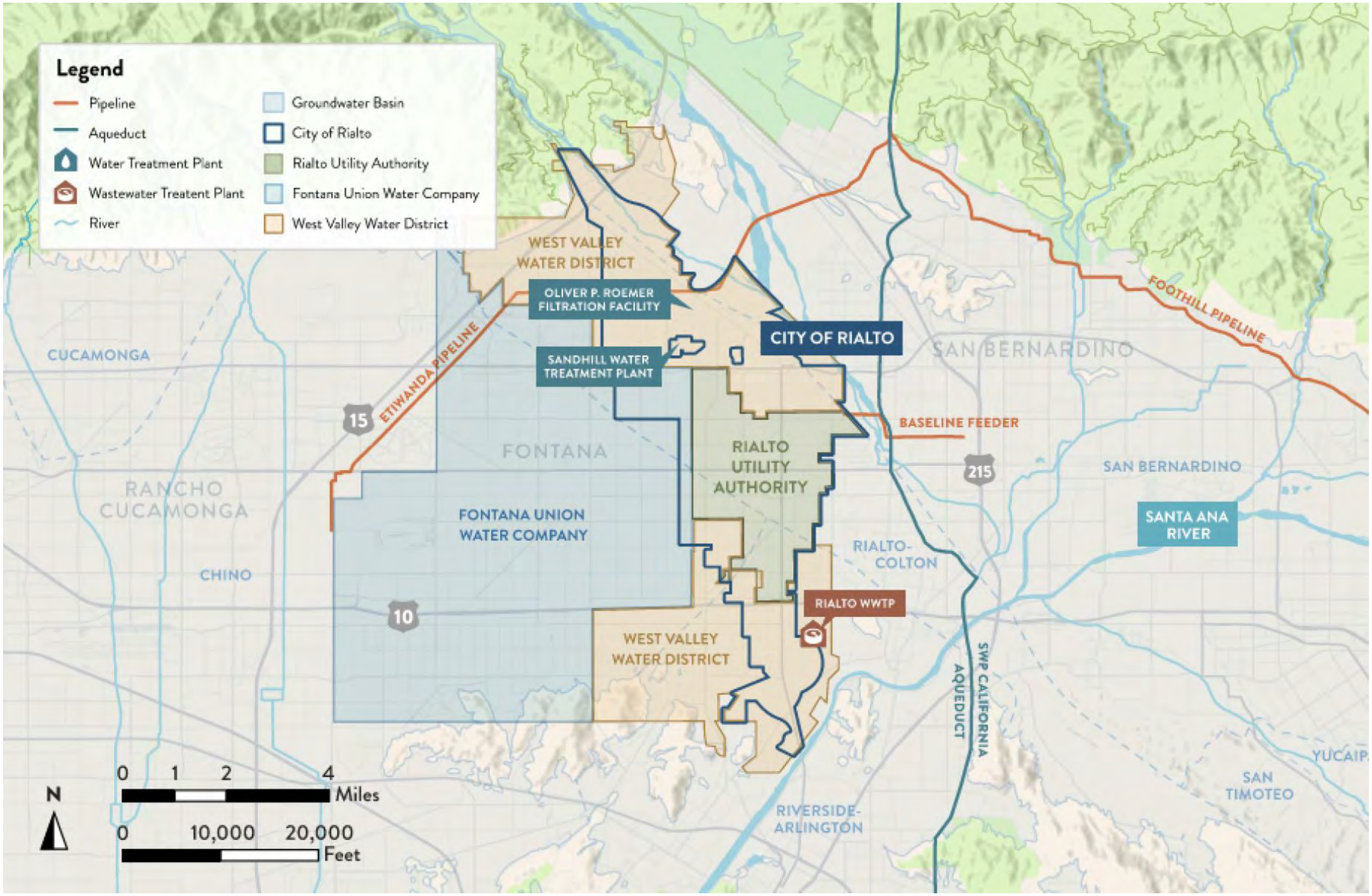


Figure 2-10. Regional Supply

2.4.1 Supply Projections

Rialto, WVWD, and FUWC plan to continue to utilize existing supply sources. Supply projections, developed in the 2020 IRUWMP are summarized in Table 2-4 and Table 2-5 for Rialto and WVWD. Supply projections for FUWC is summarized in Table 2-6, developed in FUWC's 2020 UWMP. These values are reflective of a "normal year" supply. Drought impacts to supply are discussed in Section 4.0.

Table 2-4. Rialto Projected Supply, AFY

	Source	2025	2030	2035	2040	2045
Groundwater	Bunker Hill subbasin	2,580	3,227	3,875	4,270	4,665
Groundwater	Baseline Feeder (Bunker Hill subbasin)	2,500	2,500	2,500	2,500	2,500
Groundwater	Lytle Creek subbasin	1,600	1,600	1,600	1,600	1,600
Groundwater	Rialto-Colton Basin	1,528	1,557	1,586	1,614	1,642
Groundwater	Riverside North Basin	1,200	1,200	1,200	1,200	1,200
Surface Water	SWP – Supplemental Supply for Rialto-Colton	384	412	440	469	498
Surface Water	Lytle Creek	1,241	1,241	1,241	1,241	1,241
Recycled Water	Rialto Wastewater Treatment Plant (WWTP)	10	10	10	10	10
	Total	**11,043**	**11,747**	**12,451**	**12,903**	**13,355**

Source: Table 5-12 of the 2020 IRUWMP (Water Systems Consulting, Inc. & Woodard & Curran, June 2021).

Table 2-5. WVWD Projected Supply, AFY

	Source	2025	2030	2035	2040	2045
Groundwater	Bunker Hill subbasin	2,052	2,353	3,554	4,754	6,455
	Baseline Feeder (Bunker Hill subbasin)	5,000	5,000	5,000	5,000	5,000
	Lytle Creek subbasin	2,900	2,900	2,900	2,900	2,900
	Rialto-Colton Basin	4,426	4,538	4,650	4,761	4,873
	Riverside North Basin	2,500	3,000	3,500	4,000	4,000
	Chino Basin	0	900	900	900	900
Surface Water	SWP – Supplemental Supply for Rialto-Colton	0	0	0	0	0
	Lytle Creek	3,100	3,100	3,100	3,100	3,100
Imported Water	State Water Project – Direct Delivery	7,000	7,000	7,000	7,000	7,000
	Total	**26,978**	**28,791**	**30,603**	**32,415**	**34,229**

Source: Table 10-11 of the 2020 IRUWMP (Water Systems Consulting, Inc. & Woodard & Curran, June 2021)

Table 2-6. FUWC Projected Supply, AFY

	Source	2025	2030	2035	2040	2045
Groundwater	Lytle Creek subbasin	6,390	6,390	6,390	6,390	6,390
	Rialto-Colton Basin	5,865	5,976	6,087	6,199	6,310
	Chino Basin	9,278	9,983	11,128	12,293	13,183
Surface Water	Lytle Creek	4,860	4,860	4,860	4,860	4,860
Imported Water	Inland Empire Utilities Agency	15,000	15,000	15,000	15,000	15,000
	San Bernardino Valley	3,200	3,200	3,200	3,200	3,200
Recycled Water	Inland Empire Utilities Agency	1,000	1,500	2,000	2,500	3,000
	Total	**45,593**	**46,909**	**48,665**	**50,442**	**51,943**

Source: Table 6-12 of FUWC's 2020 UWMP (West Yost for San Gabriel Valley Water Company Fontana Water Company Division, June 2021).

2.4.2 Water Supply Reliability

As noted in the previous section, the region's water supply portfolio is diverse and composed of supply from local groundwater, local surface water, recycled water, stormwater, and imported water. As part of the 2020 IRUWMP, the regional resources were analyzed under normal, single-dry, and five-consecutive dry years, as well as a 30-year drought. Details on water supply reliability for Rialto, WVWD, and FUWC are included in their respective UWMPs.

2.4.2.1 Reliability Assessment

A reliability assessment was conducted in the 2020 IRUWMP for entire San Bernardino Valley Region for normal, single-dry, 5-year, and 30-year consecutive dry conditions. The reliability assessment indicated that the region has sufficient supply for various dry-year and multiple dry-year scenarios. However, there are numerous vulnerabilities that may impact short- and long-term supply reliability. The agencies in the Region will continue to collaborate on proactive planning efforts, like this DCP, to regularly assess vulnerabilities and identify and implement projects and actions to mitigate such vulnerabilities and maintain long-term supply reliability. Sections 4.0 and 6.0 outline the vulnerabilities and mitigation actions identified for this DCP.

3.0 Drought Monitoring

The drought monitoring framework establishes a process for monitoring near- and long-term water availability and a framework for predicting future droughts or confirming the presence of a drought. The water agencies within this region have recently updated their Water Shortage Contingency Plans (WSCPs), which are required by the California Water Code. The WSCP includes an Annual Water Supply and Demand Assessment that forms the basis of drought monitoring procedures for Rialto and other water suppliers.

IN THIS SECTION

- Current Drought Monitoring Efforts
- Triggers for Drought Response
- Drought Monitoring Tool and Dashboard

3.1 Current Drought Monitoring Efforts

There are many existing efforts within the region that are currently being implemented to support sustainable water resource management and prepare for future recurring droughts. Ongoing efforts and how they align with the elements of this DCP are summarized in Table 3-1. Additional details on the committees and documents that are most relevant to the drought monitoring framework for this DCP are discussed in more detail in the following sections.

Table 3-1. Existing Drought Planning and Monitoring Efforts and Relation to DCP Elements

Existing Drought Planning and Monitoring Efforts	Drought Contingency Plan Element				
	SUPPLY & DEMAND	DROUGHT MONITORING	VULNERABILITY ASSESSMENT	MITIGATION ACTIONS	RESPONSE ACTIONS
2020 IRUWMP	✓	✓	✓	✓	✓
Agency WSCPs		✓			✓
Annual Water Supply and Demand Assessments	✓	✓			✓
Urban Water Use Objectives	✓	✓		✓	
AWIA Risk & Resiliency Assessment & Emergency Response Plans	✓		✓		✓
Local Hazard Mitigation Plans	✓		✓	✓	
Rialto 2021 Climate Adaptation Plan			✓	✓	
Local Agency Facility Master Plans	✓		✓	✓	
Rialto Basin Groundwater Management Plan	✓	✓	✓	✓	✓
Basin Technical Advisory Committee	✓	✓		✓	✓
San Bernardino Groundwater Council	✓	✓		✓	✓

Existing Drought Planning and Monitoring Efforts	**Drought Contingency Plan Element**				
	SUPPLY & DEMAND	**DROUGHT MONITORING**	**VULNERABILITY ASSESSMENT**	**MITIGATION ACTIONS**	**RESPONSE ACTIONS**
RAND Water Supply & Demand Analysis (2021 & 2022)	✓				
San Bernardino Valley Demand Management Program	✓			✓	
San Bernardino Valley Groundwater Change in Storage Calculations	✓	✓			
San Bernardino Valley Climate Adaptation & Resilience Plan			✓	✓	
One Water One Watershed Plan	✓			✓	
USBR Climate Change Analysis for the SAR Watershed	✓		✓	✓	

3.1.1 State Drought Reporting

3.1.1.1 Annual Water Supply and Demand Assessments

Every five years, urban water retailer suppliers are required to complete a UWMP and a WSCP, in accordance with the CWC. The WSCP is a standalone document that outlines a supplier's procedures for preparing for and responding to a water shortage emergency, including triggers and associated actions depending on the severity of the shortage. The WSCP is discussed further in Section 6, Drought Response Actions.

A key component of a WSCP is an Annual Water Supply and Demand Assessment (AWSDA) that must be completed by July 1 of every year, as indicated by the CWC Section 10632.1. The AWSDA process is the basis for the drought monitoring framework in the DCP. The AWSDA is an evaluation of the near-term outlook of supplies and demands to determine whether the potential for a supply shortage exists and if the supplier will need to trigger response actions in their WSCP to maintain water service reliability during the shortage conditions. The various tables that compose the AWSDA and a summary of their contents are shown in Figure 3-1. A copy of the most recent AWSDA prepared by Rialto is in Appendix D.

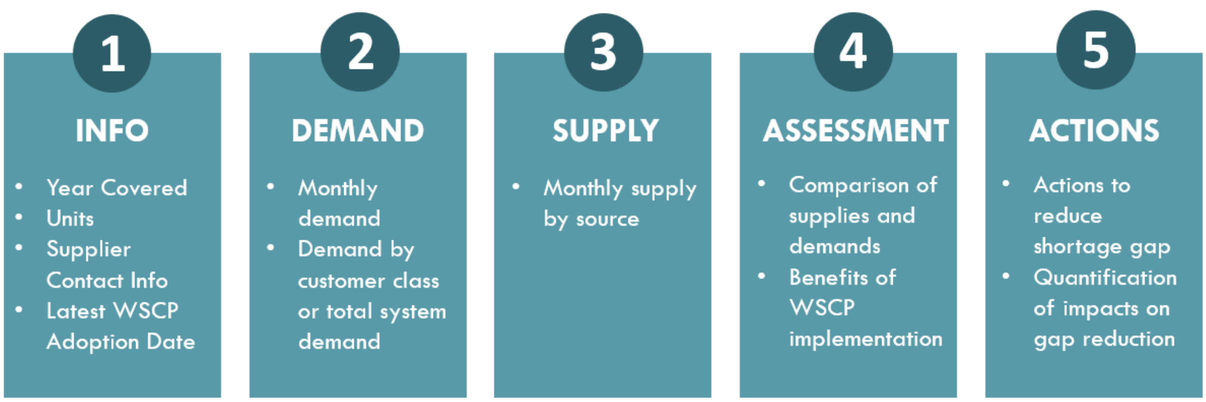


Figure 3-1. AWSDA Components

To complete the AWSDA process, Rialto convenes an internal WSCP Team composed of the Utilities Manager, Conservation Coordinator, and RWS operations staff. The complete procedure for conducting the AWSDA is outlined in the City's WSCP, which is provided in Appendix E. During development of this DCP, the Drought Task Force conducted an in-depth review of Rialto's existing AWSDA process as part of Workshop #2. This discussion identified the best data sources for projecting supply and demand for the coming year as well as ideas to improve future assessments and data consistency with other water use reports required by the State. A summary of the Rialto AWSDA process is provided in Figure 3-2. Other members of the Drought Task Force use similar procedures, which are documented in their respective WSCPs. A complete summary of the Drought Task Force Workshop #2 is provided in Appendix A.

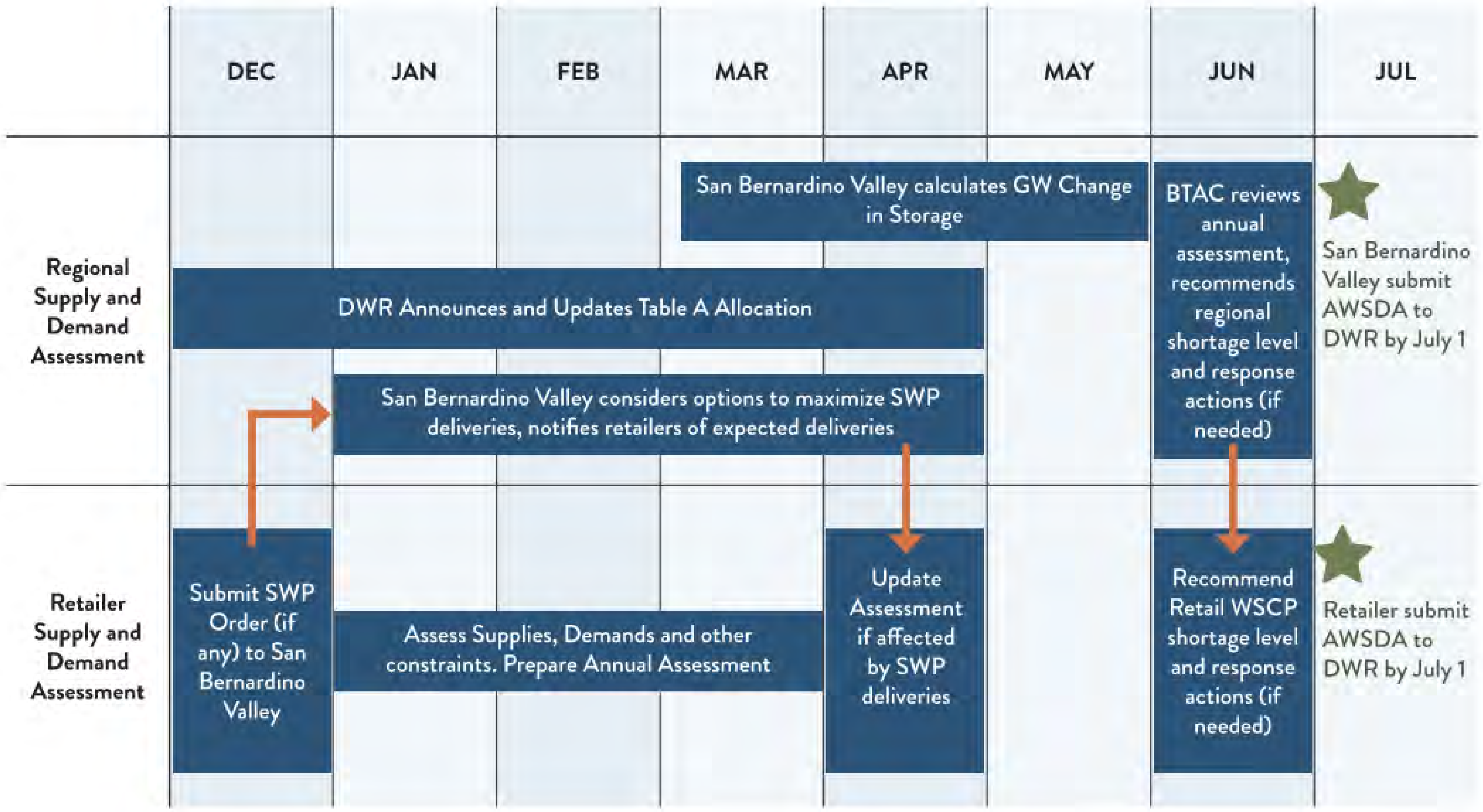


Figure 3-2. AWSDA Timeline

Demand Estimates

For each AWSDA, Rialto will estimate demands for the coming year based on the average demand for the previous 3-year period. Water production records will be used as the source of data for prior demands because they represent the total water use, including leaks, meter inaccuracies, and non-billed use. Rialto is not expecting to experience significant growth in its service area, so it is likely not necessary to adjust the previous 3-year average demand to account for additional customers, but estimates can be adjusted as needed in the future if growth becomes a significant factor in demand changes from year to year. The AWSDA is intended to represent dry-year demands, so the previous 3-year average demands may be scaled up if needed to account for expected increases in demand in a dry year, typically driven by increased outdoor water use. The dry year increase factor, if used, will be selected by Rialto based on conditions at the time of the assessment, and may vary from 0 to 10%.

Supply Estimates

Rialto obtains supply primarily from groundwater and surface water sources. Supply estimates are based on several factors, including precipitation, groundwater levels, well pumping capacity, and Rialto's allocated pumping rights, where applicable. The supply estimate also incorporates operational considerations that may impact supply availability, such as wells that are offline due to water quality issues or low water levels and planned outages of production facilities for maintenance. The data sources used to estimate available supply, including Rialto's water rights, are shown in Table 3-2.

Table 3-2. AWSDA Supply Data Sources

Supply	Data Sources
Bunker Hill subbasin	Allowable pumping not limited, based on the 1969 Western-San Bernardino Judgment. Expected supply is based on the total pumping capacity of all operational wells in the subbasin.
Lytle Creek	Available flow within the creek; which is dependent on precipitation within local mountains. Poor water quality following large storm events can limit the amount of water that can be treated in some years.
Lytle Creek subbasin	Allocation based on the 1924 Lytle Judgment. Expected supply is based on the total pumping capacity of all operational wells in the subbasin, accounting for reductions in pumping capacity when groundwater levels are low.
Rialto-Colton Basin	In May, San Bernardino Valley provides a Rialto Basin Decree Letter that summarizes the groundwater levels within the indicator wells established in the 1961 Decree and the associated allocation reduction for each Rialto Basin user. Expected supply is based on the total pumping capacity of all operational wells in the subbasin but limited by Rialto's total pumping allocation.
Riverside North Basin	Allowable pumping not limited, based on the 1969 Western-San Bernardino Judgment. Expected supply is based on the total pumping capacity of all operational wells in the subbasin.
Baseline Feeder	Bunker Hill groundwater purchased water from San Bernardino Valley (up to 2,500 AFY) or San Bernardino Municipal Water Department and delivered through the Baseline Feeder system.

Note: Additional details on the supply sources identified above are provided in Part 1, Chapter 3 of the 2020 IRUWMP.

3.1.1.2 SWRCB Monthly Drought and Conservation Reports

Starting in January 2023, the SWRCB issued Order DDW_HQ_DROUGHT2023_01 requiring technical reporting in response to drought and established the Monthly Drought and Conservation Reports (monthly drought reports) to help suppliers better evaluate system conditions and reduce ongoing reporting efforts, such as the Electronic Annual Report. As a result, Rialto and the other Drought Task Force members actively monitor drought conditions monthly, in addition to projecting potential drought condition for the coming year as part of the AWSDA. The monthly drought reports can be submitted on a quarterly basis through on online tool, SAFER Clearinghouse, accessible at drought.waterboards.ca.gov. The monthly drought reports include details on supply, demand, forecasted water shortages, and demand reduction or supply augmentation measures. If the SWRCB determines that any public water system is at risk or experiencing a severe water shortage, the SWRCB may require suppliers to submit the monthly drought reports on a more frequent basis (weekly and/or monthly).

3.1.2 Regional Management Groups

3.1.2.1 Basin Technical Advisory Committee

The Basin Technical Advisory Committee (BTAC) was formed to implement the 2007 Upper Santa Ana River Watershed Integrated Regional Water Management Plan (IRWM Plan) that encourages integrated regional planning for the Upper Santa Ana River Watershed. The BTAC's existing efforts include supply and demand monitoring and forecasting, drought monitoring, and mitigation and response efforts that align with the goals of this DCP. There are currently 16 agencies that participate in the BTAC, including the cities of Rialto and Colton, FUWC, WVWD, and San Bernardino Valley. The BTAC is open to any agency that wishes to join and encourages involvement of all stakeholders and the public. The BTAC also publishes an Annual Regional Water Management Plan that monitors the health of the San Bernardino Basin. The Annual Regional Water Management Plan provides recommendations on where to recharge imported water within the San Bernardino Basin and other local basins. As noted in Section 2.1, the Annual Regional Water Management Plan also publishes precipitation data for the San Bernardino Basin dating back to 1930 and depicts the cumulative departure from the historic mean precipitation. Additional details on the IRWM Plan and BTAC are provided in the 2020 IRUWMP.

3.1.2.2 San Bernardino Basin Groundwater Council

The San Bernardino Basin Groundwater Council (SBB Groundwater Council) is composed of the SBVWCD, San Bernardino Valley, San Bernardino Municipal Water Department, East Valley Water District, Bear Valley Mutual Water Company, Yucaipa Valley Water District, Loma Linda University, West Valley Water District and the cities of Loma Linda, Rialto, Colton, and Redlands. These agencies work together to collaboratively manage water resources in the San Bernardino Basin, including consistent monitoring of groundwater and surface water extractions, groundwater levels and funding and implementation of supplemental recharge of the SBB.

3.1.2.3 Rialto Basin Groundwater Council and Technical Advisory Committee

The Rialto Basin Groundwater Council (GC) was formed in 2021 as part of the Settlement Agreement to assist in managing production from the Rialto Basin, including production from "No Man's Land" that is outside the boundary of the Rialto Basin in the 1961 Decree but is believed to be within the Rialto-Colton subbasin. Members of the Rialto Basin GC include the cities of Rialto, Colton, FUWC, WVWD, and San Bernardino Valley.

The Rialto Basin GC has contracted Stetson Engineers Inc. to assist in developing a Rialto Basin Groundwater Management Plan. The Rialto Basin Groundwater Management Plan is envisioned to be an adaptive plan that will assist in sustainably managing extraction and recharge activities throughout the Rialto Basin. Development of the Rialto Basin Groundwater

Management Plan is ongoing at the time of this DCP. Once complete, the Rialto Basin Groundwater Management Plan is expected to provide data and analysis that will assist the members of the Rialto Basin GC in monitoring and predicting the impacts of future drought.

3.1.3 Data Sources

3.1.3.1 San Bernardino Basin Data

San Bernardino Basin Groundwater Storage Dashboard

San Bernardino Valley publishes information on the San Bernardino Basin on its website for the current water year as well as historical data, including the percent full and annual change in storage for the San Bernardino Basin, as well as precipitation amounts. This information is available through the Groundwater Storage Dashboard at https://sbvmwd.maps.arcgis.com/home/index.html and routinely reviewed at BTAC meetings when new information is developed. This information helps water agencies more easily monitor groundwater level trends and anticipate potential drought impacts.

San Bernardino Valley Water Conservation District Bunker Hill Basin Engineering Investigation Reports

San Bernardino Valley Water Conservation District (SBVWCD or Conservation District) also gathers data on the San Bernardino Basin and publishes annual reports that graphically outline the groundwater elevation contours throughout the San Bernardino Basin.

3.1.3.2 California Water Watch

DWR maintains a California Water Watch website that tracks water conditions throughout the state of California. Users can view local water conditions by entering an address or searching on the posted current drought map. The site, which can be accessed at https://cww.water.ca.gov, provide information including precipitation, temperature, reservoir levels, streamflow, groundwater, snowpack, soil moisture, and vegetation conditions. Many local agencies use this resource to identify current conditions for surface water bodies such as Lytle Creek.

3.1.3.3 US Drought Monitor

The US Drought Monitor provides weekly updates on weather and drought conditions throughout the contiguous US and classifies intensity and impacts based on various drought severity indices. Drought severity is ranked from a value of none (no impact) up to D4, exceptional drought (National Drought Mitigation Center, 2022). The latest US Drought Monitor information can be accessed at https://droughtmonitor.unl.edu/.

3.2 Triggers for Drought Response

Rialto and other local agencies may recognize drought based on several indicators:

- **AWSDA:** The AWSDA is the primary process for drought monitoring and the results signal when a system wide supply shortage may exist and trigger a defined set of response actions based on the severity of the projected shortage (10%, 20%, etc.).

There are several other indicators that may impact supply during a drought or trigger additional response actions:

- **Rialto-Colton Basin:** Restrictions on groundwater extraction occur when the average standing water levels in three index wells fall below 1002.3 feet; below that level, limitations on pumping are implemented. Additional limitations are placed when the average standing water level falls below 969.7 feet.
- **Riverside North Basin:** Artificial recharge is required to prevent overdraft if the water levels at three index wells fall below 822.04 feet, or if groundwater exports exceed those that occurred in 1963.
- **San Bernardino Basin (Lytle and Bunker Hill subbasins):** If extractions of all San Bernardino County Entities exceed their portion of the safe yield, artificial recharge is required to prevent overdraft.
- **Other:** Governor of California declares a water shortage and/or drought emergency and implements specific mandates that impact water utilities.

3.3 Drought Monitoring Tool and Dashboard

While each of the reporting requirements, management groups and data sources described in this section provide insight to help monitor for and respond to drought, it can be challenging to organize and integrate all the separate elements into a consistent and cohesive approach. During development of this DCP, the project team identified the need for a single comprehensive drought monitoring tool that brings all the relevant information together in one place to analyze the current and projected water supply, demand, and drought conditions and display the information in a dashboard that would support clear and consistent communication with stakeholders. As a result, a DCP Tool was developed to specifically integrate supply availability, demand projections, drought monitoring, response actions, and mitigation actions, while also structured to align with existing State reporting needs to ensure data consistency. Going forward, the DCP Tool will serve as the foundation of Rialto's drought monitoring and response. A preview of the supply dashboard component of the DCP Tool is shown in Figure 3-3.

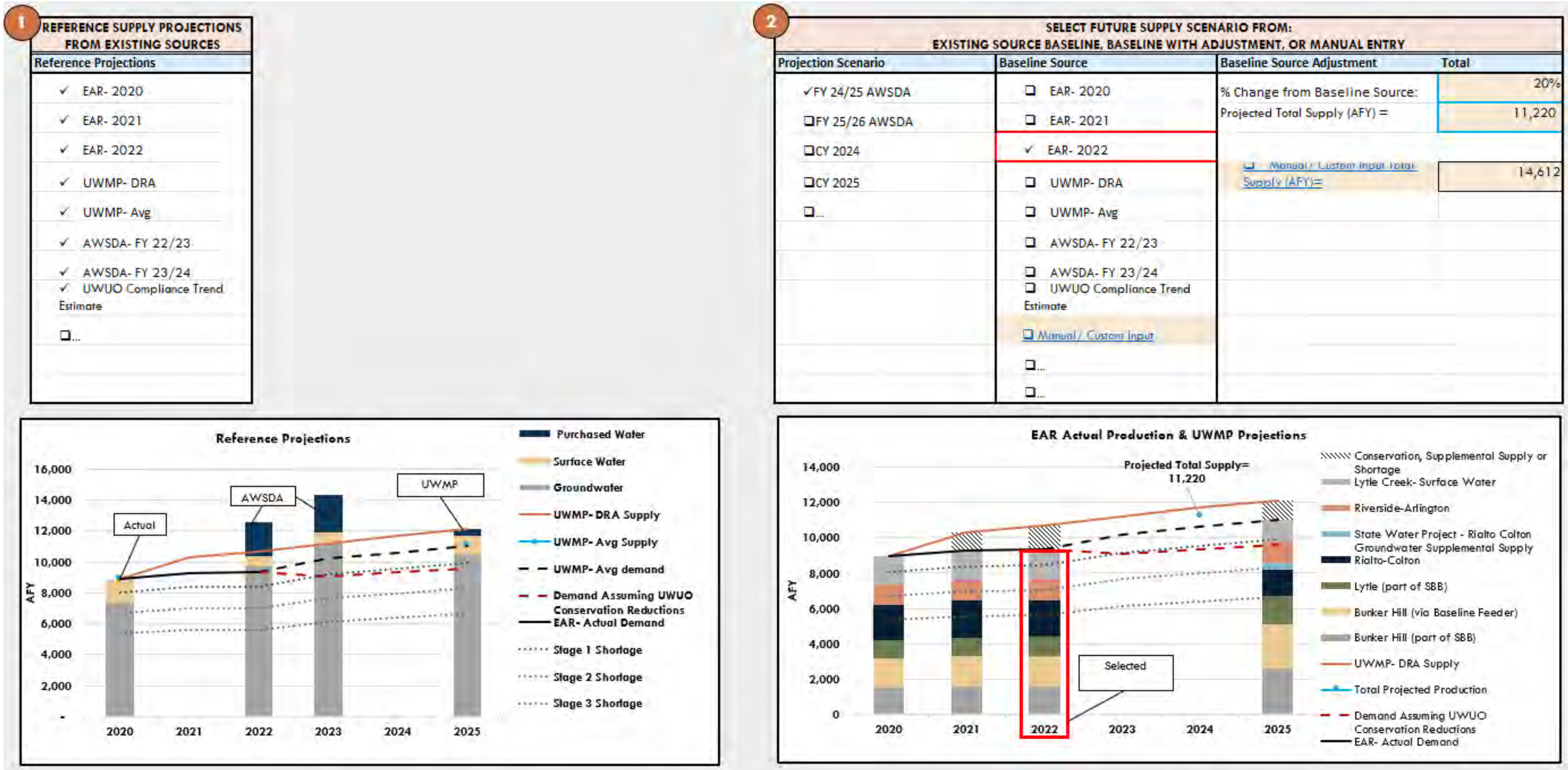


Figure 3-3. DCP Tool Supply Dashboard Preview

4.0 Drought Response Actions

Drought response actions are implemented during a drought to reduce demand and safeguard limited supply. Response actions are developed and adopted under water supplier's WSCPs and may vary from utility to utility. The various response actions listed in Rialto, WVWD, FUWC, and Colton's WSCPs are briefly discussed in this section.

Rialto's current WSCP was analyzed in further detail and included input from operations staff to develop a model 6-stage WSCP for future use. This analysis is discussed in this section and the model 6-stage WSCP is included in Appendix H.

IN THIS SECTION

- Existing Shortage Stages and Response Actions
- Rialto WSCP Analysis
- Potential Enhancement of Drought Response Actions
- Education and Engagement Plan

The latest WSCPs were developed and adopted as part of the 2020 Urban Water Management Plan. DWR has recommended that utilities adopt a standard 6-stage WSCP to maintain consistency throughout the state. Consistent shortage stages help avoid confusion when discussing supply shortages among neighboring customers and aid in mitigating drought impacts. Not all utilities within the region have converted their existing WSCP stages into the standard 6-stage format, aside from FUWC. To help assist with this transition in the future, a model 6-stage WSCP is provided in this section. A summary of the standard 6-stage WSCP recommended by DWR is provided in Table 4-1.

Table 4-1. Standard 6-Stage WSCP

Standard Shortage Stage	Water Supply Shortage Condition
1	Up to 10%
2	Up to 20%
3	Up to 30%
4	Up to 40%
5	Up to 50%
6	Greater than 50%

4.1 Existing Shortage Stages and Response Actions

Each water supplier has its own adopted WSCP and subsequent shortage stages used to mitigate drought impacts. Response actions for each agency reflect their individual supply portfolios and specific water shortage conditions associated with those portfolios. As a result, water shortage conditions and response actions may differ slightly for each utility. A summary of the WSCP shortage stages utilized by each regional supplier is provided in Table 4-2. The various actions identified in the WSCPs for Rialto, WVWD, FUWC, and Colton are summarized in Table 4-3. For the most part, each agency implements the same or very similar response actions; the stage in which each action is implemented may differ.

Table 4-2. Western San Bernardino Suppliers WSCP Shortage Stages

<table>
<tr><th></th><th>Normal Conditions</th><th>10%</th><th>15%</th><th>20%</th><th>25%</th><th>30%</th><th>35%</th><th>40%</th><th>45%</th><th>50%</th><th>>50%</th></tr>
<tr><td>Rialto</td><td>Stage 1</td><td colspan="2">Stage 2</td><td>Stage 3</td><td colspan="7">Stage 4</td></tr>
<tr><td>WVWD</td><td>Stage 1</td><td colspan="2">Stage 2</td><td>Stage 3</td><td colspan="7">Stage 4</td></tr>
<tr><td>FUWC</td><td>Stage 1</td><td colspan="2">Stage 2</td><td colspan="2">Stage 3</td><td colspan="2">Stage 4</td><td colspan="2">Stage 5</td><td colspan="2">Stage 6</td></tr>
<tr><td>Colton</td><td colspan="2">Stage 1</td><td>Stage 2</td><td colspan="2">Stage 3</td><td colspan="6">Stage 4</td></tr>
</table>

Table 4-3. Summary of Existing Actions Implemented by Each Agency

Topic	Action	Rialto	WVWD	FUWC	Colton
CII – Restaurants	All restaurants and food establishments are requested not to serve water to their customers unless specifically requested by the customer.	Stage 1	Stage 1		Stage 1
Irrigation	Require automatic shut-off hoses.	Stage 1	Stage 1	Stage 1	Stage 1
Irrigation	The use of sprinklers for any type of irrigation during high winds, which divert a significant amount of water away from the intended landscaping, is prohibited.	Stage 1	Stage 1		
Leaks	Customers must fix leaks within a timely manner.	Stage 1	Stage 1	Stage 1	Stage 1
Run-Off	The use of water that results in run-off is prohibited.	Stage 1	Stage 1	Stage 1	Stage 1
Wash Down	Prohibit the use of potable water to clean sidewalks, walkways, driveways, parking areas, patios, porches, verandas, tennis courts, or other paved, concrete, or other hard surface areas, except where necessary for the benefit of public health or safety.	Stage 1	Stage 1		Stage 1
Water Features – Decorative	Prohibit the use of potable water to clean, fill, or maintain decorative fountains, lakes, or ponds, unless such water is recycled or part of a recirculating system.	Stage 1	Stage 1	Stage 1	Stage 1
Watering Restrictions – Specific Times	Watering Restrictions - Specific Times	Stage 1	Stage 1	Stage 2	Stage 1
Irrigation – Medians	The irrigation of potable water of ornamental turf on public street medians is prohibited. The term "median" shall mean the strip of land between street lanes.	Stage 1	Stage 1	Stage 3	
Irrigation – New Homes and Buildings	The irrigation with potable water of landscape outside of newly constructed homes and buildings must be consistent with regulations or other requirements established by the California Buildings Standards Commission, as those regulations may be modified from time to time.	Stage 1	Stage 1	Stage 3	
Vehicle Washing	Washing of automobiles, boats, trailers, aircraft, and other types of mobile equipment shall be prohibited unless done with a hand-held bucket or hand-held hose equipped with a positive shutoff nozzle for quick rinses. This section does not apply to the washing of the above-listed vehicles or mobile equipment when conducted at a commercial car wash utilizing a recycling system. Provided, however, such washings are exempt from these regulations when the health, safety, and welfare of the public is contingent upon frequent vehicle cleaning, such as garbage trucks and vehicles used to transport food or perishables.	Stage 1	Stage 1		Stage 1
CII – Laundered Linens	Operators of hotels and motels must provide guests with the option of choosing not to have towels and linens laundered daily and prominently display notice of this option.	Stage 2	Stage 2		
CII – Restaurants	All restaurants and food establishments are prohibited from serving water to their customers unless specifically requested by the customer.	Stage 2	Stage 2	Stage 2	Stage 2
Code	Actions in previous stages apply to later stages.	Stage 2	Stage 2		Stage 2
Conservation	Customers asked to reduce consumption by a specific percentage.	Stage 2	Stage 2		Stage 2
Leaks	Customers must repair leaks within seventy-two (72) hours of notification.	Stage 2	Stage 2	Stage 3	
Leaks	Customers must repair leaks within twenty-four (24) hours of notification.			Stage 4	

Topic	Action	Rialto	WVWD	FUWC	Colton
Leaks	Customers must repair leaks immediately after notification.			Stage 5	
Irrigation after Measurable Rainfall	Irrigating turf or ornamental landscapes during or within forty-eight (48) hours following measurable precipitation in excess of one-quarter inch is prohibited.	Stage 2	Stage 2	Stage 2	
CII – Construction	The use of potable water for compaction, dust control, and other types of construction shall be allowed only pursuant to a permit and limited.	Stage 3	Stage 2	Stage 4	Stage 2
Watering Restrictions - Agricultural	All agricultural water users shall irrigate only at times approved by the District.	Stage 2	Stage 2		Stage 3
Watering Restrictions – Specific Days	All landscape irrigation shall be limited to no more than four (4) days per week for no more than ten (10) minutes per station per day.	Stage 2	Stage 2		Stage 3
New Services	New water services shall be installed but water shall be used before occupancy for essential construction only and for testing of landscape irrigation systems. The installation of new landscaping for all new development/projects must be approved by the Agency.	Stage 3	Stage 2	Stage 5	Stage 3
Vehicle Washing	Washing of automobiles, boats, trailers, aircraft, and other types of mobile equipment is prohibited. Washing of the above-listed vehicles or mobile equipment <u>shall only be allowed at a commercial car wash utilizing recycling systems</u>. Provided, however, such washings are exempt from these regulations when health, safety, and welfare of the public is contingent upon frequent vehicle cleaning, such as garbage trucks and vehicles used to transport food or perishables.	Stage 3	Stage 3		Stage 3
Water Features – Swimming Pools	Swimming pools, hot tubs, and spas shall not be filled or refilled after being drained.	Stage 3	Stage 3		Stage 3
Watering Restrictions – Specific Days	All landscape irrigation shall be limited to no more than three (3) days per week for no more than ten (10) minutes per station per day.	Stage 3	Stage 3	Stage 2	Stage 3
Watering Restrictions – Specific Days	All landscape irrigation shall be limited to no more than two (2) days per week for no more than ten (10) minutes per station per day.		Stage 3	Stage 3	
Watering Restrictions – Specific Days	All landscape irrigation shall be limited to no more than one (1) day per week for no more than ten (10) minutes per station per day.		Stage 3	Stage 4	
Water Features – Swimming Pools	The filling, refilling, or adding of water to uncovered swimming or wading pools and spas shall be prohibited at all times.				Stage 4
Water Features – Decorative	The operation of any ornamental fountain or similar structure shall be prohibited.				Stage 4
Irrigation	Prohibit landscape irrigation.	Stage 4	Stage 4	Stage 5	Stage 4
CII – Construction	No potable water for construction purposes.	Stage 4	Stage 4		Stage 4
CII – Nurseries	Commercial nurseries shall water only between the hours of 11:00 p.m. and 6:00 a.m. and only with hand-held devices or with drip irrigation systems.		Stage 4		Stage 4
New Services	The issuance of new water service connections and meters shall be prohibited / Moratorium or Net Zero Demand increase on new connections			Stage 5	Stage 4

4.2 Rialto WSCP Analysis

At the Drought Task Force kickoff meeting, there was a consensus that a coordinated regional response to drought is beneficial. As such, Drought Task Force Workshops #2 and #3 focused on Rialto staff to conduct an in-depth analysis of Rialto's existing WSCP. The goal of Workshops #2 and #3 was to develop a draft model framework that the broader Task Force or other regional agencies may consider aligning with future updates of their own agency WSCPs to increase consistency of drought response and communication among the City's water suppliers. This draft model WSCP can be used by any agency in the region and/or modified as needed to fit each agency's individual needs. The goal is to provide regional agencies with a framework for adopting the 6-standard shortage stages recommended by DWR, while aiming for regional consistency in drought response.

Recommendations for WSCP Enhancement

Opportunities for improvement within the Rialto's WSCP include:

- Communication & Outreach: Better engage City residents on current shortage stages and restrictions.
- Rebates: Better inform City residents of available rebates to reduce water use. Visit https://www.yourrialto.com/594/Utility-Rebates for details.
- Flexibility: Incorporate language that provides the City Manager or their designee flexibility to respond to and comply with executive orders and state mandates.

At Drought Task Force Workshops #2 and #3, Rialto staff participated in a two-hour workshop to discuss appropriate and effective response actions Rialto could implement in a water shortage emergency. Rialto staff considered the following questions based on their experience during prior droughts:

- Are response actions granular and flexible enough to respond in an appropriate way?
- Are there any unintended consequences of these actions?
- Which actions are most or least effective?
- Are any actions difficult/impossible for staff to implement/enforce?

The draft 6-stage WSCP created based on discussions from these workshops is provided in Appendix H. This draft 6-stage WSCP includes revisions to existing actions, reorganizing certain actions into different stages, and the removal of specific actions that are not required or are vague. This draft 6-stage WSCP will be used in a future WSCP update (anticipated in 2026 as part of the next IRUWMP update cycle) for Rialto and may also be used by regional agencies to assist with future updates of their respective WSCPs.

After development of the draft 6-stage WSCP, the SWRCB published draft regulations to achieve water use efficiency throughout the state of California, as discussed in Section 2.3.3. Based on the preliminary UWUO estimate for Rialto, Rialto may need to reduce base demand by 19% for compliance by 2035. As a result, the model 6-stage WSCP developed early in the

DCP development may need to be refined to incorporate more aggressive actions in order to achieve further demand reduction beyond the UWUO.

4.2.1 Potential Enhancement of Drought Response Actions

Opportunities for improvement within the Rialto's WSCP include efforts pertaining to communication and outreach, rebates, and structuring actions to provide greater flexibility for implementation.

Communication & Outreach: Improve communication and outreach efforts during water shortages. Develop a targeted approach to better engage with customers and other local agencies.

Rebates: Encourage the use of rebate programs offered by Rialto, such as rebates pertaining to high efficiency toilets, high efficiency washing machines, weather based smart irrigation timers, high efficiency nozzles, automatic shut off nozzles, and turf replacement programs. Include rebate advertisement when asking customers to reduce water use by a specific percentage.

Flexibility: Incorporate language in response actions/resolutions/ordinances, that the City Manager or their designee may invoke certain response actions to comply with any executive orders and state mandates to remain in compliance. This recommendation is based on executive order and state mandate requiring water suppliers to implement a 20% water supply shortage emergency and all actions identified in the supplier's WSCP for a 20% shortage. Such actions might have been listed in a supplier's stage 3. Rather than implement a stage 3 shortage when a Stage 3 is not necessary, WSCPs should be structured to allow for a lower stage declaration but include implementation of specific actions identified for later stages only to comply with mandates from the government.

4.2.2 Education and Engagement Plan

Based on the discussions completed as part of Workshop #2, it was clear that Rialto could benefit from a detailed Education and Engagement Plan. Workshop #4 was conducted with Rialto staff members to identify key communication topics and strategies to better engage customers. As a result, the Rialto Education and Engagement Plan was developed as part of this DCP and is provided in Appendix C.

The Education and Engagement Plan aims to effectively engage and inform the community about Rialto's DCP, focusing on the six stages of water shortage and associated drought response actions. The goal is to promote water conservation, raise awareness about the severity of the drought, and guide residents through the necessary measures to mitigate its impact. The Education and Engagement Plan is organized into seven key components:

Stage Overview

Provides an overview of each of the six stages of the WSCP, highlighting the need to engage residents to support them in achieving the necessary demand reductions.

Communication Channels

Identifies a broad range of diverse communication channels to reach a broad audience, including traditional mediums such as local newspapers, radio, and television, as well as modern platforms like social media, email newsletters, and the agency's website. Assesses the effectiveness and level of effort associated with each and recommends appropriate use of each channel.

Tiered Message Approach

Provides example language that can be used when communicating about each stage of drought, including updating the community on the current stage, providing practical tips for water conservation, and emphasizing the collective impact of individual efforts. The urgency of the communication increases with each stage.

Educational Materials

Provides recommendations for effective educational materials, including giveaways (branded water bottles, etc.), brochures, flyers, and infographics, explaining the drought contingency plan and illustrating water-saving tips. Materials should be distributed widely within the community, emphasizing the importance of individual and collective efforts in water conservation.

Community Engagement Program

Identifies a broad range of community engagement opportunities, such as informative workshops and community meetings, water-saving competitions, educational events, and outreach campaigns. These initiatives will foster a sense of collective responsibility and encourage residents to actively participate in water conservation efforts.

Responsive Feedback Mechanism

Identifies potential feedback mechanisms, such as a dedicated hotline or online portal, to address community questions, concerns, and suggestions promptly. This ensures transparency and builds trust by demonstrating the water agency's commitment to keeping the community informed and involved.

Partnerships with Stakeholders

Recommends building and strengthening partnerships with local community leaders, schools, businesses, and other stakeholders to amplify the outreach efforts. Collaborative initiatives can enhance the reach and effectiveness of communication strategies.

By integrating these components into the Education and Engagement Plan, Rialto can foster a proactive and informed community that plays an active role in mitigating the impact of drought through responsible water use.

4.3 Regional Coordination

There are many ongoing efforts and committees dedicated to preserving the region's water supply. Most notably, the Rialto Basin GC Technical Advisory Committee (TAC) is an important and effective platform for regional communication. Members of the Rialto Basin GC TAC are active participants of the Drought Task Force and supported development of this DCP. It is envisioned that the Rialto Basin GC TAC will continue to serve as the platform for coordination between the City's suppliers after completion of this DCP.

As mentioned above, Drought Task Force participants noted that regional coordination and drought communication are key for responding to drought and building resiliency. Typical forms of communication might not work as well as previously. For example, many agencies have historically provided bill-stuffers to help inform customers of issues. The advantages of modern technology have allowed customers to enroll in autopay and online customer portals; as such, many customers never actually view their own bill. "Out-of-the-box" methods of communication are needed to reach customers and effectively reduce water use. Such methods could include:

- Social media alerts, notices, and advertisements
- Customer account portal messages
- Partnership with local media outlets
- Communication in multiple languages

The Rialto Education and Engagement Plan was presented to the Drought Task Force to inform them of Rialto's strategy for communicating and engaging with its customers and identify opportunities for consistent messaging across the City.

5.0 Vulnerability Assessment

A vulnerability assessment was conducted to identify potential risks to water resources within this region. The Drought Task Force participated in a workshop to discuss vulnerabilities and potential impacts on each Drought Task Force member's organization. The results of the vulnerability assessment are discussed in this section.

Each water supply source used to serve the City was discussed in detail with the Drought Task Force. Drought vulnerabilities are the main focus of this DCP; however, other vulnerabilities could also impact water supply reliability or exacerbate drought-specific vulnerabilities, particularly if they occur during a drought when supplies are already strained. Therefore, this DCP includes a holistic analysis of vulnerabilities organized into the following categories: climate change; extended drought; infrastructure; administrative, regulatory and environmental; and water quality.

IN THIS SECTION

- Drought Specific Vulnerabilities
- Other Vulnerabilities
- Vulnerability Assessment
- Vulnerability Assessment Summary

5.1 Drought Vulnerabilities

This section provides context for some of the most critical drought related vulnerabilities that impact water supply for the City and were considered in the vulnerability assessment.

Prolonged Drought

The San Bernardino Valley Region continues to face prolonged drought periods that stress water supplies. Rialto and other local agencies utilize the same groundwater basins, and they rely on these basins more heavily when drought reduces the amount of water available from surface water and imported water sources.

Rialto and other local agencies all pump from the San Bernardino Basin, which has a substantial storage capacity of 5,690,000 AF. The San Bernardino Basin is adjudicated and the combined extractions from all pumpers have been well below the safe yield since 2012, but the water levels have continued to decline due to long term drought conditions, reaching a new record low in 2022, as shown in Figure 5-1.

Figure 5-1. San Bernardino Basin Historical Capacity, Percent Full

While there is still significant water in storage in the San Bernardino Basin, some existing wells are not deep enough to access it, and water levels are lower in some areas of the San Bernardino Basin, as well as the Rialto-Colton Basin. As shown in Figure 5-2, water levels in the western portion of San Bernardino Basin and Rialto-Colton Basin are significantly lower than other areas, as indicated by the red and orange shading. A contributing factor to the lower water is that there are limited opportunities to recharge the western portion of the San Bernardino Basin and Rialto-Colton Basin due to contamination plumes, environmental constraints, and limited availability of land for recharge facilities. Since this is the area where Rialto and other Drought Task Force members have wells, they are more vulnerable to drought and declining water levels than agencies who pump from other parts of the San Bernardino Basin with higher water levels.

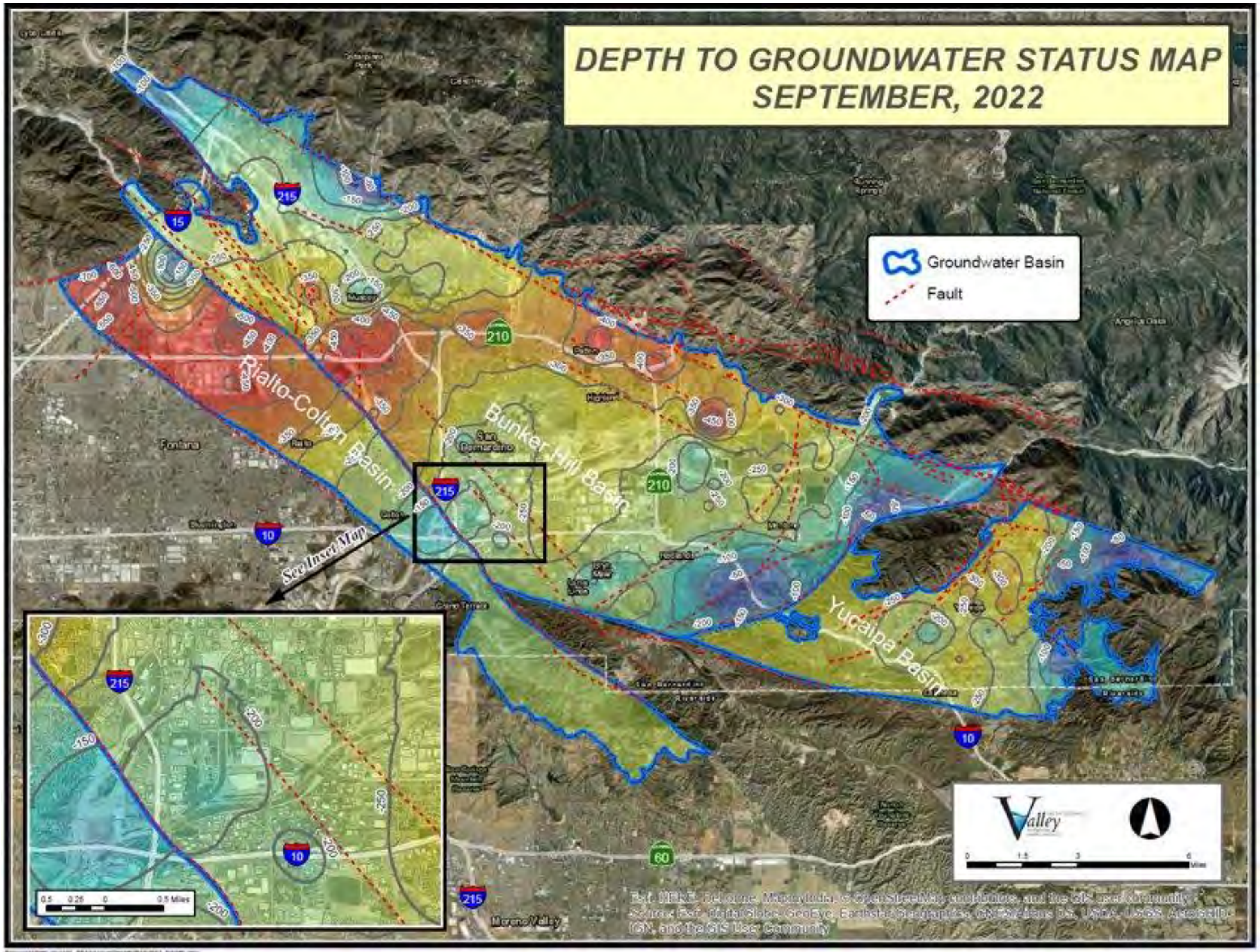


Figure 5-2. San Bernardino Basin Groundwater Levels, 2022

Adjusted Water Rights in the Rialto-Colton Basin

The Rialto-Colton Basin is also adjudicated and one of the basin management requirements is to reduce allowable groundwater extractions to no more than 50% when the average standing water levels in three index wells fall below 1002.3 feet; below that level, limitations on pumping are implemented. Additional limitations are placed when the average standing water level falls below 969.7 feet. Rialto and other users have experienced water allocation reductions within the Rialto-Colton Basin over the past 13 years, as shown in Table 5-1. In 2020, Rialto obtained nearly 30% of its total supply from the Rialto-Colton Basin so reduced supply from this source during drought is a significant concern for Rialto.

Table 5-1. Historic Reductions to Pumping Rights in the Rialto Decree Area

Water Year	% Reduction in Water Allocation
2009-10	7
2010-11	14
2011-12	19
2012-13	17
2013-14	27
2014-15	32
2015-16	30
2016-17	31
2017-18	38
2018-19	39
2019-20	29
2020-21	29
2021-22	40
2022-23	41

Water Quality: Pollutants within local groundwater basins impact the reliability of groundwater sources and may cause certain wells to be taken out of service until treatment or blending can be implemented. During droughts when surface water and imported water is less available, Rialto and other Drought Task Force members rely more on groundwater in storage so water quality issues that impact the ability to produce groundwater are also a significant threat.

Known contaminant plumes are shown in Figure 5-3. The Rialto-Colton Plume is located within the City limits and has elevated concentrations of perchlorate. Rialto implements a Perchlorate Contamination Zero Tolerance Policy and has removed wells from service that detect levels of perchlorate. Rialto currently leases its water rights in the Rialto-Colton Basin to the County of San Bernardino (County) for clean-up of this perchlorate plume. Pumping in this area is ongoing and expected to continue indefinitely until cleanup is complete. As a result of the need to maintain continuous extractions from the Rialto-Colton Basin for plume cleanup, reduced pumping within the Rialto-Colton Basin to preserve groundwater levels is not an option, which limits effective drought response strategies for the Rialto-Colton Basin.

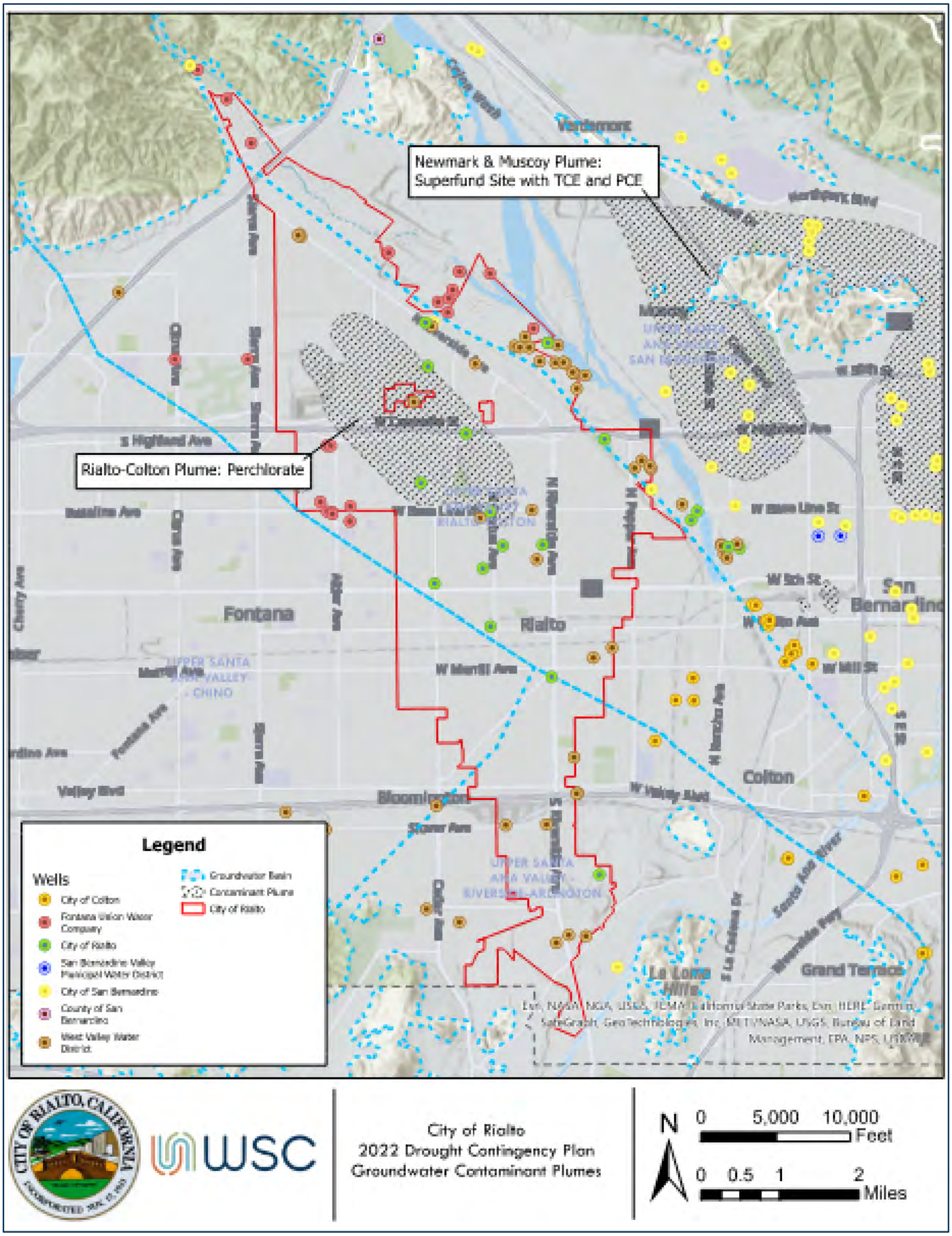


Figure 5-3. Groundwater Contaminant Plumes

The Santa Ana Watershed Project Authority (SAWPA) Basin Monitoring Program Task Force leads monitoring efforts of water quality within the SAR watershed for total dissolved solids (TDS) and nitrate. The ambient water quality (AWQ) of these constituents for each groundwater basin is recalculated every three years to assess compliance with groundwater water quality objectives. The latest AWQ update is currently underway; more information can be found at Basin Monitoring Program Task Force - SAWPA - Santa Ana Watershed Project Authority. Results from the previous 2018 AWQ update are provided in the 2020 IRUWMP, Part 1, Section 3.9.2. The results show that TDS levels meet drinking water quality requirements for all basins evaluated in this DCP, but there are some areas where Nitrate exceeds drinking water quality requirements and requires treatment. Nitrate concentrations in the Rialto area is shown in Figure 5-4.

In addition to known plumes and areas with higher nitrate, various chemical pollutants have been detected at numerous wells owned by Rialto, WVWD and FUWC and require treatment and/or blending prior to delivery. While many treatment systems already exist, each agency is planning to implement additional groundwater treatment projects that will allow them to restore wells that have been taken offline due to groundwater quality issues.

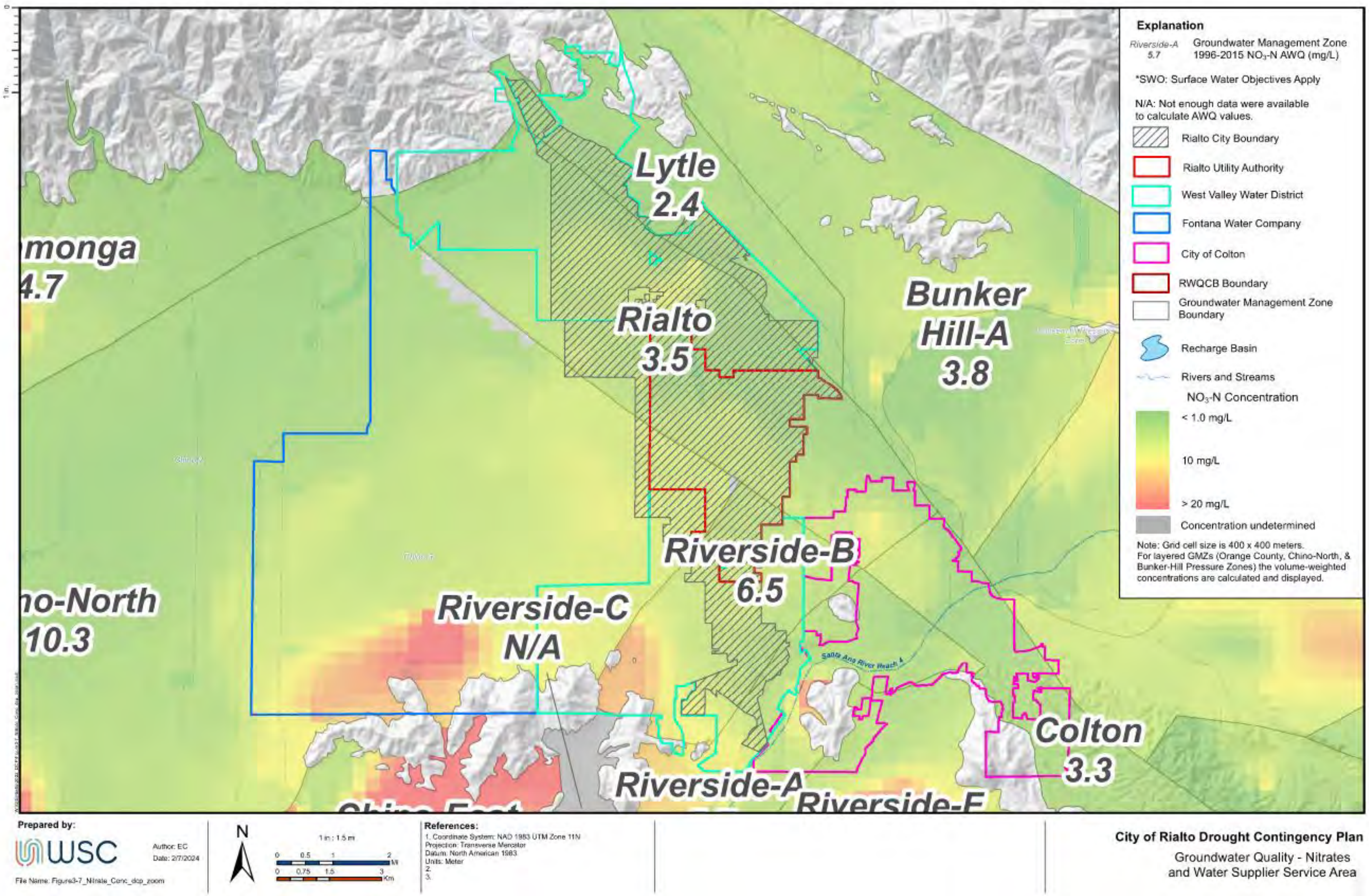


Figure 5-4. Ambient Water Quality: Nitrate

Recharge Constraints: Groundwater quality concerns, in combination with limited availability of open land in developed urban areas, constrain opportunities to recharge the underlying groundwater basins with supplemental water. This is a particular challenge in the Rialto-Colton Basin. The Cactus Basin (an existing flood control basin operated by San Bernardino County Flood Control District) has been identified as one of the only potentially viable recharge sites for the Rialto-Colton Basin and facilities to convey imported water to this site are under design. However, concerns over impacting the Rialto-Colton plume have resulted in implementation challenges for the Cactus Basin Recharge Project, which is critical to raise water levels in the Rialto-Colton Basin.

New Well Limitations in the Bunker Hill subbasin

Based on the presences of the Newmark and Muscoy contamination plume within the Bunker Hill subbasin, local agencies are concerned with the potential movement of this plume and impacts to existing wells. Cleanup of the Newmark and Muscoy plume is underway and governed by a groundwater management zone (GMZ), as shown in Figure 5-5 below; however, despite cleanup efforts, no new wells in this area may be constructed without impacted the Newmark and Muscoy plume. As a result, any new wells within the Bunker Hill subbasin must be constructed further east, which increases the conveyance cost for the western San Bernardino agencies.

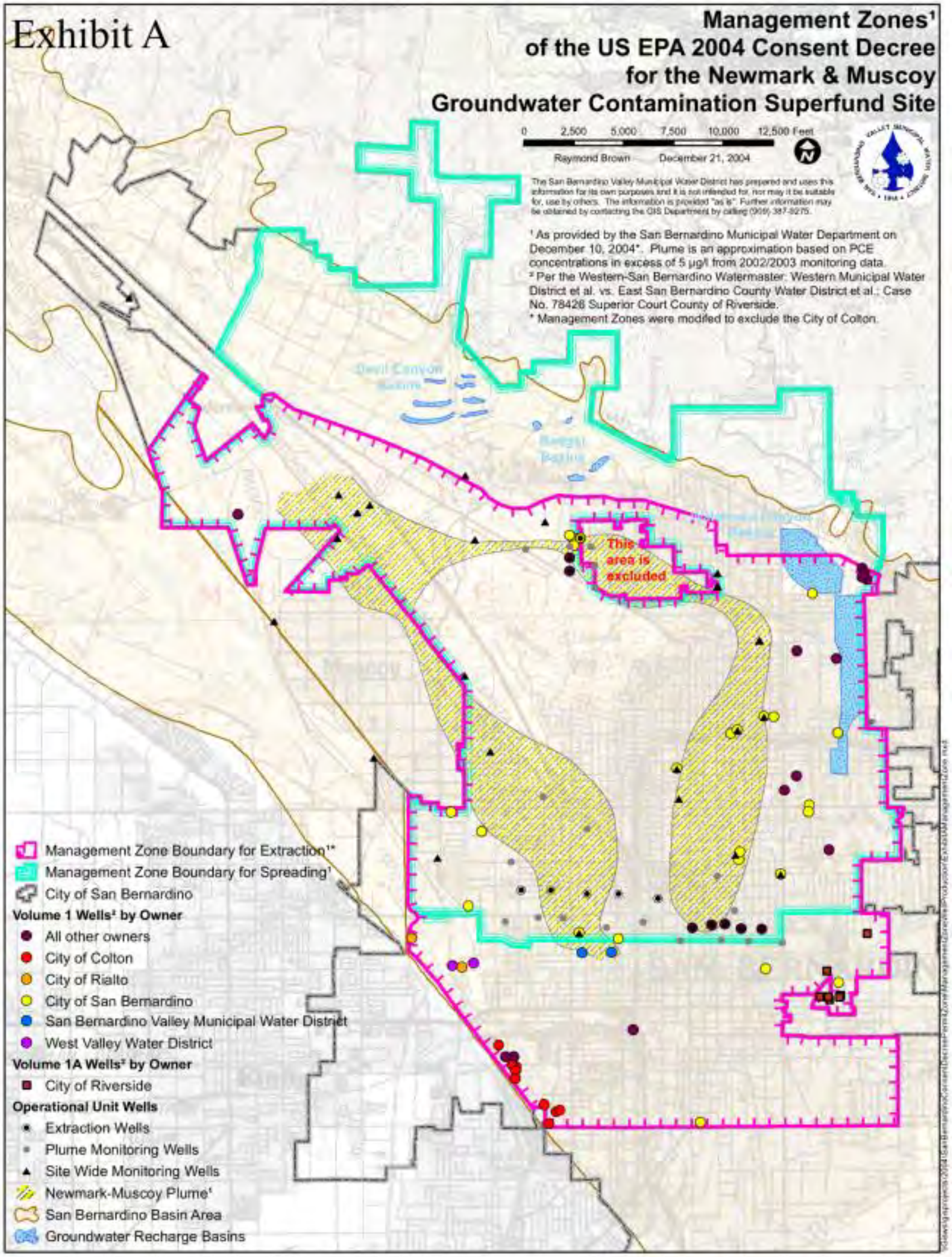


Figure 5-5. Bunker Hill Groundwater Management Zone

Potential Effects of Climate Change

The 2020 IRUWMP summarized previous climate change assessments pertaining to vulnerabilities for the SAR Watershed, based on the Climate Change Analysis for the Santa Ana River Watershed, completed by USBR in 2013 (US. Department of the Interior Bureau of Reclamation, August 2013). The findings indicated that:

- Uncertainty around the Sacramento-San Joaquin Bay Delta will reduce imported water reliability.
- Existing groundwater capture facilities may not have the capacity or operational ability to capture less frequent, but more intense storm events.
- More frequent drought periods will result in more frequent and intense wildfires. Surface water quality and the ability to capture storm flows will be reduced.
- 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.
- Increased temperatures would result in increased water demand for landscape irrigation.
- Decreased runoff and subsurface flows from the mountain front areas as the result of more frequent and severe droughts would reduce natural groundwater recharge.

5.2 Other Vulnerabilities

An additional vulnerability is created by restrictions on the construction of new groundwater wells that could help increase supply and mitigate the effects of a future drought. These limitations impact agencies' ability to construct new wells throughout the Upper Santa Ana River Watershed; two specific limitations are discussed below.

1924 Lytle Judgment

The 1924 Judgment No. 17,030 from the Superior Court of San Bernardino (1924 Lytle Judgment) outlines water rights and infrastructure used by agencies to obtain Lytle Creek surface water and groundwater from Lytle Creek subbasin. Lytle Creek surface water is conveyed through a power-company owned pressurized pipeline to WVWD's Roemer WFF and FUWC's Sandhill Water Treatment Plant (Sandhill WTP). When substantial flows are present, the 1924 Lytle Judgment stipulates that any water that passes the intake shall be used for groundwater replenishment in the Lytle Creek Wash area. The Lytle Creek Wash area north of Highland Avenue shall be saturated prior to replenishment in the southern portion of the Lytle Creek Wash.

Additionally, the 1924 Lytle Judgment prohibits well construction from certain areas within the Lytle Creek subbasin. Specifically, Rialto is prohibited from constructing and using wells south of a line located 0.75 miles north and parallel to Highland Avenue. Additionally, no agencies part of the 1974 Lytle Judgment may construct wells within 500 feet of another well owned and operated by a different agency, except for substituting a new well in lieu of an existing well at the same capacity.

5.3 Vulnerability Assessment

Rialto and the Drought Task Force participated in a workshop to discuss vulnerabilities to the region's supply sources. Discussions focused on potential impacts to each supply source, including climate change, infrastructure, regulatory and environmental, and water quality impacts. The input gathered during this workshop is summarized in Table 5-3. After reviewing the various factors that could impact each supply source, each vulnerability identified was given a likelihood and consequence (low, moderate, high) score, also reviewed by the Drought Task Force. Each vulnerability was assigned a likelihood score to identify the possibility or frequency of each vulnerability occurring and impacting the use of that supply source. Impact scores are based on the severity of impact to the water supply portfolio or utility's ability to operate. A summary of the likelihood and consequence scoring rubric is provided in Table 5-2.

Table 5-2. Likelihood and Impact Scoring Rubric

Likelihood	
Low	Vulnerability could occur once every 10 years
Moderate	Vulnerability could occur at least 3 times every 10 years
High	Vulnerability could occur at least 5 or more times every 10 years
Impact	
Low	If the vulnerability were to occur, it would **minimally** impact the water supply and/or ability to operate. Agencies could absorb impacts within existing operations.
Moderate	If the vulnerability were to occur, it would **noticeably** impact the water supply and/or ability to operate. Agencies could adapt with existing resources relatively quickly.
High	If the vulnerability were to occur, it would **significantly** impact the water supply and/or ability to operate. Adaptation could have a significant cost or require substantial time to implement.

Based on the likelihood and impact scores assigned to each vulnerability, a single risk score was determined based on the matrix in Figure 5-6. Vulnerabilities that were assigned high likelihood and high impact scores correspond to a risk score of 1. Vulnerabilities with any combination of high and moderate scores correspond to a risk score of 2. Vulnerabilities with any combination of low and high or moderate scores correspond to a risk score of 3 and vulnerabilities with both low likelihood and impact scores correspond to a risk score of 4. The risk scores are used to identify the most critical vulnerabilities and assist in prioritization of mitigation actions (discussed in the following chapter).

	Impact	Low	Moderate	High
Likelihood	High	3	2	1
	Moderate	3	3	2
	Low	4	3	3

Figure 5-6. Vulnerability Risk Score Matrix

The specific vulnerabilities identified and the corresponding likelihood, consequence and risk scores are presented in Table 5-3, organized by supply source.

Table 5-3. Vulnerabilities Identified within the Rialto Sub-Region

Bunker Hill subbasin				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Climate Change	Less frequent and more intense storms may result in reduced natural recharge and reduce capture at existing stormwater recharge facilities.	High	High	1
Extended Drought	Subsidence *More information required to assess likelihood and impact.	Low*	Moderate*	3
	Most regional agencies rely heavily on Bunker Hill supply during extended drought periods when other supplies are reduced.	Moderate	Moderate	3
	Depleted groundwater levels resulting from extended drought can take a long time to recover after recharge water becomes available due to extended groundwater travel time.	Moderate	Moderate	3
	Low groundwater levels can impact production capacity of existing wells.	Low	Moderate	3
Infrastructure	Interruptions to the Baseline Feeder system would limit access to Bunker Hill supply for several agencies.	Low	High	3
Administrative, Regulatory, & Environmental	EPA regulated cleanup of Newmark and Muscoy plumes has established a management zone and fixed extraction amounts which limits new well construction in this area. *This vulnerability most impacts WVWD due to proximity to their system.	High	Low*	3
	Emerging contaminants and regulations are unknown; could potentially take supplies offline with limited time to adapt supplies to meet new requirements. *Actual impact depends on specific regulations and will vary by agency and supply portfolio but has the potential to substantially impact existing supplies.	Moderate	High*	2

Bunker Hill subbasin				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
	Habitat-related regulatory issues impact the ability to maintain and construct water supply projects.	High	High	1
Water Quality	Known water quality issues could drive the need for additional treatment to continue use of existing wells.	High	Moderate	2
	Newmark and Muscoy plumes present within the Bunker Hill.	High	Low	3

Lytle Creek subbasin				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Climate Change	Less frequent and more intense storms may result in reduced natural recharge and reduce capture at existing stormwater recharge facilities.	High	Moderate	2
Extended Drought	Subsidence *More information required to assess likelihood and impact.	Low*	Moderate*	3
	Limited opportunities for recharge basins because there is limited land available for purchase.	High	High	1
	Low groundwater levels can impact production capacity of existing wells.	Moderate	Moderate	3

Lytle Creek subbasin				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Administrative, Regulatory, & Environmental	Emerging contaminants and regulations are unknown; could potentially take supplies offline with limited time to adapt supplies to meet new requirements. *Actual impact depends on specific regulations and will vary by agency and supply portfolio but has the potential to substantially impact existing supplies.	Moderate	High*	2
Water Quality	Existing wells are impacted by arsenic and MTBE and require treatment. *Impact may be greater for certain agencies and supply portfolio. WVWD is currently impacted by this issue, but other wells in this Basin have not yet exhibited this water quality issue.	High	Moderate*	2

Rialto-Colton Basin				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Climate Change	Less frequent and more intense storms may result in reduced natural recharge and reduce capture at existing stormwater recharge facilities.	High	Moderate	2
Extended Drought	Subsidence *More information required to assess likelihood and impact.	Low*	Moderate*	3
	Groundwater levels are highly sensitive to rainfall, inflow from Lytle Basin, and pumping patterns.	Moderate	Moderate	3
	Adjustable portion of water rights may be reduced by up to 50% based on levels at three index wells. *Likelihood is based on the number of years in the last 10 years where water rights are reduced by 25% or more	High*	High	1
	Limited opportunities for recharge basins because there is limited land available for purchase.	High	High	1

Rialto-Colton Basin				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
	Low groundwater levels can impact production capacity of existing wells.	Moderate	Moderate	3
Administrative, Regulatory, & Environmental	Emerging contaminants and regulations are unknown; could potentially take supplies offline with limited time to adapt supplies to meet new requirements. *Actual impact depends on specific regulations and will vary by agency and supply portfolio but has the potential to substantially impact existing supplies.	Moderate	Moderate*	3
Water Quality	Existing wells are impacted by water quality issues and some wells require treatment to be restored to service. *Impact may be greater for certain agencies and supply portfolio. With current reductions in pumping rights, not all wells are needed, but once groundwater levels are restored, water quality will become the limiting factor and treatment will be needed to fully utilize pumping rights.	High	High*	1
	Perchlorate and TCE plume present and is being mitigated through a Four Party Implementation Agreement.	High	Low	3

Riverside North Basin				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Climate Change	Less frequent and more intense storms may result in reduced natural recharge and reduce capture at existing stormwater recharge facilities. *Actual impact will vary by agency and supply portfolio.	High	Moderate*	2
Extended Drought	Subsidence *More information required to assess likelihood and impact.	Low*	Moderate*	3
	Low groundwater levels can impact production capacity of existing wells.	Moderate	Moderate	3

Riverside North Basin				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Administrative, Regulatory, & Environmental	Emerging contaminants and regulations are unknown; could potentially take supplies offline with limited time to adapt supplies to meet new requirements. *Actual impact depends on specific regulations and will vary by agency and supply portfolio but has the potential to substantially impact existing supplies.	Moderate	Moderate*	3
Water Quality	MTBE contamination plume present and is being mitigated.	High	Low	3
Water Quality	Existing wells are impacted by nitrate and perchlorate and require treatment.	High	Moderate	2

Lytle Creek Surface Water				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Climate Change	Changing precipitation and snowpack patterns, combined with less frequent and more intense storms, may result in declining long-term average yield.	High	Moderate	2
Climate Change	More frequent wildfires may increase sediment and contaminant flows and may degrade surface water quality. *Impact depends on the severity of water quality impairment and ability of treatment processes to accommodate.	Moderate	Moderate*	3
Extended Drought	Reduced surface water supply during dry conditions.	High	Moderate	2

Lytle Creek Surface Water				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Administrative, Regulatory, & Environmental	Water supply is dependent on SCE operation of hydroelectric system. Should SCE decide to decommission, or fail to repair/maintain the hydroelectric facilities, agencies would lose access to this supply.	Moderate	High	2
Water Quality	During and shortly after storm events, turbidity is high and water is not usable for treatment.	High	Low	3
	Water can have increased concentrations of bacteria during the summer due to lower flows and more recreational activities, which can increase treatment costs.	High	Low	3

Imported Water				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Climate Change	Changing precipitation and snowpack patterns, combined with less frequent and more intense storms, may result in declining long-term average surface water storage.	High	Moderate	2
	Sea level rise poses a significant challenge to the salt balance in the Bay-Delta and could result in pumping restrictions.	High	Moderate	2
	Sea level rise increases the vulnerability of the Bay-Delta to seismic events.	Low	High	3
Extended Drought	The SWP has been unreliable in dry years; possible to have multiple low to zero allocation years in a row.	Moderate	Moderate	3

Imported Water				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Infrastructure	"The Big One" Earthquake has the potential to completely interrupt imported water supply to the region for an extended period of time.	Low	High	3
Administrative, Regulatory, & Environmental	Increasingly stringent environmental regulations can impact the quantity of water available for exports.	Moderate	Moderate	3
	Contractual, environmental, financial, and regulatory constraints have resulted in extended implementation periods for new infrastructure to improve reliability.	Moderate	Moderate	3
Water Quality	During drought periods and flooding events, imported water quality is higher in TDS than during normal periods.	Moderate	Moderate	3
	Additional constituents that could potentially impact water quality include algae toxins, disinfection byproduct precursors, nutrients, and emerging contaminant concerns; these could reduce imported water quantities or require additional treatment.	Moderate	Moderate	3

Other / All				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Climate Change	Increases in the number of high temperature days will result in increased outdoor water use.	Moderate	Moderate	3
	Power supply constraints due to in-region PSPS (public safety power shutoffs) events could cause impacts to certain facilities.	High	Moderate	2
	Drought induced water level constraints on hydropower generation could impact statewide power supply and could impact local grid reliability, increasing the possibility of power interruptions and/or increasing power costs.	Low	Moderate	3

Other / All				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**Risk Score**
Extended Drought	Challenges to effectively communicate drought conditions to water users and achieve necessary water use reductions. *Level of likelihood and impact depends on water supply shortage condition.	Moderate*	Moderate*	3
Infrastructure	Supply/chain material availability is limited; long lead times to procure equipment and supplies.	Moderate	Moderate	3
	Water infrastructure is aging and risks failure if not replaced in a timely manner. *Level of impact depends on agency capacity to continually fund and replace aging infrastructure.	Moderate	Moderate*	3
	The "Big One" Earthquake	Low	High	3
Administrative, Regulatory, & Environmental	Reduced sales due to water conservation and efficiency regulations reduce agency revenue.	High	Moderate	2
	Consistent increasing operating costs (labor, power, etc.) combined with infrastructure replacement needs and investments in reliability to maintain the same level of service can potentially impact affordability for water users.	High	Moderate	2
	Statewide demand reduction mandates create challenges to quickly reduce demands, require additional staff resources, and reduce water sales.	High	High	1
	Habitat-related regulatory issues impact the ability to maintain and construct water supply projects.	High	High	1

5.4 Vulnerability Assessment Summary

Based on the risk scores calculated for each individual vulnerability, seven were identified as priority 1. These highest-risk vulnerabilities are listed below.

5.4.1 Priority 1 Vulnerabilities

Rialto-Colton Basin

- Adjustable portion of water rights may be reduced by up to 50% based on levels at three index wells.
- Limited opportunities for recharge basins because there is limited land available for purchase.
- Existing wells are impacted by water quality issues, and some wells require treatment to restore service. The impact of this vulnerability might be greater for certain agencies and is dependent on each agency’s total supply portfolio. With current reductions in pumping rights, not all wells are needed; once groundwater levels are restored, water quality will become the limiting factor and treatment will be required to utilize full groundwater rights.

Lytle Creek subbasin

- Limited opportunities for recharge basins because there is limited land available for purchase.

Bunker Hill subbasin

- Less frequent and more intense storms may result in reduced natural recharge and reduce capture at existing stormwater recharge facilities.

Other

- Statewide demand reduction mandates create challenges to quickly reduce demands, require resources, and reduce water sales.
- Habitat-related regulatory issues impact the ability to maintain and construct water supply projects.

The highest priority vulnerabilities impact the amount of water available for use. For Rialto, the Rialto-Colton Basin is the most easily accessible water supply source due to existing production facilities; however, Rialto cannot exercise its full water rights within the Rialto-Colton Basin because of chronic low groundwater levels and water quality clean-up efforts. Further reductions in the available water supply from the Rialto-Colton Basin can greatly impact the Rialto’s water supply portfolio. Other members of the Drought Task Force are experiencing similar impacts.

Bunker Hill subbasin is a very important water supply source for Rialto and other regional users. The San Bernardino Basin is an large groundwater basin with over 4.6 million acre feet of water in storage. The SBB is a critical regional resource because most suppliers rely on groundwater storage during drought and when supplies from other basins are impacted. As a result, it is critical for the region to protect and increase the resilience of the San Bernardino Basin, in addition to other local water resources.

6.0 Mitigation Actions

The mitigation actions identified in this DCP were developed based on the vulnerability assessment and existing planned projects that would help Rialto and other local stakeholders protect against drought and increase flexibility and resiliency. The Drought Task Force also participated in a workshop to brainstorm additional opportunities to mitigate vulnerabilities. Mitigation actions are prioritized based on the severity of the vulnerability mitigated.

6.1 Mitigation Action Development

Mitigation actions refer to projects, programs, and strategies that are implemented to address potential risks and impacts from drought and other vulnerabilities to ultimately reduce the need for short term response actions and increase system resiliency. Mitigation actions include infrastructure improvements, operational changes or enhancements, and/or institutional and administrative programs to increase supply resiliency. The mitigation actions developed for this DCP range from high-level ideas to construction of new infrastructure. To further characterize the potential actions and provide more clarity on how and when they would be implemented, each of the identified mitigation actions were then assigned a “type”:

- **Projects:** existing capital improvement project (CIP) that is well defined (such as a well replacement or storage tank project)
- **Opportunities:** High-level concepts that would require additional exploration to assess the feasibility and define an implementation approach (such as a new intertie between agencies)
- **Ongoing actions:** currently occurring actions or programs that are planned to continue (such as ongoing groundwater contamination plume cleanup efforts)

To develop a set of mitigation actions for this DCP, the Task Force considered what actions would be most effective to mitigate each of the vulnerabilities identified in the Vulnerability Assessment. The Region consistently coordinates on water management of water resources and in many cases, the Task Force members already have planned projects in their CIPs or in the IRUMWP that will help Rialto and other local stakeholders protect against drought and increase flexibility and resiliency. Those relevant CIP and IRUWMP projects were added to the list of mitigation actions and associated with one or more vulnerabilities they address. The Drought Task Force also brainstormed new ideas for addressing vulnerabilities that aren’t adequately addressed through other projects and added these ideas to the mitigation actions list. The mitigation actions listed in this DCP influence supply quantity, quality, reliability, provide operational flexibility, promote water conservation, and help meet regulatory requirements.

6.1.1 Prioritization

Mitigation actions were assigned a priority score based on the vulnerability mitigated. For example, for actions that mitigate vulnerabilities with a risk score of 1, the corresponding mitigation actions were assigned a priority score of 1. For mitigation actions that addressed multiple vulnerabilities, the highest priority vulnerability addressed score was assigned to the mitigation action. For example, for mitigation action 101 Cactus Recharge Project, the Cactus Recharge Project mitigates a climate change vulnerability (risk score 2) and an extended drought vulnerability (risk score 1). Therefore, mitigation action 101 was assigned a priority score of 1 based on the highest risk score of the vulnerabilities mitigated (extended drought vulnerability in this example).

6.2 Prioritized Mitigation Actions Results

The mitigation actions were prioritized and organized by type. For each mitigation action, the risk score for the various categories of vulnerability each action helps to mitigate is also identified. Additional details on the mitigation actions are provided in Appendix F, such as project description, proponent, and timing details. The timeframe for implementation is roughly estimated and could potentially be impacted by various factors such as funding availability, regulatory requirements, and partner coordination ability. Figure 6-1 summarizes the mitigation actions included in this DCP by type and priority.

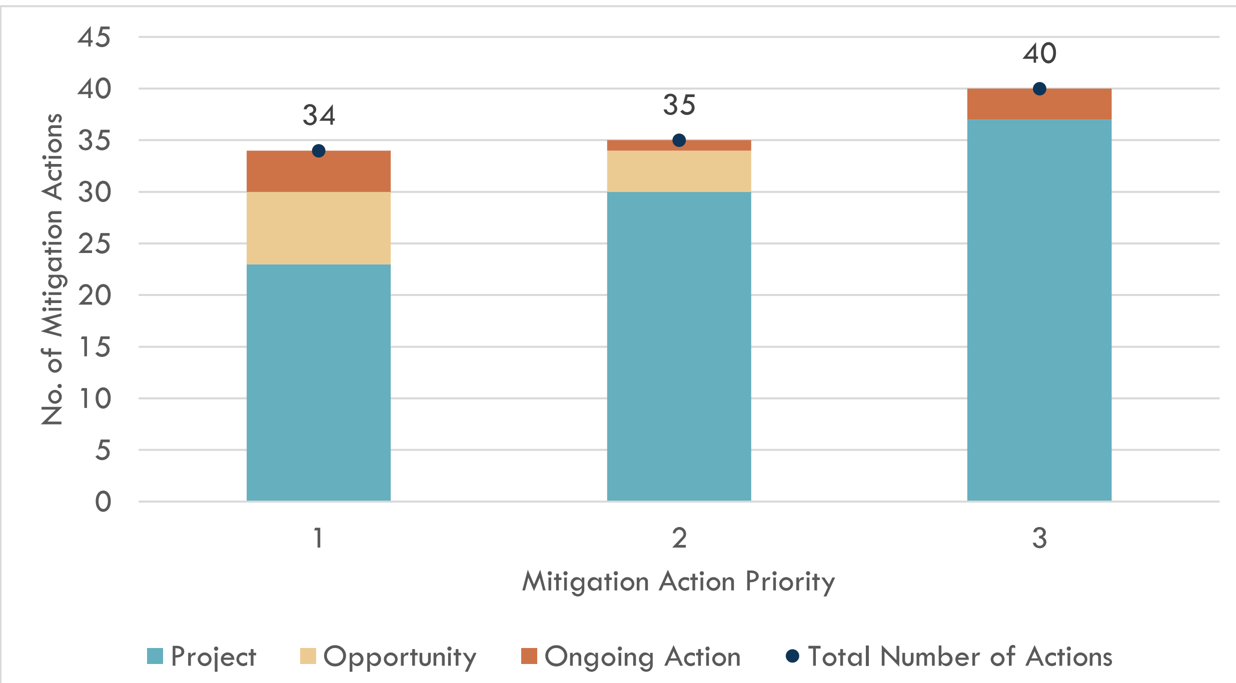


Figure 6-1. Number of Mitigation Actions Identified by Priority

6.2.1 Priority 1 Mitigation Actions

Priority 1 mitigation actions are the projects, opportunities, and ongoing actions that mitigate a vulnerability with a risk score of 1 (high likelihood and high impact vulnerability). Table 6-1 presents a list of all Priority 1 Mitigation Actions. The circled number under the mitigation categories indicates the highest risk score of vulnerabilities in each category that are mitigated by each action. Priority 1 Mitigations actions are numbered with 100 series numbers, beginning with 101.

Table 6-1. Priority 1 Mitigation Actions and Type of Vulnerability Mitigated

					Vulnerabilities Mitigated				
DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Climate Change	Extended Drought	Infrastructure	Administrative, Regulatory, & Environmental	Water Quality
101	Implement the Cactus Basin Recharge Project / Construct the Cactus Basin Recharge Pipeline	Rialto-Colton Groundwater Basin	San Bernardino Valley	Project	2	1			
102	Implement the recommendations in the Rialto Groundwater Management Plan (underway)	Rialto-Colton Groundwater Basin	Rialto Basin Groundwater Council	Project	2	1			
103	Implement the City of Rialto Education and Engagement Plan	Other / All	City of Rialto	Opportunity		2		1	
104	Ongoing participation in the Rialto Basin Groundwater Council	Rialto-Colton Groundwater Basin	All	Ongoing Action		1			
105	Rialto Habitat Nature Center	Rialto System	Rialto	Project	1	1		1	
106	Chino Well Rehab and Commissioning of Water Treatment	Riverside North Groundwater Basin	City of Rialto	Project		1	2		3
107	Develop agreement and increase capacity of the Rialto/WVWD intertie for additional access to imported water supply.	Imported Water	City of Rialto & WVWD	Project		2		2	1
108	Rialto/WVWD agreement for Roemer WFF Treatment capacity/SWP use; could include supplemental supply for the City of Colton	Imported Water	City of Rialto, City of Colton, & WVWD	Opportunity	2	1			
109	Develop agreement and increase capacity of WVWD/Colton intertie for additional access to imported water supply.	Imported Water	City of Colton & WVWD	Project	2	1			

DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Vulnerabilities Mitigated: Climate Change	Vulnerabilities Mitigated: Extended Drought	Vulnerabilities Mitigated: Infrastructure	Vulnerabilities Mitigated: Administrative, Regulatory, & Environmental	Vulnerabilities Mitigated: Water Quality
110	Develop agreement and additional Rialto/Colton intertie for additional access to imported water supply.	Imported Water	City of Rialto, City of Colton, & WVWD	Project	2	1			
111	River Ranch Development: Install two large basins for recharge, to be used in dry years. Additional development in northern portion of basins to be led by the City and operated by San Bernardino Valley	Lytle Groundwater Basin	San Bernardino Valley	Project	2	1			
112	Evaluate opportunities to recharge water in Lytle Groundwater Basin.	Lytle Groundwater Basin		Project		1			
113	Complete an in-depth study to better characterize opportunities for the Basin (San Bernardino Basin Optimization and Sustainability Program).	Bunker Hill	San Bernardino Valley & Western Water	Project	1	3	2	2	2
114	Program for the Expansion of Recharge Capacity (PERC)	Bunker Hill	San Bernardino Valley Water Conservation District	Project	1	3			
115	Bunker Hill Conjunctive Use Project	Bunker Hill	San Bernardino Valley & Others	Project	1	3			
116	Regional Recycled Water Recharge Pipeline	Bunker Hill	San Bernardino Valley	Project	1	3			
117	Construct IX for NO2 at Well W16.	Rialto-Colton Groundwater Basin	WVWD	Project					1
118	Construct IX for NO2 at Well W22A.	Rialto-Colton Groundwater Basin	WVWD	Project					1

DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Vulnerabilities Mitigated: Climate Change	Extended Drought	Infrastructure	Administrative, Regulatory, & Environmental	Water Quality
119	Bunker Hill Basin: Construct Wells W43, W44, W45, and W46.	Bunker Hill	WVWD	Project		3			1
120	Rialto-Colton Basin: Well W54 RT break tank.	Rialto-Colton Groundwater Basin	WVWD	Project					1
121	Consider Rialto-Colton Basin Recharge via Injection Wells	Rialto-Colton Groundwater Basin	San Bernardino Valley	Opportunity	2	1			
122	Continued regional strategy focused on recharging during wet years for use in dry years.	Bunker Hill	All	Ongoing Action	1	3			
123	Continue to implement the Upper Santa Ana River Habitat Conservation Plan	All	San Bernardino Valley	Ongoing Action			2	1	
124	Sites Reservoir to add additional dry-year storage.	Imported Water	Sites Project Authority	Project	1	3			
125	Well Rehabilitation and Replacement	Other	All	Project		3	2	2	1
126	Implement blending or treatment.	Other	All	Project				2	1
127	Construct Additional Interconnections	Other	All	Project		1	2	2	2
128	Seek grant funding for infrastructure projects.	Other	All	Opportunity	2	3	2	1	2
129	Review and update existing agreements.	Other	All	Opportunity		1	3	2	2
130	Develop alternative supply sources.	Other	All	Opportunity	2	1	3	2	2

					Vulnerabilities Mitigated				
DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Climate Change	Extended Drought	Infrastructure	Administrative, Regulatory, & Environmental	Water Quality
131	Continue to advocate for improved imported water reliability / Delta Conveyance Project.	Imported Water	California Department of Water Resources	Ongoing Action	1	3		3	
132	Develop implementation and enforcement tools to achieve required demand reduction savings.	Other / All	All	Opportunity		2	3	1	
133	Develop and implement regional and local communication plans.	Other / All	All	Opportunity		2		1	
134	Future Priority 1 Project – any project that mitigates a Vulnerability with a Risk Score of 1	Other	All	Project					

Key Takeaways: Priority 1 Mitigation Actions

Based on the vulnerability assessment, the highest priority mitigation actions for Rialto and the Western San Bernardino Region are to:

- Construct groundwater recharge projects, where and when possible, particularly on the west side of the Basin.
- Maintain and expand collaboration and communication among agencies for shared water resources.
- Construct additional wells for increased supply reliability in the Bunker Hill Basin for use when rights within the Rialto-Colton Basin are reduced and when Rialto-Colton Basin/Lytle Creek Basin wells are impacted by water quality issues.
- Construct well-specific treatment, as required to maintain existing supply assets.

DCP Project No. 101 Implement the Cactus Basin Recharge Project / Construct the Cactus Basin Recharge Pipeline:

San Bernardino Valley, along with Rialto and other local water agencies, are working with the San Bernardino County Flood Control District to pursue recharge of imported State Water Project water into the existing Cactus Basins, which overlie the Rialto-Colton basin and are currently used for flood control only. The proposed project includes recharging imported water into Cactus Basins 3/3A and 5 and construction of the Cactus Basins Pipeline, approximately 2,200 feet from the Devil Canyon Azusa Pipeline to Cactus Basins. Recharge is planned to occur only during the dry season when the basins are not needed for flood control.

Due to limited opportunities for recharge within the Rialto-Colton Basin and reduced water right allocations during times of drought, the Cactus Basin Recharge Project is critical to mitigating climate change and extended drought vulnerabilities for the Rialto Colton Basin.

DCP Project No. 102 Implement the recommendations from the Rialto Basin Groundwater Management Plan: The Rialto Basin GC has contracted Stetson Engineers Inc. to develop a groundwater management plan for the Rialto Basin. This plan will help Rialto and other Rialto-Colton Basin users preserve groundwater as an important supply source. Completion of the final Rialto Basin Groundwater Management Plan is expected in Summer 2024.

DCP Project No. 103 Implement the City of Rialto Education and Engagement Plan: Rialto has developed an Education and Engagement Plan as part of the DCP Response Actions Element. Rialto's Education and Engagement Plan will engage and inform the community about this DCP, the City's water supplies, and the various response actions associated with Rialto's WSCP. The Education and Engagement Plan identifies communication channels, including community workshops and meetings, educational materials, engagement programs, and local partnerships to provide a comprehensive, cohesive, and informative drought plan.

DCP Project No. 104 Ongoing Participation in the Rialto Basin Groundwater Council: The Rialto Basin GC oversees activities within the Rialto Basin and is working towards developing a sustainable groundwater management plan. that the founding agencies should continue to actively engage in the Rialto Basin GC to ensure sustainable management of this shared water resource.

DCP Project No. 105 Rialto Habitat Nature Center: The Rialto Habitat Nature Center features many benefits to the community as well as the environment. The Rialto Habitat Nature Center will create and enhance wetland and wildlife habitat, improve habitat for threatened Santa Ana River fish species by managing the temperature of recycled water in the Rialto Channel before entering the Santa Ana River, potentially improve water quality in the Santa Ana River and basins downstream, while also providing an open space for walking, recreation, and education for the community. This project provides critical habitat benefits that support implementation of the Upper Santa Ana River Habitat Conservation Plan, which is required to implement many water supply projects throughout the region. As such, this project also indirectly helps mitigate climate change and extended drought vulnerabilities in the region by supporting other projects that directly mitigate those issues.

DCP Project No. 106 Chino Well Rehab and Commissioning of Water Treatment: Rialto's existing Chino Well has experienced high levels of perchlorate and nitrates and is no longer in use. DCP Project No. 106 will restore the Chino Well and install the appropriate water treatment to return an existing asset to use for potable supply. Restoration will also provide increased system reliability by increasing well pumping capacity and Rialto's access to groundwater within the Riverside North Groundwater Basin. This is extremely valuable when water rights within the Rialto-Colton Basin are reduced.

DCP Project No. 107, 108, 109, and 110 Develop Agreements and Increase Intertie Capacities between Agencies: WVWD is expanding its existing Roemer WFF. The Roemer WFF currently treats surface water from Lytle Creek and SWP water. The expanded capacity of the Roemer WFF will allow WVWD to treat additional SWP water when available and WVWD could, at times, produce treated water in excess of its own needs. The additional capacity will allow WVWD and potentially other local partners to shift to SWP when it is available in wet years and thereby reduce local groundwater pumping to increase storage for future droughts. Rialto owns some of the current capacity of the plant and may have the opportunity to obtain access to additional capacity at Roemer WFF because of this upgrade. The City and WVWD will need to develop and implement an agreement for additional WFF capacity. This opportunity could also include agreements with Colton for supplemental supply from the Roemer WFF, if desired.

WVWD, Rialto, and Colton have existing interties between their systems. Expanding existing interties would provide additional flexibility and may enable WVWD, Rialto, and Colton to access larger quantities of imported water when desired, relax wells, and help stabilize groundwater levels, especially in times of drought when local groundwater basins are declining. Rialto and WVWD have an existing 800 gallons per minute (gpm) intertie located at Cedar Reservoir. The preferred capacity of upgraded interties is approximately 2,000 gpm and could also be located at the existing Cedar Reservoir facility. Rialto may also consider delivering supplemental imported water to Colton through its distribution system. WVWD, Rialto, and Colton's systems should be hydraulically analyzed to confirm whether any additional system upgrades are needed to provide additional capacity (such as additional pipelines from Roemer WFF or upgraded existing mains).

DCP Project No. 111 River Ranch Development Recharge: San Bernardino Valley, WVWD, and Rialto are considering a partnership with the developer of the River Ranch Development located in the northern portion of Rialto, adjacent to Lytle Creek. The River Ranch Development is proposing construction of three storm drain basins, some of which could be used for SWP recharge during dry period to improve water levels in the underlying Lytle Creek subbasin.

DCP Project No. 112 Evaluate opportunities to recharge Lytle Creek subbasin: Recharge opportunities within the Lytle Creek subbasin are limited as most of the available land has already been developed or will be soon, and there are environmental constraints that limit recharge opportunities in the creek bed. Local agencies should work together to evaluate opportunities and implement projects to recharge water to increase the reliability of Lytle Creek subbasin, if determined to be feasible.

DCP Project No. 113 San Bernardino Basin Optimization and Sustainability Program: The San Bernardino Basin Optimization and Stewardship Program (SBBOSP) is a regional collaborative effort to optimize the San Bernardino Basin (including Bunker Hill). Twenty-four local water agencies have been invited to participate, including Rialto and other DCP Task Force participants. The SBBOSP is being developed in three phases. Phase 1 is currently underway and will define the framework for the SBBOSP. The framework includes developing a background document that summarizes key water management issues for the San Bernardino Basin, setting goals for the program, defining studies and other activities that are needed to achieve the goals and desired outcomes (Program Elements), and a plan for Phase 2 in which the Program Elements will be developed. Phase 3 will follow with implementation of the projects and strategies that are developed as part of Phase 2. This SBBOSP is an integral project that will enhance the long-term collaboration among all San Bernardino Basin stakeholders to further support long-term regional supply resiliency.

DCP Project No. 114 Program for the Expansion of Recharge Capacity (PERC): The PERC program, led by SBVWCD, includes construction of multiple recharge basins throughout the Region, providing greater supply resiliency by replenishing and stabilizing groundwater levels. The PERC projects are currently undergoing detailed feasibility studies, which will identify the highest priority basins to move into implementation.

DCP Project No. 115 Bunker Hill Conjunctive Use Project: San Bernardino Valley and other regional partners are developing the Bunker Hill Conjunctive Use Project to increase the yield of the Bunker Hill subbasin by storing water in wet years for extraction in dry years. Conceptual design has been completed and environmental documentation and agreements are currently in development. The final design of the project is expected to be completed in 2024. The total estimated cost of the project is $14,200,000 dollars (San Bernardino Valley, 2023).

DCP Project No. 116 Regional Recycled Water Recharge Pipeline: The Regional Recycled Water Recharge Pipeline will convey recycled water from East Valley Water District's Sterling Natural Recharge Center to Weaver Basins and recharge the Bunker Hill Basin. This mitigation action will further increase supply resiliency by recharging the Bunker Hill Basin.

DCP Project No. 117, 118, 119, 120 WVWD Well Construction and Water Treatment Projects: WVWD has identified several specific well construction and water treatment projects needed to increase their reliability and maintain existing assets. Ion exchange (IX) is needed to treat nitrate at wells within the Rialto-Colton Basin. However, when groundwater levels within the Rialto-Colton Basin are reduced and pumping restrictions are enacted, other water resources are required. To mitigate impacts of reduced access to Rialto-Colton Basin groundwater, WVWD is also planning to construct additional wells within the Bunker Hill subbasin for use during extended drought periods.

DCP Project No. 123 Continue to Implement the Upper Santa Ana River Habitat Conservation Plan: The Upper Santa Ana River Habitat Conservation Plan (River HCP) addresses the potential effects of local water management agency activities on the sensitive species and habitats in the watershed for purposes of acquiring an incidental take permit (ITP) under Section 10 of the Federal Endangered Species Act (FESA). The River HCP also provides the necessary elements to support permitting under applicable California Endangered Species Act (CESA) and outlines coordination efforts with the California Department of Fish and Wildlife. The River HCP provides a strategy for protecting, enhancing, and restoring the habitat for species and streamlines the permitting process for water resource projects in the region.

DCP Project No. 124 Sites Reservoir to add Additional Dry Year Storage: San Bernardino Valley advocates on behalf of regional agencies for increased imported water reliability and actively engages in state-wide water resources management. Construction of Sites Reservoir in the Sacramento Valley will provide increased water supply flexibility, reliability, and resiliency in dry years. Sites Reservoir will also provide operational flexibility of the State Water Project and Central Valley Project that convey water to all parts of the State.

DCP Project No. 125 Well Rehabilitation and Replacement: General well rehabilitation and replacement should continue to be a priority for Rialto and Drought Task Force members to maintain existing assets and meet water quality requirements and/or construct new wells to provide system resiliency during drought. Proactive well rehabilitation and replacement will reduce the risk of infrastructure failure and the need to implement the WSCP.

DCP Project No. 128 Seek Grant Funding for Infrastructure Projects: Rialto and the Drought Task Force should continue to pursue grant funding to assist in developing and implementing the mitigation actions identified in this DCP and reduce financial impacts to their ratepayers.

DCP Project No. 132 Develop Implementation and Enforcement Tools to Achieve Required Demand Reduction Savings: Rialto and the Drought Task Force may consider developing implementation and enforcement tools to help reduce demands, track demand reduction, and compile required state reporting on demand reduction activities and effectiveness. Rialto may consider referring to their UWUO Roadmap to identify the required compliance steps and timing needs to inform demand reduction programs and reporting compliance. The UWUO Roadmap is provided under DCP Project No. 132 in Appendix G.

DCP Project No. 133 Develop and Implement Regional and Local Communication Plans: The Drought Task Force may consider adopting or using the Rialto's Education and Engagement Plan to inform their own outreach efforts to coordinate drought response for all residents within the City and the region. Consistent messaging across water service areas may more effectively reduce customer demand and conserve water.

DCP Project No. 134 Future Priority 1 Projects: As the DCP is re-evaluated and future updates are made, Rialto and other Drought Task Force participants may identify new ideas and projects that mitigate high-risk vulnerabilities and add them as Priority 1 Projects.

6.2.2 Priority 2 Mitigation Actions

Priority 2 mitigation actions are the projects, opportunities, and ongoing actions that mitigate a vulnerability with a risk score of 2. Table 6-2 presents a list of all Priority 2 Mitigation Actions. The circled number under the mitigation categories indicates the highest risk score of vulnerabilities in each category that are mitigated by each action. Priority 2 Mitigations actions are numbered with 200 series numbers, beginning with 201.

Table 6-2. Priority 2 Mitigation Actions and Type of Vulnerability Mitigated

DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Vulnerabilities Mitigated: Climate Change	Extended Drought	Infrastructure	Administrative, Regulatory, & Environmental	Water Quality
201	Advanced Meter Infrastructure (AMI)	Rialto System	Rialto	Project		2		2	
202	Install Rialto Well 3A with arsenic treatment to replace Rialto Well 3.	Lytle Groundwater Basin	Rialto	Project		3			2
203	Additional regional distribution facilities to convey water to agencies located throughout the region.	Bunker Hill	San Bernardino Valley	Opportunity		3	2		
204	Coordinate efforts with land developers to implement small-scale recharge.	Lytle Groundwater Basin		Opportunity	2	2			
205	Unline canals in strategic areas to provide recharge opportunities.	Lytle Creek Surface Water		Opportunity	2	2			
206	Basin Management / Coordinate with Management of the San Bernardino Basin	Riverside North Groundwater Basin	All Basin Users	Ongoing Action	2	3			
207	Equip existing wells with treatment systems.	Riverside North Groundwater Basin		Project		3			2
208	Riverside North Aquifer Storage & Recovery Project	Riverside North Groundwater Basin	San Bernardino Valley	Project	2	3			
209	Central Feeder and EBX Intertie Project	Imported Water	San Bernardino Valley	Project			2		
210	Foothill Pipeline Infrastructure Improvements	Imported Water	San Bernardino Valley	Project			2		
211	Foothill Pipeline Interior Relining	Imported Water	San Bernardino Valley	Project			2		
212	Delta Conveyance Project will improve water quality once implemented.	Imported Water		Project	2		2		4

DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Vulnerabilities Mitigated: Climate Change	Extended Drought	Infrastructure	Administrative, Regulatory, & Environmental	Water Quality
213	Lytle Creek Watershed Assessment & Restoration	Lytle Creek Surface Water	Water Resources Institute	Project	2	2			
214	Well W8A Arsenic Treatment	Lytle Groundwater Basin	WVWD	Project					2
215	Well W36 Arsenic Treatment	Lytle Groundwater Basin	WVWD	Project					2
216	Well W34B Arsenic Treatment	Lytle Groundwater Basin	WVWD	Project					2
217	Well W35C Arsenic Treatment	Lytle Groundwater Basin	WVWD	Project					2
218	Install IX for NO2 at Well W18A	Riverside North Groundwater Basin	WVWD	Project					2
219	Install IX for NO2 at Well W41	Riverside North Groundwater Basin	WVWD	Project					2
220	Install IX for Nitrate and Perchlorate at Well W42	Riverside North Groundwater Basin	WVWD	Project					2
221	Install IX for Nitrate and Perchlorate at Well W29A	Riverside North Groundwater Basin	WVWD	Project					2
222	Install IX for Nitrate and Perchlorate at Well W40	Riverside North Groundwater Basin	WVWD	Project					2
223	Install IX for Nitrate and Perchlorate at Well W51	Riverside North Groundwater Basin	WVWD	Project					2
224	Install IX for Nitrate and Perchlorate at Well W52	Riverside North Groundwater Basin	WVWD	Project					2

					Vulnerabilities Mitigated				
DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Climate Change	Extended Drought	Infrastructure	Administrative, Regulatory, & Environmental	Water Quality
225	Install IX for Nitrate and Perchlorate at Well W50	Riverside North Groundwater Basin	WVWD	Project					2
226	Equip and install treatment at W39	Chino Basin	WVWD	Project					2
227	Implement larger-scale stormwater capture and recharge projects when possible.	Imported Water		Opportunity	2	3			
228	Waterman Turnout and Hydroelectric Plant	Other		Project	2				
229	Identify current water system infrastructure, establish a rehabilitation/replacement schedule, and long-range financial structure.	Other		Project			2		
230	Purchase backup generators and/or battery storage.	Other		Project	2		3		
231	Analyze system data to clearly identify highest-risk areas/areas with redundance needs, etc. Conduct a consequence of failure prioritization.	Other		Project			2		
232	Reservoir Seismic Upgrades	Other		Project	3		2		
233	Distribution Pipeline Replacement	Other		Project			2		
234	Evaluate rate structures.	Other		Project		2	2	2	2
235	Future Priority 2 Projects – any project that mitigates a Vulnerability with a Risk score of 2	Other		Project					

6.2.3 Priority 3 Mitigation Actions

Priority 3 mitigation actions are the projects, opportunities, and ongoing actions that mitigate a vulnerability with a risk score of 3. Table 6-3 presents a list of all Priority 3 Mitigation Actions. The circled number under the mitigation categories indicates the highest risk score of vulnerabilities in each category that are mitigated by each action. Priority 3 Mitigations actions are numbered with 300 series numbers, beginning with 301.

6.2.4 Priority 4 Mitigation Actions

The vulnerability assessment did not indicate any vulnerabilities with risk scores of 4 (low likelihood and low impact); therefore, there were no Priority 4 mitigation actions identified.

Table 6-3. Priority 3 Mitigation Actions and Type of Vulnerability Mitigated

					Vulnerabilities Mitigated				
DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Climate Change	Extended Drought	Infrastructure	Administrative, Regulatory, & Environmental	Water Quality
301	Rialto Landscape Ordinance Update	Rialto System	Rialto	Project	3				
302	Continue monitoring efforts.	Rialto-Colton Groundwater Basin		Ongoing Action		3			
303	Continue to implement the Four Party Implementation Agreement.	Other		Ongoing Action					3
304	Continue to implement the Cooperative Agreement to Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basin.	Imported Water		Ongoing Action					3
305	Service Line Replacement, Hydrant Laterals, for Palm, Orange, Olive, and Date Between Foothill to the Train Tracks (Part 2)	Rialto System	Rialto	Project			3		
306	Service Line Replacements on South Alice, South Palm, West Godden, and Alu Streets	Rialto System	Rialto	Project			3		
307	Main and service line replacement; Bonnie View between Acacia and Eucalyptus	Rialto System	Rialto	Project			3		
308	Mainline Valve Replacement	Rialto System	Rialto	Project			3		
309	Cedar Reservoir 2, Overhaul, and Dome Preservation	Rialto System	Rialto	Project			3		
310	4" South Oakdale and South Marcella between East Rialto Ave and Allen St	Rialto System	Rialto	Project			3		

DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Vulnerabilities Mitigated: Climate Change	Extended Drought	Infrastructure	Administrative, Regulatory, & Environmental	Water Quality
311	Mainline and Service Line, Hydrant Laterals, and Mainline Replacement Below Etiwanda between Lilac and Sycamore Streets: Cornell and Victoria	Rialto System	Rialto	Project			③		
312	Service Line Replacement, Hydrant Lateral for Woodcrest, Yucca, Miramonte, Arrowhead, and Althea	Rialto System	Rialto	Project			③		
313	WWTP Electrical Upgrades	Rialto System	Rialto	Project			③		
314	Supervisory Control and Data Acquisition (SCADA) Upgrades to Lift Stations	Rialto System	Rialto	Project			③		
315	Installation of fourth Disk Filter	Rialto System	Rialto	Project			③		
316	Aged Water Main Replacement Etiwanda from Riverside to Eucalyptus (Pavement Project)	Rialto System	Rialto	Project			③		
317	Service Line Replacement between Cedar and Larch below Etiwanda on Streets Victoria, Cornell, Rosewood, Church, and Folk	Rialto System	Rialto	Project			③		
318	Service Line Replacement, Hydrant Laterals for Palm, Orange, Olive, Date Between Foothill to Train Tracks (Part 1)	Rialto System	Rialto	Project			③		
319	Backup Generators for Cactus, Lilac, and Ayala Lift Stations	Rialto System	Rialto	Project			③		
320	Pressure Relief Valves (PRVs) Zone 2 to Zone 3	Rialto System	Rialto	Project			③		
321	Service Line Replacement, Hydrant Laterals, and Mainline Replacement of Jackson between Sycamore to Pepper including Mulberry, Chestnut, Mesa, Birch, and Jackson	Rialto System	Rialto	Project			③		

					Vulnerabilities Mitigated				
DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Climate Change	Extended Drought	Infrastructure	Administrative, Regulatory, & Environmental	Water Quality
322	Well W7 Rehab and Retest	Lytle Groundwater Basin	WVWD	Project		3	3		
323	16 MGD Expansion of the WTP	Imported Water	WVWD	Project		3	3		3
324	Zone 8 Reservoir Replacement	WVWD System	WVWD	Project		3			
325	Lord Ranch Aeration Tank	WVWD System	WVWD	Project		3			
326	Bunker Hill Aeration Tank	WVWD System	WVWD	Project		3			
327	Lord Ranch Pump Station	WVWD System	WVWD	Project		3			
328	New Zone 7 Pump Station	WVWD System	WVWD	Project		3			
329	New Bunker Hill Supply Pump Station	Bunker Hill	WVWD	Project		3			
330	Property Acquisition for Reservoir R3-4 (1.5 acres)	WVWD System	WVWD	Project		3			
331	Property Acquisition for Reservoir R6-6 (1.5 acres)	WVWD System	WVWD	Project		3			
332	Property Acquisition for Bunker Hill Supply	Bunker Hill	WVWD	Project		3			
332	Property Acquisition for Bunker Hill Supply	Bunker Hill	WVWD	Project		3			
333	R7-5 Reservoir Site Investigation	WVWD System	WVWD	Project		3			
334	Drill/redrill deeper wells and/or reduce pumping.	Other		Project		3	3	3	
335	Consider a study to better characterize subsidence.	Rialto-Colton Groundwater Basin		Project		3			

DCP Project No.	Project Name	Supply Source	Proponent	Mitigation Action Type	Vulnerabilities Mitigated: Climate Change	Extended Drought	Infrastructure	Administrative, Regulatory, & Environmental	Water Quality
336	Consider a study to better characterize subsidence.	Bunker Hill		Project		3			
337	City of San Bernardino Tertiary Treatment System	Bunker Hill	San Bernardino Municipal Water Department	Project		3			
338	Consider a study to better characterize subsidence.	Lytle Creek Groundwater Basin		Project		3			
339	Consider a study to better characterize subsidence.	Riverside North Groundwater Basin		Project		3			
340	Future Priority 3 Project – any project that mitigates a Vulnerability with a Risk Score of 3	Other / All	All	Project					

7.0 Operational and Administrative Framework

The operational and administrative framework (framework) identifies the roles, responsibilities, and related processes to implement and update the DCP. The framework specifically addresses implementation for the drought monitoring processes, response actions and mitigation actions.

IN THIS SECTION

- Drought Task Force Roles and Responsibilities
- Drought Contingency Plan Update
- Operational & Administrative Framework Summary

7.1 Drought Response Task Force Roles and Responsibilities

The City is responsible for updating this DCP. The Drought Task Force for this DCP is composed of representatives of local water purveyors that consistently meet through other regional collaboration forums, most notably, the Rialto Basin GC. At the completion of this DCP, ongoing conversations regarding drought monitoring and response, mitigation actions, and further collaboration will continue within the Rialto Basin GCand the BTAC. As the City completes updates of the DCP, the Drought Task Force may be asked to provide input through the Rialto Basin GC or other regional forums.

7.2 Drought Contingency Plan Update

As mentioned previously, this DCP builds upon existing efforts Rialto and the region have already completed. Since many elements of the DCP are directly linked to the 2020 IRUWMP, the DCP will continue to be updated once the IRUWMP has been updated to ensure consistent planning. Table 7-1 provides a summary of the DCP Update and Operational and Administrative Framework.

Table 7-1. Operational and Administrative Framework Summary

DCP Element	DCP Chapter	Staff Assigned	Responsibilities	Procedures
Drought Monitoring	Chapter 3	Rialto Staff Drought Task Force	BTAC discusses allocation of available SWP supplies. Evaluate water supply reliability and complete the Annual Water Supply and Demand Assessment (AWSDA). Each Drought Task Force participant completes their own AWSDA.	Compare supplies, demands, and infrastructure limitations that might impact the ability to deliver supplies. Determine if a shortage stage declaration is needed and to what extent. Update the drought monitoring process, if needed. Document in WSCP and the DCP. Note that the latest WSCP will be included as part of the IRUWMP and may be modified as-needed to comply with state requirements.
Vulnerability Assessment	Chapter 4	City Utilities Department	Incorporate any newly identified vulnerabilities into the vulnerability assessment.	Review previously identified vulnerabilities and update the risk score, if needed. Incorporate newly identified vulnerabilities into the vulnerability assessment, if needed. Incorporate input from the Drought Task Force through the Rialto-Colton Groundwater Council and BTAC
Mitigation Actions	Chapter 5	City Utilities Department Specific Project Proponent	Implement mitigation actions as needed.	As needed, implement mitigation actions. This includes procuring funding, contracting with consultants or contractors, and implementing mitigation actions.
		City Utilities Department	Update the list of prioritized mitigation actions.	In alignment with the IRUWMP and the San Bernardino Basin Optimization and Sustainability Program efforts, refresh the mitigation actions list at least every 5 years. Add additional mitigation actions where needed and remove mitigation actions already implemented or no longer needed. Coordinate efforts with San Bernardino Valley and other regional stakeholders through the San Bernardino Basin Optimization and Sustainability Program and follow-on work, such as potential regional master plan and prioritized project list.
Response Actions	Chapter 6	Rialto Staff Drought Task Force	Identify response actions. Each Drought Task Force participant identifies their own response actions.	Based on the Annual Water Supply and Demand Assessment or other immediate need for demand reduction and implementation of the WSCP, identify appropriate response actions and provide recommendation to the Utilities Manager.
		Utilities Manager	Identify response actions.	Review staff response action recommendations and provide update/recommendations to City Council.
		Rialto Staff	Implement response actions. Each Drought Task Force participant implements their own response actions.	Implement the recommended response actions to reduce customer demand and safeguard supply.

DCP Element	DCP Chapter	Staff Assigned	Responsibilities	Procedures
		Drought Task Force		
		City Utilities Department	Implement Education and Engagement Plan. Update the Education and Engagement Plan at a minimum, every five years. Lead development of additional response actions to comply with UWUO and further reducing demand during a water shortage emergency.	In alignment with the response actions, implement the communication plan to perform customer messaging and reduce demand. Update Communication Plan, if needed. Update response actions as part of the 2025 IRUWMP. Current requirements and compliance needs are unknown at this time and expected to be adopted and available prior to the 2025 IRUWMP cycle.
Update the DCP	All	City Utilities Department	Update the DCP.	Update supply and demand projections and WSCP every 5 years as part of the IRUWMP effort. The latest IRUWMP can be found at https://www.sbvmwd.com/reports/reports. Update the mitigation actions as needed through coordination with the Rialto-Colton Groundwater Management Plan, IRUWMP, and San Bernardino Basin Optimization and Sustainability Program. Integrate DCP updates into the IRUWMP cycle to maintain consistent regional planning documents.

8.0 Funding Opportunities

Multiple funding opportunities were identified to assist Rialto and other Task Force members in identifying opportunities to apply for funding and assist in future implementation of the mitigation actions identified in this DCP. This section provides a summary of potential grant and loan funding programs. Rialto and other Task Force members will evaluate funding programs and each mitigation action eligibility separate from the DCP.

IN THIS SECTION

- Federal Funding Programs
- State Funding Programs

8.1 Federal Funding Programs

There are many federal funding programs that provide grants and cost share assistance for a variety of projects. Below is a summary of federal grants and low interest loan opportunities that are likely to apply to many of the mitigation actions identified in this DCP. This list is not exhaustive of all available federal funding opportunities but provides a starting point for investigating eligible funding opportunities. Funding opportunities will need to be reviewed and considered on a project specific basis to determine eligibility and competitiveness. New funding programs may also be developed in the future that could potentially apply to the projects listed in this DCP.

USBR WaterSMART: Water & Energy Efficiency Grants

Applies to on-the-ground water management improvement projects, including projects that conserve water, increase the production of hydropower, mitigate conflict risk in high-risk water areas, and further increase water supply reliability in the western United States.

https://www.usbr.gov/watersmart/

USBR WaterSMART: Planning & Project Design Grants

Project Design Grants apply to site-specific final design (minimum 60% design level) to support planning and design for projects that could be funded by USBR implementation grants. Note that project design grants under this program cannot be used to prepare a feasibility study.

Water Strategy Grants apply to early stage planning activities, including outreach and collaboration, technical analyses and assessments, project scoping activities to identify and prioritize implementation projects, and to develop a strategy for water supply projects, water marketing activities, water management projects, and/or river restoration activities.

Drought Contingency Plans and existing DCP updates are also funded through this USBR WaterSMART grant program.

https://www.usbr.gov/watersmart/

USBR WaterSMART: Drought Resiliency Projects

Applies to projects that increase the reliability of water supplies through infrastructure improvements, groundwater recovery, improve water management through decision support tools, modeling, and measurement, and the construction of domestic water supply projects.

https://www.usbr.gov/watersmart/

USBR WaterSMART: Small Scale Water Efficiency Projects

Entities with water or power delivery authority can obtain funding to improve water efficiency through previously identified planning efforts. Appliable projects include canal lining/piping, meter and flow measurement, landscape irrigation measures, and SCADA and automation.

https://www.usbr.gov/watersmart/

USBR WaterSMART: Water Recycling & Desalination Planning

Funding for planning and pre-construction activities, including the development of water recycling and desalination feasibility studies, to facilitate project development under the Title XVI Program, the Desalination Construction Program, and the Large-Scale Water Recycling Program.

https://www.usbr.gov/watersmart/

USBR WaterSMART: Applied Science Grants

Funding for the development of tools and information to support water management for multiple uses. Eligible projects include the development of modeling and forecasting tools, hydrologic data platforms, and new data sets.

https://www.usbr.gov/watersmart/

USBR WaterSMART: Title XVI WIIN Act Water Reclamation and Reuse Projects

Funding for the planning, design, and construction of WIIN Act eligible water recycling and reuse projects. A Reclamation approved Title XVI feasibility study is required prior to pursuing funding through this program.

https://www.usbr.gov/watersmart/

USBR WaterSMART: Title XVI WIIN Act Desalination Construction Program

Funding for the planning, design, and construction of brackish water desalination projects. A Reclamation approved Title XVI feasibility study is required prior to pursuing funding through this program.

https://www.usbr.gov/watersmart/

USBR Small Storage Program

Funding for projects that will increase water supply reliability, improve operational flexibility, and enhance climate resiliency of water and related infrastructure. Eligible projects must have a completed feasibility study and provide water storage capacity between 200 and 30,000 AF.

https://www.usbr.gov/smallstorage/

USBR Water Conservation Field Services Program

Funding for the development of water conservation plans, System Optimization Reviews (SORs), and water management improvements. Under the water management and conservation planning portion of this grant, funding is provided to develop plans that document data on current water supply and demand, forecast future water demands, identify water conservation goals, and determine conservation measures. SORs include an analysis of the entire water delivery system, service area, and/or watershed to identify system-wide efficiency and optimization. The design of water management improvements includes all necessary preliminary tasks required to prepare design, including site specific information, such as surveying and soil conditions testing. Water management improvement projects include canal lining, SCADA and automation, and distribution meter installation to reduce losses and conserve water.

https://www.usbr.gov/waterconservation/

EPA Water Infrastructure Finance & Innovation Act (WIFIA)

The Water Infrastructure Finance & Innovation Act (WIFIA) of 2014 established a federal credit program administered by the Environmental Protection Agency (EPA) for eligible water and wastewater projects. Such projects include planning, preliminary engineering, design, environmental review, revenue forecasting, and other pre-construction activities; construction, reconstruction, rehabilitation, and replacement activities; acquisition of real property or an interest in real property, environmental mitigation, construction contingencies, and acquisition of equipment; and capitalized interest necessary to meet market requirements, reasonably required reserve funds, capital issuance expenses, and other carrying costs during construction.

https://www.epa.gov/wifia

Community Grants Program – EPA State and Tribal Assistance Grant (STAG)

Through the annual appropriations process, Community Project Funding requests are made by House and Senate representatives. Community Grants projects are designated for the planning, design, and construction of drinking water, wastewater, and stormwater infrastructure and for water quality protection. Requests are funded through various government funding bills, but the vast majority of requests are for STAG infrastructure grants. STAG funding is limited to projects otherwise eligible for the funding from the state's Clean Water or Drinking Water State Revolving Funds loan program. There is a minimum 20% cost share requirement for any portion of a project funded through a STAG infrastructure grant. Request are typically due by February/March of each year.

8.2 State Funding Programs

Below is a summary of state grants and low interest loan opportunities that are likely to apply to many of the mitigation actions identified in this DCP. This list is not exhaustive of all available state funding opportunities but provides a starting point for investigating eligible funding opportunities. Funding opportunities will need to be reviewed and considered on a project specific basis to determine eligibility and competitiveness. New funding programs may also be developed in the future that could potentially apply to the projects listed in this DCP.

California Infrastructure & Economic Development Bank (IBank) California Lending for Infrastructure State Revolving Fund & Bond Financing Program

IBank has the broad authority to issue tax-exempt and taxable revenue bonds, provide financing to public agencies, provide credit enhancements, acquire or lease facilities, and leverage State and Federal funds. IBank uses a proprietary interest rate method to ensure borrowers have the best chance to receive below-market interest rates.

https://ibank.ca.gov/

California Office of Emergency Services Hazard Mitigation Grant Program

The Federal Emergency Management Agency (FEMA) funds plans and projects that reduce impacts from natural disasters. These funds are administered through the California Office of Emergency Services (Cal OES). Funding is used to support implementation of mitigation actions that reduce risk from natural hazards that threaten life and property. Drought and extreme weather qualify as natural hazards.

https://www.caloes.ca.gov/office-of-the-director/operations/recovery-directorate/hazard-mitigation/hazard-mitigation-grant-program/

California Office of Emergency Services Building Resilient Infrastructure and Communities

The Building Resilient Infrastructure and Communities (BRIC) funding program provides funding for hazard mitigation related to climate change. These funds are provided by the federal government and administered through Cal OES.

https://www.caloes.ca.gov/office-of-the-director/operations/recovery-directorate/hazard-mitigation/bric/

SWRCB Drinking Water State Revolving Fund

The Drinking Water State Revolving Fund (DWSRF) program provides financing assistance for drinking water projects required to achieve or maintain compliance with the Safe Drinking Water Act.

https://www.waterboards.ca.gov/drinking_water/services/funding/SRF.html

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Appendix A Drought Task Force Workshop Summaries

A

DROUGHT TASK FORCE: WS #1 SUMMARY

Rialto Drought Contingency Plan

WSC

WS #1 SUMMARY

Meeting Overview

The Drought Task Force workshop took place on July 18, 2022 as part of the Rialto Basin Groundwater Council Technical Advisory Committee (RBGC TAC) meeting. The group received an introduction to the Drought Contingency Plan (DCP), including the various components and information on the USBR WaterSMART Drought Response Program. Lastly, a preview of potential content for WS #2 – Drought Monitoring was provided.

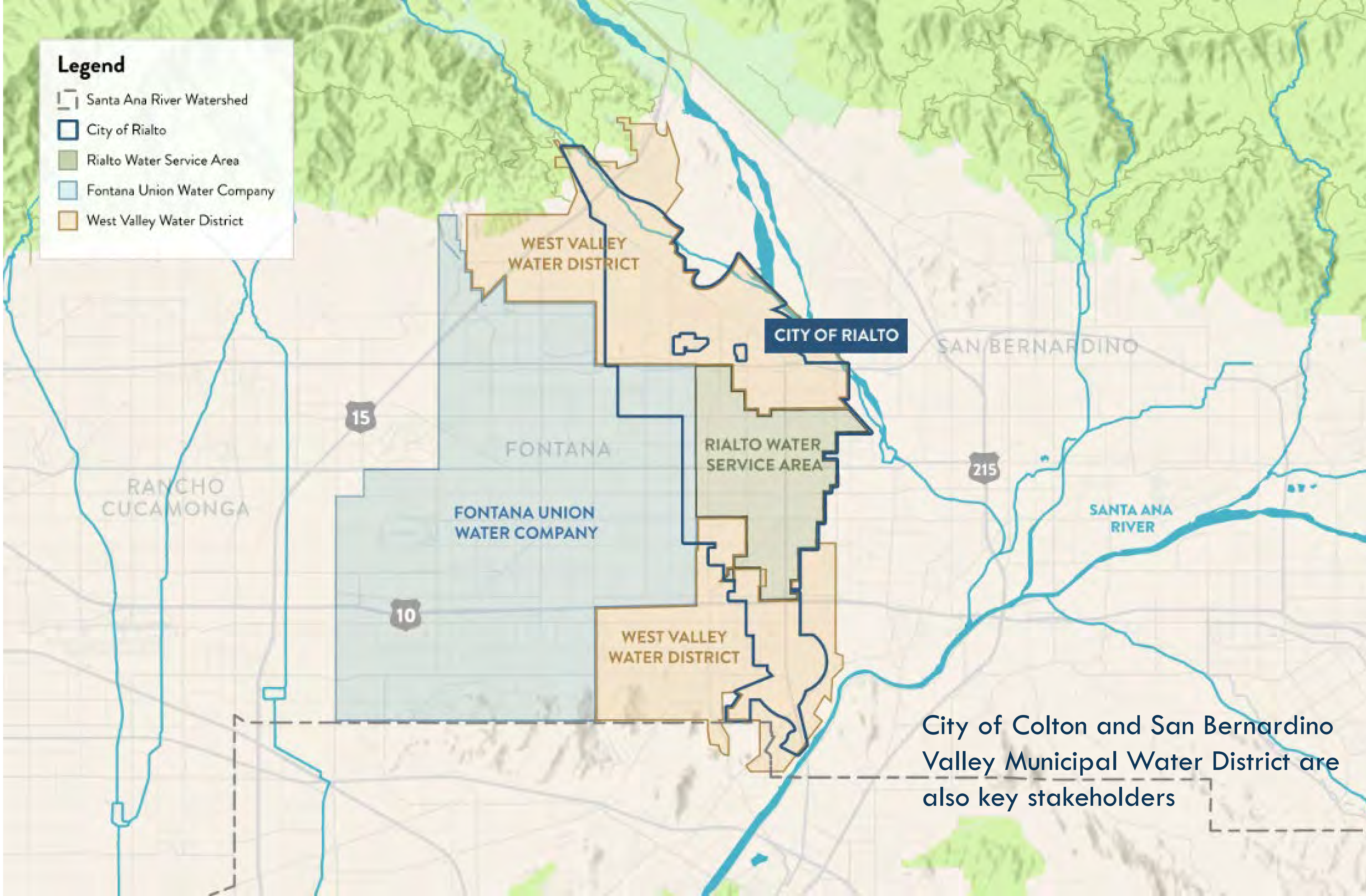
Throughout the meeting, various participants provided insight into additional regional resources that can be used to inform this DCP and brainstorm ideas on how the DCP can be used to help further prepare for and respond to drought in the region. Topics included:

- Reconsidering the use of the word drought stressing the importance of continuous action;
- Communication barriers such as press releases that aren’t covered by local media outlets;
- Practical limit for conservation might impact utility’s ability to reduce demands

Agenda

- USBR Program Overview
- Rialto DCP
- Drought Task Force Role
- Preview WS 2 – Drought Monitoring
- Workplan & Schedule

Plan Area



City of Colton and San Bernardino Valley Municipal Water District are also key stakeholders

Drought Contingency Planning

- Most Drought Contingency Plans are structured to address these questions:
  - How will we recognize the next drought in the early stages?
  - How will drought affect us?
  - How can we protect ourselves from the next drought?

1. Introduction	2. Drought Monitoring	3. Vulnerability Assessment	4. Mitigation Actions	5. Response Actions	6. Ops. and Administrative Framework	7. Plan Update Process
• Purpose, Goals • Approach • Historical Drought • Agency Overview • Supply & Demand	• Drought Indices • Shortage Stages	• Risks and Impacts of Drought on critical resources • Future Conditions • Drive mitigation actions	• Tool to prioritize actions • List of Actions	• Related to Shortage Stages	• Roles • Responsibilities • Resources	• Plan Evaluation • Future Updates

Many Existing Documents and Resources will inform this DCP

Existing Drought Planning and Monitoring Efforts	Drought Contingency Plan Alignment				
	SUPPLY & DEMAND	DROUGHT MONITORING	VULNERABILITY ASSESSMENT	MITIGATION ACTIONS	RESPONSE ACTIONS
2020 IRUWMP	✓	✓	✓	✓	✓
Agency WSCPs		✓		✓	✓
Rialto Basin Groundwater Management Plan	✓	✓		✓	✓
Basin Technical Advisory Committee	✓	✓		✓	✓
San Bernardino Groundwater Council	✓	✓		✓	✓
One Water One Watershed Plan	✓			✓	
Local Agency Facility Master Plans	✓		✓	✓	
Valley District Demand Management Program	✓			✓	
Urban Water Use Objectives	✓	✓			
Annual Water Supply and Demand Assessments	✓	✓			✓
Valley District Groundwater Storage Calcs	✓				
RAND Water Supply and Demand Analysis (2021 and 2022)	✓				

Existing Drought Planning Efforts	Drought Contingency Plan Alignment				
	SUPPLY & DEMAND	DROUGHT MONITORING	VULNERABILITY ASSESSMENT	MITIGATION ACTIONS	RESPONSE ACTIONS
USBR Climate Change Analysis for the SAR Watershed	✓		✓	✓	
Rialto 2021 Climate Adaptation Plan			✓	✓	
Valley District Climate Adaptation & Resilience Plan			✓	✓	
AWIA Risk and Resiliency Assessment & Emergency Response Plans	✓		✓		✓
Local Hazard Mitigation Plans	✓		✓	✓	
MET 2020 IRP & UWMP	✓	✓	✓	✓	✓

Element 1 – Supply & Demand

CORE DCP CONTENT

- DCP will use 2020 IRUWMP supply and demand projections, updated as needed to incorporate changes and integrate with the Rialto Groundwater Management Plan water budget

IDEAS FOR ENHANCEMENT

- Develop a regional supply infographic to clearly convey the regional water resources and facilities and their importance to drought preparedness (to be used in the DCP and as a standalone resource for the region)

Element 2 – Drought Monitoring

CORE DCP CONTENT

- Describe all ongoing efforts to monitor drought in the region – groundwater level, groundwater in storage, precipitation trends, BTAC, Rialto Basin and SBB councils, Annual Supply and Demand Assessments, outside resources (Drought Monitor, etc.)

IDEAS FOR ENHANCEMENT

- Is there more that the region can do?

Element 3 – Vulnerability Assessment

CORE DCP CONTENT

- Compile and review relevant vulnerabilities identified in previous work

IDEAS FOR ENHANCEMENT

- Develop a common framework to identify and evaluate vulnerabilities that can be applied in future planning documents (i.e. 2025 IRUWMP) for more consistent regional assessments and mitigation project justification
- Collaborate to evaluate specific vulnerabilities that impact supply reliability for the Rialto area (infrastructure, water quality, water levels, etc.)

Element 4 – Mitigation Actions

CORE DCP CONTENT

- Compile and relevant projects listed in existing planning documents

IDEAS FOR ENHANCEMENT

- Link each exisitng project to the specific vulnerability that it helps mitigate
- Collaborate to develop additional projects that can benefit the participants/region and mitigate the identified vulnerabilities

ADDITIONAL KEY POINTS NOTED

- Potential Project: update the existing groundwater model to include recent data (current model calibrated up to 2016)
- Potential Project: additional recharge in the Lytle Basin

Element 5 – Response Actions

CORE DCP CONTENT

- Compile and summarize drought response actions identified in individual agency Water Shortage Contingency Plans

IDEAS FOR ENHANCEMENT

- Collaborate to develop a “model WSCP” template that could be adopted by any agency in the region to provide a more consistent drought response across the region. Use the opportunity to transition to the DWR 6 standard WSCP stages.
- Improve regional drought communication coordination?

ADDITIONAL KEY POINTS NOTED

- Regional coordination and drought communication is key. Additional “out-of-the-box” methods of communicating may be required to reach customers and effectively reduce water use.

WHAT BENEFITS WILL THE DCP PROVIDE?

- Comprehensive evaluation of water supply vulnerabilities
- Opportunity to collaborate to identify new projects that benefit multiple agencies
- Database of actions and projects that mitigate identified vulnerabilities and help position agencies for grant funding opportunities
- Opportunity to promote consistent actions and messaging on drought and response actions

Drought Task Force

Role & Ideal Participants

- Target more technical content to discuss issues in depth and develop new solutions among familiar collaborators
- Opportunity to provide input on each element of the DCP
- DCP process to include 5 Workshops, estimating 2-3 hours each over the next year, with minimal prep-and post-material review.

Ideal List of Drought Task Force Members:

- Fontana Water Company
- West Valley Water District
- San Bernardino Valley Municipal Water District
- City of Colton
- City of Rialto Staff
  - Utilities Manager
  - Utilities Support
  - Customer Service
  - City Clerk's Office
- Rialto Water Services/Veolia

COMPLETED
TASK FORCE KICKOFF

DROUGHT MONITORING & RESPONSE

VULNERABILITY ASSESSMENT & MITIGATION ACTIONS

MITIGATION ACTIONS #2

DRAFT DCP REVIEW

Drought Monitoring & Response

WS #2 Preview

WSCP Standardized Stages

- Last UWMP cycle: update WSCPs to the DWR six standard stages (shown here) or "crosswalk"
- Many local retail agencies "crosswalked"

DWR Standard Shortage Stage	Water Supply Shortage Conditions
1	Up to 10%
2	Up to 20%
3	Up to 30%
4	Up to 40%
5	Up to 50%
6	>50%

Crosswalk Example

Stage	% Supply Shortage	Water Supply Condition
1	10	Normal Condition
2	20	Water Alert Conditions
3	25	Water Warning Conditions
4	30-50+	Water Emergency Conditions

DWR Standard Shortage Stage	Water Supply Conditions
1	Up to 10%
2	Up to 20%
3	Up to 30%
4	Up to 40%
5	Up to 50%
6	>50%

Source: City of Rialto WSCP, Figure 2

Drought Monitoring

Local WSCP Stages

	Normal Conditions	10%	15%	20%	25%	30%	35%	40%	45%	50%	>50%
Rialto	Stage 1		Stage 2		Stage 3	Stage 4					
West Valley	Stage 1		Stage 2		Stage 3	Stage 4					
Fontana	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6
Colton	Stage 1		Stage 2	Stage 3		Stage 4					

Fontana Water Company has updated its WSCP to the standard 6 stage framework.

Comparison Among Neighbors

- Generally, response actions are the same, but the stage in which they are implemented can differ

FWC WSCP has been updated; new actions may be different

Action	Rialto	West Valley	Fontana	Colton
Limit landscape irrigation to three days per week.	Stage 3, 30%	Stage 3, 30%	Stage 2, 25%	Stage 3, 30%; Based on address: even water on even days, odd water on odd days
Filling or re-filling of pools, spas, fountains is prohibited.	Stage 3, 30%	Stage 3, 30%	Stage 4, 40%+	Stage 4, 30%+
Restaurants may only serve water upon request.	Stage 2, 25%	Stage 2, 25%	Stage 2, 25%	Stage 2, 20%
Permanent water conservation measures in place?	Yes	Yes	Yes	Yes

Potential Workshop Activity and Outcome

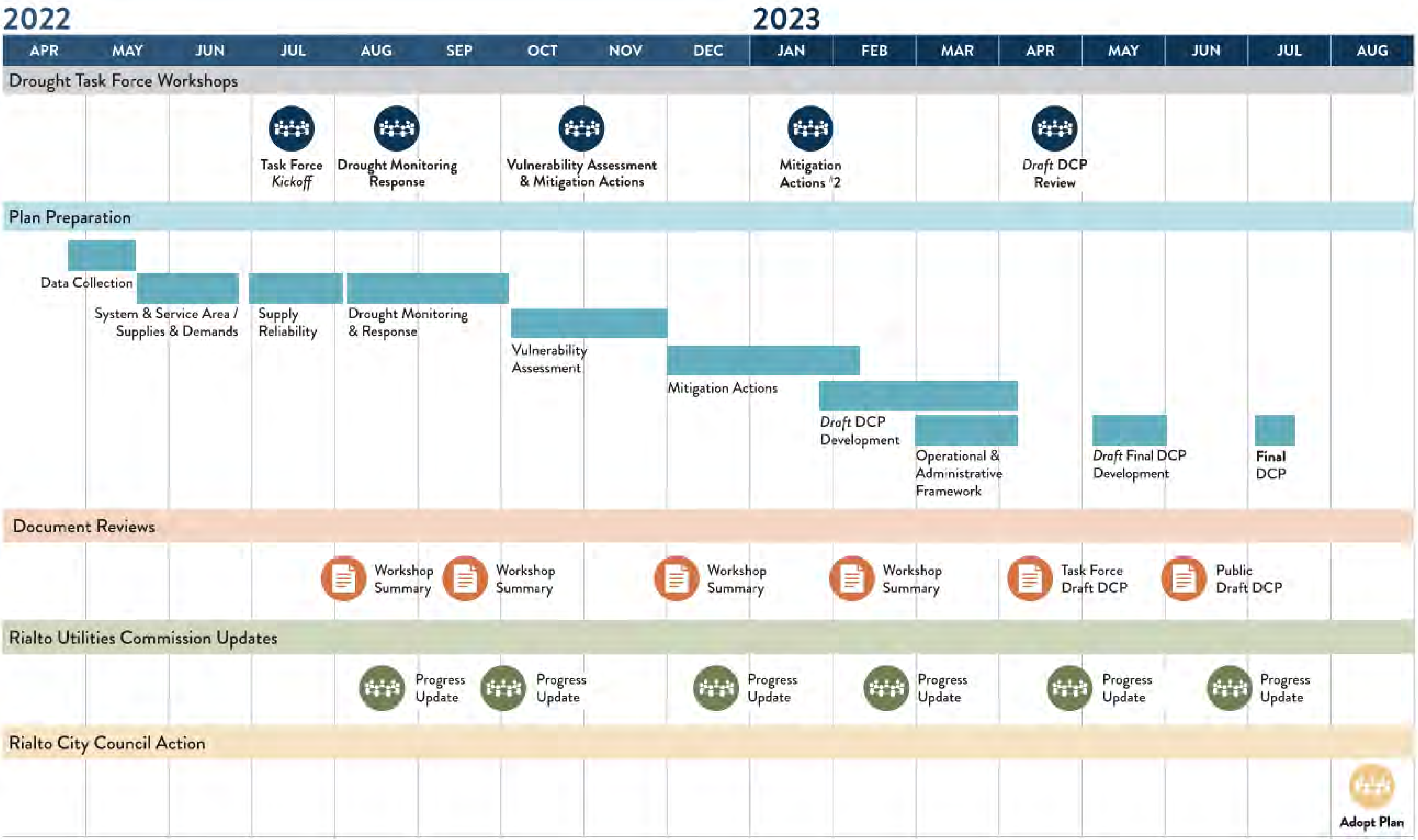
WORKSHOP ACTIVITY

- Review and compare existing response actions for the Task Force members
  - Are response actions granular and flexible enough to respond in an appropriate way?
  - Are there any unintended consequences of these actions?
  - Which actions are most/least effective?
  - Are any actions difficult/impossible for staff to implement/enforce?
- Review and refine potential 6-stage Retail WSCP model framework

WORKSHOP OUTCOME

Draft 6-Stage Retail WSCP model framework for optional adoption by retail agencies

Workplan & Schedule


2022
2023
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
Drought Task Force Workshops
Task Force Kickoff
Drought Monitoring Response
Vulnerability Assessment & Mitigation Actions
Mitigation Actions #2
Draft DCP Review
Plan Preparation
Data Collection
System & Service Area / Supplies & Demands
Supply Reliability
Drought Monitoring & Response
Vulnerability Assessment
Mitigation Actions
Draft DCP Development
Operational & Administrative Framework
Draft Final DCP Development
Final DCP
Document Reviews
Workshop Summary
Workshop Summary
Workshop Summary
Workshop Summary
Task Force Draft DCP
Public Draft DCP
Rialto Utilities Commission Updates
Progress Update
Progress Update
Progress Update
Progress Update
Progress Update
Progress Update
Rialto City Council Action
Adopt Plan

NEXT STEPS

1. Confirm Drought Task Force participation with Tom by Friday, July 22

2. WSC to coordinate with Tom to schedule WS #2

Questions?

wsc

DROUGHT TASK FORCE WS #2 & #3 SUMMARY

Drought Monitoring & Response

Rialto Drought Contingency Plan

WSC

WS #2 & #3 Summary

Meeting Overview

WS #2 took place on September 15, 2022, at the City of Rialto. This workshop focused on an in-depth analysis of the City's existing drought monitoring efforts and water shortage response. City operations staff attended this workshop. Discussions at this workshop were continued in WS #3, conducted on October 25, 2022, and focused on City water shortage response actions.

Staff identified several opportunities to improve the drought monitoring process (Annual Water Supply and Demand Assessment), reviewed existing shortage response actions, and discussed when specific actions should be implemented, based on the percentage of a supply shortage. Staff identified that a City Communication and Outreach Plan is a valuable tool needed to help effective engagement with residents. As a result, WS #4 will focus on City communication efforts pertaining to drought and incorporated into this DCP.

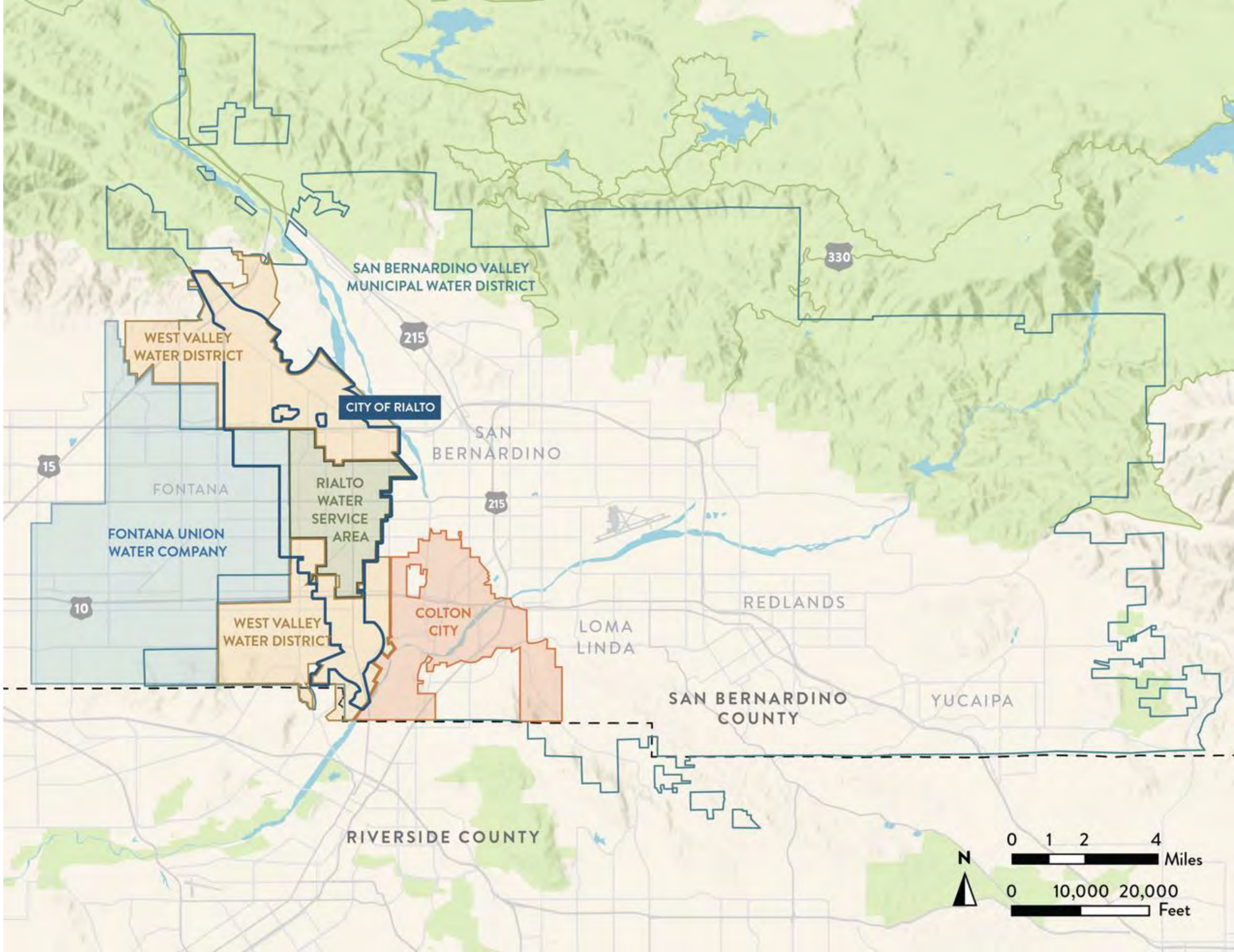
WS #2 Agenda

- Plan Area (5 min)
- DCP Elements (5 min)
- Drought Monitoring (30 min)
- Response Actions (60 min)
- Workshops & Schedule (5)

WS #3 Agenda

- DCP Elements (5 min)
- Drought Monitoring (5 min)
- Response Actions (105 min)
- Next Steps (5 min)

Plan Area


SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT
330
215
WEST VALLEY WATER DISTRICT
CITY OF RIALTO
SAN BERNARDINO
15
FONTANA
RIALTO WATER SERVICE AREA
215
FONTANA UNION WATER COMPANY
10
COLTON CITY
REDLANDS
LOMA LINDA
WEST VALLEY WATER DISTRICT
SAN BERNARDINO COUNTY
YUCAIPA
RIVERSIDE COUNTY
N
0 1 2 4 Miles
0 10,000 20,000 Feet

DCP Elements

Drought Contingency Planning

Most Drought Contingency Plans are structured to address these questions:

- How will we recognize the next drought in the early stages?
- How will drought affect us and how can we respond?
- How can we protect ourselves from the next drought?

Introduction
- Purpose, Goals
- Approach
- Historical Drought
- Agency Overview
- Supply & Demand

1

Drought Monitoring
- Drought Indices
- Shortage Stages

2

Vulnerability Assessment
- Risks and Impacts of Drought on critical resources
- Future Conditions
- Drive mitigation actions

3

Mitigation Actions
- Tool to prioritize actions
- List of Actions

4

Response Actions
- Related to WSCP Shortage Stages and Response Actions

5

Ops. and Administrative Framework
- Roles
- Responsibilities
- Resources

6

Plan Update Process
- Plan Evaluation
- Future Updates

7

Drought Monitoring

Annual Water Supply and Demand Assessment (AWSDA)

AWSDA Overview

1 INFO

- Year Covered
- Units
- Supplier Contact Info
- Latest WSCP Adoption Date

2 DEMAND

- Monthly demand
- Demand by customer class or total system demand

3 SUPPLY

- Monthly supply by source

4 ASSESSMENT

- Comparison of supplies and demands
- Benefits of WSCP implementation

5 ACTIONS

- Actions to reduce shortage gap
- Quantification of impacts on gap reduction

Annual Water Supply and Demand Assessment

- How did the process go?
- How were decisions made?
- Were there any challenges?
- Anything you'd like to do differently next year?
- Were there additional inputs used that weren't previously identified in the WSCP?
- Is there other information that might be helpful (regional/climate/etc.)?
- Input on executive order mandating stage 2 implementation and carrying that through the AWSDA

AWSDA

Demands

Back | Table 2: Demands[1] | Next

Water Shortage Report Submitted on 07/01/2022 (Read-Only)
To Amend this WSDA, please contact UWMPHelp@water.ca.gov

Use Type	Start Year:	2022	Volumetric Unit Used:				AF								
Drop down list May select each use multiple times. These are the only Use Types that will be recognized by the WUEdata online submittal tool. (Add additional rows as needed)	Additional Description (as needed)	Level of Treatmen for Non-Potable Supplies Drop down list	Projected Water Demands - Volume[2]												Tot by Wa Dem Typ
			Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	
Demands Served by Potable Supplies															
Single Family			542.21	683.24	542.7	597.49	401.53	394.69	363.55	326.48	352.95	440.78	431.07	476.13	5
Multi-Family			96.03	123.13	102.55	113.8	90.11	83.77	90.41	80.71	44.56	98.81	88.74	89.91	1
Commercial			143.39	183.27	151.34	163.55	119.33	116.95	101.4	98.36	111.37	134.45	123.38	125.83	1
Landscape			106.42	135.13	106.59	110.2	79	60.65	29.08	47.88	54.13	75.6	83.03	77.75	
Other Potable	Construction Meters		1.38	0.67	1.05	19.33	2.9	0.11	24.83	9.73	0.61	2.43	1.33	0.36	
TOTAL BY MONTH (POTABLE)			889.43	1,125.44	904.23	1,004.37	692.87	656.17	609.27	563.16	563.62	752.07	727.55	769.98	9
Demands Served by Non-Potable Supplies															
TOTAL BY MONTH (NON-POTABLE)			0	0	0	0	0	0	0	0	0	0	0	0	
NOTES	Demands were estimated based on water sales from the previous year plus 10% and estimated new connections.														

[1]Projections are based on best available data at time of submitting the report and actual demand volumes could be different due to many factors.
[2]Units of measure (AF, CCF, MG) must remain consistent.
[3]When optional monthly volumes aren't provided, please enter yearly volumes in the June column (Jun[3]).

Demand Estimate Approach:

- Used prior year estimates for coming year (actual June demand was lower than prior year)
- Consider using a three-year average approach for future estimates

Demand Data Sources:

- Based on billing data/customer categories
- Future AMI system will allow for better projections and more accurate estimate of current water use

AWSDA

Supply

Back

Table 3: Water Supplies[1]

Water Shortage Report Submitted on 07/01/2022 (Read-Only)
To Amend this WSDA, please contact UWMPHelp@water.ca.gov

Water Supply	Start Year:	2022					Volumetric Unit Used:		AF						
Drop down list May select each use multiple times. These are the only Use Types that will be recognized by the WUEdata online submittal tool. (Add additional rows as needed)	Additional Detail on Water Supply	Projected Water Supplies - Volume[2]													Water Quality Drop Down List
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total by Water Demand Type	
Potable Supplies															
Groundwater (not desal.)		827.67	827.67	827.67	804	804	804	804	804	804	804	804	804	9,719	
Purchased/Imported Water	BLF / Encanto	183.33	183.33	183.33	183.33	183.33	183.33	183.33	183.33	183.33	183.33	183.33	183.33	2,200	
Surface water (not desal.)		55.62	55.62	55.62	55.62	55.62	55.62	55.62	55.62	55.62	55.62	55.62	55.62	667	
TOTAL BY MONTH (POTABLE)		1,066.62	1,066.62	1,066.62	1,042.95	1,042.95	1,042.95	1,042.95	1,042.95	1,042.95	1,042.95	1,042.95	1,042.95	12,586	
Non-Potable Supplies															
TOTAL BY MONTH (NON-POTABLE)		0	0	0	0	0	0	0	0	0	0	0	0	0	
NOTES	Well production based on actual pumping gpm and existing facilities in operation when this assessment was prepared. Local surface water sup based on previous twelve months production data.														

[1]Projections are based on best available data at time of submitting the report and actual demand volumes could be different due to many factors.
[2]Units of measure (AF, CCF, MG) must remain consistent.
[3]When optional monthly volumes aren't provided, please enter yearly volumes in the June column (Jun[3]).

Supply Data Sources:

- Rialto Basin – May Decree Letter
- Production logs
- Surface water projection is based on allocation and depends on available water within Lytle Creek
- SBB monitored through Groundwater Council and BTAC (Annual Water Management Plan)
- 2021 was a dry year, 2022 is an exceptionally dry year. May consider using actual production values for these years for future assessments.
- May use groundwater model for future assessments

AWSDA

Assessment

Back | Table 4: Water Assessment | Next

Water Shortage Report Submitted on 07/01/2022 (Read-Only)
To Amend this WSDA, please contact UWMPHelp@water.ca.gov

Table 4(P): Potable Water Shortage Assessment[1]		Start Year:		2022		Volumetric Unit Used[2]:						AF	
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total
Potable Supplies													
Anticipated Unconstrained Demand	889.43	1,125.44	904.23	1,004.37	692.87	656.17	609.27	563.16	563.62	752.07	727.55	769.98	9,258
Anticipated Total Water Supply	1,066.62	1,066.62	1,066.62	1,042.95	1,042.95	1,042.95	1,042.95	1,042.95	1,042.95	1,042.95	1,042.95	1,042.95	12,586
Surplus/Shortage w/o WSCP Action	177.19	-58.82	162.39	38.58	350.08	386.78	433.68	479.79	479.33	290.88	315.4	272.97	3,328
% Surplus/Shortage w/o WSCP Action	20%	-5%	18%	4%	51%	59%	71%	85%	85%	39%	43%	35%	36%
State Standard Shortage Level	0	1	0	0	0	0	0	0	0	0	0	0	0
Planned WSCP Actions													
Benefit from WSCP: Supply Augmentation													0
Benefit from WSCP: Demand Reduction													0
Revised Surplus/Shortage with WSCP	177.19	-58.82	162.39	38.58	350.08	386.78	433.68	479.79	479.33	290.88	315.4	272.97	3,328
% Revised Surplus/Shortage with WSCP	20%	-5%	18%	4%	51%	59%	71%	85%	85%	39%	43%	35%	36%

Planned Water Shortage Response Actions

Back | Table 5: Actions | Next

Water Shortage Report Submitted on 07/01/2022 (Read-Only)
To Amend this WSDA, please contact UWMPHelp@water.ca.gov

Year Covered By This Shortage Report			July 1, 2022		to June 30, 2023	
Anticipated Shortage Level Drop Down List of State Standard Levels (1-6) and Level 0 (No Shortage)	ACTIONS: Demand Reduction, Supply Augmentation, and Other Actions. (Drop Down List) These are the only categories that will be accepted by the WUEdata online submital tool. Select those that apply.	Is Action Already Being Implemented? (Y/N)	How much is action going to reduce the shortage gap? Enter Amount	(Drop Down List) Select % or Volume Unit	When is shortage response action anticipated to be implemented? Start Month	End Month
Add additional rows as needed						
0 (No Shortage)	Expand Public Information Campaign	Yes	2	%	July	June
0 (No Shortage)	Landscape - Limit landscape irrigation to specific times	Yes	1	%	July	June
0 (No Shortage)	Landscape - Other landscape restriction or prohibition	Yes	1	%	July	June
0 (No Shortage)	Landscape - Restrict or prohibit runoff from landscape irrigation	Yes	1.5	%	July	June
0 (No Shortage)	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Yes	1.5	%	July	June
0 (No Shortage)	Other - Require automatic shut of hoses	Yes	1	%	July	June
0 (No Shortage)	Water Features - Restrict water use for decorative water features, such as fountains	Yes	1	%	July	June
0 (No Shortage)	Other - Prohibit use of potable water for washing hard surfaces	Yes	1	%	July	June
0 (No Shortage)	Decrease Line Flushing	Yes	1.5	%	July	June
0 (No Shortage)	Landscape - Prohibit certain types of landscape irrigation	Yes	1	%	July	June
0 (No Shortage)	Reduce System Water Loss	Yes	1	%	July	June
0 (No Shortage)	CII - Restaurants may only serve water upon request	Yes	1	%	July	June
0 (No Shortage)	CII - Lodging establishment must offer opt out of linen service	Yes	1	%	July	June
0 (No Shortage)	Landscape - Limit landscape irrigation to specific days	Yes	1	%	July	June
0 (No Shortage)	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Yes	1.5	%	July	June
0 (No Shortage)	Improve Customer Billing	Yes	1	%	July	June
0 (No Shortage)	Provide Rebates for Turf Replacement	Yes	1.5	%	July	June
0 (No Shortage)	Other water feature or swimming pool restriction	Yes	1	%	July	June
Notes:						

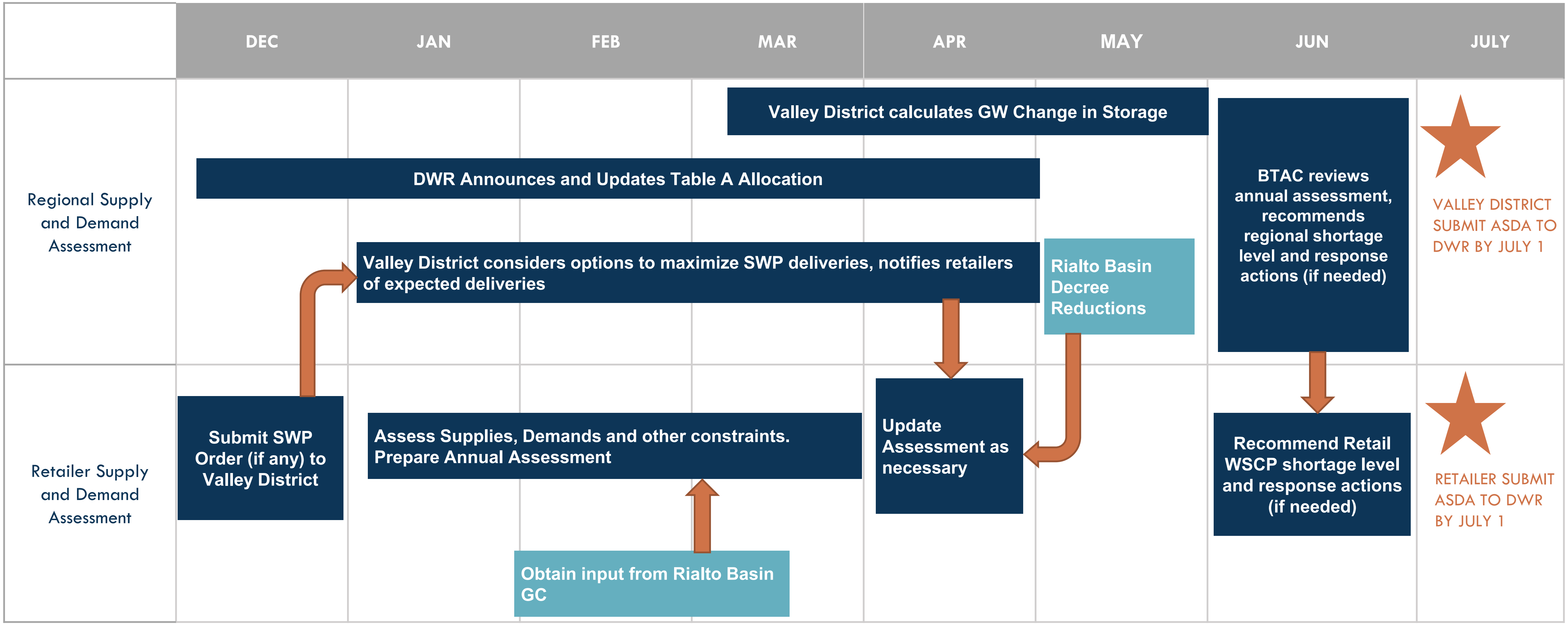
SWRCB Resolution No. 2022-0002

PROHIBITED ACTION	CURRENTLY IN WSCP	STAGE / PERCENT
Limit Runoff: The application of potable water to outdoor landscapes in a manner that causes more than incidental runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures	✓	1 / Permanent Measure
Shut-Off Nozzle: The use of a hose that dispenses water to wash a motor vehicle, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use	✓	1 / Permanent Measure
Impervious Surfaces: The use of potable water for washing sidewalks, driveways, buildings, structures, patios, parking lots, or other hard surfaced areas, except in cases where health and safety are at risk	✓	1 / Permanent Measure
Street Cleaning and Construction Sites: The use of potable water for street cleaning or construction site preparation purposes, unless no other method can be used or as needed to protect the health and safety of the public	Partial: Street Cleaning not Specified	3 / 30%
Decorative Features: The use of potable water for decorative fountains or the filling or topping-off of decorative lakes or ponds, with exceptions for those decorative fountains, lakes, or ponds that use pumps to recirculate water and only require refilling to replace evaporative losses	✓	3 / 30%
48-hour Rain: The application of water to irrigate turf and ornamental landscapes during and within 48 hours after measurable rainfall of at least one fourth of one inch of rain. In determining whether measurable rainfall of at least fourth of one inch of rain occurred in a given area, enforcement may be based on records of the National Weather Service, the closest CIMIS station to the parcel, or any other reliable source of rainfall data available to the entity undertaking enforcement of this subdivision	✓	2 / 20%
Street Medians: The use of potable water for irrigation of ornamental turf on public street medians.	✓	1 / Permanent Measure

Source: Emergency Water Use Regs Wasteful Water Uses Prevention Measures SWRCB Resolution.pdf

AWSDA

Overview



Response Actions

Water Shortage Contingency Plan (WSCP)

Shortage Stages

Response Actions

City Current WSCP Shortage Stages

Stage	% Supply Shortage	Water Supply Condition
1	10	Normal Conditions
2	20	Water Alert Conditions
3	25	Water Warning Conditions
4	30-50+	Water Emergency Conditions

Future WSCP Shortage Stages

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

Existing WSCP Response

Response Actions

Response Actions

Evaluation

- Are response actions granular and flexible enough to respond in an appropriate way?
- Are there any unintended consequences of these actions?
- Which actions are most/least effective?
- Are any actions difficult/impossible for staff to implement/enforce?
- Is there more we should be doing?

Note: Actions in one stage apply in later stages.
*Updated based on input

Response Actions

Irrigation

PERCENT REDUCTION	10%	20%	30%	40%	50%	> 50%
Irrigation of new construction landscape must be consistent with California Buildings Standards Commission	At All Times					
New irrigation services*		~~Essential Construction & Landscape Irrigation System Testing~~	~~Essential Construction & Landscape Irrigation System Testing~~		***No New Irrigation Services****	

PROHIBITED ACTION	CURRENTLY IN WSCP	STAGE / PERCENT
Street Cleaning and Construction Sites: The use of potable water for street cleaning or construction site preparation purposes, unless no other method can be used or as needed to protect the health and safety of the public	Partial: Street Cleaning not Specified	3 / 30%

Note: *Actions in one stage apply in later stages.*
**Updated based on input*

Response Actions

Irrigation

PERCENT REDUCTION	10%	20%	30%	40%	50%	> 50%
Specific Days*		4 Days/Week	***3 Days/Week****	***2 Days/Week****	***1 Day/Week****	***No outdoor watering of any kind****
Specific Times: Automatic Sprinklers	8pm – 6am					
Specific Times: Hand Watering/Non-Automatic Sprinklers*	~~8pm – 6am~~ ***Complete within two hours before or after dawn & dusk****					
No sprinkler use during high winds	At All Times		All Watering Prohibited			

Note: *Actions in one stage apply in later stages.*
**Updated based on input*

Response Actions

Irrigation

PERCENT REDUCTION	10%	20%	30%	40%	50%	> 50%
No irrigation for medians	At All Times					
Irrigation after Measurable Rainfall (48 hours, ¼ inch)*	***Encouraged****	Prohibited				

PROHIBITED ACTION	CURRENTLY IN WSCP	STAGE / PERCENT
Street Medians: The use of potable water for irrigation of ornamental turf on public street medians.	✓	1 / Permanent Measure
48-hour Rain: The application of water to irrigate turf and ornamental landscapes during and within 48 hours after measurable rainfall of at least one fourth of one inch of rain. In determining whether measurable rainfall of at least fourth of one inch of rain occurred in a given area, enforcement may be based on records of the National Weather Service, the closest CIMIS station to the parcel, or any other reliable source of rainfall data available to the entity undertaking enforcement of this subdivision	✓	2 / 20%

Note: Actions in one stage apply in later stages.
**Updated based on input*

Response Actions

CII

PERCENT REDUCTION	10%	20%	30%	40%	50%	> 50%
Serving Water upon Request Only	Encouraged	Required				
Water for Construction Use*			***Permit Only****		***Prohibited****	
Opt out of Laundered Linens*	***Recommended****					
~~Commercial Nurseries: Hand-Held or Drip Irrigation*~~			~~11pm – 6am~~			

Note: Actions in one stage apply in later stages.
**Updated based on input*

Response Actions

Washing

PERCENT REDUCTION	10%	20%	30%	40%	50%	> 50%
Vehicle Washing*	Prohibited unless using a bucket or hose with shut-off nozzle ***or commercial car wash with recirculating water****		~~Commercial car wash with recirculating water~~		***City reserves the right to prohibit all vehicle washing****	
Hard Surface Wash Down	Prohibited					

PROHIBITED ACTION	CURRENTLY IN WSCP	STAGE / PERCENT
Impervious Surfaces: The use of potable water for washing sidewalks, driveways, buildings, structures, patios, parking lots, or other hard surfaced areas, except in cases where health and safety are at risk	✓	1 / Permanent Measure
Shut-Off Nozzle: The use of a hose that dispenses water to wash a motor vehicle, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use	✓	1 / Permanent Measure

Note: Actions in one stage apply in later stages.
**Updated based on input*

Response Actions

Conservation

PERCENT REDUCTION	10%	20%	30%	40%	50%	> 50%
~~Conservation – Base Year Reduction (2013)*~~	~~Encouraged~~	~~Required~~	~~Required~~			
Run-Off	Prohibited					

Incorporate conservation needs into Communication & Outreach efforts

PROHIBITED ACTION	CURRENTLY IN WSCP	STAGE / PERCENT
Limit Runoff: The application of potable water to outdoor landscapes in a manner that causes more than incidental runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures	✓	1 / Permanent Measure

Note: Actions in one stage apply in later stages.
**Updated based on input*

Response Actions

Water Features & Swimming Pools

PERCENT REDUCTION	10%	20%	30%	40%	50%	> 50%
No water to clean, fill, operate, or maintain decorative fountains	At All Times					
Swimming pools, ponds, fountains, water displays, hot tubs, spas, and artificial lakes shall not be filled or refilled*			Mandatory		***Prohibit temporary, above-ground swimming pools****	

PROHIBITED ACTION	CURRENTLY IN WSCP	STAGE / PERCENT
Decorative Features: The use of potable water for decorative fountains or the filling or topping-off of decorative lakes or ponds, with exceptions for those decorative fountains, lakes, or ponds that use pumps to recirculate water and only require refilling to replace evaporative losses	✓	3 / 30%

Leaks

PERCENT REDUCTION	10%	20%	30%	40%	50%	> 50%
Leaks repaired in a timely manner	In Effect	Within 72 Hours				

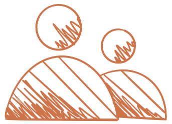
Response Actions Summary

Topic	PERCENT REDUCTION	10%	20%	30%	40%	50%	> 50%
Irrigation	Irrigation of new construction landscape must be consistent with California Buidlings Standard Commission	At All Times					
	New irrigation services					No New Irrigation Services	
	Specific Days		4 Days/Week	3 Days/Week	2 Days/Week	1 Day/Week	No Outdoor Watering of any kind
	Specific Times: Automatic Sprinklers	8pm – 6am					
	Specific Times: Hand Watering/Non-Automatic Sprinklers	Complete within two hours before or after dawn & dusk					
	No sprinkler use during high winds	At All Times		Watering Prohibited			
	No irrigation for medians	At All Times					
	Irrigation after Measurable Rainfall (48 hours, ¼ inch)	Encouraged	Prohibited				
CII	Serving Water upon Request Only	Encouraged	Required				
	Water for construction use			Permit Only		Prohibited	
	Opt out of Laundered Linens	Recommended					
Washing	Vehicle Washing	Prohibited unless using a bucket or hose with shut-off nozzle or commercial car wash with recirculating system					
	Hard Surface Wash Down	Prohibited					
Conservation	Run-Off	Prohibited					
Water Features & Swimming Pools	No water to clean, fill, operate, or maintain decorative fountains	At All Times					
	Swimming pools, ponds, fountains, water displays, hot tubs, spas, and artificial lakes shall not be filled or refilled			Mandatory		Prohibited temporary, above-ground swimming pools	
Leaks	Leaks repaired in a timely manner	In Effect	Within 72 Hours				

Response Actions

Communication & Outreach

ACTIVITY	Description	Effectiveness
Door Hangers	Operations staff (limited) complete	Effective, but not cost efficient
Direct Phone Calls	Out of date contact info within database	Not effective
Bilingual Bill Inserts	Utilized	Somewhat effective
Physical Visit for High Water Users	If no response from phone calls	Somewhat effective; users not always at home
Traffic Signs / Electronic Billboards	Post conservation messaging on electronic signs	Somewhat effective
School / Community Events	School assemblies, community fairs, farmers markets, etc.	Potentially effective, if City staff have a booth
Network TV	TV broadcasting	Somewhat effective?
Social Media	Facebook, other sites?	Somewhat effective?



WS #4 will focus on developing a City Communication & Outreach Plan

Opportunities for Improvement

1. **Communication & Outreach**
   - Improve communication & outreach during water shortages.
2. **Rebates**
   - Encourage use of rebate programs offered by the City (high efficiency toilet, high efficiency washing machine, weather based smart irrigation timers, high efficiency nozzles, automatic shut off nozzles, turf replacement program).
   - Would City ramp up conservation rebate funding in more severe stages to achieve water reductions?
3. **Flexibility**
   - Add language that upon direction of the City Manager/designee, certain actions may be invoked to comply with any executive orders and state mandates.

NEXT STEPS

1. City Communication & Outreach Workshop: November 17th

2. Broader Task Force Workshop: Vulnerability Assessment & Mitigation Actions early 2023

Questions?

WSC

DROUGHT TASK FORCE WS #4 SUMMARY

Rialto Drought Contingency Plan

Agenda

- Workshop Purpose (10 min)
- DCP Elements (5 min)
- Outreach Channels (45 min)
- Response Action Comm. (45 min)
- Next Steps (5 min)

Meeting Purpose

Develop Communication Plan

- Audit existing outward and inward communication
- Connect audience to outreach channels
- Sort external communication methods
- Align Outreach channels to response actions

DCP Elements

Drought Contingency Planning

Most Drought Contingency Plans are structured to address these questions:

- How will we recognize the next drought in the early stages?
- How will drought affect us and how can we respond?
- How can we protect ourselves from the next drought?

Introduction	Drought Monitoring	Vulnerability Assessment	Mitigation Actions	Response Actions	Ops. and Administrative Framework	Plan Update Process
• Purpose, Goals • Approach • Historical Drought • Agency Overview • Supply & Demand	• Drought Indices • Shortage Stages	• Risks and Impacts of Drought on critical resources • Future Conditions • Drive mitigation actions	• Tool to prioritize actions • List of Actions	• Related to Shortage Stages	• Roles • Responsibilities • Resources	• Plan Evaluation • Future Updates
1	2	3	4	5	6	7

Outreach Channels

Rialto Drought Contingency Plan

Response Actions

Communication & Outreach

ACTIVITY	Description	Target Audience	Effectiveness
Door Hangers	Delinquencies and shutoffs, COVID, field service visits, negative communication	Residential, businesses, translated to 6 different languages (disconnections), typical: Eng, Span	Effective, but not cost efficient, 11k+ connections, #1 effective
Direct Phone Calls	Occasional phone calls, numbers can be out of date	Call initiated by customer	Do not usually initiate calls
Bilingual Bill Inserts	Low-income programs, informational	Digital version, print version online	Somewhat effective, limited percentage of people who look at them. Not effective for people with auto payment
Physical Visit for High Water Users	If someone reports a leak, average 2 per day; 2 per day for meter checks	High water users, leaks, residents and businesses	Effective

Response Actions

Communication & Outreach

ACTIVITY	Description	Target Audience	Effectiveness
Traffic Signs / Electronic Billboards	Not yet doing electronic billboards, looking into it		Not used
School / Community Events	City Hall Events, Used to be a STEM program and perhaps a conservation program		Looking into conservation communication & value of water/rates
Network TV	City Channel 3 Spectrum Local Channel, Potentially expand to YouTube, Not yet with water programming		Somewhat effective, Only people with cable
Social Media	No water communication		

Response Actions

Communication & Outreach

ACTIVITY	Description	Target Audience	Effectiveness
Website	RWS site, City (utilities), Determine where the information lives (utilities vs. RWS). RWS is billing; utilities = conservation; link to utilities from RWS	New accounts, pay bills,	
Media	None		
Text Messages	None		
City Council Meetings	Agenda items, UWMP presentations, occasional presentations, water subcommittee = 2 council members – could communicate more with them	Currently still sharing on Zoom, Network TV	Presentations are usually done at the end (ineffective),
Newsletter	Monthly City Manager's Report, emails, comprehensive city	Staff, people who signed up, digital	

Response Actions

Communication & Outreach

ACTIVITY	Description	Target Audience	Effectiveness
Newsletter	Monthly City Manager's Report, emails, comprehensive city	Staff, people who signed up, digital	
Rialto Progress	Recreation, community events, quarterly	Mailed to all households	
Email List	None	Collect it with sign-up, just bill notification	40% have emails
QR Code	Created but unused		

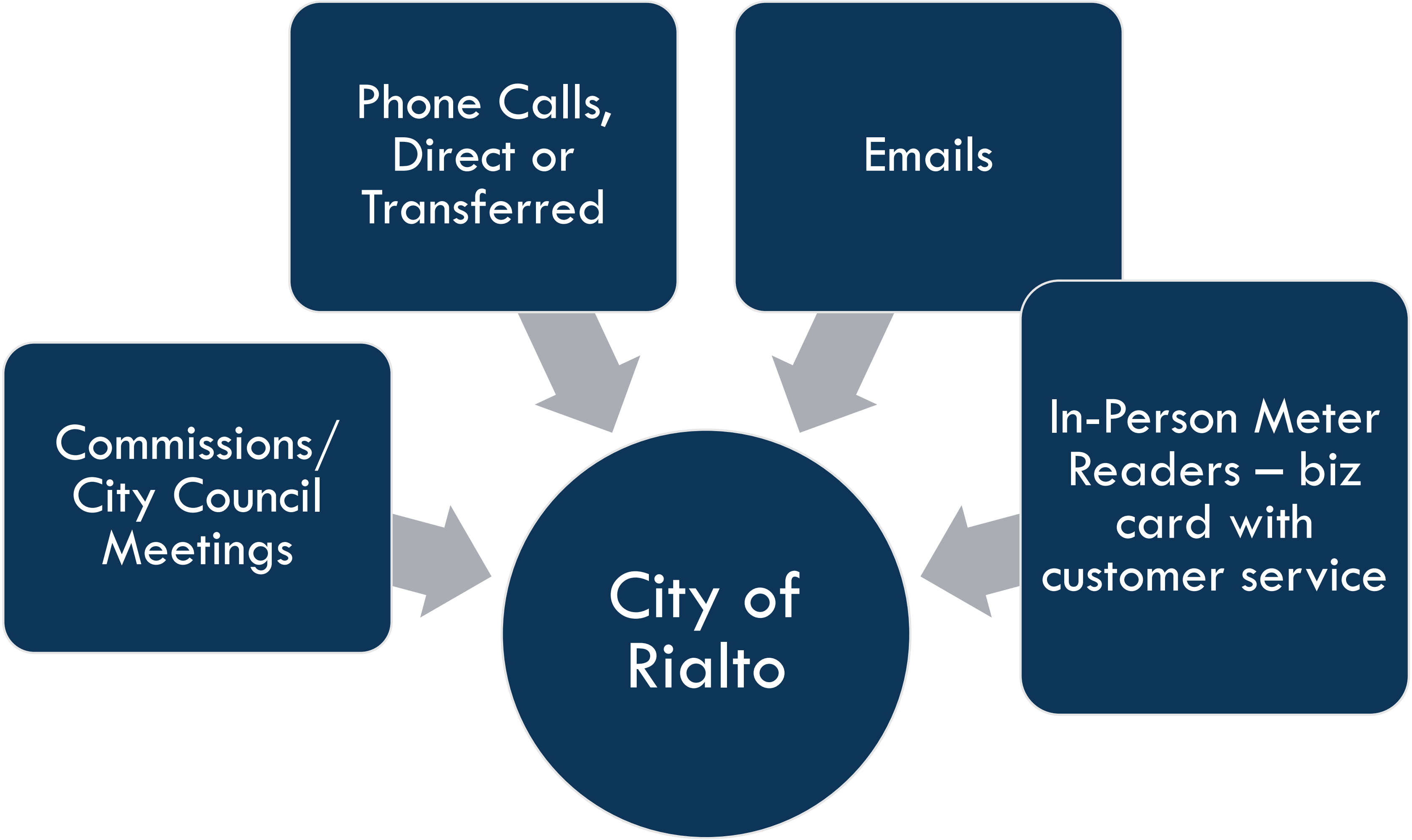
Response Actions

Communication & Outreach

ACTIVITY	Description	Target Audience	Effectiveness
Digital Ads	Social, banners, podcasts, pandora		Not currently using
Print Materials	Nothing yet		
Regional Content (Keep it Up, Step it up)	Formerly had their own program, leverage what is out there to elevate their message,		
West Valley Coordination	Meet with BTAC conservation team, could share information out and coordinate	Each have about half customers	
Survey	Communication preferences (regular intervals)		

Sorting Activity

Existing Communication Channels To the City of Rialto



Response Actions Communication

Rialto Drought Contingency Plan

Response Actions Summary

Topic	PERCENT REDUCTION	10%	20%	30%	40%	50%	> 50%
Irrigation	Irrigation of new construction landscape must be consistent with California Buidlings Standard Commission	At All Times					
	New irrigation services					No New Irrigation Services	
	Specific Days		4 Days/Week	3 Days/Week	2 Days/Week	1 Day/Week	No Outdoor Watering of any kind
	Specific Times: Automatic Sprinklers	8pm – 6am					
	Specific Times: Hand Watering/Non-Automatic Sprinklers	Complete within two hours before or after dawn & dusk					
	No sprinkler use during high winds	At All Times		Watering Prohibited			
	No irrigation for medians	At All Times					
	Irrigation after Measurable Rainfall (48 hours, ¼ inch)	Encouraged	Prohibited				
CII	Serving Water upon Request Only	Encouraged	Required				
	Water for construction use			Permit Only		Prohibited	
	Opt out of Laundered Linens	Recommended					
Washing	Vehicle Washing	Prohibited unless using a bucket or hose with shut-off nozzle or commercial car wash with recirculating system					
	Hard Surface Wash Down	Prohibited					
Conservation	Run-Off	Prohibited					
Water Features & Swimming Pools	No water to clean, fill, operate, or maintain decorative fountains	At All Times					
	Swimming pools, ponds, fountains, water displays, hot tubs, spas, and artificial lakes shall not be filled or refilled			Mandatory		Prohibited temporary, above-ground swimming pools	
Leaks	Leaks repaired in a timely manner	In Effect	Within 72 Hours				

NEXT STEPS

1. Document discussions into a City Communication Plan for review

Questions?

WSC

DROUGHT TASK FORCE WS #5 SUMMARY

Rialto Drought Contingency Plan

WSC

Agenda

- DCP Elements (5 min)
- Workshop Purpose (5 min)
- Regional Overview (5 min)
- Vulnerabilities Discussion (100 min)
- Next Steps (5 min)

DCP Elements

Drought Contingency Planning

Most Drought Contingency Plans are structured to address these questions:

- How will we recognize the next drought in the early stages?
- How will drought affect us and how can we respond?
- How can we protect ourselves from the next drought?

1 Introduction	2 Drought Monitoring	3 Vulnerability Assessment	4 Mitigation Actions	5 Response Actions	6 Ops. and Administrative Framework	7 Plan Update Process
• Purpose, Goals • Approach • Historical Drought • Agency Overview • Supply & Demand	• Drought Indices • Shortage Stages	• Risks and Impacts of Drought on critical resources • Future Conditions • Drive mitigation actions	• Tool to prioritize actions • List of Actions	• Related to Shortage Stages	• Roles • Responsibilities • Resources	• Plan Evaluation • Future Updates

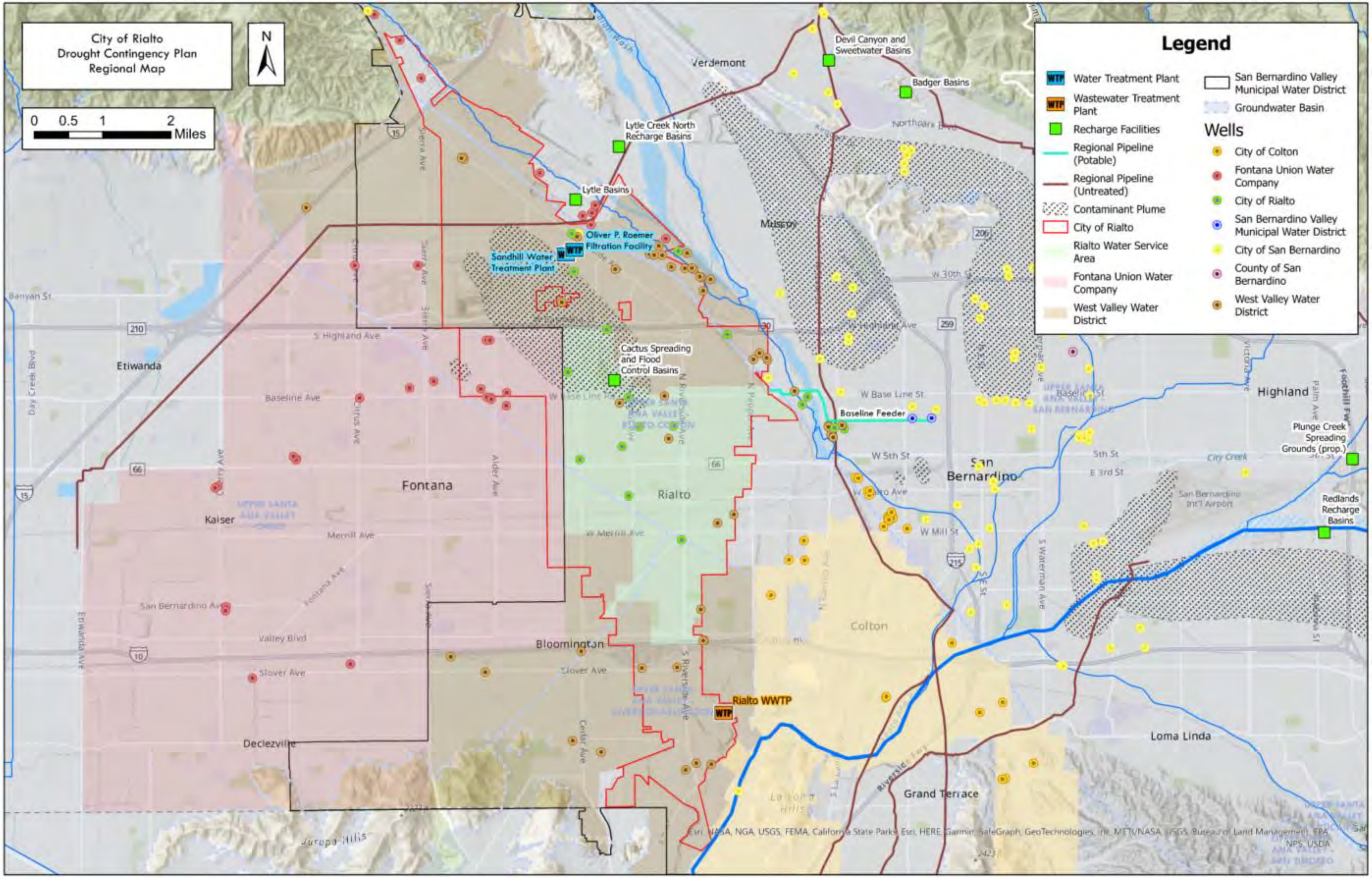
Meeting Purpose

Identify Vulnerabilities to Supply in the Region

- Focus on the risks and impacts on critical resources
- Think about future conditions
- Content developed today will be used to develop mitigation actions (next workshop)

Regional Overview

Rialto Drought Contingency Plan



City of Rialto
Drought Contingency Plan
Regional Map
N
0 0.5 1 2 Miles
Legend
Water Treatment Plant
Wastewater Treatment Plant
Recharge Facilities
Regional Pipeline (Potable)
Regional Pipeline (Untreated)
Contaminant Plume
City of Rialto
Rialto Water Service Area
Fontana Union Water Company
West Valley Water District
San Bernardino Valley Municipal Water District
Groundwater Basin
Wells
City of Colton
Fontana Union Water Company
City of Rialto
San Bernardino Valley Municipal Water District
City of San Bernardino
County of San Bernardino
West Valley Water District
Devil Canyon and Sweetwater Basins
Badger Basins
Lytle Creek North Recharge Basins
Lytle Basins
Oliver P. Roemer Filtration Facility
Sandhill Water Treatment Plant
Cactus Spreading and Flood Control Basins
Baseline Feeder
Plunge Creek Spreading Grounds (prop.)
Redlands Recharge Basins
Rialto WWTP
Verdemont
Muscoy
Etiwanda
Fontana
Kaiser
Rialto
San Bernardino
Highland
Bloomington
Colton
Declezville
Grand Terrace
Loma Linda
Jurupa Hills
San Bernardino Int'l Airport

Vulnerabilities Discussion

Rialto Drought Contingency Plan

What risks could impact supply reliability for individual retailers and the region?

- Climate Change
- Dry Year Supply
- Infrastructure
- Regulatory, Environmental, & Water Rights
- Source Water Quality Degradation
- Other

Climate Change Related Vulnerabilities From 2020 IRUWMP

- Uncertainty around the Sacramento-San Joaquin Bay Delta reduce imported water reliability.
- Existing groundwater capture facilities may not have the capacity or operational ability to capture less frequent, but more intense storm events.
- More frequent drought periods will result in more frequent and intense wildfires. Surface water quality and the ability to capture storm flows will be reduced.
- 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.
- Increased temperatures would result in increased water demand for landscape irrigation.
- Decreased runoff and subsurface flows from the mountain front areas as the result of more frequent and severe droughts reduces natural groundwater recharge

What risks could impact supply reliability for individual retailers and the region?

- Climate Change
- Dry Year Supply
- Infrastructure
- Regulatory, Environmental, & Water Rights
- Source Water Quality Degradation
- Other

What are the

Top 3 Vulnerabilities

that keep you up at night?

NEXT STEPS

1. **Next Workshop: Select Dates**
   - **February 27th or March 6th**
   - **Discuss prioritization of vulnerabilities & brainstorm mitigation actions**

Questions?

Workshop Report Out

Rialto Drought Contingency Plan

Vulnerabilities Discussion

Rialto Drought Contingency Plan

Input

All Sources

- Susceptible to weather
- Power supply constraints, including influences by outside-the-region conditions
  - Oroville & Lake Mead impacts supply state-wide
- Earthquake
  - Well shafts may shift
  - Power supply may be interrupted
  - Drought & seismic event were to occur at the same time = potentially catastrophic
- Financial risks
  - Maintain existing infrastructure and improve resiliency while selling less water to customers

Input

All Sources

- Environmental and permitting work takes a long time
- Financial risk / long term affordability to implement projects needed to maintain the existing level of service
  - Rate structures cannot support large increases
  - Growth has/is occurring, but water use is efficient (large change in population, but small change in demand)
  - Lack of support from elected official to raise rates

<u>Potential Mitigation Action:</u>

- Sustained community response to conservation

Input

Imported Water

- Decreased State Water Project water available and likely continued reductions in availability
  - Places more stress on groundwater sources

Potential Mitigation Action

- Rialto/West Valley Water District agreement for SWP/treatment plant use
  - Opportunity to supplement supply to the City of Colton

Baseline Feeder

- Changes in recharge in the San Bernardino area
- Recharge takes substantial amounts of time before water can be recovered and used

Potential Mitigation Actions

- Active recharge within pressure zones (PUT/TAKE short-term)
- Groundwater basin councils

Input

Rialto-Colton Basin

- Susceptible to weather
  - Rainfall and pumping patterns
  - Minimally influenced by Lytle Basin conditions
- Power supply constraints
- Water quality becomes a limiting factor above adjudicated water levels
  - Perchlorate Plume present
- Limited recharge opportunities (Cactus Basin)

Riverside-Arlington Basin

- Limited well capacities
- Water quality issues (MTBE Contamination plume)

Input

Bunker Hill Basin

- Regulatory management zone extractions are a fixed amount
  - EPA requirement
- Subsidence risk with low water levels
- Habitat & regulatory issues
- Regional dry year strategy = recharge Bunker Hill Basin but limited infrastructure is available for quick use
- Eastern portion of the Basin is less vulnerable to declining water levels

Potential Mitigation Actions

- Recharge areas less susceptible to lower groundwater levels & construct regional mains to distribute water
- Establish a conjunctive use program
- Study to characterize risk in this Basin

Input

Lytle Basin

- Shallow basin, strongly impacted by drought. Water levels drop quickly, and wells have already been lowered.
- Conditions in this Basin impact multiple agencies
- Water quality impacts (naturally-occurring arsenic and other contaminants)
- Stranded assets within this Basin
- Little to no recharge opportunities because land has been fully developed

Lytle Creek

- Susceptible to weather

Top Vulnerabilities Identified During the Workshop

Water Quality
& Emerging Regulations

Aging Infrastructure &
Replacement Needs

Power Availability

Declining Water Levels
& Response Time

Influenced by Reduced
SWP Availability

Supply-Chain Material
Availability

Earthquake

Rate Structure &
Conservation

Supply	Climate Change	Dry Year Supply	Infrastructure	Regulatory & Environmental	Water Quality	Likelihood – Cumulative Effect of Factors	Consequence to Regional Supply Portfolio
Imported Water						High Medium Low	X%
Lytle Creek							
Bunker Hill Basin							
Bunker Hill via Baseline Feeder							
Lytle Basin							
Rialto-Colton Basin							
Riverside-Arlington Basin							

SEE REPORT

WSC

DROUGHT TASK FORCE WS #6 SUMMARY

Rialto Drought Contingency Plan

WSC

Agenda

- Meeting Purpose (3 min)
- Vulnerabilities Discussion Review (20 min)
- Mitigation Actions Discussion (1 hr 15 min)
- Scenarios (20 min)
- Next Steps (2 min)

Meeting Purpose

Identify Mitigation Actions to reduce risk of supply vulnerabilities in the Region

Vulnerabilities Discussion Review

Rialto Drought Contingency Plan

Vulnerability Assessment

- Based on
  - Vulnerability Assessment Workshop 5 Discussion
  - 2020 IRUWMP
  - Other Regional Documents
  - Other Known Issues

Likelihood	
Low	Vulnerability could occur once every 10 years
Moderate	Vulnerability could occur at least 3 times every 10 years
High	Vulnerability could occur at least 5 or more times every 10 years
Impact	
Low	If the vulnerability were to occur, it would **minimally** impact the water supply and/or ability to operate. Agencies could absorb impacts within existing operations.
Moderate	If the vulnerability were to occur, it would **noticeably** impact the water supply and/or ability to operate. Agencies could adapt with existing resources relatively quickly, but it may put a strain on the system.
High	If the vulnerability were to occur, it would **significantly** impact the water supply and/or ability to operate. Adaptation could have a significant cost and/or require substantial time to implement.

Example: See Handout for All Pages

Lytle Basin				
Vulnerability Category	**Qualitative Analysis**	**Likelihood**	**Impact**	**General Opportunities to Mitigate**
Climate Change	Less frequent and more intense storms may result in reduced natural recharge and reduce capture at existing stormwater recharge facilities.	High	Moderate	
	Power supply constraints in-region (PSPS events impact to certain facilities).	High	High	Purchase backup generators and/or battery storage.
	Drought induced water level constraints on hydropower generation impact statewide power supply and could impact local grid reliability, increase the possibility of power interruptions and/or increase power costs.	Low	Moderate	
Extended Drought	Subsidence *More information required to assess likelihood and impact.	Low*	Moderate*	Consider a study to better characterize subsidence.
	Limited opportunities for recharge basins because there is limited land available for purchase.	High	Low	Coordinate efforts with land developers to implement small-scale recharge.
	Low groundwater levels can impact production capacity of existing wells.	Moderate	Moderate	Drill deeper wells and/or reduce pumping.
Infrastructure	Water infrastructure is aging and risks failure if not replaced in a timely manner. *Level of impact depends on agency capacity to continually fund and replace aging infrastructure.	High	Moderate*	
	"The Big One" Earthquake	Low	High	
Administrative, Regulatory, & Environmental	Emerging contaminants and regulations are unknown; could potentially take supplies offline with limited time to adapt supplies to meet new requirements. *Actual impact depends on specific regulations and will vary by agency and supply portfolio but has the potential to substantially impact existing supplies.	Moderate	High*	
Water Quality	Existing wells are impacted by arsenic and MTBE and require treatment. *Impact may be greater for certain agencies and supply portfolio. WVWD is currently impacted by this issue, but other wells in this Basin have not yet exhibited this water quality issue.	High	Moderate*	Implement blending or treatment.

Mitigation Actions Discussion

Rialto Drought Contingency Plan

Mitigation Actions

CIP Input to the DCP

- Planned projects included in participating agency CIPs can be incorporated into the DCP and aligned with vulnerabilities. This may include projects such as:
  - Pipeline replacements
  - New wells
  - Well rehabilitation
  - Treatment
  - Backup power
  - Others
- Please provide a copy of current CIP if desired to be incorporated into the DCP

Lytle Creek Surface Water
Brainstorm Existing & Planned Mitigation Actions

Climate Change	
Extended Drought	
Infrastructure	• Canal unlining in strategic areas
Admin, Reg, & Environ	• Lytle Creek Watershed Assessment & Restoration? (Water Resources Institute) << IRUWMP Project List
Water Quality	

Riverside North Basin
Brainstorm Existing & Planned Mitigation Actions

Climate Change	• Basin Management / coordinate with management of SBB
Extended Drought	• Consider a study to better characterize subsidence. • Riverside North Aquifer Storage & Recovery Project • Drill deeper wells and/or reduce pumping.
Infrastructure	• Drill new wells.
Admin, Reg, & Environ	• Safe-Yield Calculation Update?
Water Quality	• Equip existing wells with treatment systems. • Implement blending or treatment.

Lytle Basin
Brainstorm Existing & Planned Mitigation Actions

Climate Change	• Coordinate efforts with land developers to implement small-scale recharge. • River Ranch Development: install two large basins for recharge; to also be used in dry years. Additional development on northern end (Valley District/City led) •
Extended Drought	• Consider a study to better characterize subsidence. • Drill deeper wells and/or reduce pumping.
Infrastructure	
Admin, Reg, & Environ	
Water Quality	• Implement blending or treatment.

Rialto-Colton Basin
Brainstorm Existing & Planned Mitigation Actions

Climate Change	• Implement the Cactus Basin Recharge Project / construct Cactus Basin Recharge Pipeline.
Extended Drought	• Consider a study to better characterize subsidence. • Continue monitoring efforts. • Drill deeper wells and/or reduce pumping.
Infrastructure	
Admin, Reg, & Environ	• Implement recommendations in the Rialto Groundwater Management Plan (underway). • Ongoing participation in the Rialto Basin Groundwater Council
Water Quality	• Continue to implement the Four Party Implementation Agreement. • Implement blending or treatment. • Install arsenic treatment system at Rialto City Well 3A.

Bunker Hill Basin
Brainstorm Existing & Planned Mitigation Actions

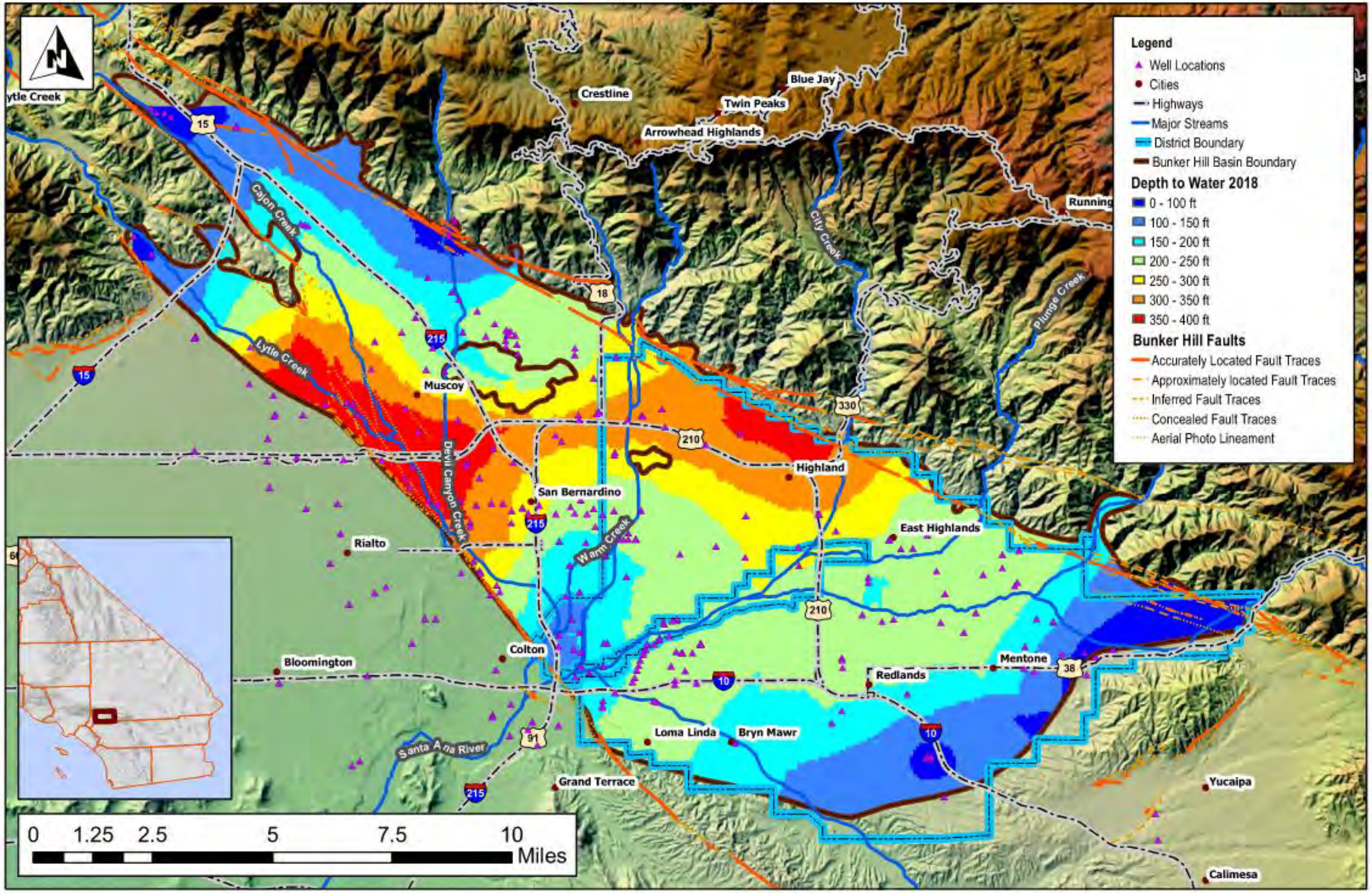
Climate Change	• Active Recharge projects. • Weaver Basin Recharge
Extended Drought	• Bunker Hill Conjunctive Use Project • Consider a study to better characterize subsidence. • Continued regional strategy focused on recharging during wet years for use in dry years. • Drill deeper wells.
Infrastructure	• Additional regional distribution facilities to convey water to agencies located throughout the region (To Be Discussed). • Canal unlining in strategic areas
Admin, Reg, & Environ	• Complete an in-depth study to better characterize opportunities for this Basin (SBB Groundwater Optimization Study). • Continue to implement the Habitat Conservation Plan.
Water Quality	• Implement blending or treatment.

2018 Lowest Total Storage Level

Figure 5: Water Elevation Contour Surface Fall 2018
Engineering Investigation Report 2020

Coordinate System:
NAD 1983 StatePlane California V FIPS 0405 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Source: SBVWCD, CASIL, SBVMWD
GIS Contact: K. Scholte
February 6, 2020

San Bernardino Valley Water Conservation District
Helping Nature Store Our Water



2019 After Wet Winter

Figure 6: Water Elevation Contour Surface Fall 2019
Engineering Investigation Report 2020

Coordinate System:
NAD 1983 StatePlane California V FIPS 0405 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Source: SBVWCD, CASIL, SBVMWD
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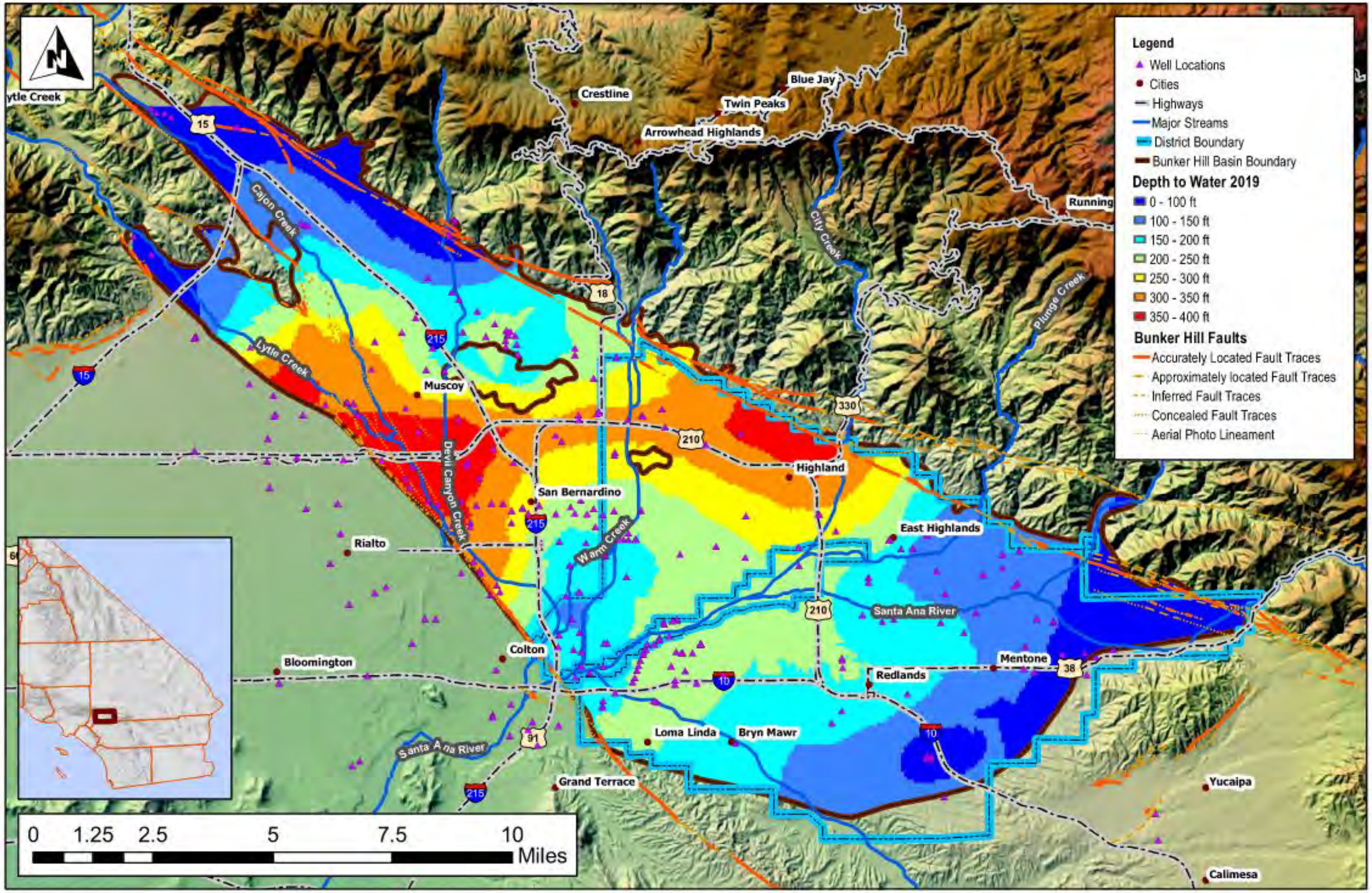


Imported Water
Brainstorm Existing & Planned Mitigation Actions

Climate Change	• Sites Reservoir to add additional dry-year storage. • Implement larger-scale stormwater capture and recharge projects when possible.
Extended Drought	• Rialto/West Valley agreement for West Valley Water Treatment Plant capacity/SWP use; supplemental supply for the City of Colton
Infrastructure	• Central Feeder and EBX Intertie Project • Foothill Pipeline Infrastructure Improvements • Foothill Pipeline Interior Relining
Admin, Reg, & Environ	• Continue to advocate for improved imported water reliability / Delta Conveyance Project
Water Quality	• Delta Conveyance Project will improve water quality once implemented. • Continue to implement the Cooperative Agreement to Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basin

Other (Not Supply Specific)
Brainstorm Existing & Planned Mitigation Actions

Climate Change	• Purchase backup generators and/or battery storage. • Waterman Turnout Hydroelectric Plant
Extended Drought	• Develop and implement regional and local communication plans.
Infrastructure	• Reservoir seismic upgrades. • Distribution pipeline replacement. • Well rehabilitation & replacement. • Construct additional interconnections?
Admin, Reg, & Environ	• Evaluate rate structures. • Seek grant funding for infrastructure projects. • Construct Lake Rialto for habitat and open space benefits (linked to HCP). • Install Automatic Meter Infrastructure and upgrade remaining meters within the City of Rialto.
Water Quality	

Scenarios – Compounding Risks

Rialto Drought Contingency Plan

Top Vulnerabilities Identified During the Vulnerabilities Assessment Workshop

What are the
Top 3
Vulnerabilities
that keep you up at night?

Water Quality
& Emerging Regulations

Aging Infrastructure &
Replacement Needs

Declining Water Levels
& Response Time

Influenced by Reduced
SWP Availability

Supply-Chain Material
Availability

Power Availability

Rate Structure &
Conservation

Earthquake

COMPOUNDING VULNERABILITIES – SCENARIO 1

Scenario	Impact	Mitigation
All agencies experience reduced GW Production Capacity by 20% because of new regulated contaminants *AND* 5% SWP Allocation	• Do you have enough wells (firm capacity) to absorb impacts? • Can you shift to other wells? • Would you need to enact WSCP? • Would the Baseline Feeder supply also be impacted?	• What mitigation project(s) would support you most in this situation?

COMPOUNDING VULNERABILITIES – SCENARIO 2

Scenario	Impact	Mitigation
• Local PSPS recurring events impacting all agencies *AND* • One agency has 2 wells offline due to premature failure and it will take 2 years to restore due to budgeting or supply chain constraints	• How much is each agency impacted by PSPS events? • Is backup generation available and adequate? • Are interconnections available, adequate, and located in strategic locations?	• What mitigation project(s) would support you most in this situation?

NEXT STEPS

1. Workshop summary to be provided.
2. Information to be compiled in a Draft DCP.
3. Draft DCP Review Workshop (Date TBD)

Questions?

WSC

Appendix B City of Rialto Education and Engagement Plan

B

Rialto DCP Education and Engagement Plan

The Education and Engagement Plan aims to effectively engage and inform the community about Rialto's DCP, focusing on the six stages of water shortage and associated drought response actions. The goal is to promote water conservation, raise awareness about the severity of the drought, and guide residents through the necessary measures to mitigate its impact. This plan was developed using the input received during Drought Task Force Workshop #4, which focused on Drought Communication.

1.0 Stage Overview

Rialto's Drought Contingency Plan outlines six stages of drought response, in accordance with its Water Shortage Contingency Plan (WSCP), as shown below. For full details about the drought response actions for each stage, please refer to Section 4 and Appendix E of the DCP.

Shortage Stage	Water Supply Shortage Condition
1	Up to 10%
2	Up to 20%
3	Up to 30%
4	Up to 40%
5	Up to 50%
6	Greater than 50%

Each stage corresponds to a potential water shortage of increasing severity. To resolve or prevent a potential water shortage, Rialto's WSCP defines a suite of response actions that include demand reduction (or water conservation) and/or supply augmentation actions to balance supply and demand.

This Education and Engagement Plan focuses on actions that Rialto can take to educate and engage with its customers, including communication methods that should be utilized at each stage to help customers effectively reduce their water use to the extent needed to prevent a shortage.

2.0 Communication Channels

Through workshops with Rialto representatives and in consultation with the City's existing efforts, the following potential communication channels were identified and incorporated into this plan.

Communication Channel	Effectiveness	Level of Effort	Notes/Needs	Cost of Implementation $ = Least Expensive; $$$ = Most Expensive
Door Hangers	High	High	Time intensive for staff to visit homes. Consider outsourcing delivery.	$$
Direct Phone Calls	Medium	Very High	Higher level of effort up front – updating numbers – with decreasing effort for ongoing management	$
Bilingual Bill Inserts	Low	Medium	Less effective for people who auto pay their bills.	$$
Physical Visits	High	High	Labor intensive but one of the most effective measures.	$$$
Traffic Signs	Low	Medium	Not currently using but should explore utilizing existing road signage for messaging use. Utilize during construction.	$
Electronic Billboards	Medium	High	Expensive but great coverage. Utilize to drive viewers to the website or push actions at higher stages.	$$$
School & Community Events	Medium	High	Branded water bottles and other educational materials with link to website for more information to drive customer awareness and follow through. Effectiveness dependent on attendance and venue.	$$$

Communication Channel	Effectiveness	Level of Effort	Notes/Needs	Cost of Implementation $ = Least Expensive; $$$ = Most Expensive
Rialto Network Television	Low	Medium	City Channel 3 (Spectrum). Cross-post content to YouTube for broader reach.	$
Rialto Network YouTube	Low	Low	Use for reposting, consider creating unique content. Effectiveness based on content and	$
Social Media	Low	Medium	City and Rialto Network. Reach diverse audiences. For demographics, visit the recent Sprout Social report.	$$
Website	Medium	Medium	QR Code to use on collateral to direct traffic to website. Routinely update so information is current.	$
Media Outreach	Medium	Medium	Not currently using. Building media relationships can be a key avenue for information sharing.	$$
City Council Meetings	Low	High	Explore moving the presentations to earlier in the meeting when attendees are most engaged.	$
Water Services e-Newsletters	Medium	Medium	Recommend a campaign to push up subscribers. Good avenue for employee communication. Post-AMI	$
Rialto Progress Mailer	Low	Low	Mailed to all households (effective) but information can be easily missed (ineffective). Recommend adding a way to track effectiveness – QR code, unique link, etc. 3x year Rialto Progress newsletter (mailed).	$

Communication Channel	Effectiveness	Level of Effort	Notes/Needs	Cost of Implementation $ = Least Expensive; $$$ = Most Expensive
Text Messages	Medium	High	Higher level of effort up front – updating numbers – with decreasing effort for ongoing management. Include action items and a link to the website. Recommend exploring feasibility after AMI update.	$$
Town Hall Meetings	High	High	Allows for two-way communication. High level of staff time. Recommend translation services to provide bilingual presentations.	$$$
Virtual Webinars	High	High	Allows for two-way communication. High level of staff time. Recommend translation services. Can be more accessible than in-person and recording can be saved.	$$$
Educational Workshops	High	High	Use to demonstrate actionable items. High level of staff time. Recommend translation services.	$$$
Digital Ads	Medium	Low	Social, banners, podcasts, pandora, etc. Not currently using. Effective at driving traffic to the website.	$$
Regional Collaboration & Communication	Medium	High	Utilize to drive themes and leverage complimentary work.	$

In addition to outgoing communication channels, the City of Rialto also receives customer and community feedback via:

- Commissions and City Council Meetings
- Emails

- Phone Calls
- In-Person (especially via meter readers and customer service representatives)

Regular community surveys are keys tools for measuring the effectiveness of communication, outreach, and marketing efforts. Surveys should be conducted at least once per year and campaigns should be adjusted based on the results.

3.0 Tiered-Message Approach

In addition to the expansion of communication channels at each stage, the messaging will also increase in urgency as the potential water shortage increases. Below is an example of the tiered-message approach with an overall sentiment statement and specific recommendations for content. These messages should be adapted to align with Rialto's tone, brand, and specific circumstances.

Stage 1 (10% Reduction):

“Incorporating water-saving efforts into our daily lives is paramount for the Rialto community. Together, small, daily actions form a powerful foundation for ensuring a sustainable and abundant water future.”

Stage 2 (20% Reduction):

"ALERT: Stage 2 is here. The drought is deepening and we need your help. A 20% reduction in water use is now necessary. Be mindful of every faucet turned on and every sprinkler in use. Our water reserves are precious—let's save them together! Act now for a sustainable tomorrow."

Stage 3 (30% Reduction):

"URGENT: Stage 3 calls for immediate action. The drought's grip tightens. We face a 30% reduction in water use. Challenge yourself and your community to embrace water-smart habits. Every effort you make contributes to safeguarding our water supply. Conserve today for a resilient future."

Stage 4 (40% Reduction):

"CRITICAL: Stage 4 demands a 40% reduction in water use. The situation is severe. Every drop is vital. Reevaluate your water consumption at home and work. We must all step up our conservation efforts to navigate through these challenging times. Together, we can make a difference."

Stage 5 (50% Reduction):

"EMERGENCY: Stage 5 is upon us. A 50% water use reduction is our only option. This is a critical juncture. We implore every member of the community to make sacrifices for the greater good. Extreme conservation measures are required now. Act decisively to secure our water future."

Stage 6 (>50% Reduction):

"CRISIS MODE: Stage 6 demands more than a 50% reduction in water use. This is an unprecedented crisis, and our water resources are at their limits. Every action counts. We face difficult choices. Implement drastic conservation measures now. Our community's resilience depends on your commitment."

4.0 Educational Materials

Creating effective educational materials is crucial for conveying key information about the Drought Contingency Plan and promoting water-saving tips.

These recommendations should be adapted based on the unique characteristics and needs of Rialto's community. Regularly update educational materials to align with the current stage of the Drought Contingency Plan.

General Recommendations:

- **Clear and Concise Messaging**
    - Ensure that a diverse audience easily understands the content.
    - Use clear language and avoid jargon.
- **Engaging Visuals:**
    - Incorporate appealing visuals, such as images, charts, and icons, to make the materials visually attractive.
    - Use color strategically to highlight important information.
- **Consistent Branding**
    - Maintain consistent branding elements across all materials to reinforce recognition.

- Use the official Rialto Water Services (or the City) logo and color scheme.

- **Multilingual Content**
    - Translate materials into Spanish to enhance accessibility. Utilize community input and census data to identify other populations that may require translated materials.
    - Include pictorial representations for universal understanding.

5.0 Community Engagement Program

Conducting community workshops and meetings are an effective way to engage residents and businesses in understanding and implementing water conservation measures outlined in the Drought Contingency Plan.

By tailoring workshops and meetings to the specific needs and challenges of each stage, Rialto can maintain a consistent and effective presence in the community, fostering a sense of shared responsibility and commitment to water conservation.

Key Elements for Each Workshop/Meeting:

- **Regular Schedule**
  - Plan a regular schedule for community workshops and meetings, ensuring consistent engagement throughout the stages of the Drought Contingency Plan.
  - As the stages increase, the number of events should also increase.
- **Venue Selection**
  - Choose easily accessible and central venues to maximize attendance. Consider virtual options for flexibility and broader participation.
- **Diverse Formats**
  - Mix formats to cater to different preferences, including traditional town hall meetings, virtual webinars, and interactive workshops.
- **Multilingual Approach**
  - Provide materials and translators to ensure accessibility for diverse language groups within the community.
- **Collaboration with Stakeholders**
  - Collaborate with local schools, businesses, and community organizations to increase attendance and outreach.
- **Q&A Sessions**
  - Allocate dedicated time for questions and answers.
  - Provide knowledgeable experts to address concerns.
- **Interactive Sessions**
  - Include interactive activities to make the workshops engaging.
  - Work with community members to share their experiences.

- **Visual Aids**
  - Use visuals, charts, and graphics to simplify complex information.
  - Demonstrate the impact of water reduction visually.
- **Takeaway Materials**
  - Distribute branded promotional items, pamphlets, brochures, and guides with water-saving tips.
  - Share digital resources for ongoing reference.
- **Feedback Mechanisms**
  - Establish feedback channels for continuous improvement.
  - Encourage participants to share their thoughts and suggestions.

Example Outreach Formats:

1. **Educational Workshops and Training Sessions**
   - Objective: Enhance community members' understanding of water conservation methods and encourage practical implementation.
   - Implementation: Conduct hands-on workshops on water-efficient gardening, home water audits, and leak detection.
   - Collaborate with local experts to facilitate training sessions on water-saving technologies.
2. **Water Conservation Challenges and Competitions**
   - Objective: Instill a sense of friendly competition and community pride in water-saving achievements.
   - Implementation: Organize water reduction challenges for neighborhoods or schools.
   - Recognize and reward the most significant water-saving efforts with community-wide celebrations.
3. **Community Events**
   - Objective: Increase awareness and understanding of the Drought Contingency Plan's stages and the community's role in water conservation.
   - Implementation: Host town hall meetings or webinars to discuss the current stage and provide updates.
   - Participate in community fairs or expos (tabling events) with booths dedicated to water-saving practices and information.
4. **Local Business Partnerships:**
   - Objective: Engage businesses to champion water conservation and disseminate information to a broader audience.
   - Implementation: Collaborate with local businesses to display water-saving tips in-store and on websites.

- Encourage businesses to participate in water reduction campaigns and recognize their efforts publicly.

5. **School Programs**
   - Objective: Educate students on the importance of water conservation and empower them to be ambassadors within their families.
   - Implementation: Integrate water conservation curriculum into schools.
   - Facilitate poster contests or projects focusing on water conservation themes.
6. **Social Media Campaigns**
   - Objective: Leverage social media platforms to reach a wide audience and create a sense of community around water conservation.
   - Implementation: Develop engaging content, including videos, infographics, and challenges.
   - Encourage community members to share their water-saving practices on social media.
7. **Neighborhood Ambassadors Program**
   - Objective: Empower community members to act as ambassadors, disseminating information and encouraging water conservation practices.
   - Implementation: Recruit volunteers to distribute educational materials within neighborhoods.
   - Provide training for ambassadors on effective communication and community outreach.
8. **Mobile Educational Units**
   - Objective: Bring educational resources directly to different neighborhoods within the community.
   - Implementation: Set up mobile units equipped with educational materials, interactive displays, and knowledgeable staff.
   - Rotate these units to cover various areas of the community.
9. **Community Surveys and Feedback Sessions**
   - Objective: Understand community perceptions, concerns, and suggestions related to water conservation efforts.
   - Implementation: Conduct regular surveys to gauge community awareness.
   - Host feedback sessions to address concerns and gather suggestions for improvement.
10. **Recognition Programs**
    - Objective: Acknowledge and celebrate outstanding community and individual efforts in water conservation.
    - Implementation: Establish recognition programs for water-conscious businesses, schools, and individuals.
    - Publicly acknowledge and highlight success stories through various channels.

6.0 Responsive Feedback Options

Developing a responsive feedback mechanism is essential for maintaining open communication with the community during the implementation of the Drought Contingency Plan. Implementing these recommendations will contribute to the establishment of a robust and responsive feedback mechanism that supports transparency, trust-building, and ongoing community engagement.

1. **Dedicated Hotline or Online Portal**
   - Establish a dedicated hotline with trained staff to promptly address queries and concerns.
   - Utilize the AskRUA email to correspond with the community.
   - Create an accessible online portal where community members can submit questions, concerns, and suggestions.
   - Offer an option for community members to provide feedback anonymously to encourage candid responses.
2. **Clear Communication Guidelines**
   - To collect necessary details, develop guidelines for community members to effectively structure their feedback.
   - Include prompts or templates for common queries to streamline responses.
3. **Prompt Response Commitment**
   - Establish a commitment to respond to inquiries within a specific timeframe (e.g., 24-48 hours).
   - Communicate this commitment clearly to manage expectations and build trust.
4. **Feedback Collection Surveys**
   - Regularly conduct surveys on the effectiveness of the education and outreach initiatives.
   - Use surveys to gauge community satisfaction, identify areas for improvement, and understand the community's needs.
5. **Community Forums and Q&A Sessions**
   - Host regular community forums or virtual Q&A sessions to address common concerns and questions.
   - Use these sessions to provide updates on the current stage of the Drought Contingency Plan.
6. **Integration with Social Media**
   - Monitor social media channels for community feedback and inquiries.
   - Establish a protocol for responding to comments, direct messages, and mentions related to the Drought Contingency Plan.

7. **Educational Materials**
   - Include information about the feedback mechanism in all educational materials.
   - Clearly communicate how community members can provide feedback and what to expect in terms of responses.
   - Utilize water bottles and other educational materials to drive traffic to the website.
8. **Feedback Analysis and Reporting**
   - Implement a system for tracking and analyzing feedback data.
   - Generate regular reports summarizing common themes, concerns, and suggestions for internal review and improvement.
   - Share periodic reports summarizing the feedback received and the actions taken in response.
   - Demonstrate transparency and accountability by keeping the community informed about the impact of their feedback.
9. **Continuous Improvement Loop**
   - Establish a continuous improvement loop based on the feedback received.
   - Use community input to refine and enhance the Education and Outreach Plan over time.

7.0 Strategic Partnerships

Building strong partnerships with stakeholders will not only amplify the reach of the Education and Outreach Plan but also foster a sense of shared responsibility in the community. It is crucial to maintain open communication, mutual support, and a collective commitment to water conservation goals.

Below are recommendations for forging and leveraging these partnerships:

1. **Community Leaders**
   - Cultivate relationships with local community leaders, neighborhood associations, and influencers.
   - Seek their support in promoting water conservation messages and organizing community events.
2. **Schools and Educational Institutions**
   - Collaborate with schools to integrate water conservation education into the curriculum.
   - Organize workshops, competitions, and events to engage students, who can, in turn, influence their families.
3. **Local Businesses**
   - Engage local businesses as partners in water conservation initiatives.
   - Encourage businesses to adopt water-saving practices and promote water conservation within their establishments.

4. **Chambers of Commerce and Business Associations**
    - Partner with local chambers of commerce and business associations to disseminate information to a broader business community.
    - Explore opportunities for joint events and initiatives.
5. **Nonprofit Organizations**
    - Collaborate with environmental and community-focused nonprofit organizations.
    - Leverage their networks and resources to enhance the reach of the education and outreach efforts.
6. **Faith-Based Organizations**
    - Build partnerships with local churches, mosques, temples, and other faith-based organizations.
    - Utilize religious leaders as advocates for water conservation within their congregations.
7. **Media Outlets**
    - Partner with local newspapers, radio stations, and television channels to amplify messaging.
    - Provide regular updates and expert interviews on water conservation topics.
8. **Government Agencies**
    - Collaborate with relevant government agencies to align messaging and outreach efforts.
    - Ensure consistency in communication across various levels of government.

Tip: Encourage Participation

- Provide incentives for stakeholders to actively participate in water conservation initiatives.
- Recognize and publicly acknowledge their contributions.

The success of the Rialto Water Services Drought Contingency Plan depends on the collective commitment and active participation of community members. As Rialto navigates through the six stages of drought mitigation efforts, the Education and Outreach Plan serves as a crucial guide.

Through engaging workshops, collaborative partnerships, and an open feedback mechanism, Rialto should strive to ensure everyone is informed, empowered, and actively contributing to our shared goal of water resilience. Together, the City and its community can make a lasting impact, safeguarding precious water resources for the well-being of current and future generations in Rialto.

Appendix C Regional Supply Description

Excerpt from the 2020 IRUWMP

C

The following pages are an excerpt from the 2020 Integrated Regional Urban Water Management Plan (2020 IRUWMP).

The entire 2020 IRUWMP can be viewed at: https://www.yourrialto.com/DocumentCenter/View/1601/2020-Upper-Santa-Ana-River-Watershed-Integrated-Regional-Urban-Water-Management-Plan

3

PART 1: REGIONAL CONTEXT

Regional Water Sources and Management

This chapter describes the current and planned water resources available within the region for the 25-year period covered by the Plan. Management of the various water sources is also described, including legal judgements and regional management groups.

The Upper SAR watershed is an area with unique hydrological characteristics and complex water management issues. This Region was selected for IRWM planning in large part because of the following factors:

- Rapid population growth in the area and the potential for continued rapid growth in the future.
- Significant institutional issues, hydrological characteristics, and court judgments that separate the Upper SAR watershed from the downstream portion of the watershed at the Riverside Narrows just upstream from Prado Dam. The Orange County Water District v. City of Chino, et al., Case No. 117628 (Orange County Judgment) and the Western Municipal Water District of Riverside County v. East San Bernardino County Water District, Case No. 78426 (Western Judgment), have significant influence on water management of the Upper SAR and dictate, to some degree, how water resources should be managed in the Upper SAR watershed.

IN THIS SECTION

- The Upper SAR watershed is an area with unique physical characteristics. The Upper SAR has widely variable hydrology and challenging water management issues, including the desire to optimize the use of local water supplies. The agencies in the Region coordinate and collectively manage the groundwater spreading and pumping, and work together on this cooperative, integrated plan which gives them the opportunity to regularly evaluate their needs and their management strategies.
- The region has significant groundwater basin storage.

3.1 Surface Hydrology

Surface hydrology of the Region is comprised of the SAR and its tributaries as shown in **Figure 3-1.** A number of surface reservoirs in the Region are operated primarily for agricultural and urban water use but are also regulated for instream flows and recharge of groundwater basins.

3.1.1 SAR Reaches

The IRWM Region is within the boundaries of the Santa Ana Regional Water Quality Control Board (SARWQCB). The SARWQCB has divided the mainstem of the SAR into six reaches. Reaches 1 through 6 have reach numbers beginning at the Pacific Ocean and increasing upstream. Reaches 3 through 6 are located in the Upper SAR watershed. These reaches are described in more detail below, from upstream to downstream.

Reach 6 (River Mile (RM) 70.93 and Above)

This reach includes the river upstream of Seven Oaks Dam where flows consist largely of snowmelt and storm runoff and water tends to be of excellent quality (SARWQCB 1995).

Reach 5 (RM 70.93 to RM 57.68)

This reach extends from Seven Oaks Dam to the Bunker Hill Dike (San Jacinto fault), which marks the downstream edge of the Bunker Hill Subbasin. This reach tends to be dry except during storm flows. The lower end of this reach sometimes has rising groundwater and includes the San Timoteo Creek, which flows on an intermittent basis (SARWQCB 1995).

Reach 4 (RM 57.68 to RM 49.00)

This reach includes the SAR from Bunker Hill Dike downstream to Mission Boulevard Bridge in Riverside. The bridge is the upstream limit of rising groundwater resulting from the constriction at Riverside Narrows. Until about 1985, most water in the reach percolated to the local groundwater leaving the lower part of the reach dry. However, flows in the lower end of this reach may now intermittently contain rising groundwater, RIX, and Rialto discharge, and flows from San Timoteo Creek.

Reach 3 (RM 49.00 to RM 30.50)

This reach includes the SAR from Mission Boulevard Bridge in Riverside to Prado Dam. At the Riverside Narrows, rising groundwater feeds several small tributaries including Sunnyslope Channel, Tequesquite Arroyo, and Anza Park Drain (SARWQCB 1995).

Reach 3 of the Santa Ana River
Photo Credit: San Bernardino Valley Municipal Water District

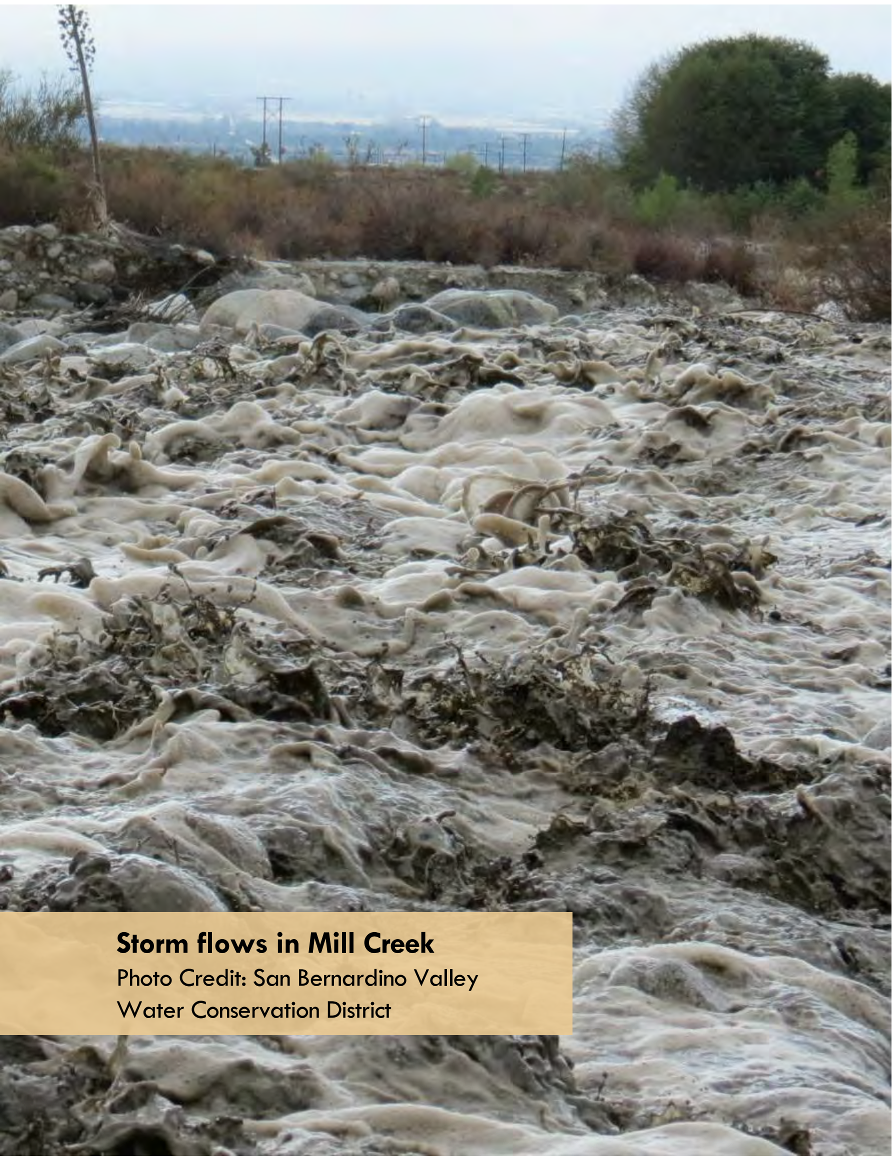
3.1.2 Natural Runoff

Runoff records provide information on the characteristics of flow in the SAR and its tributaries. Such records are available for a number of stream gaging stations located on the mainstem of the SAR and throughout the SAR watershed. The SAR runoff records demonstrate the highly variable nature of river flow, with large floods and long periods of extremely low flow. Three gaging stations provide streamflow data for the USARW. Mentone Gage (USGS record 11051500) is representative of SAR flow near Seven Oaks Dam. There are two other USGS gaging stations located downstream of Seven Oaks Dam, but within the USARW basin—the “E” Street Gage (USGS Gage 11059300) located in the City of San Bernardino at river mile (RM) 57.69 and the Metropolitan Water District Crossing Gage (Metropolitan Crossing) (USGS Gage 11066460) located at RM 45.7 near Riverside Narrows. **Table 3-1** provides the annual median, maximum, and minimum streamflow recorded at the Mentone, “E” Street, and Metropolitan Crossing gages (see **Figure 2-1** for gage locations).

Table 3-1 : Upper SAR Median, Maximum, and Minimum Annual Flow (in AF)

GAGE	MEDIAN ANNUAL FLOW	MAXIMUM ANNUAL FLOW	MINIMUM ANNUAL FLOW
Mentone[a]	8,977	204,812	9
"E" Street[b]	21,202	316,302	567
Metropolitan Crossing[c]	77,166	355,468	21,000

Source: USGS gage data.
[a] USGS Gage 11051500. Period of record is WY 1899-1900 through WY 2019-20.
[b] USGS Gage 11059300. Period of record is WY 1938-39 through WY 1945-46, WY 1947-48 through 1953-54, WY 1966-67 through WY 2019-20.
[c] USGS Gage 11066460. Period of record is WY 1969-70 through WY 2018-19.



Storm flows in Mill Creek
Photo Credit: San Bernardino Valley Water Conservation District

As exhibited in **Table 3-1**, flow in the SAR is highly variable from year to year. Flow in the SAR increases downstream due to inflows from tributaries, rising water[1], and treated water from wastewater treatment plants (WWTPs). SAR flows at the "E" Street Gage include flows from Mill Creek and San Timoteo Creek, but not from Lytle and Warm Creeks, which enter the SAR below the "E" Street Gage. SAR flows at the Metropolitan Crossing include inflows from Lytle and Warm Creeks, two large public WWTPs, and rising water.

Flows in excess of about 70,000 AFY have a frequency of occurrence of only 13% at the River Only Mentone Gage, whereas this same flow has a frequency of occurrence of 62% at the Metropolitan Crossing Gage. Additionally, in the upstream areas, minimum annual stream flows are generally much smaller than minimum annual flows in the downstream areas.

[1] Rising water is used to describe noticeable increases in streamflow in reaches where a subsurface restriction forces groundwater to the surface.

The largest monthly flows typically occurred in February and March, and the lowest monthly flows typically occurred between August and October. Although streamflow increases downstream, the timing of flows (i.e., when the monthly maximums and minimums occur) is similar to the timing of flows observed at the Mentone Gage.

There are numerous tributaries that contribute flow to the mainstem of the SAR in the Region, including Mill Creek, City Creek, Plunge Creek (a tributary of City Creek), Mission Zanja Creek (located upstream of San Timoteo Creek), San Timoteo Creek, East Twin Creek, Warm Creek, and Lytle Creek (Figure 3-1). The flow (under 100-year flood conditions[2]) contributed by each of these tributaries is provided in **Table 3-2**. As a reference, during a 100-year flood event, Seven Oaks Dam would release up to 5,000 cfs (USACE 1988).

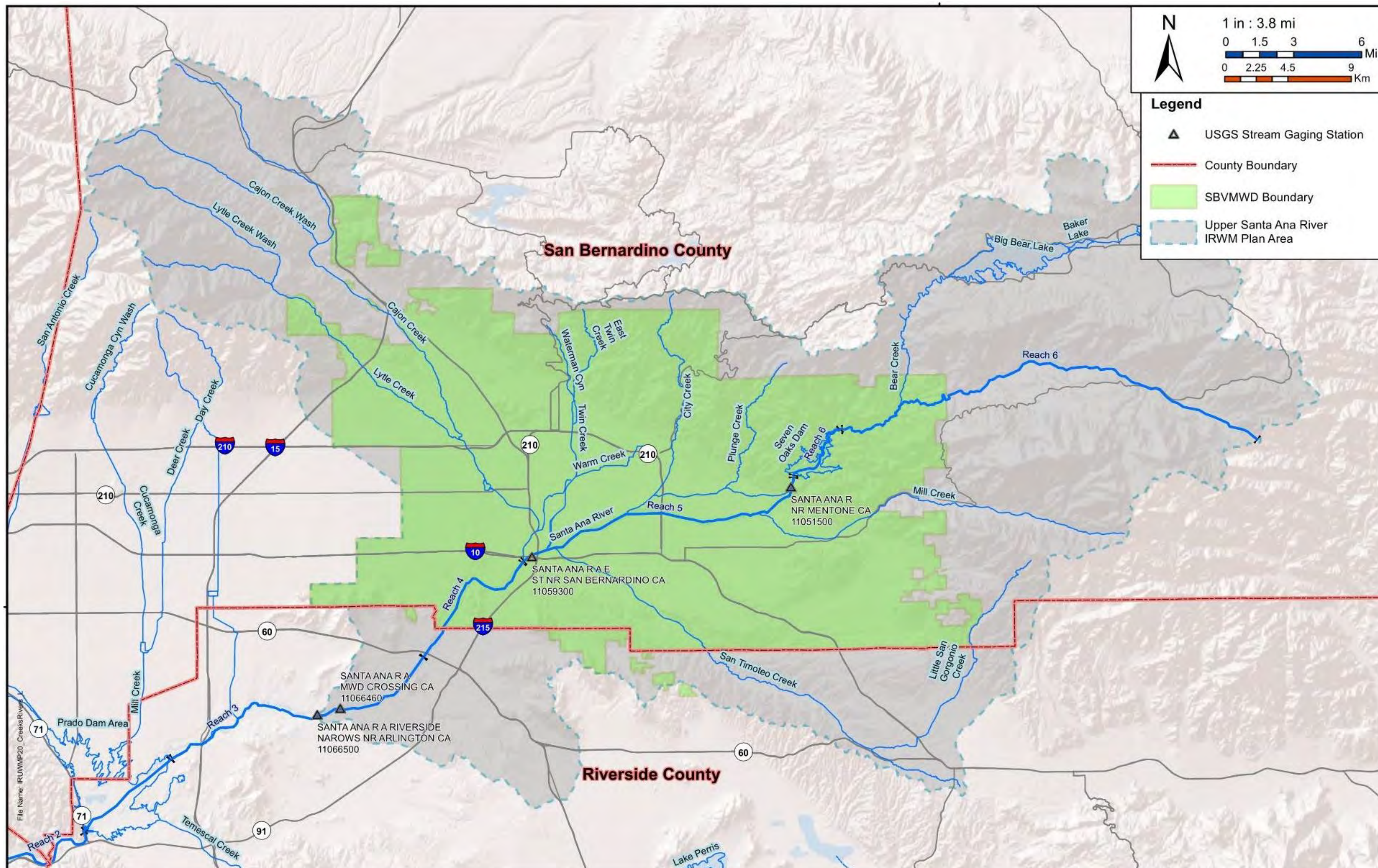
Table 3-2 : Tributary Flow Contribution to the SAR (100-Year Flood Event Discharge in cfs)

TRIBUTARY	INFLOW	RIVER MILE
Mill Creek	23,000	68.67
City Creek & Plunge Creek (Combined)	16,460	62.87
Mission Zanja Creek	6,100	59.08
San Timoteo Creek	19,500	58.44
East Twin Creek	18,000	58.14
Lytle Creek & Warm Creek (Combined)	70,000	56.74

Source: USACE 2000 and SBCFCD 2013

2 A flood as defined under the Standard Flood Insurance Policy is a general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waters or from the unusual and rapid accumulation of runoff of surface waters from any source. A 100-year flood refers to a flood level with a 1 in 100 percent chance of being equaled or exceeded in any given year.

Figure 3-1. Creeks and Rivers in the Region



3.2 Imported Water

Imported water from the California State Water Project (SWP), is available to the Region for the East Branch through the Region's State Water Contractors: Valley District, San Gorgonio Pass Water Agency, and Metropolitan Water District of Southern California (Metropolitan).

Valley District is the fifth (5th) largest State Water Contractor, with an annual entitlement of 102,600 AF. Valley District takes delivery of SWP water at the Devil Canyon Afterbay. From this location, Valley District can deliver water to the west via the San Gabriel Valley Municipal Water District Pipeline (Valley District owns capacity in this pipeline) or to the east to San Gorgonio Pass Water Agency through the East Branch Extension of the SWP.

San Gorgonio Pass Water Agency is downstream of Valley District on the East Branch of the California Aqueduct. See the San Gorgonio Pass Water Agency 2020 UWMP for more information. Valley District and the SGPWA coordinate work as they both share capacity along the East Branch Extension. Two retail water districts included in this plan (YVWD and SMWC) are co-located in the within the Valley District and SGPWA service areas. In addition to operating some mutually used facilities, the Valley District and SGPWA have an agreement in place to share excess imported supplies when available, which is included in **Part 3 Appendix B**.

Metropolitan provides SWP water to portions of the Region through their member agencies, Western and Inland Empire Utilities Agency (IEUA). Western does not currently deliver imported water to its retail agencies within the Region but may in the future. FWC and WVWD are co-located within both the Valley District and IEUA service areas and FWC uses imported water from both IEUA and Valley District.

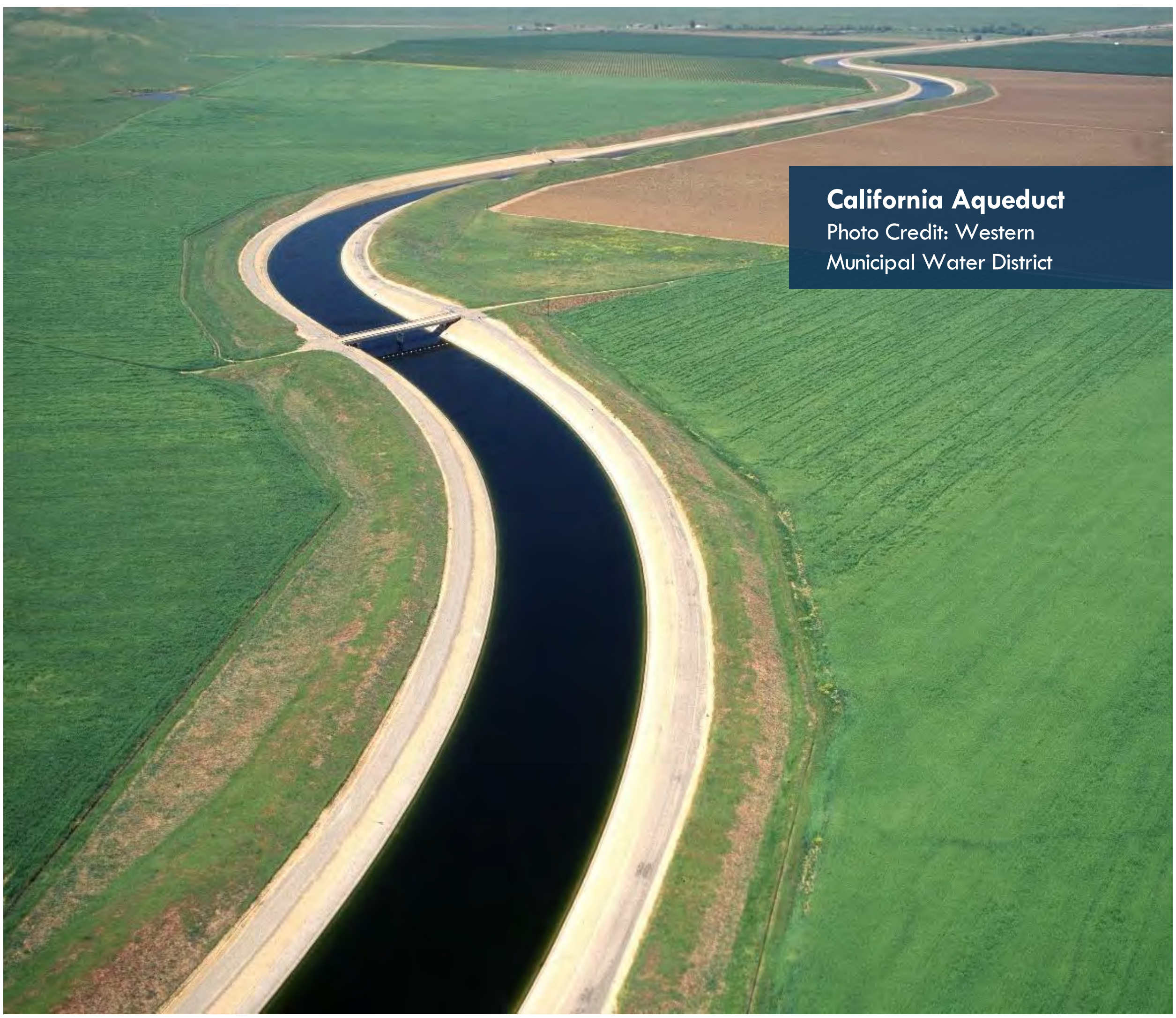
In 2021, Valley District entered into a new Coordinated Operating Agreement (COA) with Metropolitan that would sell them most of Valley District's surplus imported water; this COA replaced the previous version that expired in 2016. One of the terms of the COA requires Metropolitan to offer 50% of any surplus water purchased under this agreement to their member agencies in the SARCCUP Program. The COA is included in **Part 3 Appendix B**. Metropolitan and its member agencies that are part of the SARCCUP have also developed a companion agreement that describes how SARCCUP will function within Metropolitan's existing policies.

3.2.1 SWP Overview

Imported water is available to the Region from the California State Water Project (SWP), which is the largest state-built, multi-purpose water project in the country; it is paid for by the 29 State Water Contractors, including Valley District, SGPWA and MWDSC and operated and maintained by DWR. It was authorized by the California State Legislature in 1959, with the construction of most initial facilities completed by 1973. The SWP is a water storage and delivery system of reservoirs, aqueducts, power plants and pumping plants. Its main purpose is to capture and store water at Lake Oroville and distribute it to the 29 State Water Contractors in

Northern California, the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California. Of the contracted water supply, approximately 70 percent goes to urban users and 30 percent goes to agricultural users. The SWP makes deliveries to two-thirds of California's population. The SWP is also operated to improve water quality in the Sacramento-San Joaquin Delta, control Feather River flood waters, provide recreation, and enhance fish and wildlife.

The SWP includes 34 storage facilities, reservoirs, and lakes, 20 pumping plants, four pumping-generating plants, five hydro-electric plants, and approximately 701 miles of aqueducts and pipelines. The primary water source for the SWP is the Feather River, a tributary of the Sacramento River. Water released from Oroville Dam on the Feather River flows down natural river channels to the Sacramento-San Joaquin River Delta (Delta). While some SWP supplies are pumped from the northern Delta into the North Bay Aqueduct, the vast majority of SWP supplies are pumped from the southern Delta into the 444-mile-long California Aqueduct. The California Aqueduct conveys water along the west side of the San Joaquin Valley to Edmonston Pumping Plant, where water is pumped over the Tehachapi Mountains. The aqueduct then divides into the East and West Branches.



California Aqueduct
Photo Credit: Western Municipal Water District

Each SWP contractor's SWP Water Supply Contract includes a "Table A," which lists the maximum amount of water an agency is entitled to throughout the life of the contract. The Table A amount is each contractor's proportionate share, or "allocation," of the SWP water supply. However, actual deliveries of SWP water each year vary, based mainly on the amount of precipitation (for other factors, see **Section 3.2.2** below).

While the primary supply of water available from the SWP is allocated Table A supply, SWP supplies in addition to Table A water are periodically available, including "Article 56C" carryover water, "Article 21" water, "Turnback Pool" water, and DWR "Dry Year Purchase Programs". Pursuant to the long-term water supply contracts, SWP contractors have the opportunity to carry over a portion of their allocated water approved for delivery in the current year for delivery during the next year (Article 56C) with advance notice when they submit their initial request for Table A water, or within the last three (3) months of the delivery year. The carryover program was designed to encourage the most efficient and beneficial use of water and to avoid obligating the contractors to "use or lose" the water by December 31 of each year. The water supply contracts outline the criteria for carrying over Table A water from one year to the next. Normally, carryover water is water that has been exported during the year, has not been delivered to the contractor during that year, and has remained stored in the SWP share of San Luis Reservoir to be delivered during the following year. Storage for carryover water no longer becomes available to the contractors if it interferes with storage of SWP water for project needs.

Article 21 water (which refers to the SWP contract provision defining this supply) is water that may be made available by DWR when excess flows are available in the Delta (i.e., when Delta outflow requirements have been met, SWP storage south of the Delta is full, and conveyance capacity is available beyond that being used for SWP operations and delivery of allocated and scheduled Table A supplies). Article 21 water is made available on an unscheduled and interruptible basis and is typically available only in average to wet years, generally only for a limited time in the late winter.

In wet periods, the amount of water available may exceed the amount of storage in the SWP system. During these times, State Water Contractors may have excess SWP water. Valley District has agreements, in place, to sell surplus water to SGPWA and Metropolitan Water District of Southern California

3.2.1.1 SWP Contract Amendments

Contract Extension

DWR provides water supply from the SWP to 29 SWP Contractors (Contractors) in exchange for Contractor payment of all costs associated with providing that supply. DWR and each of the Contractors entered into substantially uniform long-term water supply contracts (Contracts) in the 1960s with 75-year terms. The first Contract terminates in 2035, and most of the remaining Contracts terminate within three years after that.

The majority of the capital costs associated with the development and maintenance of the SWP is financed using revenue bonds. These bonds have historically been sold with 30-year terms. It has become more challenging in recent years to affordably finance capital expenditures for the SWP because bonds used to finance these expenditures are limited to terms that only extend to the year 2035, less than 30 years from now. To ensure continued affordability of debt service to Contractors, it was necessary to extend the termination date of the Contracts to allow DWR to continue to sell bonds with 30-year terms.

Public negotiations to extend the Contracts took place between DWR and the Contractors during 2013 and 2014. An agreement-in-principle (AIP) was reached and was the subject of analysis under the requirements of the California Environmental Quality Act (CEQA) (Notice of Preparation dated September 12, 2104). On December 11, 2018 DWR Director approved the Water Supply Contract Extension Project. In accordance with CEQA, DWR also filed its Notice of Determination for the project with the Governor's Office of Planning and Research. In addition, DWR filed an action in Sacramento County Superior Court to validate the Contract Extension Amendments (https://water.ca.gov/Programs/State-Water-Project/Management/Water-Supply-Contract-Extension). After CEQA was completed and contract language was finalized, DWR and 18 contractors have executed the Extension Amendment. The Extension Amendment would extend the contracts through 2085 and improve the project's overall financial integrity and management. The Extension Amendment is the subject to a validation action and two CEQA lawsuits.

Water Management Tools

In a December 2017 Notice to Contractors, DWR indicated its desire to supplement and clarify the water management tools through this public process. Seeking greater flexibility to manage the system in order to address changes in hydrology and further constraints placed on DWR's operation of the SWP, PWAs and DWR conducted public negotiations in 2017 to improve water management tools (WMT Amendment). The goal of the negotiations was to develop concepts to supplement and clarify the existing SWP Contract's water transfer and exchange provisions to provide improved water management amongst the PWAs. Importantly, the transfers and exchanges provided for in the contract amendment are limited to those transfers and exchanges amongst the Public Water Agencies ("PWA's") with SWP Contracts.

In June 2018, PWAs and DWR completed an AIP which included specific principles to accomplish this goal. These principles included adding contract language to include a process for transparency for transfers and exchanges. The principles also include amending existing contract provisions to provide new flexibility for single and multi-year non-permanent water transfers, allowing PWAs to set terms of compensation for transfers and exchanges, and providing for the limited transfer of carryover and Article 21 water.

In October 2018, a Draft Environmental Impact Report (DEIR) was circulated for the contract amendments. The AIP at that time included cost allocation for the California WaterFix project

(WaterFix). In early 2019, the Governor decided not to move forward with WaterFix and DWR rescinded its approvals for WaterFix. After this shift, the PWAs and DWR held a public negotiation session and agreed to remove the WaterFix cost allocation sections from AIP, but to keep all the water management provisions in the AIP. The AIP for water management provisions was finalized on May 20, 2019. In February 2020, DWR amended and recirculated the Partially Recirculated DEIR for the State Water Project Supply Contract Amendments for Water Management and in August 2020, DWR certified the Final EIR. The EIR is being challenged in court. The WMT Amendment is effective when 24 SWP PWAs approve the amendment. The transfer and exchange tools will be available during litigation unless there is a final court order prohibiting their implementation.

Delta Conveyance Project

Consistent with Executive Order N-10-19, in early 2019, the state announced a new single tunnel project, which proposed a set of new diversion intakes along Sacramento River in the north Delta for SWP. In 2019 DWR initiated planning and environmental review for a single tunnel Delta Conveyance Project (DCP) to protect the reliability of SWP supplies from the effects of climate change and seismic events, among other risks. DWR's current schedule for the DCP environmental planning and permitting extends through the end of 2024. DCP will potentially be operational in 2040 following extensive planning, permitting and construction.

The third set of amendments would allocate Delta Conveyance Project costs and benefits among the SWP PWAs. Public negotiations between DWR and PWA's for the Delta Conveyance Project began in 2019 and were completed in April 2020. These negotiations led to an Agreement in Principle ("AIP") for an Amendment to the State Water Contract regarding the Delta Conveyance Project. The Parties' goal was to equitably allocate costs and benefits of a Delta Conveyance Facility and to preserve State Water Project operational flexibility. A decision by each participating PWA for approving a contract amendment with DWR would not occur until after the environmental review for the Delta Conveyance Project is completed. That decision would likely occur in 2023, at the earliest.

3.2.2 Imported Water Supply Reliability

This section presents the imported water supply reliability assumptions used in Valley District's water supply reliability analysis to meet the requirements of the UWMP Act; these apply only to Valley District. For assumptions and analysis used by San Gorgonio Pass Water Agency, Metropolitan and Western, refer to their respective 2020 UWMPs.

The amount of SWP water delivered to State Water Contractors in a given year depends on a number of factors, including the demand for the supply, amount of rainfall, snowpack, runoff, water in storage, pumping capacity from the Delta, and legal/regulatory constraints on SWP operation. Water delivery reliability depends on three general factors: the availability of water, the ability to convey water to the desired point of delivery, and the magnitude of demand for the water. Urban SWP contractors' requests for SWP water, which were low in the early years of the SWP, have been steadily increasing over time. Regulatory constraints have changed over time, becoming more restrictive.

DWR prepares a biennial report to assist SWP contractors and local planners in assessing the availability of supplies from the SWP. DWR issued its most recent update, the 2019 DWR State Water Project Delivery Capability Report (DCR), in August 2020. In this update, DWR provides SWP supply estimates for SWP contractors to use in their planning efforts, including for use in their 2020 UWMPs. The 2019 DCR includes DWR's estimates of SWP water supply availability under both existing (2020) and future conditions (2040).

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

In the 2019 DCR for its model study under existing conditions, DWR assumed: existing facilities, hydrologic inflows to the model based on 82 years of historical inflows (1922 through 2003), current regulatory and operational constraints including 2018 COA Amendment, 2019 biological opinions and 2020 Incidental Take Permit, and contractor demands at maximum Table A Amounts.

To evaluate SWP supply availability under future conditions, the 2019 DCR included a model study representing hydrologic and sea level rise conditions in 2040. The future condition study used all of the same model assumptions as the study under existing conditions, but reflected changes expected to occur from climate change, specifically, projected temperature and precipitation changes centered around 2035 (2020 to 2049) and a 45 cm sea level rise.

3.2.2.1 Sites Reservoir

Sites Reservoir is a proposed new 1,500,000 acre-feet off-stream storage reservoir in northern California near Maxwell. Sacramento River flows will be diverted during excess flow periods and stored in the off-stream reservoir and released for use in drier periods. Sites Reservoir is expected to provide water supply, environmental, flood and recreational benefits. The proponents of Sites Reservoir include 31 entities including Valley District and SGPWA. Sites Reservoir is expected to compliment the Delta Conveyance Project by providing approximately 240 TAF (Sites Reservoir Value Planning Report, Table 8-1) of additional deliveries during drier years. Sites Reservoir is currently undergoing environmental planning and permitting. Sites was conditionally awarded $816 million in grant funds from the California Water Commission for ecosystem, recreation, and flood control benefits under Proposition 1. Reclamation may also invest in Sites under the Water Infrastructure Improvements for the Nation (WIIN) Act and recently transmitted a final Federal Feasibility Report to Congress for the project.

Both Valley District and SGPWA are proponents of the Sites Reservoir Project and have made financial contributions to its planning and development. As both agencies are financial contributors to the project, both would receive a share of deliveries to South of Delta agencies during average and drier years.

The Sites Reservoir and DCP are critical investments to protect and enhance the reliability of SWP supplies and increase deliveries in dry years. **Section 3.2.3.1** describes how these improvements are incorporated into Valley District's UWMP Analysis. For information on SWP supply reliability for the SGPWA, Metropolitan, IEUA and Western, see their respective 2020 UWMPs.

3.2.3 Valley District SWP Supply Reliability (Review)

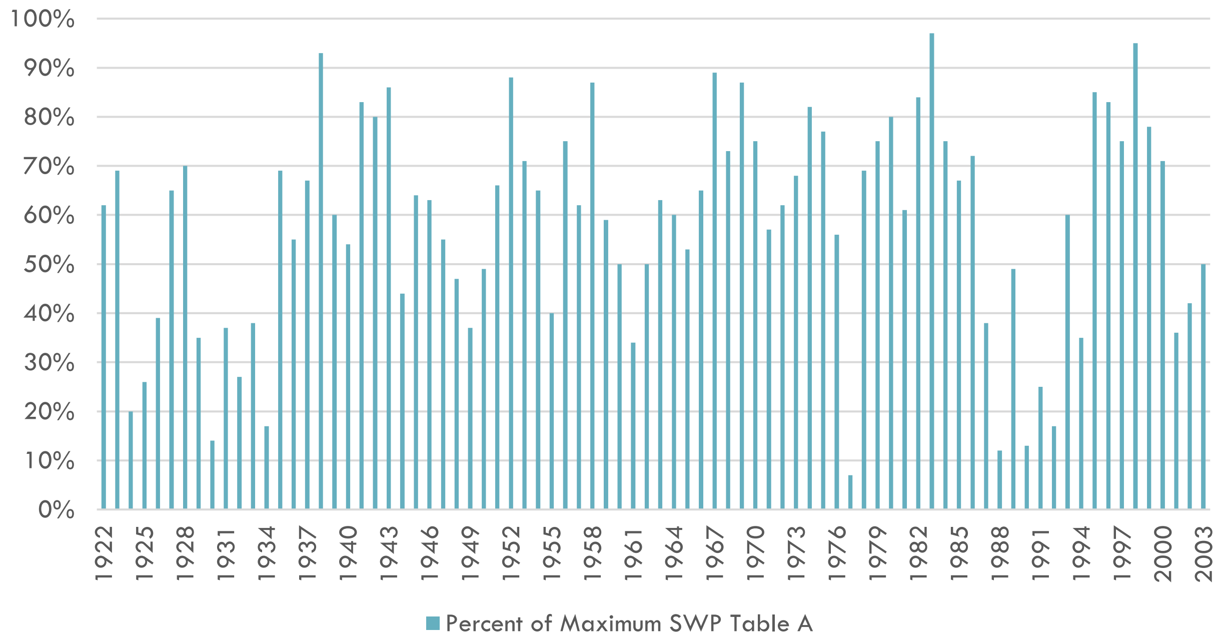
Once the bonds from initial construction of the SWP have been paid off in 2035, the taxpayers in Valley District's service area will have invested over $1.23 billion for their share of the SWP storage and delivery system. **Table 3-3** presents historical total SWP water deliveries to Valley District.

Table 3-3. Historical State Water Project Deliveries to Valley District

CALENDAR YEAR	TOTAL DELIVERIES (AF)
2010	30,310
2011	29,129
2012	40,216
2013	31,020
2014	19,223
2015	35,430
2016	62,600
2017	78,396
2018	44,307
2019	78,478
2020	23,504

Valley District's analysis assumes that the long-term average allocation reported in the 2019 DCR for the existing conditions study provide appropriate estimate of the SWP water supply availability under current conditions. For the long-term planning purposes of the Valley District supply reliability analysis, the long-term average allocations reported for the future conditions study from 2019 DCR are used to estimate future SWP water supply availability. It is assumed that the existing condition allocations will apply until 2035 and the future conditions allocations will apply in 2040 and 2045.

Figure 3-2. Estimated SWP Water Supply Availability from the DWR 2019 DCR Existing Conditions Scenario



The estimated long-term average SWP water supply availability from the 2019 DCR is shown in **Figure 3-2** and **Table 3-4**.

Table 3-4. SWP Table A Water Supplies Available (Long-term Average – 1922-2003)

STATE WATER PROJECT SUPPLIES	2025	2030	2035	2040	2045
% of Table A Amount Available	58%	58%	58%	52%	52%
Anticipated Deliveries (AFY)	59,508	59,508	59,508	53,352	53,352

Source: 2019 DWR Delivery Capability Report

Table 3-5 summarizes estimated SWP supply availability to Valley District in a single-dry year (based on a repeat of the worst-case SWP allocations of 2014 and 2021) and over a multiple-dry year period (based on a repeat of the worst-case historic six-year drought of 1987 to 1992). To further evaluate the range of potential supply conditions, the Region has elected to evaluate supplies under a 30-year drought and a wet year. The wet year reliability is provided in the 2019 DCR. The 30-year drought reliability was calculated using the same methodology DWR uses to determine the six-year drought supplies but extended over a longer period. These values are also shown in **Table 3-5** and the range of water supply availability by year used in each scenario is shown in

Figure 3-3.

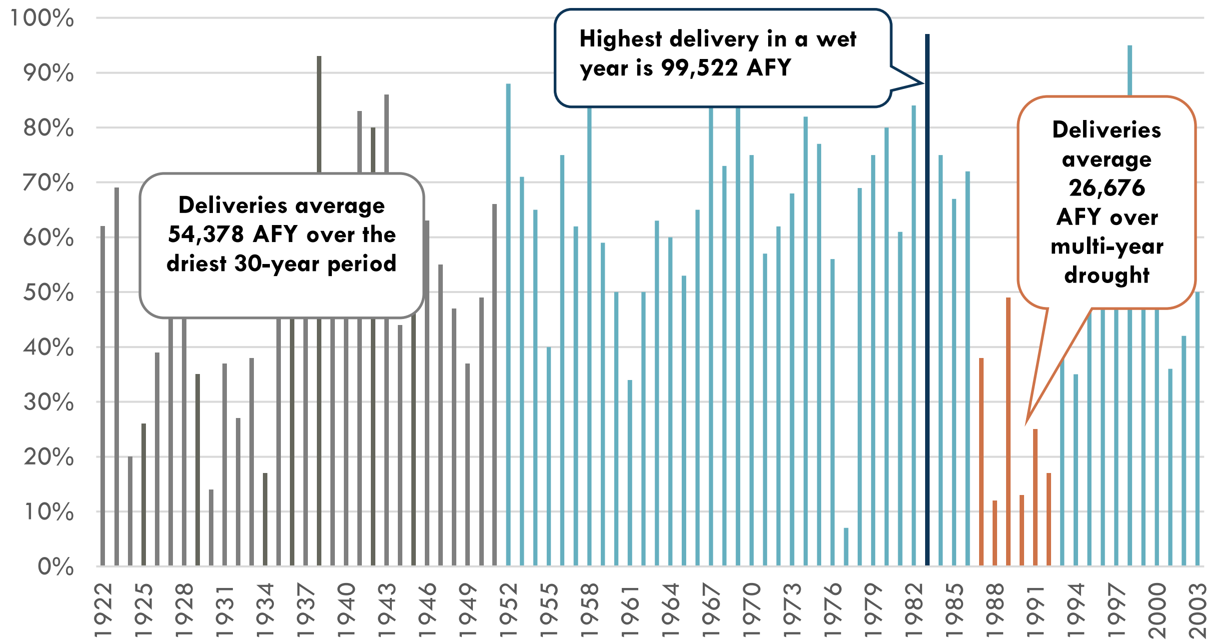
For each condition, it is assumed that the existing condition allocations will apply until 2035 and the future conditions allocations will apply in 2040 and 2045.

Table 3-5 Estimated SWP Table A Supply Reliability

STATE WATER PROJECT SUPPLIES	2025	2030	2035	2040	2045
SINGLE DRY YEAR (2014 AND 2021)					
% of Table A Amount Available	5%	5%	5%	5%	5%
Anticipated Deliveries (AFY)	5,130	5,130	5,130	5,130	5,130
MULTIPLE DRY YEAR (1987-1992)					
% of Table A Amount Available	26%	26%	26%	22%	22%
Anticipated Deliveries (AFY)	26,676	26,676	26,676	22,572	22,572
30-YEAR DROUGHT (1922-1951)					
% of Table A Amount Available	53%	53%	53%	48%	48%
Anticipated Deliveries (AFY)	54,378	54,378	54,378	49,248	49,248
WET YEAR (1983)					
% of Table A Amount Available	97%	97%	97%	97%	97%
Anticipated Deliveries (AFY)	99,522	99,522	99,522	96,444	96,444

Source: 2019 DWR Delivery Capability Report, except for Single Dry Year (see Section 3.2.3.1)

Figure 3-3. Estimated SWP Supply Availability for Wet Year, Multiple Dry Years and a 30-Year Drought



As described in **Section 3.2.1**, there are several programs that give Valley District flexibility to increase deliveries above the Table A allocation in a given year, including the use of carry over water. As urban contractor demands increase in the future, the amount of water turned back and available for purchase will likely diminish. In critical dry years, DWR has formed Dry Year Water Purchase Programs for contractors needing additional supplies. Through these programs, water is purchased by DWR from willing sellers in areas that have available supplies and is then sold by DWR to contractors willing to purchase those supplies. Because the availability of these supplies is somewhat uncertain and do not represent a large quantity of water, they are not included as supplies available to Valley District in this Plan. However, Valley District's access to these supplies when they are available may enable it to improve the reliability of its SWP supplies in extremely dry years to help meet its direct delivery demands. The main strategy Valley District will use to supplement supplies in dry years is wet year water stored in local groundwater basins and water banks. Valley District is already implementing conjunctive use in the SBB and there are plans to develop additional conjunctive use programs.

3.2.3.1 Lowest SWP Water Supply Allocation

DWR's 2019 Delivery Capability Report indicates that the modeled single dry year SWP water supply allocation is 7% under the existing conditions. However, historically the lowest SWP allocations were at 5% in 2014 and initial allocations in 2021. Due to extraordinarily dry conditions in 2013 and 2014, the initial 2014 SWP allocation was a historically low 5% of Table A Amounts, was later reduced to 0% in January 2014, and was later raised back to 5%, the lowest ever final total SWP water supply allocation, at the time. The circumstances that led to the low 2014 SWP water supply allocation was unusual, and although possible, likely have a low probability of frequent occurrence.

Each year by October 1, SWP contractors submit their requests for SWP supplies for the following calendar year. By December 1, DWR estimates the available water supply for the following year and sets an initial supply allocation based on the total of all contractors' requests, current reservoir storage, forecasted hydrology through the next year, and target reservoir storage for the end of the next year. The most uncertain of these factors is the forecasted hydrology. In setting water supply allocations, DWR uses a conservative 90% hydrologic forecast, where nine out of ten years will be wetter and one out of ten years drier than assumed. DWR re-evaluates its estimate of available supplies throughout the runoff season of winter and early spring, using updated reservoir storage and hydrologic forecasts, and revises SWP supply allocations as warranted. Since most of California's annual precipitation falls in the winter and early spring, by the end of spring the supply available for the year is much more certain, and in most years DWR issues its final SWP allocation by this time. While most of the water supply is certain by this time, runoff in the late fall remains somewhat variable as the next year's runoff season begins. A drier than forecasted fall can result in not meeting end-of-year reservoir storage targets, which means less water available in storage for the following year.

Water year 2013 was a year with two hydrologic extremes. October through December 2012 was one of the wettest fall periods on record but was followed by the driest consecutive 12 months on record. The supply allocation for 2013 was a low 35% allocation. However, the 2013 hydrology ended up being even drier than DWR's conservative hydrologic forecast, so the SWP began 2014 with reservoir storage lower than targeted levels and less stored water available for 2014 supplies. Compounding this low storage situation, 2014 also was a critically dry year, with runoff for water year 2014 the fourth driest on record.

The exceedingly dry sequence from the beginning of January 2013 through the end of 2014 was one of the driest two-year periods in the historical record. As noted above, the circumstances that led to the low 2014 and 2021 SWP water supply allocation were unusual, and likely have a low probability of frequent occurrence in the future.

> For the reasons stated above, Valley District's UWMP uses a more conservative assumption of a 5-percent allocation of SWP Table A amounts instead of the 7% from the DCR.

3.2.3.2 Reliability Improvements from Sites Reservoir and DCP

There are currently four alternatives being evaluated for the Sites Reservoir Project and each would yield a different volume of water for Valley District based on the level of federal participation in the project. Since a final alternative has not been selected, Alternative 3, which yields the lowest deliveries to South of Delta's participants out of all the alternatives, is represented in this section to be conservative. Based on Alternative 3, estimated deliveries from

Sites Reservoir to Valley District during dry and critically dry years and average over the life of the project are shown in **Table 3-6**.

Table 3-6: Estimated Sites Reservoir Deliveries to Valley District

	LONG TERM AVERAGE DELIVERIES (AFY)	DRY AND CRITICALLY DRY YEAR DELIVERIES (AFY)
Alternative 3	12,100	30,400

Source: Sites Reservoir Value Planning Report, Table 8-1

For purposes of this report, it is estimated that the Sites Reservoir Project will come online between in 2040. DWR estimates of SWP supply reliability in its 2019 Delivery Capability Report are based on existing facilities, and do not include the proposed Sites Reservoir. For supply projections made for years 2020 through 2035, it is assumed that SWP reliability is equal to values shown in the 2019 Delivery Capability Report. For supply projections made for years 2040 and beyond, additional SWP supply available from Sites Reservoir is included.

> The DCP is still under development and no published yield numbers were available at the time this plan was published.

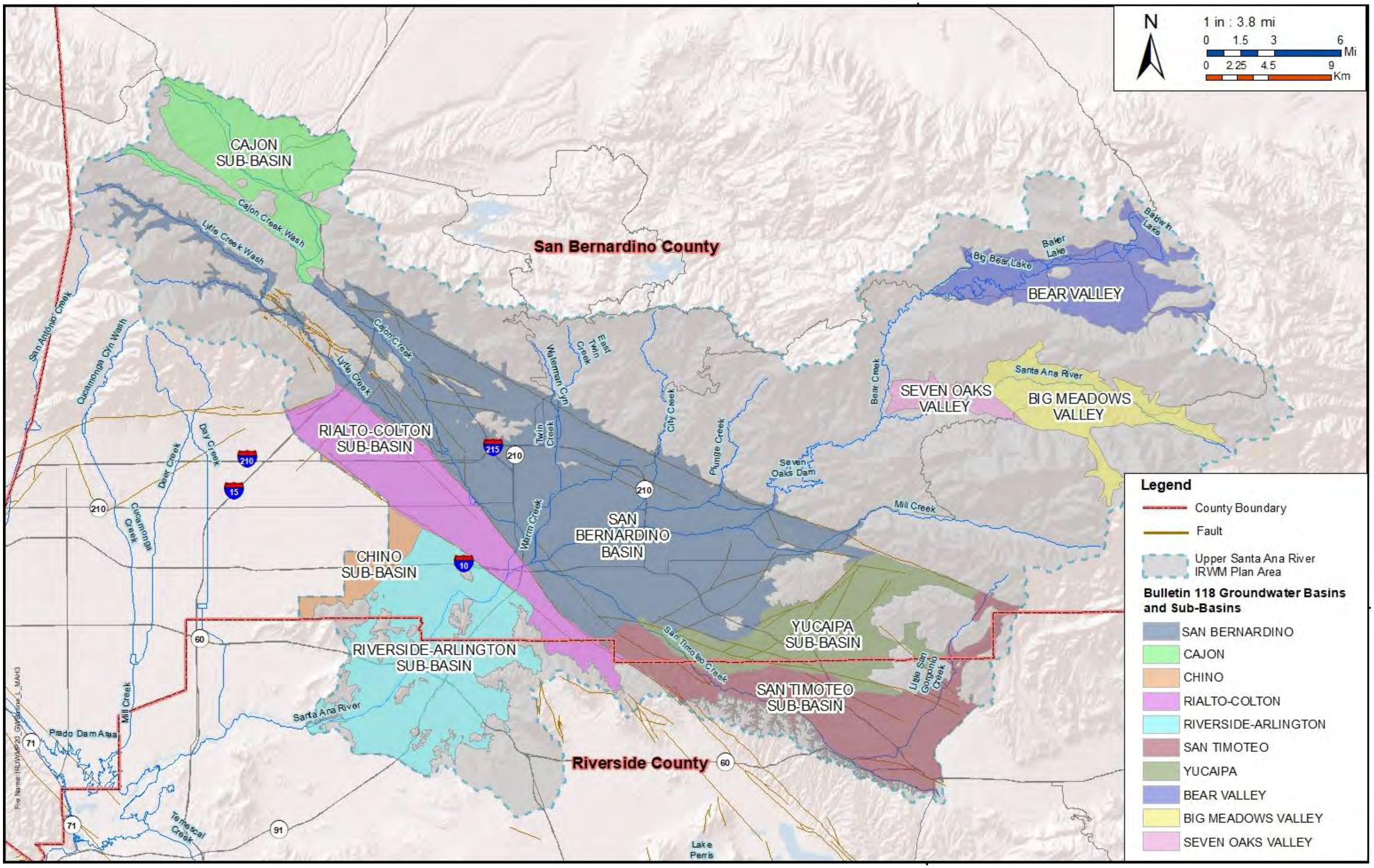
3.3 Groundwater

Local precipitation that runs off as surface water and soaks into the ground, called "groundwater", meets about 60% of the regional demand in an average year. This section provides a description of local surface water and groundwater management in the San Bernardino Valley, including court judgments, groundwater management plans, and groundwater pumping rights.

The groundwater basins utilized by IRUWMP agencies are depicted in Figure 3-4. The figure also shows the San Bernardino Basin (SBB), which encompasses basins previously known as the Bunker Hill and Lytle Creek Basins.

The basins of the IRUWMP area are among the most rigorously managed in the State. Planning and management efforts evaluating needs and supplies have been established for most of the basins within the watershed through the next 20 to 40 years. Groundwater extractions and conditions are monitored and tracked annually by the Western-San Bernardino Watermaster and the Basin Technical Advisory Committee.

Figure 3-4. Groundwater Basins of the Region



3.3.1 San Bernardino Basin

The San Bernardino Basin (SBB), labeled the “San Bernardino Basin Area” in the Judgment, was adjudicated in gross, by the Western-San Bernardino Judgment (Western Judgment) in 1969. The SBB has a surface area of approximately 141 square miles and lies between the San Andreas and San Jacinto faults. The basin is bordered on the northwest by the San Gabriel Mountains and Cucamonga fault zone; on the northeast by the San Bernardino Mountains and San Andreas fault zone; on the east by the Banning fault and Crafton Hills; and on the south by a low, east-facing escarpment of the San Jacinto fault and the San Timoteo Badlands. Alluvial fans extend from the base of the mountains and hills that surround the valley and coalesce to form a broad, sloping alluvial plain in the central part of the valley. The SBB encompasses the Bunker Hill sub basin (DWR Number 8.02-06) defined by DWR and also includes a small portion of the Yucaipa Basin (8-02.07) and Rialto-Colton Basin (8-02.04) as defined by DWR.

The Western Judgment calculated the natural safe yield of the SBB to be 232,100 AF per year (AFY) for all extractions, including surface water diversions and groundwater pumping (the Western Judgment is provided in Appendix I). Surface water is diverted from Mill Creek, Lytle Creek, and the SAR.

The Western Judgment allocates 64,862 AFY of the safe yield, which equates to 27.95 percent, to the Plaintiffs. The Plaintiffs include the City of Riverside (the successor to the Riverside Water Company and the Gage Canal Company), Riverside Highland Water Company, Meeks & Daley Water Company, and Regents of the University of California. The Riverside County agencies may not exceed their allocation unless they participate in “New Conservation” (explained below).

The Non-Plaintiffs’ (agencies within San Bernardino County) rights were defined in the Judgment as 167,238 AFY, which equates to 72.05 percent of the safe yield. San Bernardino agencies are allowed to extract more than 167,238 AFY from the SBB, as long as they import and recharge a like amount of supplemental water into the SBB. The Western-San Bernardino Watermaster provides an annual accounting of both the plaintiff and non-plaintiff extractions and a comparison to the safe yield. The Judgment requires the non-plaintiffs to provide replenishment water whenever the cumulative extractions exceed the cumulative safe yield. If the cumulative extractions are less than the cumulative safe yield, a “credit” is earned. When cumulative extractions are greater than the cumulative safe yield, a “debit” is taken. To date, the cumulative extractions have been less than the cumulative safe yield since the judgment was signed so that the non-plaintiffs have never been required to recharge the basin.

Recharge is also required to offset the export of water outside the SBB in excess of the amount recorded during the base period (1959-1963). Credits are earned for any new supplies such as stormwater capture. As of the accounting performed for the 2020 Annual Western-San

Bernardino Watermaster Report, the Non-Plaintiffs have 463,168 AF of net credit accumulated in the SBB and are, therefore, not required to recharge. Although there is no recharge requirement under the Judgment, the Non-Plaintiffs have continued to recharge the SBB.

3.3.1.1 Lytle Creek Sub basin

Lytle Creek Basin is part of the SBB, and it is not identified as a separate sub-basin in DWR Bulletin 118-2003; however, the sub basin is an integral part of the Upper Santa Ana Valley Groundwater Basin. Historically, local agencies have recognized Lytle Creek sub basin as a distinct groundwater sub basin. In the Western Judgment, the Bunker Hill and Lytle Creek sub basins are combined into the SBB. However, the three separate water-bearing zones and intervening confining zones of the Bunker Hill sub basin are not observed in the Lytle sub basin. Sediments within the Lytle sub basin are, for the most part, highly permeable, and the aquifer has a high specific yield. High permeability and specific yield tend to result in an aquifer that responds rapidly to changes in inflow (precipitation and streamflow) and outflow (groundwater pumping, streamflow, and subsurface outflow).

Lytle Creek sub basin is adjoined on the west by the Rialto-Colton sub basin along the Lytle Creek fault, and on the east and southeast by the Bunker Hill sub basin along the Loma Linda fault and Barrier G. The northwestern border of the sub basin is delineated by the San Gabriel Mountains, and runoff from the mountains flows south/southeast through Lytle and Cajon Creeks into the basin.

Numerous groundwater barriers are present within Lytle Creek sub basin, resulting in six compartments within the sub basin. Barriers A through D divide the northwestern portion of the sub basin into five sub-areas and the southeastern portion of the sub basin comprises the sixth sub-area. Barrier F divides the northwestern sub-areas from the southeastern sub-area. Studies have shown that the groundwater barriers are less permeable with depth. When groundwater levels are high during wet years, more leakage occurs across the barriers than when groundwater levels are lower (i.e., during dry years). The amount of pumping in each sub-area, in large part, controls the movement of groundwater across the barrier within the older alluvium but not the younger alluvium.

It is important to note that the water rights in Lytle Creek are set forth in long-standing court judgments governing the rights of the parties in that basin. The Lytle Creek Basin was adjudicated under the 1924 Judgment No. 17,030 from the Superior Court of San Bernardino County and is managed by the Lytle Creek Water Conservation Association, which is made up of the successors to the stipulated parties of the judgment (a copy of the 1924 judgment is provided in Part 3).

3.3.2 Rialto-Colton Sub basin

The Rialto-Colton sub basin (DWR 8-02.04) underlies a portion of the upper Santa Ana Valley in southwestern San Bernardino County and northwestern Riverside County. This sub basin is about 10 miles long and varies in width from about 3.5 miles in the northwestern part to about 1.5 miles in the southeastern part. This sub basin is bounded by the San Gabriel Mountains on the northwest, the San Jacinto fault on the northeast, the Badlands on the southeast, and the Rialto-Colton fault on the southwest. The Santa Ana River cuts across the southeastern part of the basin. The basin generally drains to the southeast, toward the Santa Ana River. Warm and Lytle Creeks join near the southeastern boundary of the basin and flow to meet the Santa Ana River near the center of the southeastern part of the sub basin.

The principal recharge areas are Lytle Creek, Reche Canyon in the southeastern part, and the Santa Ana River in the south-central part. Lesser amounts of recharge are provided by percolation of precipitation to the valley floor, underflow, and irrigation and septic returns. Underflow occurs from fractured basement rock and through the San Jacinto fault in younger Santa Ana River deposits at the south end of the sub basin and in the northern reaches of the San Jacinto fault system. Groundwater recharge has been augmented through the use of spreading basins.

The groundwater extractions in the Rialto-Colton sub basin are governed by the Rialto Basin Decree, the Rialto Basin Settlement Agreement, and the Western Judgment. The basin was adjudicated under the 1961 Decree No. 81,264 of the Superior Court of San Bernardino County and is managed by the Rialto Basin Management Association (stipulated parties of the judgment). The Rialto Basin Decree only provides the rights of the stipulated parties to pump out of the Rialto Basin, which is an area defined within the Decree that is smaller than the Rialto-Colton sub basin and includes only a portion of the northwestern half of the Rialto-Colton Basin. The boundary of the Rialto Basin is described in the Rialto Decree as Exhibit 1.

When the basin's three index wells (WVWD Well No. 11, and 16, and Rialto's Well 4) average mean groundwater level elevations are above 1002.3 feet msl when measured during March, April, or May, the stipulated parties have no restrictions on yearly extractions. When the average standing water levels in the three index wells (Duncan Well, Willow Street Well, and Boyd Well) falls below 1002.3 feet msl and is above 969.7 feet msl, the Rialto Basin Decree stipulated parties are restricted to total extraction rights of 15,290 AFY distributed amongst the parties as shown in **Table 3-7**.

When the average of the three index wells drops below 969.7 feet msl, ground water extractions are reduced for all parties stipulated in the decree by 1 percent per foot below the 969.7-foot level, but not to exceed 50-percent reduction. Historic reductions to adjustable rights are summarized in **Table 3-8**.

Table 3-7: 1961 Decree Adjudicated Rights to the Rialto Basin

MEMBER	ADJUSTABLE RIGHTS	FIXED RIGHTS	TOTAL RIGHTS	WATER RIGHTS ALLOCATION PERCENTAGE
Colton	3,010	890	3,900	25%
Rialto	2,846	1,520	4,366	29%
WVWD	5,594	510	6,104	40%
FUWC	550	370	920	6%
TOTAL	**12,000**	**3,290**	**15,290**	**100%**

Table 3-8: Historic Reductions to Pumping Rights in the Rialto Decree Area

WATER YEAR	% REDUCTION
2009-10	7
2010-11	14
2011-12	19
2012-13	17
2013-14	27
2014-15	32
2015-16	30
2016-17	31
2017-18	38
2018-19	39
2019-20	29

Fontana Water Company and the City of Rialto extract water from a small area referred to as “No Man’s Land” that is outside the boundary of the Rialto Basin in the 1961 Decree but is still believed to be within the Rialto-Colton sub basin. In 2018, Rialto, Colton, WVWD, Valley District, Cucamonga Valley Water District, and Fontana Water Company entered into a Settlement Agreement that resulted in Fontana’s No Man’s Land production of 5,014 acre feet/year being counted as part of the Rialto Basin production limits in the 1961 Decree in addition to the total established decree rights of 15,290 AFY. The rights of the parties of the Settlement Agreement to extract water from the Rialto Basin based on the 1961 Decree and the Settlement Agreement are provided in **Table 3-9**. As part of the Settlement Agreement, these parties also agreed to form a Rialto Basin Groundwater Council (Rialto Basin GC), which was formed in 2021.

The Rialto Basin GC will develop, adopt, and implement a sustainable groundwater management plan, which will include implementing groundwater recharge projects to restore groundwater levels.

Table 3-9: 2018 Settlement Agreement Updated Adjudicated Rights to the Rialto Basin

MEMBER	ADJUSTABLE RIGHTS	FIXED RIGHTS	NO MAN'S LAND ADJUSTABLE RIGHTS	TOTAL RIGHTS	WATER RIGHTS ALLOCATION PERCENTAGE
Colton	3,010	890	0	3,900	19%
Rialto	2,846	1,520	0	4,366	22%
WVWD	5,594	510	0	6,104	30%
FUWC	550	370	5,014	5,934	29%
Total	12,000	3,290	5,014	20,304	100%

The Rialto-Colton sub basin is named the "Colton Basin Area" in the Western Judgment.

The Western Judgment requires the average lowest static water levels in three index wells in the Rialto-Colton Basin and Riverside North Basins to be no lower than 822.04 feet above mean sea level (MSL). If the water levels fall below 822.04 feet above MSL, the non-plaintiffs are obligated to recharge the basin with imported water or reduce extractions. Extractions by the plaintiffs are limited to 3,381 AFY.

The safe yield for the Rialto-Colton Basin was not defined by the Western Judgment or the Rialto Basin decree. Valley District developed an estimate of the safe yield, as shown in Table 3-10. The estimate uses a period when the storage level in the basin starts and ends at nearly the same point, from 1979 through 2014. During that period, the average production from the basin was 15,567 AF which includes water imported from the State Water Project. The estimate adjusts the production by the relative decrease in storage over the period. After adjusting for the decline in storage and the recharge of imported water, the estimated safe yield is estimated to be 13,623 AFY. The Western Judgment set aside 3,381 AFY for Riverside entities, leaving the balance, 10,242 AFY for San Bernardino entities within the Valley District service area.

Table 3-10 Estimated Safe Yield from Rialto-Colton Basin

PARAMETER	VALUE (AF)
Average groundwater production from 1979 through 2014	15,567
Adjustment for average change in storage, 1979 through 2014	(864)
Adjustment for average imported water recharged,1979 through 2014	(1,080)
Estimated Safe Yield	13,623
Portion of Safe Yield reserved for Riverside entities	3,381
Portion of Safe Yield for San Bernardino entities	10,242

3.3.3 Riverside-Arlington Sub-basin

The Riverside-Arlington sub basin, (DWR 8-02.03) underlies part of the Santa Ana River Valley in northwest Riverside County and southwest San Bernardino County. This sub basin is bounded by impermeable rocks of Box Springs Mountains on the southeast, Arlington Mountain on the south, La Sierra Heights and Mount Rubidoux on the northwest, and the Jurupa Mountains on the north. The northeast boundary is formed by the Rialto-Colton fault, and a portion of the northern boundary is a groundwater divide beneath the community of Bloomington. The Santa Ana River flows over the northern portion of the sub basin. Annual average precipitation ranges from about 10 to 14 inches. The Riverside-Arlington sub basin is replenished by infiltration from Santa Ana River flow, underflow past the Rialto-Colton fault, intermittent underflow from the Chino sub basin, return irrigation flow, and deep percolation of precipitation.

The Western Judgment includes the Riverside Basin Area which consists of a portion of the Riverside-Arlington sub-basin upstream of Riverside Narrows. Groundwater extractions in the Riverside North Groundwater Basin (the portion of the Riverside Basin Area in San Bernardino County) are governed by the Western Judgment. Extractions from the Riverside North Basin for use in Riverside County are limited to 21,085 AFY by the Judgment. Extractions for use in San Bernardino County are unlimited, provided that water levels at three index wells in the Rialto-Colton and Riverside North Basins stay above 822.04 feet MSL. The 2015 IRWMP provided an estimate of 30,100 AFY as the sustainable supply from Riverside North for use in San Bernardino County, based on extractions from 1996 to 2005. That value is also used for this Plan. Valley District has budgeted to update the safe yield estimate prior to the next plan update.

3.3.4 Yucaipa Sub basin

The Yucaipa sub basin (DWR 8-02.07) underlies the southeast part of San Bernardino Valley. It is bounded on the northeast by the San Andreas fault, on the northwest by the Crafton fault, on the west by the Redlands fault and the Crafton Hills, on the south by the Banning fault, and on the east by the Yucaipa Hills. The average annual precipitation ranges from 12 to 28 inches. This part of the San Bernardino Valley is drained by Oak Glen, Wilson, and Yucaipa Creeks south and west into San Timoteo Wash, a tributary to the Santa Ana River.

Dominant recharge to the sub basin is from percolation of precipitation and infiltration within the channels of overlying streams, particularly Yucaipa and Oak Glen Creeks; underflow from the fractures within the surrounding bedrock beneath the sub basin; and artificial recharge at spreading grounds.

The Yucaipa Subbasin is a DWR high-priority groundwater basin and is subject to SGMA. The Yucaipa Groundwater Sustainability Agency was established in 2017 to manage groundwater within the Sub-basin. Valley District, YVWD, Redlands, SGPWA, SMWC, South Mountain Water Company, Western Heights Water Company, and the City of Yucaipa are currently working together as the Groundwater Sustainability Agency, commonly referred to as the Yucaipa Sustainable Groundwater Management Agency (Yucaipa-SGMA) in support of the development of a Groundwater Sustainability Plan, which is currently under development.

A recent study estimates a sustainable yield for the Sub-basin of approximately 9,600 AFY and a storage capacity totaling more than 356,000 AF. From 2007 to 2012, artificial recharge efforts increased the total groundwater storage in the Yucaipa Basin to 1998 levels. Information utilized by the GSA indicates that the Subbasin is currently being sustainably managed. The GSA members are currently working together to develop a GSP to continue sustainably managing the Subbasin.

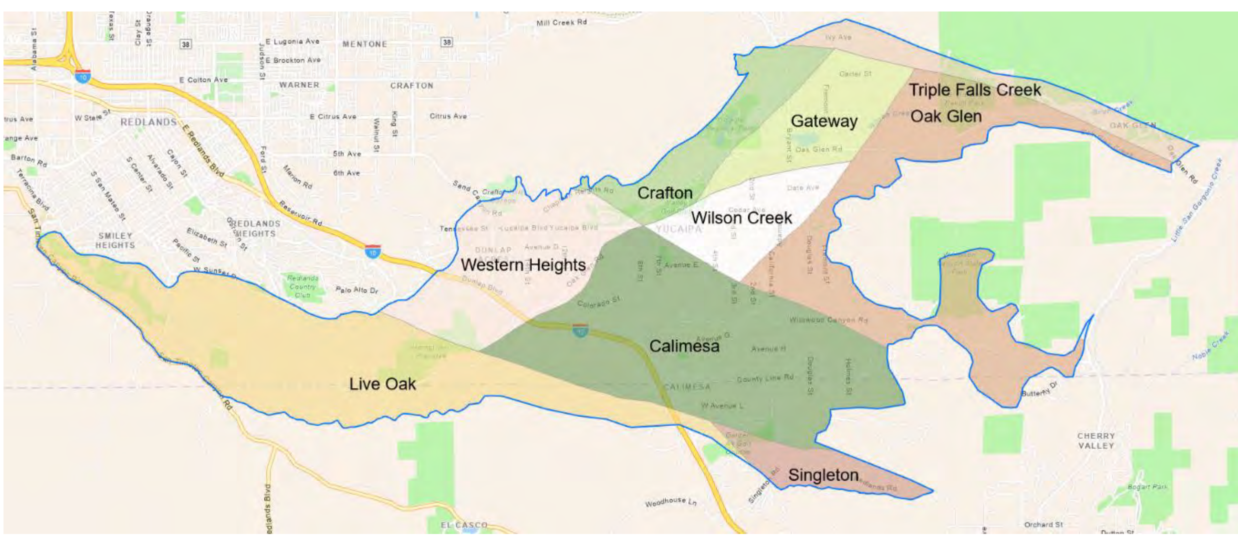


Figure 3-5. Yucaipa Basin Groundwater Management Zones

3.3.5 San Timoteo Sub basin

The San Timoteo Sub basin (DWR 8-02.08) is largely outside of the Valley District service area but is one of the sources used by YVWD and SMWC (SMWC produces groundwater from the adjudicated Beaumont Basin area discussed below). The San Timoteo sub basin underlies Cherry Valley and the City of Beaumont in southwestern San Bernardino and northwestern Riverside counties. The sub basin is bounded to the north and northeast by the Banning fault and impermeable rocks of the San Bernardino Mountains, Crafton Hills, and Yucaipa Hills; on the south by the San Jacinto fault; on the west by the San Jacinto Mountains; and on the east by a topographic drainage divide with the Colorado River hydrologic region. The surface is drained by Little San Gorgonio Creek and San Timoteo Canyon to the Santa Ana River. Average annual precipitation ranges from 12 to 14 inches in the western part to 16 to 18 inches in the eastern part of the sub basin.

Holocene-age alluvium, which consists of unconsolidated clay, silt, sand, and gravel, is the principal water-bearing unit in this sub basin. The alluvium, which is probably thickest near the City of Beaumont, thins toward the southwest and is not present in the central part of the sub basin. The Pliocene-Pleistocene-age San Timoteo Formation consists of alluvial deposits that have been folded and eroded. These deposits are widely distributed and principally composed of gravel, silt, and clay, with comparatively small amounts of calcite-cemented conglomerate. The clasts are chiefly granitic, with lesser amounts of volcanic and metamorphic pebbles and cobbles. The total thickness of the San Timoteo Formation is estimated to be between 1,500 and 2,000 feet, but logs of deep wells near the central part of the sub basin indicate water-bearing gravels to depths of only 700 to 1,000 feet.

The Banning and Cherry Valley faults and two unnamed faults in the northeast part of the sub basin offset impermeable basement rocks, stepping down to the south. Water levels change across the Banning fault, dropping 100 to 200 feet to the south. In the western part of the sub basin, water levels drop to the south about 75 feet across the Loma Linda fault and about 50 feet across the San Timoteo barrier. In the northeastern part of the sub basin, water levels drop to the south across two unnamed faults. Each of these faults appears to disrupt groundwater movement in the sub basin.

Groundwater is replenished by subsurface inflow and percolation of precipitation, runoff, wastewater discharge, and imported water. Runoff and imported water are delivered to streambeds and spreading grounds for percolation. The San Timoteo Subbasin is not adjudicated, and reliable estimates of total groundwater extractions are not available. However, water table elevations within the San Timoteo Subbasin have not declined over the years which is likely due to the constant flow of treated wastewater from YVWD that flows through San Timoteo Creek.

The San Timoteo Subbasin was originally designated by DWR as a medium-priority groundwater basin subject to SGMA. In 2017, the San Timoteo Groundwater Sustainability Agency was formed by a Memorandum of Agreement (MOA) between the City of Redlands, SGPWA, BCVWD and YVWD to manage the non-adjudicated portion of the San Timoteo Subbasin. In 2018, Eastern Municipal Water District submitted a Basin Boundary Modification Request for the San Timoteo Subbasin that was subsequently approved by DWR.

In 2019, the basin was reprioritized as a very low priority by DWR and therefore preparation of a GSP is not required by SGMA, but encouraged and authorized. In 2020, a revised MOA was adopted by YVWD, the City of Redlands, BCVWD and the City of Banning reforming the San Timoteo GSA to further the shared intent of the parties to maximize funding opportunities, increase transparency and foster cooperation. It was agreed by the Parties of the San Timoteo GSA to establish Management Areas for the GSA for each agency's respective boundaries and to initially create separate GSPs for each Management Area that could be consolidated into a single GSP in the event that the priority of the basin is changed by DWR and a GSP is required. The lead agency for each management area, shown in Figure 3-6, is independently responsible for the development of a GSP for their respective Management Areas. The parties agreed to work together and with local stakeholders to carry out the policy, purposes, and requirements of SGMA within the boundaries of the San Timoteo GSA. The parties agreed to initially create separate GSPs for each management zone

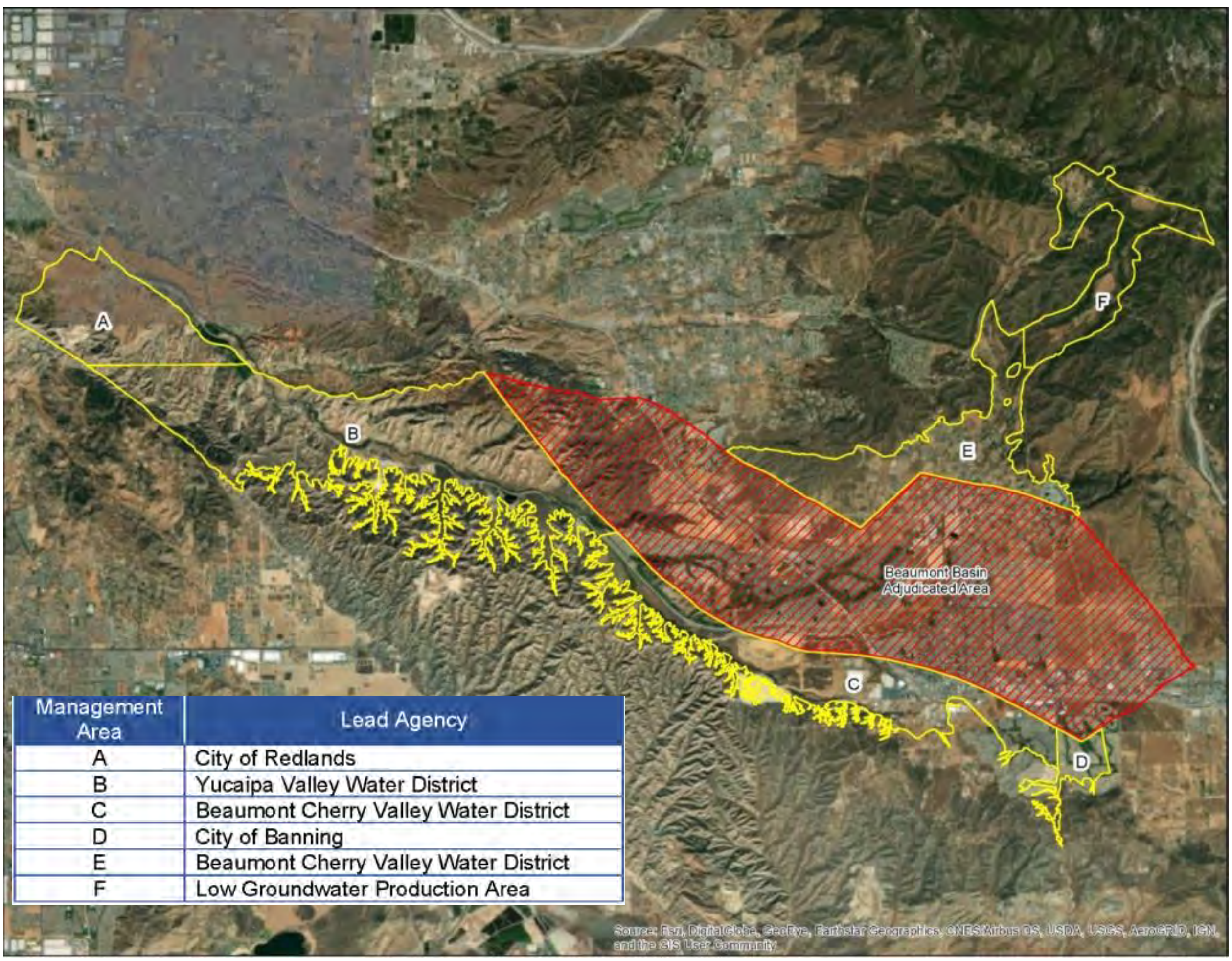


Figure 3-6. San Timoteo Subbasin Management Areas

The adjudicated portion of the San Timoteo Subbasin, the Beaumont Basin Adjudicated Area, is managed by the Beaumont Basin Watermaster and not the San Timoteo GSA, as discussed in the following section.

3.3.5.1 Beaumont Groundwater Basin

DWR considers the Beaumont Groundwater Basin to be composed of three other groundwater basins, primarily the San Timoteo sub basin, the Upper Santa Ana Valley Groundwater Basin (No. 8-02), and the San Gorgonio Pass Sub basin (No. 7-21.04). Locally, the Beaumont Basin is treated as a distinct basin. The Beaumont Basin is one of the sources used by YVWD and SMWC.

The Beaumont Basin is located in northwestern Riverside County, south of the Yucaipa Basin. The basin eventually drains to San Timoteo Creek, a tributary of the Santa Ana River, and covers approximately 26 square miles. Groundwater elevations generally slope from the northeast to southwest in the basin.

Groundwater within the basin is predominantly found in Holocene age alluvium and in the San Timoteo Formation. While the San Timoteo Formation extends to depths in excess of 1,500 feet, water bearing sediments within the Beaumont Basin exist to depths of 700 to 1,000 feet. Estimates for total groundwater storage capacity within the basin vary. The Beaumont Basin storage capacity is estimated at approximately 1,000,000 AF.

In February 2004, the San Timoteo Watershed Management Authority filed a judgment adjudicating the groundwater rights in the Beaumont Basin and assigned the Beaumont Basin Watermaster (BBW) with the authority to manage the groundwater basin. The Beaumont Basin Watermaster is comprised of managers from the Beaumont Cherry Valley Water District, City of Banning, City of Beaumont, SMWC, and YVWD. The Beaumont Basin Watermaster originally established a long-term yield for the Beaumont Basin of 8,560 AFY. The safe yield is reevaluated every ten years and on April 1st, 2015, the BBW approved the adoption of Resolution 2015-01 (2013 Reevaluation of the Beaumont Basin Safe Yield Report and Redetermination of the Safe Yield of the Beaumont Basin), which reduced the safe yield to 6,700 AFY.

The Beaumont Basin Watermaster Website provides copies of the Judgment, Annual Reports and related information: https://beaumontbasinwatermaster.org/

The Judgement includes a controlled overdraft (temporary surplus) provision that allows extraction up to 160,000 AF over the 10-year period immediately following the Judgement inception. During the first 10 years, the agencies could extract 16,000 AFY; after the first 10 years, extractions are limited to the amount each agency has in storage or credit. Agencies must provide the BBW with funds necessary to replace any amount of overproduction that may have occurred over a 5-year consecutive period.

The adjudication of the Beaumont Basin has defined overlying and appropriator pumping rights and also allows for supplemental water to be stored and recovered from the basin.

3.3.6 Chino Sub basin

Fontana Water Company, the City of Rialto, and WVWD extract water from Chino Sub basin (DWR 8-02.01), an adjudicated basin managed by the Chino Basin Watermaster. The Chino Sub basin lies in the southwest corner of San Bernardino County. The Chino Sub basin is bordered to the east by the Rialto-Colton fault. In the other three directions, the Chino Sub basin is ringed by impermeable mountain rock, the San Gabriel Mountains to the north, the Jurupa Mountains and Puente Hills to the south and southwest. Average annual precipitation across the basin is 17 inches. This part of the San Bernardino Valley is drained by San Antonio Creek and Cucamonga Creek southerly to the Santa Ana River.

On January 2, 1975, several Chino Basin producers filed suit in California State Superior Court for San Bernardino County (the "Court") to settle the problem of allocating water rights in the Chino Basin. On January 27, 1978, the Court entered a judgment in Chino Basin Municipal Water District v. City of Chino et al. adjudicating water rights in the Chino Basin and establishing the Chino Basin Watermaster. The Judgment adjudicated all groundwater rights in Chino Basin and contains a physical solution to meet the requirements of water users having rights in or dependent upon the Chino Basin. The Judgment also appointed the Watermaster to account for and implement the management of the Chino Basin. The Judgment declared that the initial operating safe yield of the Chino Basin is 145,000 AFY. The Basin is managed through implementation of the Chino Optimum Basin Management Plan. Per the Judgment, WVWD has a minimum of approximately 1,000 AFY of extraction rights. Extractions above that amount must be replenished with SWP water through a program with the Chino Basin Watermaster.

3.3.7 Bear Valley Basin

The Bear Valley Basin (DWR 8-9) encompasses 30.6 square miles under Big Bear Valley, within the San Bernardino Mountains. There are two surface water lakes within the Bear Valley Basin: perennial Big Bear Lake and the ephemeral Baldwin Lake. Surface drainage within the Bear Valley Basin flows to one of the two lakes, typically to Big Bear Lake. Big Bear Lake empties to the west into Bear Creek, which is a tributary of the SAR.

Groundwater from the Bear Valley Basin is primarily found within unconsolidated alluvial deposits. The water-bearing deposits have been divided into upper, middle, and lower aquifers, with the upper and middle aquifers being the primary producers. The Bear Valley Basin is recharged through percolation from precipitation and runoff and underflow from fractured crystalline rocks, adjacent to and beneath the alluvium. Groundwater levels generally correlate with annual fluctuation of precipitation. Storage capacity is estimated by DWR at 42,000 AF (California Department of Water Resources, February 2004). Perennial yield is estimated to be 5,000 AFY basin-wide.

The Bear Valley Basin is not adjudicated and has not been identified by DWR to be in overdraft conditions. The Bear Valley Basin is monitored by Big Bear Lake Department of Water and Power (BBLDWP) and Big Bear City Community Services District (BBCCSD).

BBCCSD, BBLDWP, Big Bear Area Regional Wastewater Agency (BBARWA), and Big Bear Municipal Water District (BBMWD) formed the Bear Valley Basin Groundwater Sustainability Agency (BVBGSA) under a joint power's agreement on April 26, 2017. BVBGSA is governed by one representative from BBCCSD, one representative from BBARWA, one elected representative from BBMWD and one appointed commissioner from BBLDWP. The Bear Valley Basin GSP is under development and is scheduled for completion in January of 2022, in accordance with the SGMA.

3.3.8 Recharge Area Programs

Conjunctive use of surface water and groundwater is a long-standing practice in the IRWM Region. Part of the potable water used in the Region is imported from sources in the Sierra and Northern California through the SWP. Several reservoirs are operated primarily for the purposes of storing surface water for domestic and irrigation use, but groundwater basins are also recharged from the outflow of some reservoirs. The concept is to maintain streamflow over a longer period of time than would occur without regulated flow and thus provide for increased recharge of groundwater basins. Most of the larger basins in this Region are managed with many conjunctive use projects being developed to optimize and manage water supply. Numerous groundwater spreading grounds have been developed to recharge the groundwater basins when adequate surface water supply is available. Management of the water level in the SBB, in general, and the Pressure Zone (see Figure 2-6), in particular, is a focus of the groundwater management of the Region.

3.3.8.1 Groundwater Storage Strategy

Storage of imported water during wet years helps the Region make it through dry periods.

The primary storage location is local groundwater basins. Local groundwater basins are preferable due to the proximity to end users, the significant investment in wells, and the reduction in ongoing evaporation associated with storing the water underground. See Chapters 4 and 5 for a summary of estimated recharge needs for each groundwater basin in the Region and the volume of SWP expected to be available for recharge.

3.3.8.2 Spreading Grounds

Artificial recharge in the IRWM Region's groundwater basins has been occurring as early as 1912. Because of the extremely permeable sand and gravel deposits in the Region's groundwater basins, maximum instantaneous recharge rates are high.. Because of the size of several of the recharge basins and exceptionally permeable material, a larger quantity of water could be imported and recharged along the base of the San Bernardino Mountains, if necessary (i.e., recharge basin capacity and infiltration rates are not currently limiting the amount of imported water that is recharged). Any additional recharge and extraction should be carefully planned and implemented to avoid liquefaction and unacceptable decreases in groundwater levels in the basins

Numerous existing groundwater recharge facilities (spreading grounds or spreading basins) are located in the SBB, Rialto-Colton, and Yucaipa Subbasins. The locations of these facilities are shown in Figure 3-9, and selected characteristics are summarized in Table 3-11.

SBVWCD facilities are used for both native water and SWP recharge. Figure 3-7 shows the native water recharged in SBVWCD facilities since 1913. In addition to native water, existing turnouts provide SWP to most recharge facilities, with the exception of the Cactus Spreading and Flood Control Basins, which is planned to be served by the Cactus Basins Pipeline proposed by Valley District.

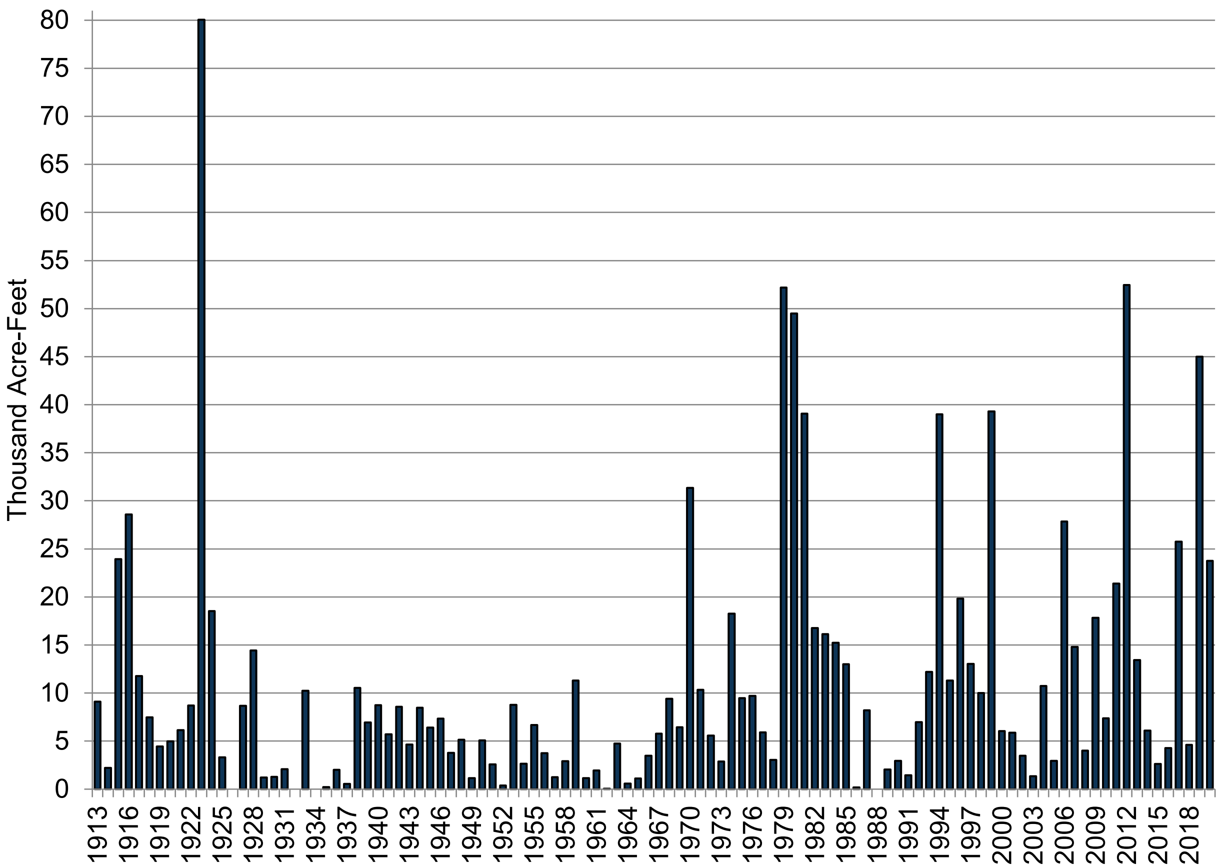


Figure 3-7. Annual Native Recharge in San Bernardino Valley Water Conservation District Facilities

Table 3-11: Regional Recharge Basins

FACILITY NAME	OWNER	UNDERLYING GW BASIN	SWP AVAILABILITY	CONSTRAINTS
Waterman Basin	SBCFCD	Bunker Hill A	Foothill Pipeline	Seasonal restrictions due to storm water
East Twin Creek Spreading Grounds	SBCFCD	Bunker Hill A	Foothill Pipeline	Seasonal restrictions due to storm water
Cactus Basin – 3 and 3a	SBCFCD	Rialto-Colton	Devil Canyon-Azusa Pipeline	Seasonal restrictions due to storm water
Redlands Recharge Basins	Redlands	Bunker Hill B	No	Operation due to WWTP flows
Lytle Creek North WRP Effluent Disposal Ponds	San Bernardino County Special Districts Department (SBCSDD)	Lytle Basin	Potential from nearby Devil Canyon-Azusa Pipeline	Operation due to WWTP flows
Wilson Basin	SBCFCD	Yucaipa Basin	East Branch Extension	Seasonal restrictions due to storm water
Proposed Plunge Basin	Valley District	Bunker Hill B	No	Seasonal restrictions due to storm water
Sweetwater Basins	SBCFCD	Bunker Hill	Foothill Pipeline	Seasonal restrictions due to storm water
Santa Ana	SBVWCD	Bunker Hill	Foothill Pipeline	Seasonal restrictions due to storm water
Santa Ana Low	SBVWCD	Bunker Hill	Greenspot Pipeline	Seasonal restrictions due to storm water
Mill Creek	Valley District, RPU, SBVWCD	Bunker Hill	Greenspot Pipeline	Seasonal restrictions due to storm water
Oak Glen	SBCFCD, YVWD	Yucaipa Basin	No	Seasonal restrictions due to storm water

3.4 Recycled Water

Development of recycled water is a strategy in the IRUWMP. Although it is costly, it is also highly reliable since there will be flows to wastewater plants whether the weather is wet or dry. For that reason, recycled water is often labeled "drought-proof". Because it is the costliest supply, the region has not heavily developed this supply choosing instead to develop other, less costly supplies first. The recent drought highlighted the advantage of having a drought-proof supply, like recycled water, as a part of the regional water portfolio. This led to Valley District and the agencies within its service area, as well as Western and the City of Riverside, to prepare a Regional Recycled Water Concept Study. This is a collaborative process to identify recycled water projects that maximize regional benefits to water supply reliability, water quality, and habitat sustainability. The stakeholder group is targeting development of 18,023 AFY of new recycled water supply in the near term, however there is an obligation to discharge a minimum of 57,402 AFY to the SAR to sustain the natural habitat. The recycled water projects identified in this process were incorporated into the HCP analysis to ensure that implementation of these projects support both water supply and habitat sustainability.

Currently, some individual agencies are using recycled water for non-potable reuse. Recycled water produced in the Valley District service area that is not currently used for non-potable reuse is discharged to the SAR or its tributaries and has become a critical source of water that sustains habitat in natural rivers and streams, including the Santa Ana Sucker, which is a Federally listed endangered species. Development of new recycled water supplies in the upper SAR watershed must be balanced with the need to conserve and maintain this habitat.

Potential recycled water supplies for each retailer are described in their respective chapters. Anticipated recycled water supplies are included in the regional summary of supplies.

3.4.1.1 Wastewater

There are 12 publicly owned WWTPs located within the Region. Eight of these plants contribute to surface flow of the SAR as shown in the effluent use column of Table 3-12. Between 1970 and 2019, the total volume of treated wastewater contributions to SAR flows increased from 44,000 AFY to 116,000 AFY, with a peak of 188,000 AF in 2004-2005 (SAR Watermaster 2019).

Three wastewater treatment plants (Redlands, Beaumont, and Yucaipa) discharge to the SAR and its tributaries upstream of the City of San Bernardino, but these discharges generally do not flow continuously to the SAR at "E" Street (SAR Watermaster 2013). Two plants, the Rapid Infiltration and Extraction (RIX) WWTP in the City of Colton and the Rialto WWTP in the City of Rialto, discharge directly to the SAR via a discharge channel at RM 53.46. Wastewater discharges from these plants have hydraulic continuity to the SAR above Riverside Narrows.

Table 3-12: Wastewater Treatment Plants in the Region

FACILITY	INFLUENT FLOW SOURCE	CAPACITY (MGD)	2020 AVERAGE FLOW (MGD)[1]	EFFLUENT USE
San Bernardino County Special Districts Department Lytle Creek North WRP	SBCSDD, WVWD	1.75	0.4	Non-potable reuse for Irrigation and Dust Control (336 AF) Remaining discharged onsite disposal ponds
Big Bear Area Regional WWTP	BBCCSD, BBLDWP, SB County	4.9	2.0	Non-potable reuse for irrigation in Lucerne Valley. Remaining discharged to disposal ponds. Future discharge to Big Bear Lake planned
Rialto WWTP	Rialto	11.7	7	Non-potable reuse for irrigation (10 AFY) Remaining discharged to Rialto Channel/SAR
Colton WRP	Colton & RHWC	10.4	5	Conveyed to RIX
SBMWD WRP	SBMWD, EVWD, Loma Linda	33	21	Conveyed to RIX. Planned Tertiary Treatment System will produce RW for groundwater recharge
RIX WWTP	Colton WRP & SBWRP	40	28	100% Discharged to SAR
Riverside RWQCP	Riverside	46	25.3	Non-potable reuse for irrigation (200 AF) Remaining discharged to SAR
Redlands WWTF	Redlands	16.2	6	Non-potable reuse for Irrigation and Industrial (3,032 AF) Remaining discharged to onsite disposal ponds (3,254 AF)
YVWD WRWRF	YVWD	8	3.8	Non-potable reuse for irrigation Remaining discharged to San Timoteo Creek Groundwater recharge (planned)
City of Beaumont WWTP	Beaumont	4	3.6	Discharged to Cooper's Creek and remaining reused for non-potable irrigation
EVWD SNRC	EVWD	8	-	Groundwater recharge (beginning in 2022)
IEUA Regional Treatment Plant No. 4[2]	Fontana, WVWD, other IEUA customers	-	-	Non-potable reuse Groundwater Recharge

1. Flows for the Lytle Creek North WRP and City of Beaumont WWTP are 2015 annual average flow from 2015 Regional Recycled Water Concept Study
2. RP-4 is outside the Region but provides RW to FWC

3.4.1.2 Recycled Water Programs

Despite the likelihood that WWTP discharges will increase in the future, not all of the treated water may enter the SAR. Several cities and utilities are in the process of developing plans to recycle water for non-potable uses, which could decrease discharges to the river. Valley District contracted with the City of San Bernardino and the City of Colton to ensure that the RIX facility continues to release quantities of treated effluent to the SAR adequate to fulfill Valley District service area's obligation to provide 15,250 AF of baseflow each year at the Riverside Narrows as called for in the Orange County Judgment.

A number of other agencies have plans to improve recycled water production capacity and implement projects to use recycled water for non-potable uses in the future. Table 3-13 summarizes the proposed water recycling programs in the IRWM Region. Several agencies have constructed recycled water distribution systems or are in the process of planning and constructing recycled water distribution systems. These systems are discussed below.

Table 3-13: Upper Santa Ana River Water Agencies Recycling Water Programs

WATER AGENCY	RECYCLING PLANT	PRODUCTION CAPACITY	DESCRIPTION
East Valley Water District	Sterling Natural Resource Center	10 MGD	Construction of a tertiary plant to produce recycled water.
Fontana Water Company	IEUA Regional treatment Plant 4	5.4 MGD	Fontana Water Company has completed constructing infrastructure to deliver recycled water in its service area.
City of Redlands Municipal Utilities and Engineering Department	City of Redlands WWTP	7.2 MGD	Recycled water used for basin recharge, irrigation, and industrial purposes.
Rialto	City of Rialto Water Treatment Plant	12.0 MGD	Recycled water used for landscape irrigation on the I-10 and habitat. Additional non-potable use planned.
Riverside Public Utilities	Riverside Regional Water Quality Control Plant	40 MGD	Plans to implement the Riverside Parks and Water Project as part of the HCP.
SBMWD	Tertiary Treatment System	5.0 MGD	Construction of a tertiary treatment system at the existing San Bernardino Water Reclamation Plant to recycle water for plant use, landscape irrigation, and recharge.
Yucaipa Valley Water District	Henry N. Wochholz WWTP	6.7 MGD	Recycled water used for irrigation, in-stream flow requirements and groundwater recharge (planned)
SBMWD, City of Colton, City of Loma Linda, County of San Bernardino, and East Valley Water District	RIX	40 MGD	All the water from the RIX is currently released into the Santa Ana River. The City of San Bernardino and East Valley Water District are currently developing recycled water programs.

WATER AGENCY	RECYCLING PLANT	PRODUCTION CAPACITY	DESCRIPTION
BBARWA, BBCCSD, BBLDWP, BBMWD	BBARWA WWTP	2 MGD	All water from the BBARWA WWTP is currently discharged outside the Region for disposal. Replenish Big Bear is a proposed project to upgrade the BBARWA WWTP to produce recycled water for discharge to Big Bear Lake to increase lake levels, sustain habitat and retain the water in the Region.

3.4.1.2.1 Replenish Big Bear

In an effort to protect Big Bear Valley and the Region from the impacts of drought and variable precipitation, Big Bear Area Regional Wastewater Agency (BBARWA), Big Bear City Community Services District, City of Big Bear Lake Department of Water and Power, Big Bear Municipal Water District, and the Bear Valley Basin Groundwater Sustainability Agency have partnered to develop Replenish Big Bear, a recycled water project that will recover a local water resource currently discharged outside of the watershed. Replenish Big Bear will secure a reliable and sustainable local water supply, protect the local environment, and strengthen the tourism industry that drives the recreation-based economy for a small-disadvantaged community at the top of the Santa Ana River watershed in the San Bernardino National Forest.

Currently, all wastewater generated within Big Bear Valley is treated to secondary standards and disposed of outside the watershed. Replenish Big Bear will recover this lost resource by purifying the water using advanced treatment processes, creating a new drought-resistant source of water for beneficial use in the community. Specifically, Replenish Big Bear includes construction of advanced treatment facility upgrades at the existing BBARWA wastewater treatment plant, more than 7 miles of pipeline for product water and brine, three pump stations, a groundwater recharge facility and monitoring wells.

Replenish Big Bear will provide the following regional and statewide benefits:

- **Maintain and Diversify Water Supplies.** High-quality water produced by Replenish Big Bear will sustain up to 20 percent of the Valley's needed groundwater supply, the community's sole source of drinking water, in times of drought. Currently, municipal wastewater is treated and pumped out of the Valley. Through this practice, 800 million gallons of water leaves the Big Bear Valley each year. Replenish Big Bear will allow us to keep this water in the community for recycling.
- **Support Economic Development and Stability.** Big Bear Valley is home to approximately 23,000 residents and is designated as a Disadvantaged and Severely Disadvantaged Community by the State of California Department of Water Resources. Recovering local water resources strengthens the ability to support a thriving tourism industry, that this small community depends greatly on and is an essential element of the local economy. Replenish

Big Bear will enhance water levels in Big Bear Lake and other area water bodies, supporting year-round recreational activities, wildlife viewing, and scenic landscapes.

- **Protect and Enhance Natural Ecosystems.** Big Bear Valley is rich in wildlife that is heavily responsive to local hydrologic conditions. Retaining local water within the watershed stabilizes and sustains year-round habitat for waterfowl and the high number of plant species known only to this area, including the largest population of wintering bald eagles in southern California and the federally-listed Unarmored Threespined Stickleback fish.

The project is currently in the preliminary design and permitting phase and this Community Project Funding request is critical for the project to move into implementation. Federal funding will enable the project team to leverage existing participating agency contributions and State funding to implement Replenish Big Bear.

Additional information about Replenish Big Bear can be found at www.replenishbigbear.com/.

Big Bear Lake
Photo Credit: Big Bear Municipal Water District

Sterling Natural Resource Center

EVWD is currently constructing a new water recycling facility called the Sterling Natural Resource Center (SNRC). SNRC, which is expected to be completed in 2022, will allow the District to treat wastewater to a point that it can be recharged into the Bunker Hill groundwater basin to supplement the groundwater supply. Initially, the facility will treat up to 8 million gallons per day and will be expandable to be able to treat ultimate buildout of approximately 10 million gallons per day.

EVWD has partnered with Valley District to maximize the regional benefit of the recycled water produced at SNRC to recharge the SBBA groundwater. Given the consistent need for groundwater replenishment compared to the potential uses for recycled water, there are currently no plans to use recycled water for any other purposes in the foreseeable future. For the purposes of this plan, projected recycled water supplies were estimated using the per capita wastewater flow projection methodology used in EVWD's 2019 Sewer Master Plan, adjusted to align with the population projection in this UWMP, which are inclusive of long-term growth plus expected near term developments.

Sterling Natural Resource Center under construction in 2021
Photo Credit: East Valley Water District

Recycled Water Use for Fontana Water Company

Fontana Water Company is working cooperatively with the City of Fontana to design and construct the first phase of a recycled water program. Once recycled water becomes available and the necessary infrastructure is constructed, Fontana Water Company will be the purveyor of recycled water to those customers within its service area who can make use of such water. In the first phase of the recycled water program, Fontana Water Company will provide approximately 1,700 AF of recycled water to schools, parks, commercial customers, and Community Facilities Districts' landscape irrigation locations in the southern portion of the City of Fontana. Ultimate build-out in Fontana Water Company's service area will enable Fontana Water Company to provide approximately 6,000 AF of recycled water. Fontana Water Company supports the use of recycled water where its use is appropriate and where recycled water is available.

Recycled Water Use for City of Redlands

The City is a sewer agency that treats approximately 5.9 million gallons of wastewater daily as of 2020. The City's Wastewater Treatment Plant (WWTP) has the capability of treating 9 million gallons a day (MGD) to a secondary level. Of that, 7.2 MGD can be treated to a Title 22-Recycled Water level.

The City utilizes all wastewater collected and treated at its WWTP in its service area for:

- Distribution to customers
- Percolation into Bunker Hill

Treated wastewater distributed to customers is tertiary treated, known as Title 22-Recycled Water. The City's recycled water customers include Southern California Edison (SCE) Company, a landfill and recycled/non-potable water customers located in the 1350 pressure zone. SCE uses recycled water as cooling water at its Mountain View Power Plant and recycled/non-potable water customers use recycled water for irrigation when supply is available. All remaining wastewater is treated to a secondary level and released into spreading basins located east of the WWTP for recharge back into Bunker Hill ground water basin. Based on 2020 volumes, approximately 1.6 mgd of treated wastewater was used as recycled water supply for customers, and 3.4 mgd was used for recharge. The remaining water was used within the WWTP or accounted for as losses through the process, meter inaccuracies or evaporation.

The expansion of the recycled water system is limited by its supply, as well as infrastructure development and the Title 22-Recycled Water permitting process. However, because the City requires new commercial development to provide dual metering for irrigation systems, to accommodate the use of recycled/non-potable water, all recycled water may be utilized for distribution to recycled/non-potable water customers in the 1350 zone and eventually the 1570 pressure zone, as demand and infrastructure increases. The City's Capital Improvement Plan includes the design and construction of two recycled water reservoirs that will total up to a volume of 2,000,000 gallons of storage, a 1,500 gallons per minute booster pump station, and 9,400 linear feet of pipeline. Construction of these facilities will increase the use of recycled water in the 1350 and 1570 pressure zones by 826 AFY.

Recycled Water Use for City of Rialto and West Valley Water District

The City of Rialto has facilities to provide the California Department of Transportation (Caltrans) with recycled water for 42,000 feet of landscape irrigation for Interstate-10. Caltrans has been using approximately 10 AFY. Currently, there are no other users of the recycled water.

Rialto plans to reduce the amount of treated effluent that is discharged from the Rialto Wastewater Treatment Plant into the Rialto Channel, which is a tributary to the Santa Ana River. The reduction of flow would occur in two parts as infrastructure is constructed, demand for recycled water increases, and certain habitat modifications are implemented within the Rialto Channel. The City of Rialto would recycle/reuse the wastewater by transporting treated wastewater through a pipeline system to recycled water consumers within their service area for direct application.

WVWD has evaluated the feasibility of adding recycled water as a non-potable supply but would rely on the City of Rialto or San Bernardino County to provide the recycled water from their wastewater treatment facilities. In 2012, WVWD prepared a master plan to evaluate potential uses of recycled water within its service area. WVWD does not currently have a recycled water distribution system and is not pursuing recycled water use at this time because it is not cost effective to extend facilities from the wastewater treatment plants to the locations of potential use.

Recycled Water Use for City of Riverside

The City of Riverside Public Works Department operates and maintains the Riverside Regional Water Quality Control Plant (RRWQCP). The daily average wastewater inflow to the RRWQCP is 34 mgd. Construction for an upgrade is currently underway to increase treatment plant capacity to 46 mgd, with the final plant capacity to reach 52 mgd by 2024. The service area of the RRWQCP extends beyond the Riverside Public Utilities service area to include the areas served by Jurupa, Rubidoux, and Edgemont Community Services District. Tertiary-treated effluent (recycled water) is discharged into the SAR.

The SWRCB approved Order WR 2008-0024 in May 2008, in which RRWQCP is required to discharge 25,000 AFY, compared to previous minimum discharge requirements of 15,250 AFY per the 1968 Prado Settlement.

This order changed the place of use and purpose of use of a portion of the treated wastewater discharged into the SAR requested through Wastewater Change Petition WW-0045 as follows:

- **Change of Place of Use:** The Order expanded the place of use to include areas within the City's limits, the City's water service area boundary, and within the boundary of the Jurupa Area Plan to reflect diversion of treated wastewater to recycled water use sites. The point of discharge to the SAR remained the same.
- **Change of Purpose of Use:** The Order modified the purpose of recycled water use to include municipal, industrial, and agricultural purposes.

Recycled Water Use for San Bernardino Municipal Water Department

SBMWD is developing the Tertiary Treatment System (TTS) Project a recycled water project which will be a Title 22-compliant tertiary treatment facility that will supply recycled water for:

- Operational needs within the plant, eliminating in-plant use of groundwater and onsite groundwater storage
- Groundwater recharge of the Bunker Hill Groundwater Basin, which is SBMWD's sole source of water supply
- Supplying potential future recycled water customers.

The TTS project location is sited east of the Unit 1 secondary clarifiers, adjacent to East Twin Creek. The design includes a new pump station and pipelines to convey secondary effluent to new filtration and disinfection processes.

After treatment, the tertiary recycled water will be stored in a rehabilitated existing reservoir that currently stores groundwater. Production of tertiary disinfected recycled water from the TTS will be phased with provisions to allow future expansion of up to 5 mgd (AECOM, 2019) using water in excess of the discharge commitments to the Santa Ana River. The TTS is in the final design phase and is expected to be operational in 2021.

The proposed effluent discharge reduction would occur in two parts corresponding to Phases 1 and 3 of the HCP implementation. In Phase 1 the Water Department will reduce flows from the RIX facility to the Santa Ana River from the baseline of 41.2 cfs (22.2 mgd) to 28 cfs (15.1 mgd). In Phase 3 of RIX, effluent reduction could occur if the HCP demonstrates that the success criteria for mitigation actions in this HCP for Santa Ana sucker are being met or exceeded. If the success criteria are not met until Phase 4, then implementation would be delayed until Phase 4 of the HCP. In this phase the RIX effluent discharge could be reduced to a minimum of 16,651 afy/23 cfs/12.4 mgd.

Recycled Water Use for Yucaipa Valley Water District

YVWD's existing recycled water system went into operation in 2002. The system currently includes 22 miles of pipeline, approximately 460 service connections, and 5 reservoirs capable of storing 12 million gallons (36.8 AF) of water.

Due to an increasing demand of recycled water, YVWD will continue expanding the recycled water system. YVWD will be constructing a Regional Recycled Water Conveyance System to the southernmost service area boundary. This extension would involve the construction of a 24" recycled water pipeline, approximately 18,500 linear feet (3.5 miles) through the City of Calimesa. The purpose of the pipeline is to provide recycled water service to customers residing within the newly developed dual-plumbed community in the City of Calimesa.

Recycled water is currently used to provide about 16 percent of Yucaipa Valley Water District's overall water demands. A significant portion of YVWD's projected future water demands will be met with the use of recycled water for irrigation of golf courses, parks, landscape areas and front-/rear-yard irrigation of residential dwellings.

To serve the projected water demands, YVWD has implemented an extensive dual water distribution system. The dual water system includes a drinking water conveyance system to convey potable water to customers and a separate recycled water distribution system to convey recycled water to customers.

As water becomes an increasingly precious commodity, Yucaipa Valley Water District is stepping up its recycling efforts so that more water can be reused on golf courses, school grounds, roadside medians and for other landscaping purposes -- even the front and rear yards of new homes.

YVWD has already initiated a significant recycled water program within their service area for landscape irrigation. Future homes in the YVWD service area will be constructed with drinking water for interior use and recycled water for exterior use. These improvements will significantly reduce the GPCD for the community and provide the framework for a robust, sustainable and water conscientious community.

3.5 Transfers, Exchanges, and Groundwater Banking Programs

3.5.1 Transfers and Exchanges

Transfers and exchanges are discussed in chapters for each individual agency.

3.5.2 Groundwater Banking Programs

As stated previously, storing water in local groundwater basins during wet years for later use during droughts is one of the primary management strategies in the USARW IRWMP.

> Valley District has been conducting groundwater recharge activities in the SBBA since 1972. The San Bernardino Valley Water Conservation District and its predecessors have conducted water conservation (groundwater recharge) activities since 1912 in areas that overlie the SBBA.

The USARW IRWMP evaluated additional conjunctive use scenarios and concluded that they were feasible. Conjunctive use projects currently under development in the Valley District Service area are described in **Section 3.6.2.**

Phase 1A Enhanced Recharge Project
Photo Credit: San Bernardino Valley Water Conservation District

3.6 Planned Water Supply Projects and Programs

The USARW has collaborated to manage the region's unique water supply, water quality, flood, and habitat challenges. These challenges are key considerations in the implementation of new water supply projects and are reflected in the goals of the USARW IRWMP.

3.6.1 Recycled Water

Planned recycled water projects are described in Section 3.4.

3.6.2 Conjunctive Use Projects

One of the foundational water management strategies in the USARW IRWMP is conjunctive use which has been generally described as using our groundwater basins to store water that is available in wet years so that it is available to be pumped out during dry years (dry year yield). Groundwater modeling for the IRWMP concluded that conjunctive use is feasible up to certain limits.

In February 2012, the BTAC recommended a cumulative total of 40,000 acre-feet per year of dry year yield. This capacity represents an efficient, initial project size with the possibility for expansion, given modeling to support it.

The five regional water agencies in the Santa Ana River Watershed have identified a watershed scale project, the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP), a cooperative program with, Metropolitan and other agencies in the Santa Ana Watershed to store imported water during wet years for use during dry years.

The group includes representatives from the following regional water agencies:

- Valley District
- Western
- Eastern Municipal Water District
- IEUA
- Orange County Water District

The program goals of SARCCUP include:

- Providing watershed-wide benefits based upon regional collaboration
- Creating significant new dry-year yield
- Increasing the resiliency and reliability of the water supply

SARCCUP includes four separate groundwater banks located in different groundwater basins within the Santa Ana Watershed, including a comprehensive conjunctive use program in the SBB. SARCCUP will provide water for the SBB and the companion project, Bunker Hill Conjunctive Use Program (BHCUP) provides the extraction facilities for the SBB.

> Conjunctive use will benefit the retail water agencies with wells in the Region by increasing water levels and reducing pumping costs. The portion of these projects ultimately available to agencies in the Valley District service area is up to 88,500 acre-feet of storage and up to 29,500 acre-feet of dry year yield.

3.6.3 Groundwater Recharge

One of the water supply strategies of the region is to recharge groundwater through spreading of imported water or through direct use of imported water which results in in-lieu recharge, managing floods and increasing stormwater recharge, and percolating recycled water. The region utilizes multiple spreading basins to recharge imported water and excess surface water, percolates effluent from multiple wastewater treatment facilities, and receives some recharge through percolation of stormwater. Proposed new recharge projects under development are shown in **Table 3-14**. In addition to these projects, local flood control districts are repairing and improving existing flood control channels and basins to reduce the velocity of water and allow additional groundwater recharge.

> A goal of the USARW IRWMP is to balance flood management and increase stormwater recharge.

Stormwater management has been an ongoing challenge in the USARW Region and flood control facilities, such as detention basins, have provided much needed control of these flows. While conveying flood water safely through the upper SAR watershed is of critical importance, detaining runoff for recharge is also desirable. The region's groundwater managers are working with flood control agencies to optimize the use of these flood control facilities to increase the recharge of stormwater into the groundwater basin. The goal is to strike a balance between flood control and recharge that will ensure protection from flooding, while providing additional supplies to meet growing future demands and to supplement these supplies during drought years. Valley District has had an agreement with SBCFCD since 1972 which allows Valley District to recharge water in flood control detention basins. The two agencies are currently working on a replacement agreement that will continue to allow Valley District to use flood control basins for recharge when they are not needed for flood control.

Table 3-14: Planned Groundwater Recharge Projects

PROJECT NAME	AGENCY	BASIN	IMPLEMENTATION YEAR/PHASE	ESTIMATED YIELD (AFY)	WATER RECHARGED
SAR TRIBUTARY ACTIVE RECHARGE PROJECTS					
City Creek Basins	Valley District, Western, RPU, SBVWCD	Bunker Hill	Planning	4,660	Stormwater
Mill Creek Basins	Valley District, Western, RPU, SBVWCD	Bunker Hill	Planning	940	Stormwater
Waterman Creek Basins	Valley District, Western, RPU, SBVWCD	Bunker Hill	Planning	1,420	Stormwater
East Twin Creek Basins	Valley District, Western, RPU, SBVWCD	Bunker Hill	Planning	3,310	Stormwater
Plunge Creek and Oak Creek	Valley District, Western, RPU, SBVWCD	Bunker Hill	Planning	3,110	Stormwater
Cable Creek Basins	Valley District, Western, RPU, SBCFCD	Bunker Hill	Planning	2,420	Stormwater
Lytle Creek Basin	Valley District, Western, RPU	Bunker Hill	Planning	3,620	Stormwater
Cajon – Vulcan Basins	Valley District, SBMWD	Bunker Hill	Planning	490	Stormwater
Lytle – Cajon Basin	Valley District, Western, RPU	Bunker Hill	Planning	2,910	Stormwater
Devil Creek Basin	Valley District, SBMWD	Bunker Hill	Planning	1,910	Stormwater
ADDITIONAL RECHARGE PROJECTS					
Enhanced Recharge in Santa Ana River Spreading Basins, Phases 1B & 1C	Valley District, Western, SBVWCD	Bunker Hill	2022	N/A	
Recharge in Cactus Basins	Valley District, SBCFCD	Rialto-Colton	2022	N/A	Imported Water
Riverside North Aquifer Storage & Recovery Project	Valley District, Western, RPU	Riverside-Arlington	Planning	6,000	
Victoria Basin Recharge	Western	Riverside-Arlington	2020	1,800	Stormwater
Riverside Basin Recharge Project	RPU	Riverside-Arlington	Planning	N/A	Stormwater, Imported water
Vulcan Mining Groundwater Recharge Basin	Valley District, SBMWD	Bunker Hill	Planning	N/A	Imported water
Calimesa Recharge Basin	South Mesa Water Company	Yucaipa	2022	N/A	Stormwater

PROJECT NAME	AGENCY	BASIN	IMPLEMENTATION YEAR/PHASE	ESTIMATED YIELD (AFY)	WATER RECHARGED
Calimesa Aquifer Storage and Recovery	Yucaipa Valley Water District	Yucaipa	2022	N/A	Recycled Water
Sterling Natural Resource Center	EVWD	Bunker Hill	2022	8,200	Recycled Water
Tertiary Treatment System	SBMWD	Bunker Hill	2022	5,600	Recycled Water

Sources: Upper SAR HCP October 2020 Stakeholder Draft, Geoscience Integrated SAR Model results for Active Recharge projects and project information submitted by Plan participants in the Call for Projects (see Chapter 7)

3.6.3.1 Santa Ana River Tributary Active Recharge Project

The Active Recharge Project is envisioned to help better manage surface water available to the SBBA.

In 2015, a stormwater flow and capture analysis were performed to determine:

- The volume of surface water which has historically migrated out of the SBBA,
- The volume of surface water that is generated internally within the SBBA as the result of historical and on-going urbanization of the SBBA,
- The quantity of stormwater that is generated by the major tributary creeks to the Santa Ana River,
- The location and preliminary (conceptual) designs of potential new stormwater capture facilities that could maximize the capture and recharge of surface water flows,
- Potential environmental constraints for each of the selected tributaries,
- Potential modifications to existing retention basins and spreading grounds to further increase surface water capture and recharge, and
- The volume of potential additional recharge to the SBBA and the effect to surface water volumes leaving the SBBA that will occur as a result of implementation of an active recharge project (this remaining flow out of the SBBA would be available for recharge in the proposed Riverside North Aquifer Storage and Recovery Project; see Section 3.6.3.4).

The study included preparation of proposed conceptual designs for new and improved existing surface water capture and recharge facilities in areas of the tributary creeks having the greatest stormwater flows and the least number of environmental constraints. The project stakeholders are currently working to refine the conceptual designs. SBVMWD and SBVWCD entered into a Joint Active Recharge Partnership Agreement and SBVWCD and SBCFCD recently signed a planning MOU for the ARTP-E projects.

3.6.3.2 Santa Ana River Enhanced Recharge Project

The Enhanced Recharge Project is located on the Santa Ana River and will divert up to 500 cubic feet per second (cfs) and up to approximately 80,000 AFY. Water will be temporarily captured at the Seven Oaks Dam and diverted flows will flow to recharge basins for recharge into the SBBA or be delivered for direct use through the first phase of the Plunge Pool Pipeline. This project is estimated to provide approximately 7,643 acre-feet per year of new water to the region.

3.6.3.3 Cactus Basin Recharge

Valley District is working cooperatively with the San Bernardino County Flood Control District (Flood Control) to recharge SWP supplemental water in the Cactus Basins, which would recharge high quality water into the Rialto-Colton sub basin. The project includes the construction of new basins 3 and 3A, which are being built for flood control. Basin development will include the construction of a bypass pipeline to manage flood flows. To optimize the joint use of these basins for flood control, the recharge is planned to occur during the dry season, from April to October.

3.6.3.4 Riverside North Aquifer Storage and Recovery

The Riverside North Aquifer Storage and Recovery Project is a proposed storm water capture project located in the southern portion of the City of Colton and north of the City of Grand Terrace. The project consists of proposed in-channel and off-channel recharge. The proposed off-channel recharge facility location is along the west side of the Santa Ana River and proposes the construction of up to eight individual recharge basins encompassing approximately 25 acres. The in-channel recharge basin proposes construction of an inflatable dam across the Santa Ana River channel, which can be raised and lowered depending on the amount of water flowing in the river.

This project is estimated to provide up to 6,000 acre-feet of new water per year. The in-channel and off-channel water captured will be recharged into the Riverside North sub basin and a portion of the retained water will be diverted to the Riverside Canal pipeline for direct use.

3.6.3.5 Arlington Basin Water Quality Improvement

In 2019, Western completed construction of the Victoria Recharge Basin near the intersection of Victoria Avenue and Jackson Street in Riverside (Victoria site). This site will be used to replenish the Riverside-Arlington groundwater basin with up to 1,800 acre-feet of water per year. The project benefits include:

- The Victoria Recharge Basin increases groundwater storage through the capture and recharge of stormwater that would otherwise be lost.
- The project improves groundwater quality and water management of the Arlington Basin, increasing the groundwater supply enabling the Arlington Desalter to operate at capacity.

- The project will provide a local water source to help decrease the region's reliance on imported water from Northern California.
- Locally-sourced water provides system reliability in the event of imported water disruption.

At this time, there are no other recharge sites planned; however, Western continues to explore additional recharge sites to continue to increase local supply reliability

3.6.3.6 Riverside Basin

RPU plans to construct new recharge basins and/or repurpose existing retention basins within the northern part of the Riverside Basin. These basins will be used to recharge the Riverside Groundwater Basin and therefore increase the operating yield from the basin. The source of the water will be onsite stormwater, imported water, and/or water from the Riverside North Aquifer Storage and Recovery Project via the existing Riverside Canal and associated delivery systems, if necessary.

3.6.3.7 Vulcan Mining Groundwater Recharge

The Vulcan Mining Groundwater Recharge Basins are located east of Lytle Creek, northerly of Devil Creek Channel, and westerly of Cajon Boulevard within existing aggregate mining pits owned by Vulcan Materials Company. SBMWD proposes to develop groundwater recharge facilities within the basins in conjunction with Vulcan Materials Company for recharge of water supplied through the SWP, which would include construction of an SWP turnout, a metering facility, and the placement of a pipeline. The project will not include water supply from surface water diversions.

3.6.3.8 Calimesa Recharge Basin

The Calimesa Recharge Basin Project is a proposed project by the South Mesa Water Company in cooperation with the City of Calimesa and Riverside County Flood Control and Water Conservation District. The City and Flood Control District are currently designing a road improvement project along County Line Road between Park Avenue and Bryant Street, including just under 1 mile of infrastructure enhancements for traffic control. Additionally, the project will entail construction of the Calimesa Recharge Basin on an adjacent 4-acre parcel to collect stormwater captured from the improved roadway and detain it for percolation into the Yucaipa groundwater basin.

3.6.3.9 Calimesa Aquifer Storage and Recovery

The Yucaipa Valley Water District will be installing four injection wells and two extraction wells as an Aquifer Storage and Recovery Facility in the City of Calimesa. This system will provide for the recharge of fully treated (reverse osmosis) recycled water to provide additional drinking water supplies and to meet peak recycled water demands by reversing the flow of water from the injection wells.

3.6.3.10 Sterling Natural Resource Center

The Sterling Natural Resource Center (SNRC) is a wastewater reclamation facility under construction and scheduled to begin treating raw wastewater from East Valley Water District in 2022. SNRC will treat wastewater to tertiary levels and discharge effluent via pipeline to the proposed Weaver groundwater recharge basin. SNRC is estimated to recharge 8,200 AFY to the Bunker Hill sub basin when it comes online in 2022, and recharge will likely increase over time as the EVWD population grows and more wastewater is treated at the facility.

3.6.3.11 Tertiary Treatment System

The Tertiary Treatment System project is an upgrade to the City of San Bernardino Water Reclamation Plant (WRP). The project includes upgrading treatment processes to produce tertiary effluent at WRP and changing the location of effluent discharge from the Santa Ana River to the Weaver groundwater recharge basins via pipeline. The Tertiary Treatment System is estimated to initially recharge 2,200 AFY to the Bunker Hill sub basin starting in 2022 and will increase to 10,000 AFY by 2040 as the improvements are phased in and the City of San Bernardino population grows.

3.7 Development of Desalination

3.7.1 Opportunities for Brackish Water and/or Groundwater Desalination

Desalination, or desalting, is a process to create drinking water from water containing higher salt levels. Desalination can use a thermal distillation process or a membrane process (such as electrodialysis or reverse osmosis). All desalination processes produce a brine waste stream that must be disposed. Brackish groundwater desalting is not currently needed in the San Bernardino Valley.

Although elevated salts are currently not a concern in the San Bernardino Valley, elevated salts are an issue for retailers that overlie the San Timoteo Groundwater Basin where agencies in this basin are considering implementing desalter operations. The area is fortunate to have a Brine Line which can transport non-reclaimable waste, by gravity, from the City of San Bernardino Wastewater Reclamation Plant to the Orange County Sanitation District's treatment plant.

3.7.2 Opportunities for Seawater Desalination

Because the San Bernardino Valley is an inland area and has developed less costly management strategies to achieve a reliable water supply, the region is not pursuing this option.

3.8 Local Water Management

3.8.1 Western Judgement

The Western Judgment, entered simultaneously with the Orange County Judgment, proportioned the water resources within the upper Santa Ana River watershed amongst the residents of the watershed.

The Orange County Judgment ensures minimum flows in the Santa Ana River to Orange County and the Western Judgment generally provides for:

- A determination of safe yield of the SBBA at 232,100 AFY.
- The amount (64,862 AF) of safe yield from the SBBA by for the plaintiff parties (parties in Riverside County). This is equal to 27.95 percent of safe yield.
- An obligation of the non-plaintiff parties (entities in the Valley District service area) to provide replenishment anytime their cumulative extractions exceed their cumulative amount of safe yield;
- An obligation of Western to replenish the Colton Basin Area and the Riverside North Basins if extractions for use in Riverside County in aggregate exceed 3,381 AF and 21,085 AF respectively; and
- An obligation of Valley District to replenish the Colton Basin Area and Riverside North Basin Areas if water levels are lower than 822.04 MSL in specified index wells.

The Judgments establish a Watermaster to be responsible, on behalf of the numerous parties bound thereby, for ensuring implementation of the judgments. The Watermaster for the Western Judgment is made up of one representative from Valley District and Western. Valley District and Western represent the retail water agencies that pump from the groundwater basins.

The Western Judgment contemplates that the parties will develop “new conservation” which is defined as any increase in replenishment from natural precipitation which results from operation of works and facilities not in existence as of 1969, other than works installed to offset losses from flood control channelization. The Western Judgment specifies that the parties to the Judgment have the right to participate in any new conservation projects, provided they pay the appropriate share of the cost. The net effect of new conservation is an increase in safe yield for both the Plaintiffs and non-Plaintiffs. A copy of the Western Judgment is provided in **Part 3 Appendix B**.

In 2013, both the Plaintiffs and Non-Plaintiffs agreed to participate in the cost to capture some of the water that historically flowed to the ocean. This New Conservation was due to the construction and operation of the Seven Oaks Dam. The 2015 Annual Report for the Western-San Bernardino Annual Report effectively increases the safe yield for both Parties as shown in **Table 3-15**.

Table 3-15. Adjusted SBBA Rights Due to New Conservation Allocation

PARTIES	PERCENTAGE	SAFE YIELD ALLOCATION (AF)	NEW CONSERVATION ALLOCATION (AF)	ADJUSTED RIGHT (AF)
Non- Plaintiffs	72.05%	167,238	5,507	172,745
Plaintiffs	27.95%	64,862	2,136	66,998
City of Riverside		52,199	1,719	53,918
Riverside Highland Water Company		4,294	141	4,435
AM and MD Water Company		7,833	258	8,091
Regents of the University of California		536	18	554
TOTAL SUM OF EXTRACTIONS	**100%**	**232,100**	**7,643**	**239,743**

3.8.2 Orange County Judgement

In 1963, the Orange County Water District (OCWD) filed suit against substantially all water users in the area tributary to Prado Dam seeking adjudication of water rights on the Santa Ana River. The litigation ultimately involved over 4,000 served water users and water agencies, the four largest of which were OCWD, Valley District, Western, and the Chino Basin Municipal Water District (now the Inland Empire Utilities Agency). Given the magnitude of the potential litigation, these four districts and other parties developed a settlement that was approved by the Orange County Superior Court in a stipulated judgment entered on April 17, 1969, Orange County Water District v. City of Chino et al., Case No. 117628 (Orange County Judgment). The Orange County Judgment imposes a physical solution that requires parties in the upper Santa Ana River watershed to deliver a minimum quantity of water to points downstream including Riverside Narrows and Prado Dam. A provision of the Orange County Judgment related to conservation establishes that, once the flow requirements are met, the Upper Area parties "may engage in unlimited water conservation activities, including spreading, impounding, and other methods, in the area above Prado Reservoir." The Orange County Judgment is administered by the five-member Santa Ana River Watermaster that reports annually to the court and the four representative agencies. Valley District, the Inland Empire Utilities Agency, and Western nominate one member each to the Watermaster, OCWD nominates two members, and members are appointed by the court. A copy of the Orange County Judgment is provided in **Part 3 Appendix B.**

3.8.3 1961 Rialto Basin Decree

The Rialto Basin Decree was described previously in **Section 2.2.2**. A copy of the Rialto Basin Decree is provided in **Part 3 Appendix B.**

3.8.4 Seven Oaks Accord

On July 21, 2004, Valley District, Western, the City of Redlands, EVWD, Bear Valley Mutual Water Company, Lugonia Water Company, North Fork Water Company, and Redlands Water Company signed a settlement agreement known as the Seven Oaks Accord (Accord). The Accord calls for Valley District and Western to recognize the prior rights of the water users for a portion of the natural flow of the Santa Ana River. In exchange, the water users agree to withdraw their protests to the water right application submitted by Valley District on behalf of itself and Western. All the parties to the Accord have agreed to support the granting of other necessary permits to allow Valley District and Western to divert water from the Santa Ana River. By means of the Accord, Valley District agreed to modify its water right applications to incorporate implementation of the Accord. Additionally, the Accord requires Valley District and Western to develop a groundwater spreading program in cooperation with other parties, “that is intended to maintain groundwater levels at the specified wells at relatively constant levels, in spite of the inevitable fluctuations due to hydrologic variation.” In response, local agencies included groundwater management in the USARW IRWMP and have collectively prepared the Basin Technical Advisory Committee Regional Water Management Plan annually since 2008.

3.8.5 SBBA Groundwater Sustainability Council

In 2018, Valley District, the City of Colton, City of Rialto, SBMWD, City of Loma Linda, EVWD, Conservation District, Fontana Water Company, WVWD, YVWD, BVMWC, and Loma Linda University entered into the San Bernardino Basin Area Groundwater Council Framework Agreement to form the SBBA Groundwater Sustainability Council (SBBA GC). The City of Redlands joined the SBBA GC in 2021. The purpose of the SBBA GC is to coordinate and implement groundwater management activities in the Bunker Hill Sub-basin and achieve groundwater sustainability throughout the basin.

The primary function of the SBBA GC is to purchase and recharge imported water into the SBB. The SBBA GC collectively determines the amount of water to purchase and recharge. The current sustainability goal is 28,823 AFY which corresponds to the estimated 2040 need for SWP as determined by the last version of the RUWMP. The SBBA GC created an Equitable Allocation Model (EAM) to proportion each member’s recharge obligation. The EAM takes into consideration an agencies’ investments in water conservation and other supplies and infrastructure, including recycled water supplies and surface water treatment plants.

3.8.6 Yucaipa Sustainable Groundwater Management Agency

In July 2017, Valley District, the City of Calimesa, City of Redlands, San Gorgonio Pass Water Agency (Pass), South Mesa Water Company, South Mountain Water Company, Western Heights Water Company, City of Yucaipa, and Yucaipa Valley Water District formed the Yucaipa Sustainable Groundwater Management Agency (Yucaipa-SGMA) under the Sustainable

Groundwater Management Act (SGMA). The Yucaipa-SGMA is currently developing a Groundwater Sustainability Plan (GSP) that is required to be completed by January 31, 2022. The Yucaipa GSP will evaluate supplies and demands on the basin, establish sustainability goals including recharge obligations to address any shortages between supplies and demands, identify, and evaluate management actions and impacts of the GSP, and establish a framework for how the basin will be managed collaboratively by all entities who rely upon the basin.

> The Yucaipa-SGMA GSP is under development and was not completed by the time this plan was published, however, some findings from the GSP development process have informed supply and demand projections for entities who are included in this plan.

3.8.7 Settlement Agreement with Conservation District

Valley District, Western, and the San Bernardino Valley Water Conservation District entered into a settlement agreement on August 9, 2005 whereby the agencies will work cooperatively to develop an annual groundwater management plan. Since both parties are members of the BTAC, this requirement is being met by the BTAC's Regional Water Management Plan, which largely establishes a recharge threshold to ensure recharge activities do not cause liquefaction or move contamination plumes.

3.8.8 MOUs with Flood Control

The Planning Memorandum of understanding (MOU) by and between the San Bernardino County Flood Control District (SBCFCD) and San Bernardino Valley Water Conservation District (Conservation District) serves as an agreement for stormwater recharge at various flood control facilities. Under this MOU, the Conservation District identified SBCFCD facilities where stormwater may be diverted for recharge purposes, granted that diversion does not impact SBCFCD's facilities functionality and purpose to maintain protection from floods. At this time, the potential for stormwater recharge using SBCFCD facilities is preliminary, and future studies pertaining to eligible facilities, the amount and quality of storm water flows for recharge, the location and capacity of SBCFCD facilities, recharge impacts to groundwater levels, migration of contaminant plumes, sand and gravel extraction or other land uses in the vicinity, subsidence protection, endangered and sensitive species habitat preservation, and any other concerns will need to be evaluated (San Bernardino County Flood Control District, January 2021). This MOU is for planning purposes only and any future projects that may use SBCFCD facilities will be subject to a separate water spreading agreement between both parties and CEQA.

3.8.9 Exchange Plan

On May 3, 1976, the San Bernardino Valley Water Conservation District (Conservation District), Valley District, Bear Valley Mutual Water Company (BVMWC), City of Redlands, Crafton Water

Company, EVWD, Lugonia Water Company, North Fork Water Company (now owned by EVWD), Redlands Water Company, and YVWD entered into the Santa Ana River – Mill Creek Cooperative Water Project Agreement (Exchange Plan). The Exchange Plan provided a way for Valley District to provide SWP water to the Yucaipa area, by exchange, before Valley District had a pipeline to deliver SWP water directly to Yucaipa. Since the construction of the State Water Project East Branch Extension and the Crafton Hills Pump Station, state water deliveries can be made directly to Yucaipa so that Valley District no longer requires the Exchange Plan .

In 2019, the parties to the Exchange Plan began the process of reviewing the plan to determine if there may be a way(s) to amend the agreement that may help the region overcome issues like varying surface water quality, or an outage on the State Water Project. The proposed amendments to the Exchange Plan are under legal review at the time this plan was completed.

3.8.10 1996 Agreement with Big Bear Municipal Water District

Bear Valley Mutual Water Company constructed the original Bear Valley Dam in 1884 to create Big Bear Lake as a storage reservoir for their customers, downstream farmers. In 1964, the residents of Big Bear Lake formed the Big Bear Municipal Water District (Big Bear Municipal) in an effort to eliminate Lake releases to Bear Valley Mutual so that the lake level would remain high for recreational use and tourism. After more than a decade of litigation, a Judgment was executed in 1977 which reduced the amount of Lake releases to Bear Valley Mutual. Under the terms of this Judgment, Big Bear Municipal purchased from Bear Valley Mutual the lake bottom, Bear Valley Dam, and the right to utilize and manage the surface of Big Bear Lake for recreation and wildlife. In return, deliveries to Bear Valley Mutual were capped at a total of 65,000 AF in any ten-year period. These deliveries can be made in the form of Lake releases or can be provided from other sources "in-lieu" of Lake releases (in-lieu deliveries). In-lieu deliveries to Bear Valley Mutual are preferable to Big Bear Municipal since they do not result in water being removed from the lake.

In 1996, Big Bear Municipal Water District entered into a water purchase agreement with Valley District that reduces the amount of water BBMWD must release from Big Bear Lake. For an annual payment to Valley District, Valley District provides SWP water for the downstream water needs that would have historically been met by lake releases whenever the Lake is at specified levels. Valley District may also provide water from other sources when the SWP supply is limited. This historic agreement helped Big Bear Municipal achieve its mission of Lake level stabilization for recreation while providing Bear Valley Mutual with the water it needs for its customers. Under the terms of the Agreement, Bear Valley Mutual may request any amount of delivery for a given year, provided that the total of all their requested deliveries do not exceed 65,000 AF in any ten-year period. Bear Valley Mutual typically limits its request to no more than the ten-year average, or 6,500 AFY.

The Judgment directed the in-lieu water program be monitored through a series of accounts that are managed by the Big Bear Watermaster Committee. The three-member committee consists of one representative from each of the three member agencies: Big Bear Municipal Water District, Bear Valley Mutual Water Company and San Bernardino Valley Water Conservation District. This is a committee whose sole responsibility is to monitor the “physical solution” set forth in the Judgment. The basic premise behind the physical solution is the comparison of Big Bear Municipal’s actual Lake management versus Bear Valley Mutual’ s historic management. Big Bear Municipal is then responsible for making up any net groundwater deficiency in the San Bernardino basin which may occur as a result of maintaining a higher Lake level than would have occurred under Bear Valley Mutual’ s historic operations. The amount of the deficiency or surplus is maintained in the basin make-up water account (commonly referred to as “basin compensation account”). A number of other accounting mechanisms are in place to calculate totals for Lake releases, inflow, spills, evaporation, wastewater export and other related data. An annual Watermaster report is prepared documenting the annual accounting procedures.

3.8.11 Annual Regional Water Management Plan

The BTAC was formed by the first IRWMP to implement the IRWMP and provide a forum to discuss technical issues regarding water management. The BTAC is primarily made up of water agencies that pump from the groundwater basins within the Valley District service area but is open to others who want to participate. BTAC works cooperatively and strives to make decisions by consensus. Currently, BTAC meets quarterly.

Each year, BTAC develops the Regional Water Management Plan that is considered by the two agencies that make up the Western Watermaster: Valley District and Western Municipal Water District. The plan generally establishes a recharge threshold to ensure water levels do not increase liquefaction potential or move contamination plumes

The latest version of the BTAC Regional Water Management Plan is available at **http://www.sbvmwd.com/about-us/local-water-conditions**.

3.8.12 Groundwater Recharge Programs

In addition to the ongoing recharge operations throughout the Valley District service area, this section describes new recharge projects that are currently being developed.

3.8.12.1 Cactus Basin Recharge

Valley District is working cooperatively with the San Bernardino County Flood Control District (Flood Control) to recharge SWP supplemental water in the Cactus Basins, which would recharge high quality water into the Rialto-Colton sub basin. The project includes the construction of new basins 3 and 3A, which are being built for flood control. Basin development will include the construction of a bypass pipeline to manage flood flows. To optimize the joint use of these basins for flood control, the recharge is planned to occur during the dry-season, from April to October.

3.9 Water Quality

3.9.1 Imported Water Quality

DWR has conducted water quality monitoring for the SWP since 1968. Initially, this program sought to monitor eutrophication (an increase in chemical nutrients) and salinity in the SWP. Over time, the water quality program expanded to include parameters of concern for drinking water, recreation, and wildlife. Water quality samples are collected at regular intervals throughout the year for chemical, physical, and biological parameters. The SWP water has moderate total organic carbon levels, resulting in higher disinfection byproduct (DBP) formation, and also has some taste and odor causing compounds. Real time data and forecasting for SWP water quality is available on DWR's website at https://water.ca.gov/Programs/Environmental-Services/Water-Quality-Monitoring-And-Assessment/RTDF-Summary.

The Valley District service area of the IRWM region imports water through the SWP which is Sierra snow melt with consistently low TDS levels of 200 to 300 mg/L (DWR 2003a) except during periods of drought, flood events, reservoir management practices, and salt input from local streams.

Water is imported into the Western service area of the IRWM Region from the Colorado River via the Colorado River Aqueduct (CRA), owned and operated by Metropolitan, and from Northern California via SWP facilities. The TDS level in the CRA water averages approximately 700 mg/L and, during drought years, can increase to above 900 mg/L (Metropolitan and USBR 1999). Salinity projections for wet year conditions show TDS values between 650 and 800 mg/L (Metropolitan and USBR 1999).

In order to protect against any water quality impacts from imported water, the City of Corona, City of Riverside, Eastern Metropolitan Water District, Elsinore Valley Municipal Water District, Orange County Water District, Valley District, San Gorgonio Pass Water Agency, and Western (Recharge Parties) entered into the "Cooperative Agreement to Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basin" with the SARWQCB in 2007. The initial term of the agreement was 10 years, and it was recently extended to January 18, 2028.

This order states that long-term conjunctive use of groundwater in the Region requires that the quality of water in groundwater basins in the region be managed to meet the water quality objectives for nitrogen and TDS (collectively, the Salinity Objectives) adopted by the SARWQCB in the 1995 Water Quality Control Plan for the Santa Ana River Basin, as amended in 2004 by R8- 2004-0001 (Basin Plan).

The parties that recharge imported water within the Santa Ana Region (Recharging Parties) agree to collect, compile, and analyze the total inorganic nitrogen (TIN) and TDS water quality data necessary to determine whether the intentional recharge of imported water in the region may have a significant adverse impact on compliance with the Salinity Objectives within the Region.

This agreement provides a framework for groundwater recharge of imported water and will facilitate conjunctive management in the region while protecting water quality. A copy of the agreement is included in **Part 3 Appendix B**.

3.9.2 Groundwater Quality

Groundwater quality varies among the Region's groundwater basins, particularly in the subbasins of the Upper SAR due to geology and faulting patterns and recharge points, and from anthropogenic sources of contamination.

3.9.2.1 Ambient Water Quality

The Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin (Region 8) (RWQCB, 2016a) requires the implementation of a watershed-wide total dissolved solids (TDS) and nitrogen groundwater monitoring program to determine ambient water quality in groundwater, assess compliance with groundwater quality objectives, and determine if assimilative capacity exists in groundwater management zones (GMZs). The current Basin Plan requires that the ambient water quality (AWQ) be computed every three years.

According to the Basin Plan (RWQCB, 2016a):

> "TDS and nitrate-nitrogen water quality objectives for each management zone are based on historical concentrations of TDS and nitrate-nitrogen from 1954 through 1973 and are referred to herein as the 'antidegradation' objectives. This period brackets 1968, when the State Water Resources Control Board (State Water Board) adopted the state's antidegradation policy in Resolution No. 68-16, "Policy with Respect to Maintaining High Quality Waters". This Resolution establishes a benchmark for assessing and considering authorization of degradation of water quality.

A requirement of the January 2004 Nitrogen and TDS Basin Plan Amendment (Resolution No. R8-2004-0001) is to perform a recomputation of AWQ for all groundwater management zones in the watershed for which adequate data exist every three years. To date, seven AWQ determinations have been made with the most recently completed for the 1998 to 2018 time period. The triennial AWQ determinations from each current period are used to assess compliance with the new water quality objectives and to determine if assimilative capacity exists for each Groundwater Management Zone (GMZ). By definition, assimilative capacity is determined to be the difference between the objective and the current AWQ: if the current quality of the GMZ is better than the water quality objective, then assimilative capacity exists.

Assimilative capacity does not exist if the current quality of a GMZ is the same as or poorer than the water quality objectives.

According to the Basin Plan (RWQCB, 2016a), when a GMZ has little or no assimilative capacity:

"The Regional Board addresses such situations by providing dischargers with the opportunity to participate in TDS offset programs, such as the use of desalters, in lieu of compliance with numerical TDS limits. These offset provisions are incorporated into waste discharge requirements . . . An alternative that dischargers might pursue in these circumstances is revision of the TDS or nitrogen objectives, through the Basin Plan amendment process. Consideration of less stringent objectives would necessitate comprehensive antidegradation review, including the demonstrations that beneficial uses would be protected and that water quality consistent with maximum benefit to the people of the State would be maintained . . . a number of dischargers have pursued this 'maximum benefit objective' approach, leading to the inclusion of 'maximum benefit' objectives and implementation strategies in this Basin Plan. Discharges to areas where the 'maximum benefit' objectives apply will be regulated in conformance with these implementation strategies."

Table 3-16 shows the water quality objectives for both TDS and Nitrate for the nine (9) groundwater GMZs in the Upper Santa Ana River Watershed. As shown in the table below, the San Timoteo, Yucaipa and Beaumont GMZs have "maximum benefit" water quality objectives that require the implementation of certain projects and programs by specific dischargers as part of their maximum benefit demonstrations is required for the continued application of the "maximum benefit" objectives. The bold red numbers in the table indicate that the 2018 AWQ is above the WQO and assimilative capacity does not exist.

Table 3-16. TDS Water Quality Objectives, Ambient Water Quality, and Assimilative Capacity

GROUNDWATER MANAGEMENT ZONE	DWR BASIN NAME	WATER QUALITY OBJECTIVE	2018 AMBIENT TDS	WATER QUALITY OBJECTIVE NITRATE	2018 AMBIENT NITRATE
Bunker Hill-A	San Bernardino Basin	310	330	2.7	3.9
Bunker Hill-B	San Bernardino Basin	330	280	7.3	5.8
Lytle	San Bernardino Basin	260	240	1.5	2.4
Colton	Rialto-Colton	410	490	2.7	3.3
Rialto	Rialto Colton	230	240	2.0	3.4
San Timoteo, "maximum benefit"	San Timoteo	400	420	5.0	2.0
San Timoteo , "antidegradation"	San Timoteo	300	420	2.7	2.0
Yucaipa, "maximum benefit"	Yucaipa	370	320	5.0	6.2
Yucaipa, "antidegradation"	Yucaipa	320	320	4.2	6.2
Riverside A	Riverside-Arlington	560	440	6.2	5.6
Beaumont, "maximum benefit"	San Timoteo	330	280	5.0	2.7
Beaumont, "antidegradation"	San Timoteo	230	280	1.5	2.7

3.9.3 Known Groundwater Contaminant Plumes

The SBBA has the following groundwater contaminant plumes:

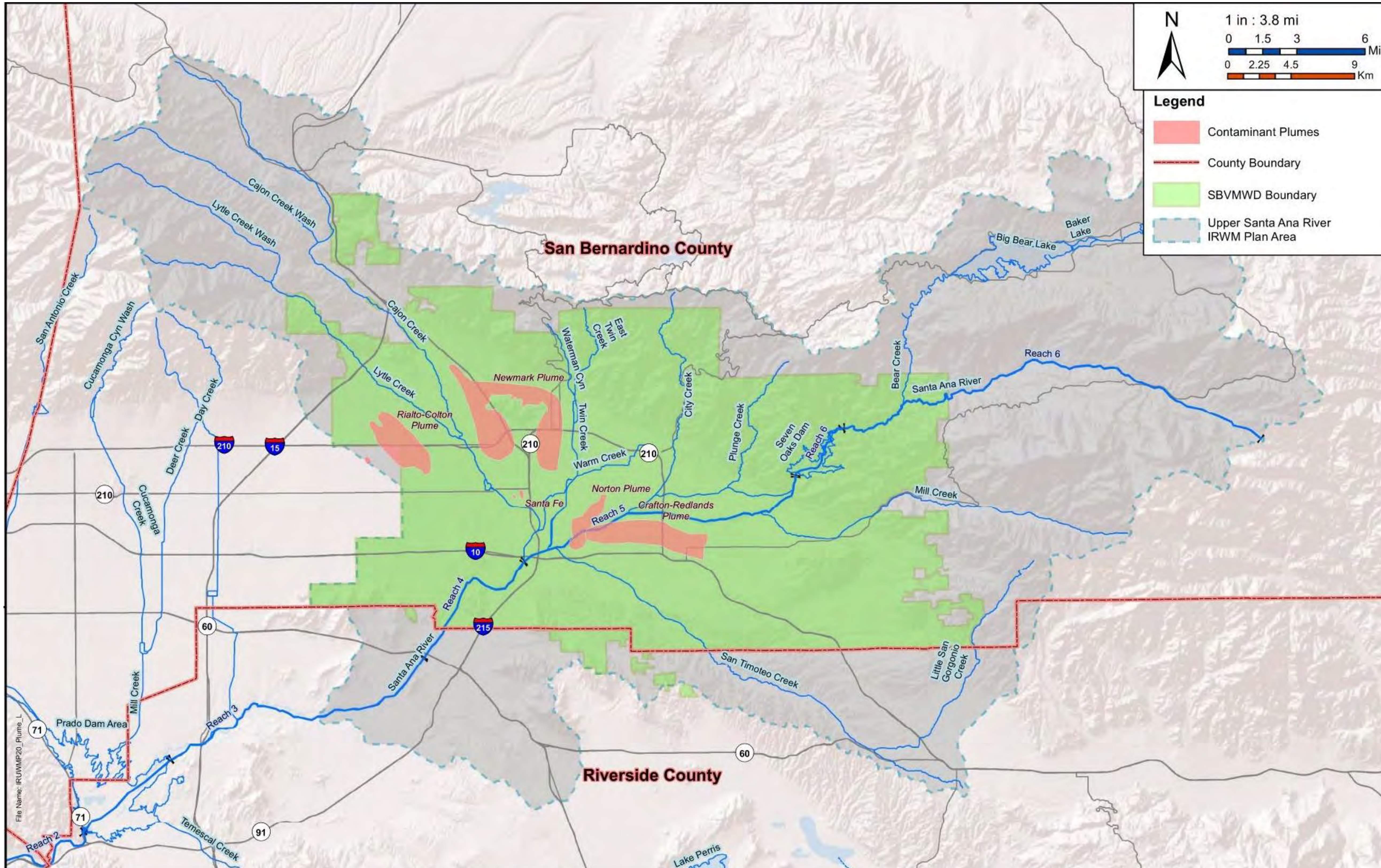
- The Crafton-Redlands plume, with trichloroethylene (TCE) and lower levels of perchloroethylene (PCE), debromochloropropane (DBCP) and perchlorate;
- The Norton Air Force Base TCE and PCE plume, stretching 2.5 miles from its source and contaminating 100,000 AF of groundwater;
- The Muscoy and Newmark plumes near the Shandon Hills, which are Superfund sites with TCE and PCE; and
- The Santa Fe plume with PCE, TCE, and 1,2 dichloroethylene (1,2-DCE)

Other plumes include:

- Rialto Area Perchlorate Plume (Rialto-Colton Basin)
- North Riverside Basin MTBE Contamination (Riverside North Basin)

These plumes are depicted in Figure 3-8.

Figure 3-8. Groundwater Contaminant Plumes in the Region



Separately from the foregoing remediation efforts, Fontana Water Company currently operates and maintains a groundwater remediation project at its Plant F10 pursuant to a long-term agreement with San Bernardino County, the owner and operator of the Mid Valley Sanitary Landfill and corresponding Clean-Up and Abatement Order issued to San Bernardino County by the RWQCB. The 5,000-gallons per minute (gpm) treatment plant utilizes liquid phase granular activated carbon to treat for volatile organic compounds including, but not limited to, PCE, TCE, 1,1-DCE, and cis-1,2-DCE. The plant treats and removes those contaminants from groundwater extracted from both the Rialto-Colton and No Man's Land sub basins.

3.9.3.1 Crafton-Redlands Plume

Two commingled plumes, comprising the Crafton-Redlands plume, have impacted water supply wells for the cities of Riverside, Redlands, and Loma Linda, including Loma Linda University wells. One plume contains TCE and the other perchlorate; both are in the upper 300 to 400 feet of groundwater. TCE has been measured in water supply wells at over 100 parts per billion (ppb), over 20 times the MCL of 6 ppb. Currently, however, water supply well concentrations are around 7 ppb. Perchlorate is present in water supply wells at concentrations up to 77 ppb.

As required by the Santa Ana Regional Water Quality Control Board (SARWQCB), the Lockheed Martin Corporation (Lockheed) has prepared contingency plans to address impacts of the plume on water supply wells. These include blending, treatment, and/or providing alternative water supply sources. The plumes are currently being captured by the City of Riverside's Gage Well Field. Lockheed has installed granular activated carbon treatment units at some of the gage wells to remove TCE and has installed ion exchange units on some of these wells for the removal of perchlorate.

3.9.3.2 Norton Air Force Base Plume

The Norton Air Force Base plume, located just to the southwest of the former installation in the City of San Bernardino, is a major contaminant plume, consisting primarily of TCE and PCE. The plume has impaired 10 wells owned by the City of Riverside and the City of San Bernardino. Cleanup efforts by the Air Force, consisting of soil removal, soil gas extraction, and groundwater treatment, have significantly reduced this plume. The treatment plants now operate in a standby mode.

3.9.3.3 Newmark and Muscoy Plumes

Within the City of San Bernardino, the Newmark plume and the Muscoy plume consist primarily of PCE. The plumes have impacted San Bernardino water supply wells. Under the federal Superfund Program, the U.S. Environmental Protection Agency (EPA) has implemented cleanup of these plumes, including use of groundwater extraction and treatment using granulated activated carbon. The treated water is then used to supplement the City of San Bernardino's potable water supply. It appears that cleanup efforts will be adequate to protect 32 down-gradient water supply wells. However, groundwater model simulations suggest that containment of the plume will need additional extraction wells that will result in pumping of at least 14,000 AFY.

3.9.3.4 Sante Fe Plume

The Santa Fe groundwater plume consists primarily of 1,2-DCE, TCE, and PCE. This plume is currently being monitored.

3.9.3.5 Rialto Area Perchlorate Plume

Since 2002, the SARWQCB has been conducting an investigation of groundwater contamination in the area of the City of Rialto. The focus of the investigation has been facilities located on a 160-acre site in Rialto. The site has also been designated as a Superfund site by the US EPA. In 2005 the SARWQCB Executive Officer issued a Cleanup and Abatement Order and subsequent amendments naming a number of responsible parties. Since that time, the Cleanup and Abatement Order has been the subject of challenges in petitions filed by entities named as parties responsible for the contamination.

In September 2010, EPA issued the Interim Action Record of Decision to the Source Area Operable Unit (SAOU) of the B.F. Goodrich Superfund Site, now referred to as the “Rockets, Fireworks, and Flares Superfund Site.” The EPA’s Remedy required Emhart Industries to install, operate, and maintain a groundwater pump and treatment system to intercept and control the spread of contaminated groundwater from the 160-acre parcel. The EPA Remedy is designed to capture and remove perchlorate and Trichloroethylene (TCE) in the groundwater in the Rialto-Colton Groundwater Basin emanating from a 160-acre parcel located in north Rialto.

On August 12, 2015, the Rialto, Colton, the County of San Bernardino and Emhart Industries (Emhart), entered into a Four-Party Implementation Agreement to implement the interim remedial action plan as required by the Consent Decree as entered on July 2, 2013. The remedial action required by the Work Consent Decree was selected and approved and overseen by the EPA. A copy of the Four Party Agreement is included in **Part 3 Appendix B**.

The County and Emhart agreed that the EPA Remedy would be combined with an existing groundwater extraction and treatment remedy designed and constructed by the County to capture and remove perchlorate and TCE in the Basin due to the landfill and required by the SARWQCB. This combined project is referred to as the “Combined Remedy” project.

The Combined Remedy includes:

1. Installing a new extraction well (EW-1), located at the northwest corner of Jerry Eves Park and piping to the water treatment system,
2. Expanding the existing County groundwater treatment system at the Rialto 3 well site to treat extracted water from EW-1,
3. Upgrading the chlorination station at the Combined Remedy site,
4. Constructing an inter-tie between Rialto and Colton to deliver Colton’s water rights produced out of EW-1 and,

5. System improvements to the Colton's drinking water distribution system, specifically modifications made by Emhart to a reservoir and pump station.

3.9.3.6 North Riverside Basin MTBE Contamination

In 1988, the SARWQCB issued a Cleanup and Abatement Order to the SFPP Colton Fuel Terminal (owned by Kinder Morgan) located in Bloomington, California. The Terminal, which is located just south of the I-10 freeway on the east side of Riverside Avenue, is a bulk petroleum storage and distribution facility which was built in the 1950s. It currently occupies 82 acres and contains 32 refined petroleum product tanks and fuel-loading racks where transport tanker trucks are filled.

In response to the Cleanup and Abatement Order, a monitoring and extraction well network for the Terminal was constructed. It consists of 131 wells in and around the Terminal as well as 14 soil vapor extraction wells. The site samples for Benzene, methyl tertiary butyl ether (MTBE) and tertiary butyl alcohol (TBA).

3.9.4 Surface Water Quality

Water quality within the Upper SAR watershed is addressed through several plans, regulations and guidelines including the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan), which includes beneficial use designations and water quality objectives. Those water bodies not meeting the Basin Plan water quality objectives and determined to have beneficial uses are listed on the State's 303(d) list of impaired water bodies and require a TMDL to be developed. **Table 3-17** shows the water bodies in the Upper SAR watershed that are listed on the State's 303(d) list for water quality impairments.

The SARWQCB states that the quality of the SAR is a function of the quantity and quality of the various components of the flows (SARWQCB 1995). Three components make up the flow of the water in the SAR: (1) storm flows, (2) baseflow, and (3) non-tributary flow. The relative proportion of these components varies throughout the year.

The first component, storm flows, results directly from rainfall, usually occurring between the months of December and April. Much of the rainfall and surface water runoff from the storms is captured and percolated into the groundwater basins. The quality of storm flow water is highly variable.

Table 3-17: 303(d) Listed Water Bodies in the Upper SAR

WATER BODY	IMPAIRMENTS
Big Bear Lake	Mercury, Noxious Aquatic Plants, Nutrients, PCBs
Grout Creek	Nutrients
Knickerbocker Creek	Pathogens
Lytle Creek	Pathogens
Mill Creek, Reach 1	Pathogens
Mill Creek, Reach 2	Pathogens
Mountain Home Creek	Pathogens
Mountain Home Creek, East Fork	Pathogens
Rathbone (Rathbun) Creek	Cadmium, Copper, Nutrients, Sediment/ Siltation
Santa Ana River, Reach 6	Cadmium, Copper, Lead
Santa Ana River, Reach 4	Pathogens
Santa Ana River, Reach 3	Copper (wet weather only), Lead, Pathogens
Summit Creek	Nutrients

Two TMDLs have been adopted to address the above impairments in the Upper SAR.

- **TMDLs for Bacterial Indicators in the Middle Santa Ana River Watershed (February 3, 2005):** Addresses pathogens in the Santa Ana River, Reach 3.
- **Nutrient TMDL for Dry Hydrological Conditions for Big Bear Lake (April 21, 2006):** Addresses nutrients in Big Bear Lake.

Baseflow makes up the second component of water flow in the SAR, a large portion coming from the discharge of treated wastewater into the river in addition to rising groundwater in the basin. This baseflow includes the non-point source discharges as well as the uncontrolled and unregulated agricultural and urban runoff. Water quality objectives are set in relation to the baseflow in the river, not to the total flow in the river (see **Table 3-18**). The intent of these objectives is to protect the river's groundwater recharge beneficial use. Compliance with these objectives is verified by annual measurement of the baseflow quality.

The quantity and quality of baseflow is most consistent during the month of August. At that time of year, the influence of storm flows and non-tributary flows is at a minimum and volumes of rising water and non-point source discharges tend to be low. The major component of baseflow in August is municipal wastewater. For these reasons, this period has been selected by the SARWQCB as the time when baseflow will be measured and its quality determined. To determine whether the water quality and quantity objectives for baseflow in Reach 3 of the SAR are being met, the SARWQCB collects a series of grab and composite samples during August of each year. The results are compared with the continuous monitoring data collected by USGS and data from other sources.

Table 3-18: SAR Basin Surface Water Quality Objectives (WQO)

	WATER QUALITY OBJECTIVES MILLIGRAMS PER LITER (MG/L)						
INLAND SURFACE STREAMS UPPER SAR BASIN	TOTAL DISSOLVED SOLIDS (TDS)	HARDNESS ($CACO_3$)	SODIUM (NA)	CHLORIDE (CL)	TOTAL INORGANIC NITROGEN (TIN)[1]	SULFATE (SO_4)	CHEMICAL OXYGEN DEMAND (COD)
Reach 2 - 17th Street in Santa Ana to Prado Dam	650[c]	---	---	---	---	---	---
Reach 3 - Prado Dam to Mission Blvd. - Baseflow	700	350	110	140	10[2]	150	30
Reach 4 - Mission Blvd. in Riverside to San Jacinto Fault	550	---	---	---	10	---	30
Reach 5 - San Jacinto Fault in San Bernardino to Seven Oaks Dam	300	190	30	20	5	60	25
Reach 6 - Seven Oaks Dam to Headwaters	200	100	30	10	1	20	5

Source: SARWQCB 2019

[1] Total nitrogen, filtered sample.

The SARWQCB sets discharge requirements on wastewater discharges, the major source of baseflow in the SAR. Waste discharge requirements are developed on the basis of the limited assimilative capacity of the river. Non-point source discharges, generally from urban runoff and agricultural tailwater, are regulated by requiring compliance with Best Management Practices (BMPs), where appropriate.

The third component of flow in the SAR that influences water quality is characterized by the SARWQCB as non-tributary flow. Non-tributary flow is generally imported water released in the upper basin for recharge in the lower basin (SARWQCB 1995).

Streams on the Santa Ana Basin generally have increasing dissolved minerals as one goes downstream. This effect is due to the fact that water is used, recycled, and used again. The magnitude or amount of TDS concentration rises with each use of water. Groundwater also enters basin streams in some reaches, and their sampling indicated that some of the highest TDS (and in some cases nitrates) may occur at sites on the valley floor that are dominated by rising groundwater (USGS 2006). Nitrate concentrations are higher in Santa Ana Basin streams receiving treated wastewater than in streams without treated wastewater. The principal source of nitrate is fertilizer from historic agricultural operations.

Table 3-19 provides a summary of the available historical surface water quality data for TDS and nitrogen at points along the SAR (USGS 2007).

Table 3-19: Average Historic Surface Water Quality for Locations on the SAR (1990-2001)

WATER QUALITY CONSTITUENT	METROPOLITAN CROSSING GAGE (REACH 3)[A]	RIX-RIALTO EFFLUENT OUTFALL (REACH 4)[A]	MENTONE GAGE (REACH 5)[A]
TDS	560[b]	520[c]	230[b]
TDS Basin Plan Objective by Reach	700	550	300
Total Inorganic Nitrogen (TIN)	7.3[b]	8.5[c]	0.3[b]
TIN Basin Plan Objective by Reach	10[d]	10	5

Source: USGS gage data. Data for River Only Mentone Gage begins in October 1998. Data for Riverside Narrows Gage begins in August 1997.

[b] USGS 2004.
[c] The TDS and TIN values assigned for RIX-Rialto are the maximum values that occurred during 2001-2002 as reported in Table 4.4-9 of the SBMWD RIX Facility Recycled Water Sales Program Preliminary Environmental Impact Report (PEIR), March 2003.
[d] Total nitrogen, filtered sample.

3.9.5 Salt and Nutrient Management Plan

The stakeholders in the Upper Santa Ana River Watershed Groundwater Basins are collaboratively investigating the salt and nutrient loading to several of the underlying groundwater basins. The SNMP will focus on the upper Santa Ana River Watershed. Prolonged droughts have highlighted the need for an enhanced water supply portfolio, which includes plans to increase stormwater capture and recycled water use. Without enough assimilative capacity, existing and new wastewater/recycled water projects in the SBBA may be subject to costly salt removal using advanced treatment such as reverse osmosis (RO).

The SNMP will perform a sophisticated analysis through a collaborative process that will involve the Regional Water Quality Control Board (RWQCB). If the modeling demonstrates that higher objectives are warranted, then a Salt and Nutrient Management Plan would be developed and used as backup to request a change in water quality objectives to the GMZ's in the SBBA from the RWQCB.

3.9.6 Water Quality Impacts on Supply Reliability

Water quality is monitored, tracked, and addressed by implementing treatment, as necessary. In addition to the groundwater plumes described above, there are other contaminants in the basin, including but not limited to nitrate and DBCP, which can require treatment. There are also emerging contaminants and new water quality regulations which could increase the level of required treatment.

Per and polyfluoroalkyl substances (PFAS) are manmade fluorinated organic compounds found in and used in the manufacturing of common items such as carpet, clothing, fabric, food packaging, nonstick cookware, and fire retardant foams. PFAS are synthetically made to be resistant to both water and liquids, are not easily broken down and destroyed, and are believed to have adverse health effects. Two common PFAS, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), are regulated by the California Division of Drinking Water and have notification limits of 5.1 ppt and 6.5 ppt, respectively. The Office of Environmental Health Hazard Assessment (OEHHA) is developing the Public Health Goal (PHG) for PFOS and PFOA which are scheduled to be released in 2021. Once the PHGs for PFOS and PFOA are established, the State Water Resource Control Board will develop a maximum contaminant level (MCLs) to regulate PFOS and PFOA concentrations in drinking water, both of which are constituents of emerging concern.

Water agencies are responsible for providing treatment to ensure their potable water supply meets all applicable water quality regulations.

3.10 Major Regional Water Infrastructure

The water-related infrastructure of the Upper SAR watershed reflects the complex water history of the IRWM Region. The predecessors of many of the water agencies that are participating in the IRWM Plan were constructing ditches in the 1800s. The water rights and facilities established in the 1800s have helped determine the structure of today's water agencies and the arrangement of today's infrastructure. After State Water Project (SWP) facilities were extended into the Region in the early 1970s, State Water Contractors receiving deliveries from the East Branch of the SWP – Valley District, San Gorgonio Pass Water Agency, and Metropolitan Water District of Southern California (Metropolitan) – constructed pipelines to take advantage of the imported water. Figure 3-9 shows the major water-related infrastructure in the Region.

3.10.1 Regional Water Supply Infrastructure

Groundwater and local surface water serve as important sources of regional water supply. The SBBA is a major source of water supply for agencies in San Bernardino and Riverside Counties. Three major regional transmission systems exist in the IRWM Region and are used to deliver water to the City of Riverside. These are the Gage Canal, Waterman Pipeline, and Riverside

Canal. The Gage Canal is owned by the Gage Canal Company. As of 2005, the City of Riverside owned approximately 59% of the Gage Canal Company. The canal extends from the SAR near Loma Linda to the Arlington Heights area. The Gage Canal is used to deliver both potable and irrigation water.

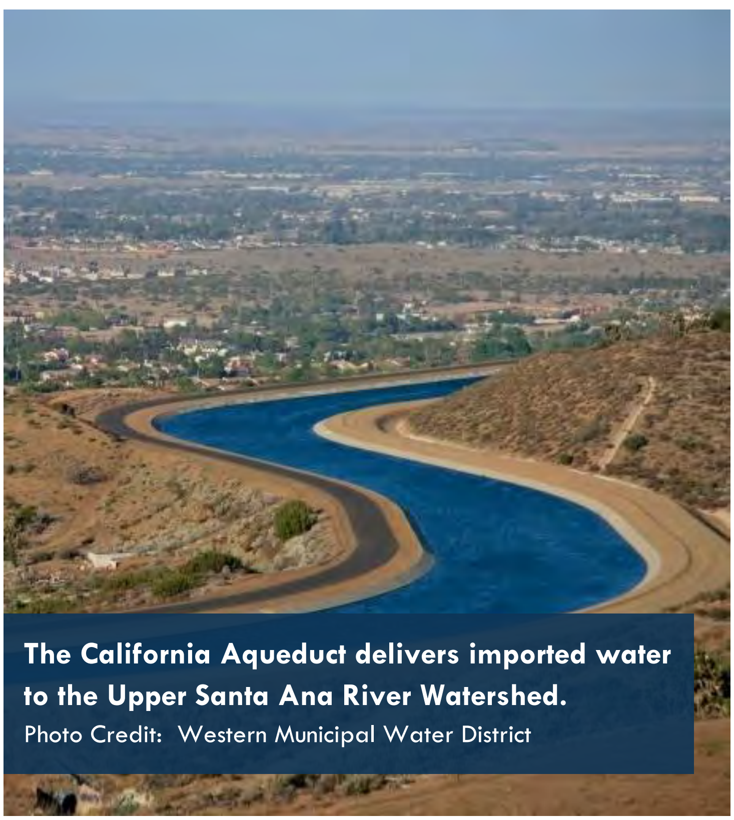
The Waterman Pipeline extends from the Bunker Hill Subbasin (discussed later in this chapter) to the Canyon Crest area and is used to deliver groundwater to portions of the City of Riverside.

The Riverside Canal is a 12-mile canal extending from the City of Colton to Jefferson Street in the City of Riverside. Non-potable groundwater is conveyed in the Flume Pipeline to the Riverside Canal.

3.10.2 State Water Project Facilities

SWP water is imported into the Upper SAR watershed via the East Branch of the California Aqueduct. At the Devil Canyon Power Plant, located at the foot of the San Bernardino Mountains near Interstate 215, SWP water can be delivered in several directions in State facilities or in transmission systems belonging to State Water Contractors.

The SWP's Santa Ana Pipeline extends south from the East Branch, roughly paralleling Lytle Creek and into Lake Perris. Deliveries from the Santa Ana Pipeline can be made to Metropolitan member agencies including Western, Eastern Municipal Water District (Eastern), and the San Diego County Water Authority.



The California Aqueduct delivers imported water to the Upper Santa Ana River Watershed.
Photo Credit: Western Municipal Water District

The East Branch Extension of the SWP is a combination of facilities built by Valley District and the State and funded by Valley District and San Gorgonio Pass Water Agency. Valley District operates these facilities for the State and San Gorgonio Pass Water Agency. The East Branch Extension makes deliveries from Devil Canyon east along the foothills of the San Bernardino Mountains and out to the San Gorgonio Pass Water Agency service area. Phase 2 of the East Branch Extension increased the capacity to 17,300 acre-feet (AF), which is the Agency's official allotment of SWP water, and is enough to supply approximately 35,000 families each year.

3.10.3 State Water Contractors Facilities

Four State Water Contractors have facilities in the IRWM Region: Valley District, San Gorgonio Pass Water Agency, Metropolitan, and San Gabriel Valley Municipal Water District.

Metropolitan's Inland Feeder extends from Devil Canyon to Diamond Valley Lake and the tunnels within the San Bernardino Mountains. Currently, the Foothill Pipeline is being used to make deliveries of SWP water to the completed portions of the Inland Feeder for delivery to Diamond Valley Lake.

Metropolitan's Rialto Pipeline is used to make deliveries from Devil Canyon to Metropolitan's F.E. Weymouth Treatment Plant in the San Gabriel Valley and to its Robert B. Diemer Treatment Plant, which supplies treated water to Western and Eastern. In addition, the Rialto Pipeline makes deliveries to surface water treatment plants owned by Metropolitan's member agencies and to groundwater recharge facilities.

The Devil Canyon-Azusa Pipeline is used primarily to make deliveries for replenishment of the Main San Gabriel Basin. Valley District owns capacity in this pipeline. Through this pipeline, Valley District can deliver SWP water to the western portion of its service area including West Valley and Fontana Water Company as well as the Cactus Spreading Basins.

Many of Valley District's facilities have been integrated into the SWP, as described in Section 2.2.1. In addition, Valley District has three pipelines that are not integrated into the SWP. These are the Baseline Feeder, Baseline Feeder Extension South, and Central Feeder. The Baseline Feeder is a 48-inch pipeline that serves potable water from the SBBA to the City of Rialto, West Valley, and Riverside Highland Water Company.

The Baseline Feeder Extension South is a 78-inch pipeline that was constructed jointly with Western Municipal Water District north/south in alignment from the vicinity of 9th Street and Waterman Avenue in San Bernardino, south past the Antil area where there is a major concentration of production wells, and on to the vicinity of the SAR. This pipeline will ultimately serve water from the SBBA throughout Valley District's service area and on to Riverside County.

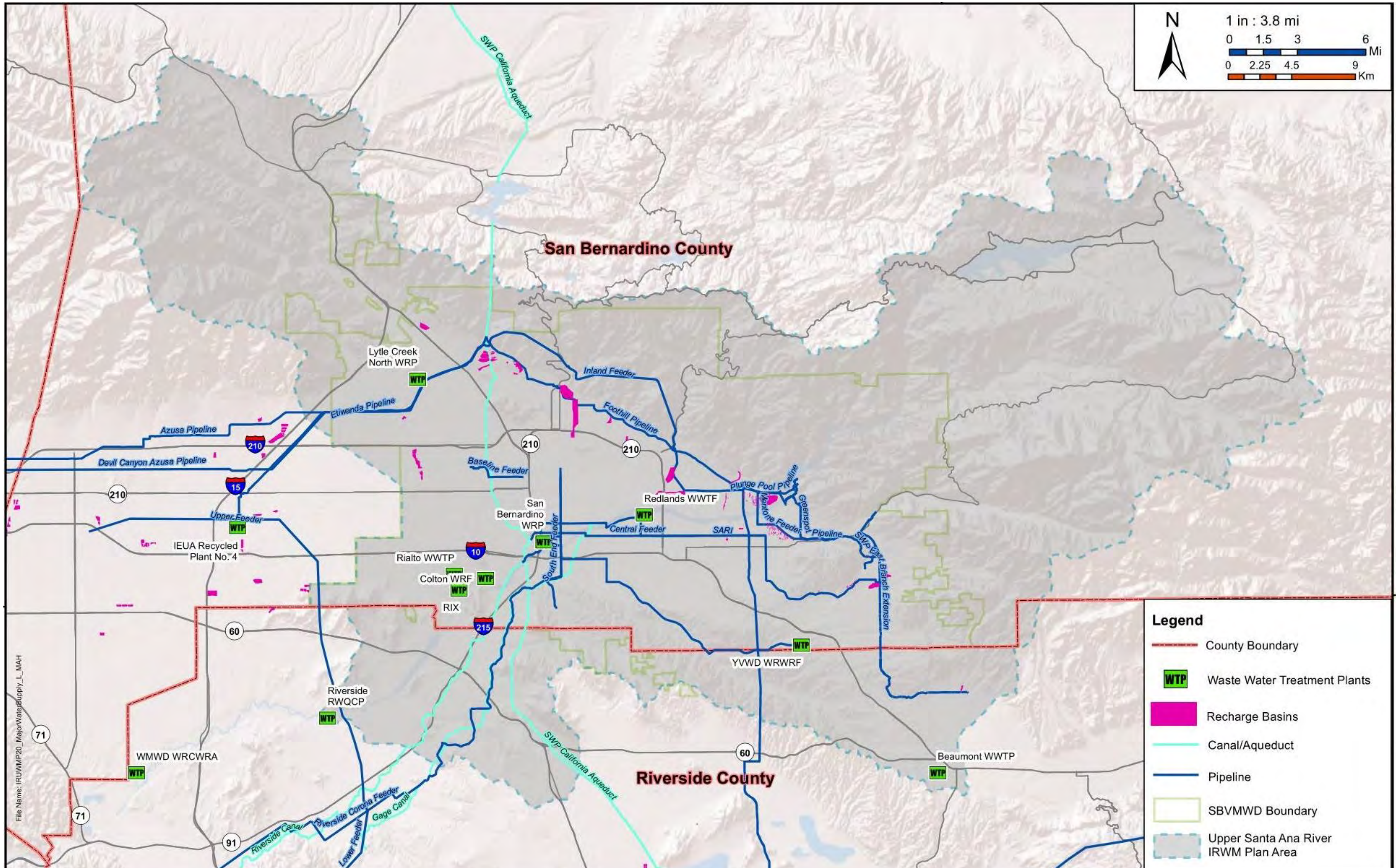
Valley District and their partners completed the construction of a portion of the Central Feeder, in an east/west alignment in San Bernardino Avenue from Opal Avenue Westerly to Texas Street in Redlands. The Central Feeder may eventually be extended and connected to the Baseline Feeder Extension South and possibly to the SWP Santa Ana Pipeline.

3.10.4 Regional Flood Control Infrastructure

The Upper SAR watershed consists of many tributaries flowing to the SAR. These tributaries exhibit a range of development from natural streams to concrete-lined channels. Many of the stream's flow through heavily developed areas. The San Bernardino County Flood Control District (SBCFCD) operates and maintains many of the tributary systems that are deemed "regional" (750 cubic feet per second (cfs) or greater flow and/or 640 acres or greater of watershed as well as portions of the SAR). Smaller-scale control facilities are generally operated by local jurisdictions. Flood control agencies' boundaries follow the county boundaries for those areas which they manage.

The regional flood control facilities have been continually developed and operated by SBCFCD since its establishment in 1939 and are operated for the general safety of the residents of San Bernardino County. Flood control facilities and improvements protect vital roadways and utility corridors along with providing public recreational amenities such as trails and landscaping. Endangered species habitat is protected with various project and non-project related improvements.

Figure 3-9: Major Water Supply Infrastructure



Appendix D Rialto 2023-2024 Annual Water Supply and Demand Assessment

D

WUEdata - Water Shortage - Rialto City Of

Table 1: Information

Water Shortage Report Submitted on 06/30/2023 (Read-Only)
To Amend this WSDA, please contact UWMPHelp@water.ca.gov

Year Covered By This Shortage Report (REQUIRED)	
Start: July 1,	2023
End: June 30,	2024
Volume Unit for Reported Supply and Demand (must use same unit throughout)	AF
Supplier's Annual Assessment Planning Cycle (REQUIRED)	
Start Month:	July
End Month:	June
Data Reporting Interval Used:	Monthly (12 data points per year)
Water Supplier's Contact Information (REQUIRED)	
Water Supplier Name:	Rialto City Of
Contact Name:	John David Terry
Contact Title:	Project Manager
Street Address:	325 W. Rialto Ave., Rialto, CA 92376
Zip Code:	92376
Phone Number:	(909) 820-0400
Email Address:	john.terry@veolia.com
Report Preparer's Contact Information (If different from above)	
Preparer's Organization Name:	Rialto Water Services
Preparer's Contact Name:	Stephanee Valencia
Phone Number:	(909) 301-1338
Email Address:	stephanee.valencia@veolia.com
Supplier's Water Shortage Contingency Plan	
WSCP Title:	Integrated Regional Urban Water Management Plan (2020 IRUWMP)
WSCP Adoption Date:	06/22/2021
Other Annual Assessment Related Activities (optional)	
Activity	Timeline/Outcomes/Links/Notes
Annual Assessment/Shortage Report Title:	
Annual Assessment/Shortage Report Approval Date:	
Other Annual Assessment Related Activities:	

WUEdata - Water Shortage - Rialto City Of

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Table 2: Demands[1]

Water Shortage Report Submitted on 06/30/2023 (Read-Only)
To Amend this WSDA, please contact UWMPHelp@water.ca.gov

Use Type	Start Year:	2023			Volumetric Unit Used:	AF								
Drop down list May select each use multiple times. These are the only Use Types that will be recognized by the WUEdata online submittal tool. (Add additional rows as needed)	Additional Description (as needed)	Level of Treatmen for Non-Potable Supplies Drop down list	Projected Water Demands - Volume[2]											
			Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total by Water Demand Type
Demands Served by Potable Supplies															
Single Family			610.27	493.39	511.6	554.99	375.47	328.77	363.95	257.1	271.85	308.18	328.53	432.88	4,837
Multi-Family			112.23	50.08	97.65	62.01	46.1	43.3	49.84	35.12	36.8	44.39	37.18	45.95	661
Commercial			167.45	137.92	144.78	164.15	112.9	97.78	111.51	73.44	81.14	90.2	91.33	123.63	1,396
Landscape			119.14	101.52	100.91	120.08	59.97	39.37	46.26	25.53	31	16.95	57.81	93.3	812
Other Potable	Construction Meters		5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	64
Transfers to other agencies	Randall Connection		205.49	205.49	205.49	205.49	205.49	205.49	205.49	205.49	205.49	205.49	205.49	205.49	2,466
TOTAL BY MONTH (POTABLE)			1,219.92	993.74	1,065.77	1,112.06	805.27	720.05	782.39	602.02	631.62	670.55	725.68	906.59	10,236
Demands Served by Non-Potable Supplies															
TOTAL BY MONTH (NON-POTABLE)			0	0	0	0	0	0	0	0	0	0	0	0	0
NOTES	Notes: Demands were estimated based on water sales from the previous year plus 10% and estimated new connections.														

[1]Projections are based on best available data at time of submitting the report and actual demand volumes could be different due to many factors.

[2]Units of measure (AF, CCF, MG) must remain consistent.

[3]When optional monthly volumes aren't provided, please enter yearly volumes in the June column (Jun[3]).

QUESTIONS / ISSUES? CONTACT THE WUEDATA HELP DESK
MWELO QUESTIONS / ISSUES? CONTACT THE MWELO HELP DESK

WUEdata - Water Shortage - Rialto City Of

Sign Out

Information > Demands > Water Supply > Assessment > Actions > Attachments > Submit to DWR

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Table 3: Water Supplies[1]

Next

Water Shortage Report Submitted on 06/30/2023 (Read-Only)
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Water Supply	Start Year:	2023				Volumetric Unit Used:			AF						
Drop down list May select each use multiple times. These are the only Use Types that will be recognized by the WUEdata online submittal tool. (Add additional rows as needed)	Additional Detail on Water Supply	Projected Water Supplies - Volume[2]												Water Quality Drop Down List	Total Right or Safe Yield * (optional)
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total by Water Demand Type		
Potable Supplies																
Groundwater (not desal.)		943.1	943.1	943.1	924.24	924.24	924.24	924.24	924.24	924.24	924.24	924.24	924.24	11,147		
Purchased/Imported Water	BLF/Encanto	383.33	183.33	183.33	183.33	183.33	183.33	183.33	183.33	183.33	183.33	183.33	183.33	2,400		
Surface water (not desal.)		65.68	65.68	65.68	65.68	65.68	65.68	65.68	65.68	65.68	65.68	65.68	65.68	788		
TOTAL BY MONTH (POTABLE)		1,392.11	1,192.11	1,192.11	1,173.25	1,173.25	1,173.25	1,173.25	1,173.25	1,173.25	1,173.25	1,173.25	1,173.25	14,336		0
Non-Potable Supplies																
TOTAL BY MONTH (NON-POTABLE)		0	0	0	0	0	0	0	0	0	0	0	0	0		0
NOTES	Notes: Well production based on actual pumping gpm and existing facilities in operation when this assessment was prepared. Local surface water supply based on previous twelve months production data.															

[1]Projections are based on best available data at time of submitting the report and actual demand volumes could be different due to many factors.

[2]Units of measure (AF, CCF, MG) must remain consistent.

[3]When optional monthly volumes aren't provided, please enter yearly volumes in the June column (Jun[3]).

QUESTIONS / ISSUES? CONTACT THE WUEDATA HELP DESK
MWELO QUESTIONS / ISSUES? CONTACT THE MWELO HELP DESK

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Table 4: Water Assessment

Water Shortage Report Submitted on 06/30/2023 (Read-Only)
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Table 4(P): Potable Water Shortage Assessment[1]		Start Year:		2023						Volumetric Unit Used[2]:		AF	
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total
Potable Supplies													
Anticipated Unconstrained Demand	1,219.92	993.74	1,065.77	1,112.06	805.27	720.05	782.39	602.02	631.62	670.55	725.68	906.59	10,236
Anticipated Total Water Supply	1,392.11	1,192.11	1,192.11	1,173.25	1,173.25	1,173.25	1,173.25	1,173.25	1,173.25	1,173.25	1,173.25	1,173.25	14,336
Surplus/Shortage w/o WSCP Action	172.19	198.37	126.34	61.19	367.98	453.2	390.86	571.23	541.63	502.7	447.57	266.66	4,100
% Surplus/Shortage w/o WSCP Action	14%	20%	12%	6%	46%	63%	50%	95%	86%	75%	62%	29%	40%
State Standard Shortage Level	0	0	0	0	0	0	0	0	0	0	0	0	0
Planned WSCP Actions													
Benefit from WSCP: Supply Augmentation													0
Benefit from WSCP: Demand Reduction	118												118
Revised Surplus/Shortage with WSCP	290.19	198.37	126.34	61.19	367.98	453.2	390.86	571.23	541.63	502.7	447.57	266.66	4,218
% Revised Surplus/Shortage with WSCP	24%	20%	12%	6%	46%	63%	50%	95%	86%	75%	62%	29%	41%
Table 4(NP): Non-Potable Water Shortage Assessment[1]		Start Year:		2023						Volumetric Unit Used[2]:		AF	
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total
Non-Potable Supplies													
Anticipated Unconstrained Demand													0
Anticipated Total Water Supply													0
Surplus/Shortage w/o WSCP Action	0	0	0	0	0	0	0	0	0	0	0	0	0
% Surplus/Shortage w/o WSCP Action													0%
Planned WSCP Actions													
Benefit from WSCP: Supply Augmentation													0
Benefit from WSCP: Demand Reduction													0
Revised Surplus/Shortage with WSCP	0	0	0	0	0	0	0	0	0	0	0	0	0
% Revised Surplus/Shortage with WSCP													
NOTES	Benefit from WSCP: Demand Reduction 10%												

[1]Projections are based on best available data at time of submitting the report and actual demand volumes could be different due to many factors.

[2]Units of measure (AF, CCF, MG) must remain consistent.

[3]When optional monthly volumes aren't provided, please enter yearly volumes in the June column (Jun[3]).

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Table 5: Actions

Water Shortage Report Submitted on 06/30/2023 (Read-Only)
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Year Covered By This Shortage Report			July 1,	2023	to June 30,	2024
Anticipated Shortage Level Drop Down List of State Standard Levels (1-6) and Level 0 (No Shortage)	ACTIONS: Demand Reduction, Supply Augmentation, and Other Actions. (Drop Down List) These are the only categories that will be accepted by the WUEdata online submital tool. Select those that apply.	Is Action Already Being Implemented? (Y/N)	How much is action going to reduce the shortage gap?		When is shortage response action anticipated to be implemented?	
			Enter Amount	(Drop Down List) Select % or Volume Unit	Start Month	End Month
Add additional rows as needed						
0 (No Shortage)	Expand Public Information Campaign	Yes	2	%	July	June
0 (No Shortage)	Landscape - Limit landscape irrigation to specific days	Yes	1	%	July	June
0 (No Shortage)	Landscape - Other landscape restriction or prohibition	Yes	1	%	July	June
0 (No Shortage)	Landscape - Restrict or prohibit runoff from landscape irrigation	Yes	1.5	%	July	June
0 (No Shortage)	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Yes	1.5	%	July	June
0 (No Shortage)	Other - Require automatic shut of hoses	Yes	1	%	July	June
0 (No Shortage)	Water Features - Restrict water use for decorative water features, such as fountains	Yes	1	%	July	June
0 (No Shortage)	Other - Prohibit use of potable water for washing hard surfaces	Yes	1	%	July	June
0 (No Shortage)	Decrease Line Flushing	Yes	1.5	%	July	June
0 (No Shortage)	Landscape - Prohibit certain types of landscape irrigation	Yes	1	%	July	June
0 (No Shortage)	Reduce System Water Loss	Yes	1	%	July	June
0 (No Shortage)	CII - Restaurants may only serve water upon request	Yes	1	%	July	June
0 (No Shortage)	CII - Lodging establishment must offer opt out of linen service	Yes	1	%	July	June

0 (No Shortage)	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Yes	1.5	%	July	June
0 (No Shortage)	Other water feature or swimming pool restriction	Yes	1	%	July	June
0 (No Shortage)	Improve Customer Billing	Yes	1	%	July	June
0 (No Shortage)	Provide Rebates for Turf Replacement	Yes	1.5	%	July	June
Notes: (NOTES Section to be used only for clarifying details, and not for listing specific actions. Actions need to entered into rows above.)						

If you plan Supply Augmentation Actions then you must enter WSCP Benefits from Supply Augmentation Actions into Table 4.
If you plan Demand Reduction Actions then you must enter WSCP Benefits from Demand Reduction Actions into Table 4.
If an Action is planned to be implemented in multiple non-contiguous periods of the year, the supplier is to make separate entries on multiple rows for the same action spanning the different implementation periods.

Appendix E Rialto Water Shortage Contingency Plan

E

City of Rialto Water Shortage Contingency Plan

JUNE 2021 | City of Rialto

CITY OF RIALTO

Water Shortage Contingency Plan

City of Rialto

JUNE 2021

Prepared by Water Systems Consulting, Inc.

WSC

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ACRONYMS & ABBREVIATIONS

AWIA	American Water Infrastructure Association
BTAC	Basin Technical Advisory Committee
CWC	California Water Code
CII	Commercial, Industrial, and Institutional
DWR	California Department of Water Resources
DRA	Drought Risk Assessment
ERP	Emergency Response Plan
GW	Groundwater
IRUWMP	Integrated Regional Urban Water Management Plan
RRA	Risk and Resilience Assessment
SWP	State Water Project
UWWP	Urban Water Management Plan
WSCP	Water Shortage Contingency Plan

WATER SHORTAGE CONTINGENCY PLAN

City of Rialto

This Water Shortage Contingency Plan is a strategic plan that the City of Rialto (Rialto) uses to prepare for and respond to water shortages.

A water shortage occurs when water supply available is insufficient to meet the normally expected customer water use at a given point in time. A shortage may occur due to a number of reasons, such as water supply quality changes, climate change, drought, regional power outage, and catastrophic events (e.g., earthquake). Additionally, the State may declare a statewide drought emergency and mandate that water suppliers reduce demands, as occurred in 2014. The WSCP serves as the operating manual that Rialto will use to prevent catastrophic service disruptions through proactive, rather than reactive, mitigation of water shortages. This WSCP provides a process for an annual water supply and demand assessment and structured steps designed to respond to actual conditions. This level of detailed planning and preparation provide accountability and predictability and will help Rialto maintain reliable supplies and reduce the impacts of any supply shortages and/or interruptions.

This WSCP was prepared in conjunction with Rialto's 2020 UWMP, which is included in the 2020 Upper Santa Ana River Watershed Integrated Urban Water Management Plan (2020 IRUWMP) and is a standalone document that can be modified as needed. This document is compliant with the California Water Code (CWC) Section 10632 and incorporated guidance from the State of California Department of Water Resources (DWR) UWMP Guidebook.

IN THIS SECTION

The WSCP describes the following:

1. **Water Service Reliability Analysis:** Summarizes Rialto's water supply analysis and reliability and identifies any key issues that may trigger a shortage condition.
2. **Annual Water Supply and Demand Assessment Procedures:** Describes the key data inputs, evaluation criteria, and methodology for assessing the system's reliability for the coming year and the steps to formally declare any water shortage stages and response actions.
3. **Water Shortage Stages:** Establishes water shortage stages to clearly identify and prepare for shortages.
4. **Shortage Response Actions:** Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand.
5. **Communication Protocols:** Describes communication protocols under each stage to ensure customers, the public, and government agencies are informed of shortage conditions and requirements.
6. **Compliance and Enforcement:** Defines compliance and enforcement actions available to administer demand reductions.
7. **Legal Authority:** Lists the legal documents that grant the City the authority to declare a water shortage and implement and enforce response actions.
8. **Financial Consequences of WSCP Implementation:** Describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies to offset financial burdens.
9. **Monitoring and Reporting:** Summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation. Results are used to determine if additional shortage response actions should be adjusted.
10. **WSCP Refinement Procedures:** Describes the factors that may trigger updates to the WSCP and outlines how to complete an update.
11. **Plan Adoption, Submittal, and Availability:** Describes the process for the WSCP adoption, submittal, and availability after each revision.

1.0 Water Service Reliability Analysis

As part of the 2020 IRUWMP, Rialto completed a water supply reliability analysis for normal, single-dry, and five-year consecutive dry year periods from 2025-2045. A Drought Risk Assessment (DRA) was also performed to analyze supply reliability under five consecutive years of drought from 2021-2025. As described in **Chapter 3** of the 2020 IRUWMP, the effects of a local drought are not immediately recognized since the region uses the local groundwater basins to simulate a large reservoir for long term storage. Rialto is able to pump additional groundwater to meet increased demands in dry years and participates in efforts to replenish the basins with imported and local water through regional recharge programs. Additionally, Rialto implements several ongoing water conservation measures. Regional recharge programs and conservation help to optimize and enhance the use of regional water resources. **Based on the 2020 IRUWMP analysis, Rialto's water supply is reliable and not expected to see impactful change under drought conditions.**

Even though localized drought conditions should not affect supply, other shortages may occur due to a number of reasons, such as water supply quality changes, regional power outage, State mandates for water use efficiency standards, and catastrophic events (e.g., earthquake). Therefore, Rialto will use this WSCP as appropriate to address shortages and other supply emergencies.

2.0 Annual Water Supply and Demand Assessment

As an urban water supplier, Rialto must prepare and submit an Annual Water Supply and Demand Assessment (Annual Assessment). Starting in 2022, the Annual Assessment will be due by July 1 of every year, as indicated by CWC Section 10632.1. The Annual Assessment is an evaluation of the near-term outlook for supplies and demands to determine whether the potential for a supply shortage exists and whether there is a need to trigger a WSCP shortage stage and response actions in the current calendar year to maintain supply reliability. This process will take place at the same time each year based on known circumstances and information available to Rialto at the time of analysis and can be update or revised at any time if circumstances change.

Rialto will establish and convene an internal WSCP Team to conduct the Annual Assessment each year. The WSCP may include the following staff:

- **Utilities Manager**
- **Conservation Coordinator**
- **Rialto Water Services/Veolia Operations Staff**

The Annual Assessment procedure, including key data inputs and evaluation criteria, is summarized in **Table 1.** The Annual Assessment procedure and timeline, along with how it integrates with the annual assessment that will be conducted on a regional basis in parallel, is shown graphically in **Figure 1.**

Table 1. Annual Assessment Procedure

TIMING	ASSESSMENT ACTIVITIES	PROCEDURE, KEY DATA INPUTS, EVALUATION CRITERIA AND OTHER CONSIDERATIONS	STAFF RESPONSIBLE
JAN- FEB	Estimate unconstrained demands for coming year	Demands will be estimated based on water sales forecasts from annual budget or prior year demands plus any anticipated changes	Utilities Manager
JAN- FEB	Estimate available supplies for the year, considering the following year will be dry	The BTAC evaluates groundwater in storage each year. The Bunker Hill, Lytle Creek, Rialto-Colton, and Riverside North basins are sustainably managed to provide storage for use in dry years. In the unlikely event that local supplies are reduced, Rialto will coordinate with the BTAC to identify anticipated supplies.	Utilities Manager
JAN- FEB	Consider potential constraints that may impact supply delivery	Identify any known regional or Rialto infrastructure issues that may pertain to near-term water supply reliability, including repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity. Identify any facilities out of service due to water quality problems, equipment failure, etc. that may impact normal water deliveries. Identify any potential or emerging impacts to groundwater quality, such as emerging regulatory constraints that may limit use of available supplies for potable needs.	RWS/Veolia
FEB	Convene WSCP Team to conduct Annual Assessment	Compare supplies and demands and discuss any constraints that may impact supply delivery. If the potential for a shortage exists, determine which shortage response level and actions are recommended to reduce/eliminate the shortage. Additionally, if the State declares a drought state of emergency and requires demand reductions, the WSCP Team will determine which water shortage stage and response actions are needed to comply with the State mandate.	WSCP Team

TIMING	ASSESSMENT ACTIVITIES	PROCEDURE, KEY DATA INPUTS, EVALUATION CRITERIA AND OTHER CONSIDERATIONS	STAFF RESPONSIBLE
JUNE	City Council	If the potential for a shortage exists or the State has mandated demand reductions, the results of the Annual Assessment will be presented to the Water Subcommittee of the City Council, Utility Commission, and the Rialto City Council, including the recommended shortage stage and response actions. The City Council may order the implementation of a shortage stage and will adopt a resolution declaring the applicable water shortage stage.	City Manager, Water Subcommittee & City Council
ON-GOING	Implement WSCP actions, if needed	Relevant members of Rialto staff will implement shortage response actions associated with the declared water shortage stage	WSCP Team
BY JULY 1	Submit Retail Annual Assessment	Send Final Retail Annual Assessment to DWR	WSCP Team

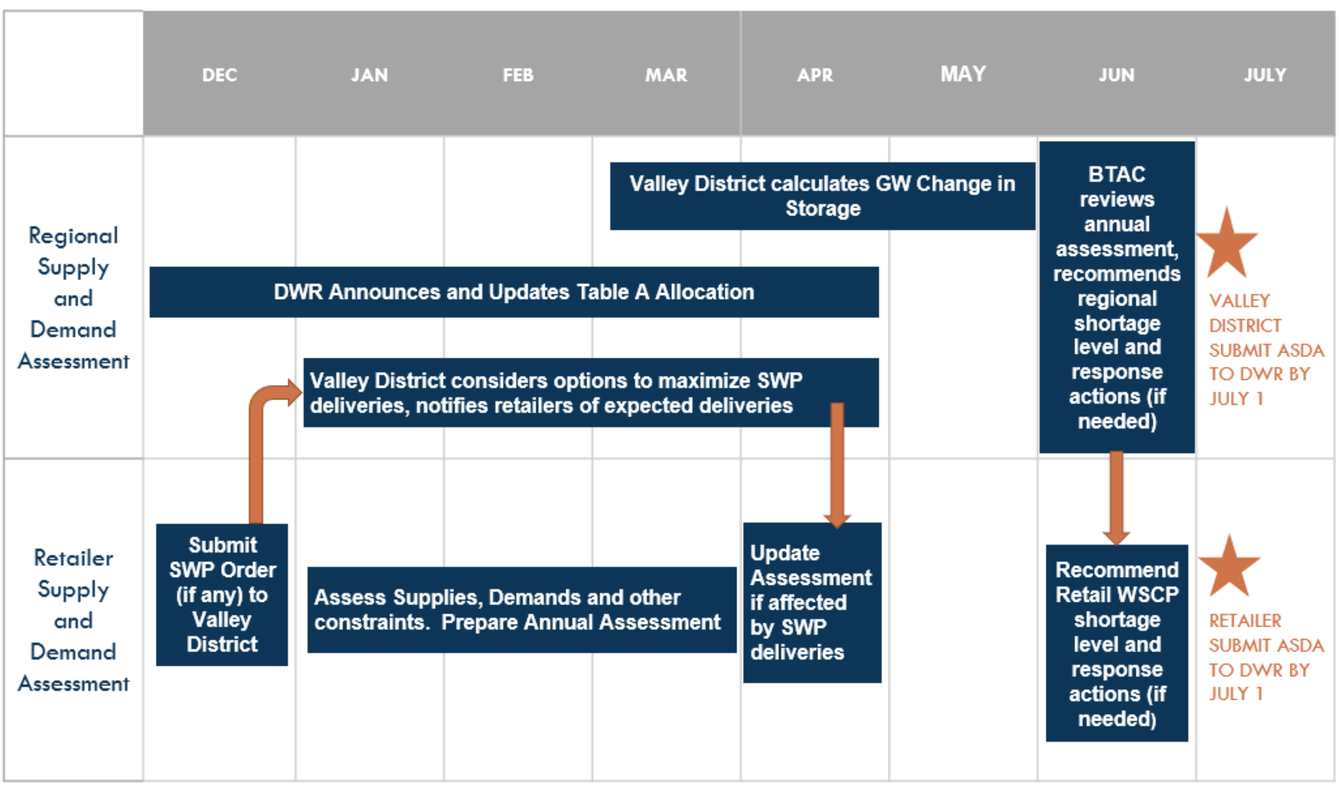

Figure 1. Regional and Retail Agency Annual Assessment Process and Timeline

3.0 Water Shortage Stages

With the exception of a catastrophic failure of infrastructure, Rialto does not foresee imposing a water shortage stage except under the State's direction, as occurred in 2014. If a potential water supply shortage is identified in the Annual Assessment, this section provides information on the water shortage stages and response actions that Rialto may implement.

Rialto uses four (4) shortage stages to identify and respond to water shortage emergencies. At a minimum, Rialto encourages baseline conservation efforts year-round, regardless of a shortage emergency.

Stage I: Normal Conditions

Normal conditions mean normal supply and distribution capacity is available.

Stage II: Water Alert

Stage 2 means that the city may not be able to meet all water demands of all water customers, or the state of California has adopted regulations requiring the city to implement requirements and actions of a Stage 2 Water Alert as outlined in Section 12.20.022 of Ordinance Number 1560, regardless of the city's local water supply. All customers are required to reduce potable water consumption by a minimum twenty percent compared to their potable water consumption in the 2013 base year.

Stage III: Water Warning

Stage 3 means that the city is not able to meet all water demands of all water customers, or the state of California has adopted regulations requiring the city to implement requirements and actions of a Stage 3 water warning as outlined in Section 12.20.023 of Ordinance Number 1560, regardless of the city's local water supply. All customers are required to reduce potable water use consumption by a minimum twenty-five percent compared to their potable water consumption in the 2013 base year.

Stage IV: Water Emergency

Stage 4 means that the city is experiencing a major failure of water supply or distribution, or the state of California has adopted regulations requiring the city to implement requirements and actions of a Stage 4 water emergency as outline in Section 12.20.024 of Ordinance Number 1560, regardless of the city's local water supply. All customers are required to reduce potable water consumption by a minimum thirty percent compared to their potable water consumption in the 2013 base year. The use of water shall be limited to essential household, commercial, manufacturing or processing uses only, except where other uses may be allowed by permit.

The CWC outlines six standard water shortage stages that correspond to a gap in supply compared to normal year availability. The six standard water shortage stages correspond to progressively increasing estimated shortage conditions (up to 10-, 20-, 30-, 40-, 50-percent, and greater than 50-percent shortage compared to the normal reliability condition) and align with the response actions that a water supplier would implement to meet the severity of the impending shortages.

The CWC allows suppliers with an existing WSCP that uses different water shortage stages to comply with the six standard stages by developing and including a cross-reference relating its existing shortage categories to the six standard water shortage stages. Rialto is maintaining the current four shortage stages for this WSCP. A crosswalk defines how Rialto's current water shortage stages will align with the DWR's standardized 6 stages of shortage. A visual representation of this alignment is shown in **Figure 2.**

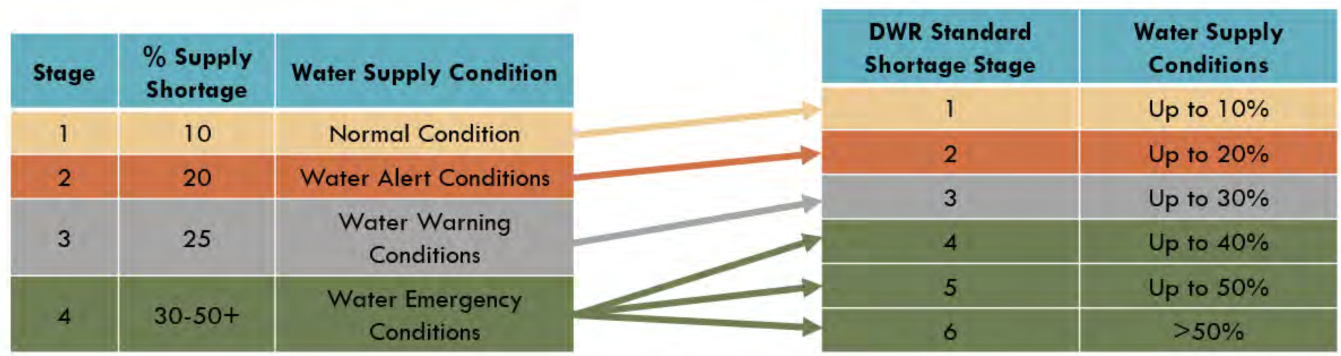

Figure 2. Crosswalk to DWR Six Standard Stages

Table 2: DWR 8-1 Water Shortage Contingency Plan Stages

SHORTAGE STAGE	PERCENT SHORTAGE RANGE[1] (NUMERICAL VALUE AS A PERCENT)	WATER SHORTAGE CONDITION
1	Up to 10%	Normal Conditions (Rialto Stage 1)
2	Up to 20%	Water Alert (Rialto Stage 2)
3	Up to 30%	Water Warning (Rialto Stage 3)
4	Up to 40%	Water Emergency (Rialto Stage 4)
5	Up to 50%	Water Emergency (Rialto Stage 4)
6	>50%	Water Emergency (Rialto Stage 4)

[1] One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.

4.0 Shortage Response Actions

This section was completed pursuant to CWC Section 10632(a)(4) and 10632.5(a) and describes the response actions that must be implemented or considered for each stage to minimize social and economic impacts to the community.

In accordance with CWC 10632(b) Rialto analyzes and defines water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.

4.1 Supply Augmentation

Table 3 identifies the supply augmentation actions Rialto can take in the event of a water shortage condition. Rialto currently maintains mutual aid agreements with the City of San Bernardino, Fontana Water, RHWC, and WVWD. During water shortage emergencies, Rialto may be able to obtain supplemental water supply though these connections, if available. During water shortage emergencies, Rialto may be able to obtain supplemental water supply through these connections, if available.

Table 3: DWR 8-3R Supply Augmentation & Other Actions

SHORTAGE STAGE	SUPPLY AUGMENTATION METHODS AND OTHER ACTIONS BY WATER SUPPLIER	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE
4	Other purchases	0-100%	Mutual aid agreements with the City of San Bernardino, Fontana Water, RHWC, and WVWD.

4.2 Demand Reduction

In addition to prohibitions on end uses, Rialto participates in Statewide efforts to conserve water, and protect the ecological habitat of the region. The reduction goal is to balance supply and demand. Table 4 summarizes these efforts and end use prohibitions.

Table 4: DWR 8-2 Demand Reduction Actions

SHORTAGE STAGE	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT
All	Expand Public Information Campaign	0-20%		No
1	CII - Restaurants may only serve water upon request	0-1%	All restaurants and food establishments are requested not to serve water to their customers unless specifically requested by the customer.	No
1	Landscape - Limit landscape irrigation to specific times	0-5%	Watering with automatic sprinklers should be done between 8 pm and 6 am and that hand watering and nonautomatic sprinklers should be done between 6 pm and 8 am. Drip irrigation is exempt from this recommendation. Water being used during repair or maintenance of watering systems is exempt from this section.	No
1	Landscape - Other landscape restriction or prohibition	0-5%	The use of sprinklers for any type of irrigation during high winds, which divert a significant amount of water away from the intended landscaping, is prohibited.	Yes
1	Landscape - Other landscape restriction or prohibition	0-5%	The irrigation with potable water of landscape outside of newly constructed homes and buildings must be consistent with regulations or other requirements established by the California Buildings Standards Commission, as those	Yes

SHORTAGE STAGE	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT
			regulations may be modified from time to time.	
1	Landscape - Prohibit certain types of landscape irrigation	0-5%	The irrigation of potable water of ornamental turf on public street medians is prohibited. The term "median" shall mean the strip of land between street lanes.	Yes
1	Landscape - Restrict or prohibit runoff from landscape irrigation	0-5%	Water used which results in flooding or run-off should be prevented and controlled. Use of water for any purpose which results in flooding or run-off in gutters, driveways or streets is prohibited.	Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	No person shall knowingly permit water to leak from any facility, improvement or plumbing fixture on his/her/its premises; any such leak shall be repaired in a timely manner.	Yes
1	Other - Prohibit use of potable water for washing hard surfaces	0-1%	There shall be no application of water to sidewalks, walkways, driveways, parking areas, patios, porches, verandas, tennis courts or other paved, concrete or other hard surface areas, except that flammable or other similarly dangerous or unhealthy substances may be washed from said areas by direct hose flushing for the benefit of public health or safety.	Yes
1	Other - Require automatic shut of hoses	0-1%	Washing of automobiles, trucks, trailers, boats and other mobile equipment is prohibited unless done with a bucket or hand held device equipped with an automatic shut off trigger nozzle or device attached to it that causes it to cease dispensing water immediately when not in use. This section does not apply to the washing of the above-listed vehicles or mobile equipment when conducted at a commercial car or truck wash utilizing recirculating systems. Such washings are exempted from these regulations when the health, safety, and welfare of the public is contingent upon frequent vehicle cleaning such as garbage trucks and vehicles used to transport food and perishables.	Yes
1	Water Features - Restrict water use for decorative	0-1%	No water to be used to clean, fill, operate or maintain decorative fountains unless the water is from a recycled source.	Yes

SHORTAGE STAGE	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT
	water features, such as fountains			
1	Water Features - Restrict water use for decorative water features, such as fountains	0-1%	No water shall be used to clean, fill, operate or maintain levels in decorative fountains unless such water is part of a recirculating system.	Yes
2	CII - Lodging establishment must offer opt out of linen service	0-1%	Operators of hotels and motels must provide guests with the option of choosing not to have towels and linens laundered daily and prominently display notice of this option.	Yes
2	CII - Restaurants may only serve water upon request	0-1%	All restaurants are prohibited from serving water to their customers except when specifically requested by the customer.	Yes
2	Landscape - Limit landscape irrigation to specific days	0-5%	All landscape irrigation shall be limited to no more than four (4) days per week for no more than ten (10) minutes per station per day. This provision does not apply to any landscape that has water-efficient devices that are operated properly. Water-efficient devices are drip irrigation systems and operational weather-based irrigation controllers. The term "week" is defined as Sunday through Saturday.	Yes
2	Landscape - Other landscape restriction or prohibition	0-5%	The city shall screen all new applications for water service installations and shall limit water use to that essential for construction and testing of landscape plumbing. Limited landscaping for new development shall be allowed as approved by the city.	Yes
2	Landscape - Other landscape restriction or prohibition	0-5%	Irrigating turf or ornamental landscapes during or within forty-eight (48) hours following measurable precipitation in excess of one-quarter inch is prohibited	Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	All customers shall repair all leaks within seventy-two (72) hours of notification by the city, actual notice by the customer, or other notice of such leak, unless other arrangements are made with the city administrator or his/her designee.	Yes
3B	CII - Other CII restriction or prohibition	0-1%	Water used for compaction, dust control, and other types of construction shall be by permit only and will be limited to	Yes

SHORTAGE STAGE	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT
			conditions of the permit or may be prohibited as determined by the city administrator, or his/her designee.	
3A	Landscape - Limit landscape irrigation to specific days	0-5%	All landscape irrigation with potable water shall be limited to no more than three days per week for no more than ten minutes per station per day. This provision does not apply to any landscape that has water-efficient devices that are operated properly. Water-efficient devices are drip irrigation systems and operational weather-based irrigation controllers. Week is defined as Sunday through Saturday.	Yes
3A	Landscape - Other landscape restriction or prohibition	0-5%	New water service shall be installed but water shall be used before occupancy for essential construction only and for testing of landscape irrigation systems. The installation of new landscaping for all new development/projects must be approved by the city.	Yes
3C	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%	Washing of automobiles, trucks, trailers, boats, airplanes and other types of mobile equipment is prohibited. Washing of the above-listed vehicles or mobile equipment shall be done only at a commercial car wash where recirculating or recycled water is being utilized. Such washings are exempt from these regulations when the health, safety, and welfare of the public is contingent upon frequent vehicle cleaning such as garbage trucks and vehicles used to transport food and perishables.	Yes
3A	Other water feature or swimming pool restriction	0-1%	Ornamental ponds, fountains, water displays, and artificial lakes shall not be filled or refilled.	Yes
3A	Other water feature or swimming pool restriction	0-1%	Swimming pools, hot tubs, and spas shall not be filled or refilled.	Yes
4	CII - Other CII restriction or prohibition	0-1%	No water shall be used for construction purposes unless they are using reclaimed water. All fire hydrant and construction meters shall be locked off or removed.	Yes

SHORTAGE STAGE	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT
4	Landscape - Limit landscape irrigation to specific days	0-5%	Commercial nurseries shall water only between the hours of 11 p.m. and 6 a.m. and only with hand-held devices or with drip irrigation.	Yes
4	Landscape - Prohibit all landscape irrigation	0-5%	There shall be no watering of any lawn or landscaped area, except by use of reclaimed water.	Yes
4	Other	0-1%	The use of water shall be limited to essential household, commercial, manufacturing or processing uses only, except where other uses may be allowed by permit.	Yes

4.3 Operational Changes and Additional Mandatory Restrictions

During shortage conditions, operations may be affected by supply augmentation or demand reduction responses. Rialto will consider their operational procedures when it completes its Annual Assessment. Any additional mandatory restrictions implemented in response to the declaration of a shortage response stage, beyond the actions listed in **Table 3** and **Table 4** are listed in Rialto's Ordinance No. 1560 provided in **Attachment 1.**

4.4 Emergency Response Plan

In 2021, Rialto completed a Risk and Resilience Assessment (RRA) and Emergency Response Plan (ERP) in accordance with America's Water Infrastructure Act (AWIA) of 2018. The purpose of the RRA and ERP is to meet the AWIA compliance requirements and plan for long-term resilience of Rialto's infrastructure. The RRA is an assessment of Rialto's water system to identify critical assets and processes that may be vulnerable to human and natural hazards, and to identify measures that can be taken to reduce risk and enhance resilience from service disruption for the benefit of customers. The RRA identifies and characterizes both infrastructure-specific and system-wide vulnerabilities and threats and quantifies the consequences of disruption. The RRA also identifies various options (and constraints) in addressing and mitigating risk. The RRA, in conjunction with the Emergency Response Plan (ERP), charts a course for water system resilience. The RRA also provided various recommendations to increase reliability of Rialto's system. Since critical pieces of infrastructure and specific vulnerabilities are detailed in the RRA and ERP, the contents of the document are confidential and for use by Rialto's staff only. However, Rialto can confirm that these plans meet the requirements set forth by AWIA and evaluate seismic risks and mitigation actions to Rialto's infrastructure.

In the event of a water shortage emergency resulting from equipment failure, power outage, or other catastrophe, Rialto is prepared to purchase emergency water supplies from nearby agencies while repairs or other remedial actions are underway. Rialto may also implement its four-stage plan for conservation, as described above, with either voluntary or mandatory reductions depending on the severity of the shortage. For severe disasters (Stage 4), mandatory water use reductions are specified.

4.5 Seismic Risk Assessment and Mitigation Plan

Disasters, such as earthquakes, can and will occur without notice. As a part of the AWIA RRA and ERP, the City of Rialto has assessed the seismic risk and mitigation for water facilities.

The seismic hazards evaluated include fault rupture, liquefaction and seismic shaking and assessed the threat to critical facilities, including the water system. Rialto has identified a set of hazard mitigation actions that are intended to reduce the impact of hazard, including:

- Conduct a seismic analysis of all City- owned key facilities and retrofit vulnerable facilities.
- Consider locating wells outside of seismic hazard zones.

4.6 Shortage Response Action Effectiveness

Rialto has estimated the effectiveness of shortage response actions in **Table 3** and **Table 4** when data pertaining to such actions is available. It is expected that response actions effectiveness is also a result of successful communication and outreach efforts.

5.0 Communication Protocols

Rialto prioritizes effective communication, especially in times of a water shortage emergency. Rialto routinely communicates to customers about details on when a stage is announced. Communication actions may include bill inserts, handouts, informative flyers, and direct mail pieces to newspaper and bus shelter advertisements, news releases, social media outreach, and website content. Rialto continues to provide reminders about shortage stages and encourages conservation at all times.

6.0 Compliance and Enforcement

In the implementation of the water shortage contingency plan, the following penalties shall apply for any violation of the Rialto's Ordinance, Number 1560 Sections 12.20.022, 12.20.023, 12.20.024, and 12.20.040: Water Conservation Requirements.

First Violation: Notice of Non-Compliance

A written "warning shall be issued for the first offense.

Second Violation: Warning of Penalties

A written warning notice of the future imposition of penalties that could be placed on the customer's water bill shall be issued for the second offense.

Third Violation: Surcharge

A surcharge of one hundred dollars shall be added to that billing for the third offense occurring within a one-year period.

Fourth Violation: Surcharge

A surcharge of three hundred dollars, and installation of a flow restricting device in the meter for a minimum of ninety-six hours (at customer's expense) shall be imposed for the fourth offense occurring within a one-year period. Said restricted flow shall meet minimum county health department's standards, if any have been established. If said ninety-six-hour period ends on a weekend or holiday, full service will be restored during the next business day.

Fifth Violation: Surcharge

A surcharge of five hundred dollars, and termination of water service at customer's expense for a two-day period shall be imposed for the fifth offense occurring within a one-year period. Prior to the termination of water service, the customer may request an administrative hearing pursuant to Section 1.10.050 of Ordinance No.1560.

7.0 Legal Authorities

To offset the prolonged effects of a drought period or other emergency, the City Council adopted Ordinance No. 1130 in December 1990. The ordinance provides water conservation measures in order to minimize the effect of a water shortage on the citizens of the community. The ordinance includes provisions that will significantly reduce the waste and inefficient use of water, thereby extending the available water resources required for the domestic and fire protection needs of the City and general public. Rialto adopted Ordinance No. 1560 in May, 2015, to update the sections regarding the four (4) stages that make up the water conservation requirements. Ordinance No. 1560 is included in **Attachment 1.**

7.1 Water Shortage Emergency Declaration

In accordance with CWC Section Division 1, Section 350 – Rialto shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

7.2 Local/Regional Emergency Declaration

If a water shortage is approaching, Rialto shall coordinate with any the cities and counties in its service area for the possible proclamation of a local emergency.

8.0 Financial Consequences of WSCP

To ensure Rialto customers comply with Ordinance No. 1560 and CWC Chapter 3.3 (Excessive Residential Water Use During Drought), additional costs may be incurred to monitor and enforce response actions. The incurred cost may vary depending on the shortage stage and duration of the water shortage emergency. To mitigate the financial impacts of a water shortage Rialto has a tiered rate schedule for water customers to encourage water conservation and provide the economic incentives to customers to use water efficiently.

9.0 Monitoring and Reporting

The water savings from implementation of the WSCP will be determined based on monthly production reports which are reviewed and compared to production reports and pumping statistics from prior months and the same period of the prior year. Under shortage conditions, these production reports could be prepared as often as daily. At first, the cumulative consumption for the various sectors (e.g., residential, commercial, etc.) will be evaluated for reaching the target level. Then if needed, individual accounts will be monitored. Weather and other possible influences may be accounted for in the evaluation.

10.0 WSCP Refinement Procedures

The WSCP is best prepared and implemented as an adaptive management plan. Rialto will use results obtained from their monitoring and reporting program to evaluate any needs for revisions. Potential changes to the WSCP that would warrant an update include, but are not limited to, any changes to trigger conditions, changes to the shortage stage structure, and/or changes to customer reduction actions.

Any prospective changes to the WSCP would need to be presented to Rialto's Board for discretionary approval. Once discretionary approval has been granted, Rialto will hold a public hearing, obtain any comments and adopt the updated WSCP. Notices for refinement and the public hearing date will be published in the local newspaper in advance of any public meetings.

11.0 Plan Adoption, Submittal and Availability

Rialto adopted this WSCP with the 2020 IRUWMP. The 2020 IRUWMP and WSCP were made available for public review in May 2021 and a public hearing was held on **June 22, 2021** to receive public input on the draft 2020 IRUWMP and the WSCP.

The Rialto City Council adopted the 2020 IRUWMP and the WSCP at a public meeting on **June 22, 2021**. The resolution of adoption is included as an attachment.

This WSCP was submitted to DWR through the WUEData portal before the deadline of **July 1, 2021**.

This WSCP will be available to the public on the City of Rialto web site.

If Rialto identifies the need to amend this WSCP, it will follow the same procedures for notification to cities, counties and the public as used for the 2020 IRUWMP and for initial adoption of the WSCP.

The WSCP will be presented for adoption to Rialto's Board at a public City Council meeting. The Council may submit any comments prior to approval and adoption. The WSCP will be submitted to DWR at the same time as the 2020 Urban Water Management Plan. The WSCP will be made available to all staff, customers, and any affected cities, counties, or other members of the public at the Rialto office and online.

References

California Department of Water Resources. (2021). *Urban Water Management Plan Guidebook 2020.* Sacramento: California Department of Water Resources.

Texas Living Waters Project. (2018). *Water Conservation by the Yard: A Statewide Analysis of Outdoor Water Savings Potential.* Austin: Texas Living Waters Project, Sierra Club, National Wildlife Federation. Retrieved from Texas Living Waters Project.

United States Environmental Protection Agency, Office of Water. (2002). *Cases in Water Conservation: How Efficiency Programs Help Water Utilities Save Water and Avoid Costs.* United States Environmental Protection Agency.

Attachment 1: Rialto’s Ordinance No. 1560

ORDINANCE NO. 1560

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF RIALTO, CALIFORNIA, AMENDING SECTIONS 12.20.020, 12.20.021, 12.20.022, 12.20.023, 12.20.024 AND 12.20.040 OF THE RIALTO MUNICIPAL CODE REGARDING WATER CONSERVATION REQUIREMENTS

WHEREAS, on January 17, 2014, the Governor issued a proclamation of a state of emergency under the California Emergency Services Act based on drought conditions; and

WHEREAS, on April 25, 2014, the Governor issued a proclamation of a continued state of emergency under the California Emergency Services Act based on continued drought conditions; and

WHEREAS, on July 14, 2014, the State Water Resources Control Board adopted emergency drought regulations for statewide urban water conservation; and

WHEREAS, on July 28, 2014, the emergency drought regulations were approved by the Office of Administrative Law and became effective; and

WHEREAS, on September 9, 2014, the City of Rialto adopted Ordinance No. 1550, amending Sections 12.20.010, 12.20.020, 12.20.021, 12.20.022, 12.20.023, 12.20.024, 12.20.030, 12.20.040, 12.20.050, 12.20.060, 12.20.080, and 12.20.090 of the Rialto Municipal Code regarding water conservation requirements in order to comply with the emergency drought regulations; and

WHEREAS, on March 17, 2015, the State Water Resources Control Board amended and re-adopted the emergency drought regulations for statewide urban water conservation; and

WHEREAS, on March 27, 2015, the amended emergency drought regulations were approved by the Office of Administrative Law and became effective; and

WHEREAS, on April 1, 2015, the Governor issued an Executive Order directing the State Water Resources Control Board to adopt emergency drought conservation regulations that result in a collective Statewide 25% reduction in potable urban water usage as compared to 2013; and

WHEREAS, on May 5, 2015, the State Water Resources Control Board amended and re-adopted the emergency drought regulations for statewide urban water conservation; and

WHEREAS, on May 18, 2015, the amended emergency drought regulations were approved by the Office of Administrative Law and became effective; and

WHEREAS, the amended emergency drought regulations adopted by the State Water Resources Control Board require the City of Rialto to impose restrictions that result in a 28% reduction in potable water usage as compared to 2013.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF RIALTO FINDS AND ORDAINS AS FOLLOWS:

<u>Section 1</u>. The above recitals are all true and correct and are hereby adopted as findings.

<u>Section 2</u>. Section 12.20.020 of the Rialto Municipal Code hereby is amended to read in full as follows:

"**12.20.020 - Prohibited uses of water.**

The city council shall adopt the applicable conservation stage by resolution, which shall apply to all persons and property affected by this chapter.

The term "base year" shall mean the following:

A. The year 2013, if the customer occupied the subject real property for the entire year.

B. If the customer did not occupy the subject real property for the entire year of 2013, the base year for that customer would be the first twelve (12) months the customer occupied the subject real property in or after 2013.

C. If the customer has not occupied the subject real property for a twelve (12) month period on the adoption of this Ordinance, then the city will determine goals for that customer, which goals shall be compared to the actual use of the customer on the subject property. The customer shall have a ten (10) day period after the customer receives the goals to appeal that determination to the City Administrator, in writing. If the customer fails to appeal the determination within the ten (10) day period the goals shall be final. Upon receipt of a timely appeal, the City Administrator shall schedule a hearing at which the City Administrator or his/her designated representative shall act as the hearing officer. The hearing shall be at least ten (10) days following receipt of the appeal, and the city shall mail written notice of the hearing to the customer at least ten (10) days before the date of said hearing. The determination of the hearing officer with respect to the goals shall be final."

<u>Section 3</u>. Section 12.20.021 of the Rialto Municipal Code hereby is amended to read in full as follows:

"12.20.021 Stage 1 - Normal conditions.

Stage 1, normal conditions means normal supply and distribution capacity is available and the following water conservation measures shall apply:

A. Recommendations for Use of Water.

1. Watering with automatic sprinklers should be done between eight p.m. and six a.m. Hand watering and non-automatic sprinklers should be done between six p.m. and eight a.m. Drip irrigation is exempt from this recommendation. Water being used during repair or maintenance of watering systems is exempt from this section.

2. Water conservation should be practiced within the home or business.

3. All restaurants and food establishments are requested not to serve water to their customers unless specifically requested by the customer.

B. The following uses of water are hereafter considered nonessential to the public health, safety and welfare and, if practiced, would constitute wastage of water and is hereby prohibited, pursuant to Water Code Section 350 et seq., Water Code Section 71640 et seq., and the common law:

1. There shall be no application of water to sidewalks, walkways, driveways, parking areas, patios, porches, verandas, tennis courts or other paved, concrete or other hard surface areas, except that flammable or other similarly dangerous or unhealthy substances may be washed from said areas by direct hose flushing for the benefit of public health or safety.

2. No water shall be used to clean, fill, operate or maintain levels in decorative fountains unless such water is part of a recirculating system.

3. No person shall knowingly permit water to leak from any facility, improvement or plumbing fixture on his/her/its premises; any such leak shall be repaired in a timely manner.

4. Washing of automobiles, trucks, trailers, boats, airplanes, and other types of mobile equipment is prohibited unless done with a bucket or hand-held hose equipped with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use. This section does not apply to the washing of the above-listed vehicles or mobile equipment when conducted at a commercial car or truck wash utilizing recirculating systems. Such washings are exempted from these regulations when the health, safety, and welfare of the

public is contingent upon frequent vehicle cleaning such as garbage trucks and vehicles used to transport food and perishables.

5. Use of water for any purpose which results in flooding or run-off in gutters, driveways or streets is prohibited.

6. The use of sprinklers for any type of irrigation during high winds, which divert a significant amount of water away from the intended landscaping, is prohibited.

7. The irrigation of potable water of ornamental turf on public street medians is prohibited. The term "median" shall mean the strip of land between street lanes.

8. The irrigation with potable water of landscape outside of newly constructed homes and buildings must be consistent with regulations or other requirements established by the California Buildings Standards Commission, as those regulations may be modified from time to time."

Section 4. Section 12.20.022 of the Rialto Municipal Code hereby is amended to read in full as follows:

"12.20.022 Stage 2 - Water alert.

Stage 2 means that the city may not be able to meet all water demands of all water customers, or the state of California has adopted regulations requiring the city to implement requirements and actions of a Stage 2 Water Alert as outlined herein this Section 12.20.022, regardless of the city's local water supply, and the following water conservation measures shall apply:

A. Additional reductions.

1. All policies and prohibitions listed in Sections 12.20.010 and 12.20.021.

2. All customers are required to reduce potable water consumption by a minimum twenty percent compared to their potable water consumption in the base year.

3. The city shall screen all new applications for water service installations and shall limit water use to that essential for construction and testing of landscape plumbing. Limited landscaping for new development shall be allowed as approved by the city.

4. All landscape irrigation shall be limited to no more than four days per week for no more than ten minutes per station per day. This provision does not apply to any landscape that has water-efficient devices that are operated properly. Water-efficient devices are drip irrigation systems and operational weather-

based irrigation controllers. The term "week" is defined as Sunday through Saturday.

5. Operators of hotels and motels must provide guests with the option of choosing not to have towels and linens laundered daily and prominently display notice of this option.

6. All restaurants are prohibited from serving water to their customers except when specifically requested by the customer.

7. All customers shall repair all leaks within seventy-two (72) hours of notification by the city, actual notice by the customer, or other notice of such leak, unless other arrangements are made with the city administrator or his/her designee.

8. Irrigating turf or ornamental landscapes during or within forty-eight (48) hours following measurable precipitation in excess of one-quarter (¼) inch is prohibited.

B. The following penalties shall apply:

1. First Violation: Notice of Non-Compliance—A written "warning" shall be issued for the first offense.

2. Second Violation: Warning of Penalties—A written warning notice of the future imposition of penalties that could be placed on the customer's water bill shall be issued for the second offense.

3. Third Violation: A surcharge of one hundred dollars shall be added to that billing for the third offense occurring within a one year period.

4. Fourth Violation: A surcharge of three hundred dollars, and installation of a flow restricting device in the meter for a minimum of ninety-six hours (at customer's expense) shall be imposed for the fourth offense occurring within a one-year period. Said restricted flow shall meet minimum county health department's standards, if any have been established. If said ninety-six hour period ends on a weekend or holiday, full service will be restored during the next business day.

5. Fifth Violation: A surcharge of five hundred dollars, and termination of water service at customer's expense for a two-day period shall be imposed for the fifth offense occurring within a one year period. Prior to the termination of water service, the customer may request an administrative hearing pursuant to Section 1.10.050."

<u>Section 5</u>. Section 12.20.023 of the Rialto Municipal Code hereby is amended to read in full as follows:

"12.20.023 Stage 3 – Water warning.

Stage 3 means that the city is not able to meet all water demands of all water customers, or the state of California has adopted regulations requiring the city to implement requirements and actions of a Stage 3 water warning as outlined herein this Section 12.20.023, regardless of the city's local water supply, and the following water conservation measures shall apply:

A. Sub-stage 3-A.

1. All policies and prohibitions listed in Sections 12.20.010, 12.20.021 and 12.20.022.

2. All customers are required to reduce potable water consumption by a minimum twenty-five percent compared to their potable water consumption in the base year.

3. New water service shall be installed but water shall be used before occupancy for essential construction only and for testing of landscape irrigation systems. The installation of new landscaping for all new development/projects must be approved by the city.

4. Swimming pools, ornamental ponds, fountains, water displays, hot tubs, spas and artificial lakes shall not be filled or refilled after being drained.

5. All landscape irrigation with potable water shall be limited to no more than three days per week for no more than ten minutes per station per day. This provision does not apply to any landscape that has water-efficient devices that are operated properly. Water-efficient devices are drip irrigation systems and operational weather-based irrigation controllers. Week is defined as Sunday through Saturday.

B. Sub-stage 3-B.

1. All policies and prohibitions listed in Sections 12.20.010, 12.20.021, 12.20.022, and sub-section A of this Section, except that all landscape irrigation with potable water shall be limited to no more than two days per week for no more than ten minutes per station per day.

2. Water used for compaction, dust control, and other types of construction shall be by permit only and will be limited to conditions of the permit or may be prohibited as determined by the city administrator, or his/her designee.

C. Sub-stage 3-C.

1. All policies and prohibitions listed in Sections 12.20.010, 12.20.021, 12.20.022, and sub-sections A and B of this Section, except that all landscape irrigation with potable water shall be limited to no more than one day per week for no more than ten minutes per station per day.

2. Washing of automobiles, trucks, trailers, boats, airplanes and other types of mobile equipment is prohibited. Washing of the above-listed vehicles or mobile equipment shall be done only at a commercial car wash where recirculating or recycled water is being utilized. Such washings are exempt from these regulations when the health, safety, and welfare of the public is contingent upon frequent vehicle cleaning such as garbage trucks and vehicles used to transport food and perishables.

D. The following penalties shall apply:

1. First Violation: Notice of Non-Compliance—A written "warning" shall be issued for the first offense.

2. Second Violation: Warning of Penalties—A written warning notice of the future imposition of penalties that could be placed on the customer's water bill shall be issued for the second offense.

3. Third Violation: A surcharge of one hundred dollars shall be added to that billing for the third offense occurring within a one year period.

4. Fourth Violation: A surcharge of three hundred dollars, and installation of a flow restricting device in the meter for a minimum of ninety-six hours (at customer's expense) shall be imposed for the fourth offense occurring within a one-year period. Said restricted flow shall meet minimum county health department's standards, if any have been established. If said ninety-six hour period ends on a weekend or holiday, full service will be restored during the next business day.

5. Fifth Violation: A surcharge of five hundred dollars, and termination of water service at customer's expense for a two-day period shall be imposed for the fifth offense occurring within a one year period. Prior to the termination of water service, the customer may request an administrative hearing pursuant to Section 1.10.050."

<u>Section 6</u>. Section 12.20.024 of the Rialto Municipal Code hereby is amended to read in full as follows:

"12.20.024 Stage 4 – Water emergency.

Stage 4 means that the city is experiencing a major failure of water supply or distribution, or the state of California has adopted regulations requiring the city to implement requirements and actions of a Stage 4 water emergency as outlined herein this Section 12.20.024, regardless of the city's local water supply, and the following water conservation measures shall apply:

A. Additional reductions.

1. All policies and prohibitions shown in Sections 12.20.010, 12.20.021, 12.20.022 and 12.20.023.

2. All customers are required to reduce potable water consumption by a minimum thirty percent compared to their potable water consumption in the base year.

3. No water shall be used for construction purposes unless they are using reclaimed water. All fire hydrant and construction meters shall be locked off or removed.

4. Commercial nurseries shall water only between the hours of eleven p.m. and six a.m. and only with hand-held devices or with drip irrigation.

5. There shall be no watering of any lawn or landscaped area, except by use of reclaimed water.

6. The use of water shall be limited to essential household, commercial, manufacturing or processing uses only, except where other uses may be allowed by permit.

B. The following penalties shall apply:

1. First Violation: Notice of Non-Compliance—A written "warning" shall be issued for the first offense.

2. Second Violation: Warning of Penalties—A written warning notice of the future imposition of penalties that could be placed on the customer's water bill shall be issued for the second offense.

3. Third Violation: A surcharge of one hundred dollars shall be added to that billing for the third offense occurring within a one year period.

4. Fourth Violation: A surcharge of three hundred dollars, and installation of a flow restricting device in the meter for a minimum of ninety-six hours (at customer's expense) shall be imposed for the fourth offense occurring within a one-year period. Said restricted flow shall meet minimum county health department's

standards, if any have been established. If said ninety-six hour period ends on a weekend or holiday, full service will be restored during the next business day.

5. Fifth Violation: A surcharge of five hundred dollars, and termination of water service at customer's expense for a two-day period shall be imposed for the fifth offense occurring within a one year period. Prior to the termination of water service, the customer may request an administrative hearing pursuant to Section 1.10.050."

Section 7. Section 12.20.040 of the Rialto Municipal Code hereby is amended to read in full as follows:

"**12.20.040 - Duration of declaration.**

The declaration of any stage of water supply conditions shall remain in effect until such time as another stage is declared."

Section 8. Except as specifically amended by this Ordinance, all remaining provisions of Chapter 12.20 of the Rialto Municipal Code shall remain unmodified and in full force and effect.

Section 9. The City Clerk shall certify to the adoption of this Ordinance, and cause the same to be published in the local newspaper, and the same shall take effect thirty (30) days after its date of adoption:

PASSED, APPROVED AND ADOPTED this 14th day of July, 2015.

Deborah Robertson

DEBORAH ROBERTSON, Mayor

ATTEST:

Barbara A McGee

BARBARA McGEE, City Clerk

APPROVED AS TO FORM

FRED GALANTE, City Attorney

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) ss
CITY OF RIALTO)

I, Barbara McGee, City Clerk of the City of Rialto, do hereby certify that the foregoing Ordinance No. **1560** was duly passed and adopted at a regular meeting of the City Council of the City of Rialto held on the 14th day of July, 2015.

Upon motion of Councilmember Baca Jr., seconded by Councilmember O'Connell, the foregoing Ordinance No. **1560** was duly passed and adopted.

Vote on the Motion:

AYES: Mayor Robertson, Councilmembers: Baca Jr., Palmer, O'Connell, Scott

NOES: None

ABSENT: None

IN WITNESS WHEREOF, I have hereunto set my hand and the Official Seal of the City of Rialto, this 28th day of July, 2015.

Barbara A McGee

Barbara A. McGee, City Clerk

Attachment 2: Adoption Resolution

RUA RESOLUTION NO. 04-21

A RESOLUTION OF THE UTILITY AUTHORITY OF THE CITY OF RIALTO, CALIFORNIA, ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, the California Urban Water Management Planning Act, Water Code Section 10610 et seq. (the UWMP Act), mandates that every urban supplier of water providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare and adopt, in accordance with prescribed requirements, a Water Shortage Contingency Plan (WSCP); and

WHEREAS, the Rialto Utility Authority meets the definition of an urban water supplier for purposes of the UWMP Act; and

WHEREAS, the UWMP Act specifies the requirements and procedures for adopting such WSCP; and

WHEREAS, pursuant to recent amendments to the UWMP Act, urban water suppliers are required to adopt and electronically submit their WSCPs to the California Department of Water Resources by July 1, 2021; and

WHEREAS, the Rialto Utility Authority has prepared a WSCP in accordance with the UWMP Act and SB X7-7, and in accordance with applicable legal requirements, has undertaken certain coordination, notice, public involvement, public comment, and other procedures in relation to its WSCP; and

WHEREAS, the WSCP references and incorporates the provisions of the City of Rialto and Rialto Utility Authority's Water Conservation Ordinance No. 1560 adopted on July 14, 2015; and

WHEREAS, in accordance with the UWMP Act, the Rialto Utility Authority has prepared its WSCP with its own staff, with the assistance of consulting professionals, and in cooperation with other governmental agencies, and has utilized and relied upon industry standards and the expertise of industry professionals in preparing its WSCP, and has also utilized the California Department of Water

Resources Guidebook for Urban Water Suppliers to Prepare 2020 Urban Water Management Plans, in preparing its WSCP; and

WHEREAS, in accordance with applicable law, including Water Code sections 10608.26 and 10642, and Government Code section 6066, a Notice of a Public Hearing regarding the Rialto Utility Authority's WSCP was published within the jurisdiction of the Rialto Utility Authority on June 7, 2021, and June 14, 2021; and

WHEREAS, in accordance with applicable law, including but not limited to Water Code sections 10608.26 and 10642, a public hearing was held on June 22, 2021 at 6:30 PM, or soon thereafter, in the Council Chambers of the City of Rialto at 150 South Palm Avenue in Rialto, California in order to provide members of the public and other interested entities with the opportunity to be heard in connection with proposed adoption of the WSCP and issues related thereto; and

WHEREAS, pursuant to said public hearing on the WSCP, the Rialto Utility Authority, among other things, encouraged the active involvement of diverse social, cultural, and economic members of the community within Rialto Utility Authority's service area with regard to the preparation of the WSCP, encouraged community input regarding Rialto Utility Authority's WSCP; and

WHEREAS, the Rialto Utility Authority Board of Directors has reviewed and considered the purposes and requirements of the UWMP Act, the contents of the WSCP, and the documentation contained in the administrative record in support of the WSCP, and has determined that the factual analyses and conclusions set forth in the WSCP are legally sufficient; and

WHEREAS, the Rialto Utility Authority Board of Directors desires to adopt the WSCP in order to comply with the UWMP Act.

NOW, THEREFORE, THE RIALTO UTILITY AUTHORITY OF THE CITY OF RIALTO DOES HEREBY FIND, DETERMINE, AND RESOLVE AS FOLLOWS:

Section 1: The WSCP is hereby adopted as amended by changes incorporated by the Rialto Utility Authority Board of Directors as a result of input received (if any) at the public hearing and ordered filed with the Secretary of the Rialto Utility Authority;

Section 2: The Utilities Manager is hereby authorized and directed to include a copy of this Resolution in Rialto Utility Authority's WSCP;

Section 3: The Utilities Manager is hereby authorized and directed, in accordance with Water Code sections 10621(d) and 10644(a)(1)-(2), to electronically submit a copy of the WSCP to the California Department of Water Resources no later than July 1, 2021;

Section 4: The Utilities Manager is hereby authorized and directed, in accordance with Water Code section 10644(a), to submit a copy of the WSCP to the California State Library, and any city or county within which the Rialto Utility Authority provides water supplies no later than thirty (30) days after this adoption date;

Section 5: The Utilities Manager is hereby authorized and directed, in accordance with Water Code section 10645, to make the WSCP available for public review at the Rialto Utility Authority's offices during normal business hours and on the Rialto Utility Authority's website no later than thirty (30) days after filing a copy of the WSCP with the California Department of Water Resources;

Section 6:. The Utilities Manager is hereby authorized and directed, in accordance with Water Code Section 10635(b), to provide that portion of the WSCP prepared pursuant to Water Code Section 10635(a) to any city or county within which the Rialto Utility Authority provides water supplies no later than sixty (60) days after submitting a copy of the WSCP with the California Department of Water Resources;

Section 7:. The Utilities Manager is hereby authorized and directed to implement the WSCP in accordance with the UWMP Act and to provide recommendations to the Board of Directors regarding the necessary budgets, procedures, rules, regulations or further actions to carry out the effective and equitable implementation of the WSCP.

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PASSED APPROVED AND ADOPTED this 22nd day of June, 2021.

Deborah Robertson

DEBORAH ROBERTSON, President

ATTEST:

Barbara A. McGee

BARBARA A. McGEE, Board Secretary

APPROVED AS TO FORM:

E S Vail

ERIC S. VAIL, Board Counsel

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) ss
CITY OF RIALTO)

I, Barbara A. McGee, Board Secretary of the Rialto Utility Authority, do hereby certify that the foregoing Resolution No.04-21 was duly passed and adopted at a regular meeting of the Rialto Utility Authority of the City of Rialto held on the 22nd day of June, 2021.

Upon motion of Board Member Trujillo, seconded by Board Member Carrizales, the foregoing Resolution No. 04-21 was duly passed and adopted.

Vote on the motion:

AYES: Mayor Robertson, Mayor Pro Tem Scott, Council Member Trujillo, Carrizales and Perez

NOES: None

ABSENT: None

IN WITNESS WHEREOF, I have hereunto set my hand and the Official Seal of the City of Rialto this 23 day of June, 2021.

Barbara A. McGee
BARBARA A. MCGEE, BOARD SECRETARY

RESOLUTION NO.7736

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIALTO, CALIFORNIA, ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, the California Urban Water Management Planning Act, Water Code Section 10610 et seq. (the UWMP Act), mandates that every urban supplier of water providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare and adopt, in accordance with prescribed requirements, a Water Shortage Contingency Plan (WSCP); and

WHEREAS, the City of Rialto meets the definition of an urban water supplier for purposes of the UWMP Act; and

WHEREAS, the UWMP Act specifies the requirements and procedures for adopting such WSCP; and

WHEREAS, pursuant to recent amendments to the UWMP Act, urban water suppliers are required to adopt and electronically submit their WSCPs to the California Department of Water Resources by July 1, 2021; and

WHEREAS, the City of Rialto has prepared a WSCP in accordance with the UWMP Act and SB X7-7, and in accordance with applicable legal requirements, has undertaken certain coordination, notice, public involvement, public comment, and other procedures in relation to its WSCP; and

WHEREAS, the WSCP references and incorporates the provisions of the City of Rialto's Water Conservation Ordinance No. 1560 adopted on July 14, 2015; and

WHEREAS, in accordance with the UWMP Act, the City of Rialto has prepared its WSCP with its own staff, with the assistance of consulting professionals, and in cooperation with other governmental agencies, and has utilized and relied upon industry standards and the expertise of industry professionals in preparing its WSCP, and has also utilized the California Department of Water Resources Guidebook for Urban Water Suppliers to Prepare 2020 Urban Water Management Plans, in preparing its WSCP; and

WHEREAS, in accordance with applicable law, including Water Code sections 10608.26 and 10642, and Government Code section 6066, a Notice of a Public Hearing regarding the City of Rialto's WSCP was published within the jurisdiction of the City of Rialto on June 7, 2021, and June 14, 2021; and

WHEREAS, in accordance with applicable law, including but not limited to Water Code sections 10608.26 and 10642, a public hearing was held on June 22, 2021 at 6:30 PM, or soon thereafter, in the Council Chambers of the City of Rialto at 150 South Palm Avenue in Rialto, California in order to provide members of the public and other interested entities with the opportunity to be heard in connection with proposed adoption of the WSCP and issues related thereto; and

WHEREAS, pursuant to said public hearing on the WSCP, the City of Rialto, among other things, encouraged the active involvement of diverse social, cultural, and economic members of the community within City of Rialto's service area with regard to the preparation of the WSCP, encouraged community input regarding City of Rialto's WSCP; and

WHEREAS, the City Council for the City of Rialto has reviewed and considered the purposes and requirements of the UWMP Act, the contents of the WSCP, and the documentation contained in the administrative record in support of the WSCP, and has determined that the factual analyses and conclusions set forth in the WSCP are legally sufficient; and

WHEREAS, the City Council for the City of Rialto desires to adopt the WSCP in order to comply with the UWMP Act.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF RIALTO DOES HEREBY FIND, DETERMINE, AND RESOLVE AS FOLLOWS:

Section 1: The WSCP is hereby adopted as amended by changes incorporated by the City Council for the City of Rialto as a result of input received (if any) at the public hearing and ordered filed with the City Clerk for the City of Rialto;

Section 2: The Utilities Manager is hereby authorized and directed to include a copy of this Resolution in City of Rialto's WSCP;

Section 3: The Utilities Manager is hereby authorized and directed, in accordance with Water Code sections 10621(d) and 10644(a)(1)-(2), to electronically submit a copy of the WSCP to the California Department of Water Resources no later than July 1, 2021;

Section 4: The Utilities Manager is hereby authorized and directed, in accordance with Water Code section 10644(a), to submit a copy of the WSCP to the California State Library, and any city or county within which the City of Rialto provides water supplies no later than thirty (30) days after this adoption date;

Section 5: The Utilities Manager is hereby authorized and directed, in accordance with Water Code section 10645, to make the WSCP available for public review at the City of Rialto's offices during normal business hours and on the City of Rialto's website no later than thirty (30) days after filing a copy of the WSCP with the California Department of Water Resources;

Section 6:. The Utilities Manager is hereby authorized and directed, in accordance with Water Code Section 10635(b), to provide that portion of the WSCP prepared pursuant to Water Code Section 10635(a) to any city or county within which the City of Rialto provides water supplies no later than sixty (60) days after submitting a copy of the WSCP with the California Department of Water Resources;

Section 7:. The Utilities Manager is hereby authorized and directed to implement the WSCP in accordance with the UWMP Act and to provide recommendations to the City Council regarding the necessary budgets, procedures, rules, regulations or further actions to carry out the effective and equitable implementation of the WSCP.

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WHEREFORE, this Resolution is passed, approved and adopted this 22nd day of June, 2021.

Deborah Robertson

DEBORAH ROBERTSON, Mayor

ATTEST:

Barbara A. McGee

BARBARA A. McGEE, City Clerk

APPROVED AS TO FORM:

ERIC VAIL, City Attorney

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) ss
CITY OF RIALTO)

I, Barbara A. McGee, City Clerk of the City of Rialto, do hereby certify that the foregoing Resolution No.7736 was duly passed and adopted at a regular meeting of the City Council of the City of Rialto held on the 22nd day of June, 2021.

Upon motion of Councilmember Trujillo, seconded by Councilmember Carrizales, the foregoing Resolution No. 7736 was duly passed and adopted.

Vote on the motion:

AYES: Mayor Robertson, Mayor Pro Tem Scott, Council Member Trujillo, Carrizales and Perez

NOES: None

ABSENT: None

IN WITNESS WHEREOF, I have hereunto set my hand and the Official Seal of the City of Rialto this 23rd day of June, 2021.

Barbara A. McGee

BARBARA A. MCGEE, CITY CLERK

Appendix F Mitigation Actions

F

DCP Project #	Mitigation Action Name	Mitigation Action Source	Supply / System	Project, Opportunity, or Ongoing Action?	Priority	Status	Project Proponent	Estimated Project Cost
101	Implement the Cactus Basin Recharge Project / Construct the Cactus Basin Recharge Pipeline	2020 IRUWMP Project List	Rialto-Colton Groundwater Basin	Project	1	Active/Ongoing	San Bernardino Valley	$ 7,700,000
102	Implement the recommendations in the Rialto Groundwater Management Plan (underway).	DCP Drought Task Force Mitigation Actions Workshop	Rialto-Colton Groundwater Basin	Project	1	Active/Ongoing	Rialto Basin Groundwater Council	
103	Implement the City of Rialto Education and Engagement Plan	DCP Drought Task Force Mitigation Actions Workshop		Opportunity	1			
104	Ongoing participation in the Rialto Basin Groundwater Council.	DCP Drought Task Force Mitigation Actions Workshop	Rialto-Colton Groundwater Basin	Ongoing Action	1			
105	Rialto Habitat Nature Center	City of Rialto Capital Improvement Plan	Rialto System	Project	1		City of Rialto	$ 8,200,000
106	Chino Well Rehab and Commissioning of Water Treatment	City of Rialto Capital Improvement Plan	Riverside North Groundwater Basin	Project	1		City of Rialto	$ 3,000,000
107	Develop agreement and increase capacity of Rialto/West Valley intertie for additional access to imported water supply.	DCP Drought Task Force Mitigation Actions Workshop	Imported Water	Project	1	Preliminary Concept	City of Rialto & West Valley Water District	
108	Rialto/West Valley agreement for West Valley Water Treatment Plant capacity / SWP use; supplemental supply for the City of Colton	DCP Drought Task Force Mitigation Actions Workshop	Imported Water	Project	1	Preliminary Concept	City of Rialto, City of Colton, & West Valley Water District	
109	Develop agreement and increase capacity of WVWD/Colton intertie for additional access to imported water supply.	DCP Drought Task Force Mitigation Actions Workshop	Imported Water	Project	1	Preliminary Concept	City of Colton & West Valley Water District	
110	Develop agreement and additional Rialto/Colton intertie for additional access to imported water supply.	DCP Drought Task Force Mitigation Actions Workshop	Imported Water	Project	1	Preliminary Concept	City of Rialto, City of Colton, & West Valley Water District	
111	River Ranch Development: install two large basins for recharge, to be used in dry years. Additional development in northern portion of Basin to be led by the City and operated by San Bernardino Valley	DCP Drought Task Force Mitigation Actions Workshop	Lytle Groundwater Basin	Project	1	Construction	San Bernardino Valley	$ 3,000,000
112	Evaluate opportunities to recharge water in Lytle Groundwater Basin	DCP Drought Task Force Mitigation Actions Workshop	Lytle Groundwater Basin	Project	1			
113	Complete an in-depth study to better characterize opportunities for the Basin (SBB Groundwater Optimization Study).	DCP Drought Task Force Mitigation Actions Workshop	Bunker Hill Groundwater Basin	Project	1	Active/Ongoing	San Bernardino Valley & Western Water	
114	Program for the Expansion of Recharge Capacity (PERC) (Active Recharge Projects)	2020 IRUWMP Project List	Bunker Hill Groundwater Basin	Project	1	Active/Ongoing	San Bernardino Valley Water Conservation District	
115	Bunker Hill Conjunctive Use Project	2020 IRUWMP Project List	Bunker Hill Groundwater Basin	Project	1	Design	San Bernardino Valley & Other Partners	$ 14,200,000
116	Regional Recycled Water Recharge Pipeline	2020 IRUWMP Project List	Bunker Hill Groundwater Basin	Project	1	Construction	San Bernardino Valley	
117	Construct IX for NO2 at Well W16	West Valley Water District 2020 Capital Improvement Plan	Rialto-Colton Groundwater Basin	Project	1		West Valley Water District	$ 5,716,015
118	Construct IX for NO2 at Well W22A	West Valley Water District 2020 Capital Improvement Plan	Rialto-Colton Groundwater Basin	Project	1		West Valley Water District	$ 5,716,015
119	Rialto-Colton Basin: Well W54 RT break tank installation	West Valley Water District 2020 Capital Improvement Plan	Rialto-Colton Groundwater Basin	Project	1		West Valley Water District	$ 150,000
120	Bunker Hill Basin: Construct Wells W43, W44, W45, W46	West Valley Water District 2020 Capital Improvement Plan	Bunker Hill Groundwater Basin	Project	1		West Valley Water District	$ 12,000,000
121	Consider Rialto-Colton Basin Recharge via injection wells.	DCP Drought Task Force Mitigation Actions Workshop	Rialto-Colton Groundwater Basin	Opportunity	1	Preliminary Concept		
122	Continued regional strategy focused on recharging during wet years for use in dry years.	DCP Drought Task Force Mitigation Actions Workshop	Bunker Hill Groundwater Basin	Ongoing Action	1	Active/Ongoing		
123	Continue to implement the Upper Santa Ana River Habitat Conservation Plan.	DCP Drought Task Force Mitigation Actions Workshop	Bunker Hill Groundwater Basin	Ongoing Action	1	Active/Ongoing		
124	Sites Reservoir to add additional dry-year storage.	DCP Drought Task Force Mitigation Actions Workshop	Imported Water	Project	1	Planning	Sites Project Authority	$ 3,930,000,000
125	Well rehabilitation and replacement	DCP Drought Task Force Mitigation Actions Workshop	Other	Project	1			
126	Implement blending or treatment	DCP Drought Task Force Mitigation Actions Workshop	Other	Project	1			
127	Construct additional interconnections	DCP Drought Task Force Mitigation Actions Workshop	Other	Project	1			
128	Seek grant funding for infrastructure projects	DCP Drought Task Force Mitigation Actions Workshop	Other	Opportunity	1			
129	Review and Update Existing Agreements	DCP Drought Task Force Mitigation Actions Workshop	Other	Opportunity	1			
130	Develop alternative supply sources.	DCP Drought Task Force Mitigation Actions Workshop	Other	Opportunity	1			
131	Continue to advocate for improved imported water reliability / Delta Conveyance Project	DCP Drought Task Force Mitigation Actions Workshop	Imported Water	Ongoing Action	1	Planning	California Department of Water Resources	
132	Develop implementation and enforcement tools to achieve required demand reduction savings.	DCP Drought Task Force Mitigation Actions Workshop	Other	Opportunity	1			
133	Develop and implement regional and local communication plans.	DCP Drought Task Force Mitigation Actions Workshop	Other	Opportunity	1			
134	Future Priority 1 Project – any project that mitigates a Vulnerability with a Risk Score of 1		All	Project	1			
201	Advanced Meter Infrastructure (AMI)	City of Rialto Capital Improvement Plan	Rialto System	Project	2	Planning	City of Rialto	$ 8,000,000
202	Install Rialto Well 3A with arsenic treatment to replace Rialto Well 3.	City of Rialto Capital Improvement Plan	Lytle Groundwater Basin	Project	2	Design	City of Rialto	$ 4,200,000
203	Additional regional distribution facilities to convey water to agencies located throughout the region.	DCP Drought Task Force Mitigation Actions Workshop	Bunker Hill Groundwater Basin	Opportunity	2	Preliminary Concept	San Bernardino Valley	
204	Coordinate efforts with land developers to implement small-scale recharge.	DCP Drought Task Force Mitigation Actions Workshop	Lytle Groundwater Basin	Opportunity	2	Active/Ongoing		

DCP Project #	Mitigation Action Name	Mitigation Action Source	Supply / System	Project, Opportunity, or Ongoing Action?	Priority	Status	Project Proponent	Estimated Project Cost
205	Unline canals in strategic areas to provide recharge opportunities.	DCP Drought Task Force Mitigation Actions Workshop	Lytle Creek Surface Water	Opportunity	2			
206	Basin Management / Coordinate with Management of the SBB	DCP Drought Task Force Mitigation Actions Workshop	Riverside North Groundwater Basin	Ongoing Action	2		All Basin Users	
207	Equip existing wells with treatment systems.	DCP Drought Task Force Mitigation Actions Workshop	Riverside North Groundwater Basin	Project	2			
208	Riverside North Aquifer Storage & Recovery Project	San Bernardino Valley Website	Riverside North Groundwater Basin	Project	2	Design	San Bernardino Valley	$ 45,000,000
209	Central Feeder and EBX Intertie Project	2020 IRUWMP Project List	Imported Water	Project	2	Design	San Bernardino Valley	$ 2,000,000
210	Foothill Pipeline Infrastructure Improvements	2020 IRUWMP Project List	Imported Water	Project	2	Planning	San Bernardino Valley	
211	Foothill Pipeline Interior Relining	2020 IRUWMP Project List	Imported Water	Project	2	Planning	San Bernardino Valley	
212	Delta Conveyance Project will improve water quality once implemented.	DCP Drought Task Force Mitigation Actions Workshop	Imported Water	Project	2	Planning		
213	Lylte Creek Watershed Assessment & Restoration	2020 IRUWMP Project List	Lytle Creek Surface Water	Project	2		Water Resources Institute	
214	Well W8A Arsenic Treatment	West Valley Water District 2020 Capital Improvement Plan	Lytle Groundwater Basin	Project	2		West Valley Water District	$ 3,288,359
215	Well W36 Arsenic Treatment	West Valley Water District 2020 Capital Improvement Plan	Lytle Groundwater Basin	Project	2		West Valley Water District	$ 3,550,000
216	Well W34B Arsenic Treatment	West Valley Water District 2020 Capital Improvement Plan	Lytle Groundwater Basin	Project	2		West Valley Water District	$ 2,920,864
217	Well W35C Arsenic Treatment	West Valley Water District 2020 Capital Improvement Plan	Lytle Groundwater Basin	Project	2		West Valley Water District	$ 2,920,864
218	Install IX for NO2 at Well W18A	West Valley Water District 2020 Capital Improvement Plan	Riverside North Groundwater Basin	Project	2		West Valley Water District	$ 7,668,839
219	Install IX for NO2 at Well W41	West Valley Water District 2020 Capital Improvement Plan	Riverside North Groundwater Basin	Project	2		West Valley Water District	$ 550,000
220	Install IX for Nitrate and Perchlorate at Well W42	West Valley Water District 2020 Capital Improvement Plan	Riverside North Groundwater Basin	Project	2		West Valley Water District	$ 9,246,213
221	Install IX for Nitrate and Perchlorate at Well W29A	West Valley Water District 2020 Capital Improvement Plan	Riverside North Groundwater Basin	Project	2		West Valley Water District	$ 7,208,559
222	Install IX for Nitrate and Perchlorate at Well W40	West Valley Water District 2020 Capital Improvement Plan	Riverside North Groundwater Basin	Project	2		West Valley Water District	$ 7,208,559
223	Install IX for Nitrate and Perchlorate at Well W51	West Valley Water District 2020 Capital Improvement Plan	Riverside North Groundwater Basin	Project	2		West Valley Water District	$ 11,311,441
224	Install IX for Nitrate and Perchlorate at Well W52	West Valley Water District 2020 Capital Improvement Plan	Riverside North Groundwater Basin	Project	2		West Valley Water District	$ 8,690,777
225	Install IX for Nitrate and Perchlorate at Well W50	West Valley Water District 2020 Capital Improvement Plan	Riverside North Groundwater Basin	Project	2		West Valley Water District	$ 7,208,559
226	Equip and install treatment at W39.	West Valley Water District 2020 Capital Improvement Plan	Chino Basin	Project	2		West Valley Water District	$ 9,334,214
227	Implement larger-scale stormwater capture and recharge projects when possible.	DCP Drought Task Force Mitigation Actions Workshop	Imported Water	Opportunity	2	Preliminary Concept		
228	Waterman Turnout & Hydroelectric Plant	DCP Drought Task Force Mitigation Actions Workshop	Other	Project	2	Construction		
229	Identify current water system infrastructure, establish a rehabilitation/replacement schedule, and long-range financial structure.	DCP Drought Task Force Mitigation Actions Workshop	Bunker Hill Groundwater Basin	Project	2			
230	Purchase backup generators and/or battery storage.	DCP Drought Task Force Mitigation Actions Workshop	Other	Project	2			
231	Analyze system data to clearly identify highest-risk areas/areas with redundance needs, etc.. Conduct a consequence of failure prioritization.	DCP Drought Task Force Mitigation Actions Workshop	Other	Project	2			
232	Reservoir seismic upgrades	DCP Drought Task Force Mitigation Actions Workshop	Other	Project	2			
233	Distribution pipeline replacement	DCP Drought Task Force Mitigation Actions Workshop	Other	Project	2			
234	Evaluate rate structures	DCP Drought Task Force Mitigation Actions Workshop	Other	Project	2			
235	Future Priority 2 Project – any project that mitigates a Vulnerability with a Risk Score of 2		All	Project	2			
301	Rialto Landscape Ordinance Update	DCP Drought Task Force Mitigation Actions Workshop	Rialto System	Project	3	Active/Ongoing	City of Rialto	
302	Continue monitoring efforts.	DCP Drought Task Force Mitigation Actions Workshop	Rialto-Colton Groundwater Basin	Ongoing Action	3	Active/Ongoing		
303	Continue to implement the Four Party Implementation Agreement.	DCP Drought Task Force Mitigation Actions Workshop	Rialto-Colton Groundwater Basin	Ongoing Action	3			
304	Continue to implement the Cooperative Agreement to Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basin	DCP Drought Task Force Mitigation Actions Workshop	Imported Water	Ongoing Action	3	Active/Ongoing		
305	Service Line Replacement, Hydrant Laterals, for Palm, Orange, Olive, and Date Between Foothill to the Train Tracks (Part 2)	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 5,500,000
306	Service Line Replacements on South Alice, South Palm, West Godden, and Alu Streets	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 1,200,000
307	Main and service line replace; Bonnie View between Acacia and Eucalyptus	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 2,400,000
308	Mainline Valve Replacement	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$250,000 / Year
309	Cedar Reservoir 2, Overhall, and Dome Preservation	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 1,000,000
310	4" South Oakdale and South Marcella between East Rialto Ave and Allen St	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 3,000,000

DCP Project #	Mitigation Action Name	Mitigation Action Source	Supply / System	Project, Opportunity, or Ongoing Action?	Priority	Status	Project Proponent	Estimated Project Cost
311	Mainline and Service Line, Hydrant Laterals, and Mainline Replacement Below Etiwanda between Lilac and Sycamore Streets: Cornell and Victoria	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 2,500,000
312	Service Line Replacement, Hydrant Lateral for Woodcrest, Yucca, Miramonte, Arrowhead, and Althea	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 1,300,000
313	WWTP Electrical Upgrades	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 20,620,000
314	SCADA Upgrades to Lift Stations	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 750,000
315	Installation of fourth Disk Filter	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 500,000
316	Aged Water Main Replacement Etiwanda from Riverside to Eucalyptus (Pavement Project)	City of Rialto Capital Improvement Plan	Rialto System	Project	3	Design	City of Rialto	$ 6,700,000
317	Service Line Replacement between Cedar and Larch below Etiwanda on Streets Victoria, Cornell, Rosewood, Church, and Folk	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 2,200,000
318	Service Line Replacement, Hydrant Laterals for Palm, Orange, Olive, Date Between Foothill to Train Tracks (Part 1)	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 3,300,000
319	Backup Generators for Cactus, Lilac, and Ayala Lift Stations	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 900,000
320	Pressure Relief Valves (PRVs) Zone 2 to Zone 3	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 250,000
321	Service Line Replacement, Hydrant Laterals, and Mainline Replacement of Jackson between Sycamore to Pepper including Mulberry, Chestnut, Mesa, Birch, and Jackson	City of Rialto Capital Improvement Plan	Rialto System	Project	3		City of Rialto	$ 5,500,000
322	Well W7 Rehab and Retest	West Valley Water District 2020 Capital Improvement Plan	Lytle Groundwater Basin	Project	3		West Valley Water District	$ 50,000
323	16 MGD Expansion of the WTP	West Valley Water District 2020 Capital Improvement Plan	Imported Water	Project	3		West Valley Water District	$ 71,747,120
324	Zone 8 Reservoir Replacement	West Valley Water District 2020 Capital Improvement Plan	WVWD System	Project	3		West Valley Water District	$ 4,080,000
325	Lord Ranch Aeration Tank	West Valley Water District 2020 Capital Improvement Plan	WVWD System	Project	3		West Valley Water District	$ 1,905,000
326	Bunker Hill Aeration Tank	West Valley Water District 2020 Capital Improvement Plan	WVWD System	Project	3		West Valley Water District	$ 1,905,000
327	Lord Ranch Pump Station	West Valley Water District 2020 Capital Improvement Plan	WVWD System	Project	3		West Valley Water District	$ 3,000,000
328	New Zone 7 Pump Station	West Valley Water District 2020 Capital Improvement Plan	WVWD System	Project	3		West Valley Water District	$ 4,091,000
329	New Bunker Hill Supply Pump Station	West Valley Water District 2020 Capital Improvement Plan	Bunker Hill Groundwater Basin	Project	3		West Valley Water District	$ 7,406,000
330	Property Acquisition for Reservoir R3-4 (1.5 acres)	West Valley Water District 2020 Capital Improvement Plan	WVWD System	Project	3		West Valley Water District	$ 523,000
331	Property Acquisition for Reservoir R6-6 (1.5 acres)	West Valley Water District 2020 Capital Improvement Plan	WVWD System	Project	3		West Valley Water District	$ 523,000
332	Property Acquisition for Bunker Hill Supply	West Valley Water District 2020 Capital Improvement Plan	Bunker Hill Groundwater Basin	Project	3		West Valley Water District	$ 1,300,000
333	R7-5 Reservoir Site Investigation	West Valley Water District 2020 Capital Improvement Plan	WVWD System	Project	3		West Valley Water District	$ 59,000
334	Drill / redrill deeper wells and/or reduce pumping.	DCP Drought Task Force Mitigation Actions Workshop	Other / All Sources	Project	3			
335	Consider a study to better characterize subsidence.	DCP Drought Task Force Mitigation Actions Workshop	Rialto-Colton Groundwater Basin	Project	3			
336	Consider a study to better characterize subsidence.	DCP Drought Task Force Mitigation Actions Workshop	Bunker Hill Groundwater Basin	Project	3			
337	City of San Bernardino Tertiary Treatment System	2020 IRUWMP Project List	Bunker Hill Groundwater Basin	Project	3	Construction	San Bernardino Municipal Water Department	
338	Consider a study to better characterize subsidence.	DCP Drought Task Force Mitigation Actions Workshop	Lytle Groundwater Basin	Project	3			
339	Consider a study to better characterize subsidence.	DCP Drought Task Force Mitigation Actions Workshop	Riverside North Groundwater Basin	Project	3			
340	Future Priority 3 Project – any project that mitigates a Vulnerability with a Risk Score of 3		All	Project	3			

Appendix G Urban Water Use Objectives Roadmap

G

UWUO Regulation Timeline and Roadmap Overview

X Reporting Due ✔ Reporting/Data can be used for compliance measuremente ✦ First Deadline for compliance

ROADMAP PG#	COMPONENT STANDARD/ACTION	RESPONSIBILITY	RESOURCE	2024	2025	2026	2027	2028	2029	2030	2035	>2035
3-1	Residential Indoor gpcd	Informational - Use Standard	Water Code 10609.4	55	47					42		
3-2	Population Estimate	Utilities Division, Nicole Hemmans, Senior Administrative Analyst	Census/ACS, EAR, or Other	X	X	X	X	X	X	X	X	X
3-4	Residential Outdoor Landscape Efficiency Factor (LEF) for pre-2019 Customers	Informational - Use Standard	SWRCB	0.8							0.63	0.55
3-4	Residential Outdoor LEF for post-2019 Customers	Informational - Use Standard	SWRCB	0.55								
3-5	Residential Outdoor- Net Evapotranspiration (ETo)	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
3-5	Residential Outdoor- Irrigated “II” Area	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
3-5	Residential Outdoor- Potentially Irrigated “INI” Area Allowance	Informational - Use Standard	SWRCB	0-20%				0%				
3-5	Residential Outdoor- INI Area	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
3-4	Residential Outdoor- LEF for Special Landscape Areas (SLA)	Informational - Use Standard	SWRCB	1								
3-5	Residential Outdoor -SLA Area	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
	CII DIM											
7-3	Identify CII Mixed Use Meters (MUMs) for DIMs Conversion or In-lieu Tech (>500,000 gal)	Veolia Customer Service & Operations	Supplier	X								
4-2	MUM>DIM Landscape Area Measurement (LAM) & Budget Estimate	Veolia Customer Service & Operations	Data from State, Supplier or Other	X		20%	40%	60%	80%	100%		
7-3	MUM>DIM Conversion or In-lieu Tech Implementation	Veolia Operations				20%	40%	60%	80%	100%		
4-1	CII LEF for pre-2019 Customers	Informational - Use Standard	SWRCB	Actual Deliveries in EAR					0.8		0.63	0.45
4-1	CII LEF for post-2019 Customers	Informational - Use Standard	SWRCB	0.45								
4-1	CII LEF- Special Landscape Area (SLA)	Informational - Use Standard	SWRCB	1								
4-2	CII-SLA Area Identification & Measurement	Utilities Division, Nicole Hemmans, Senior Administrative Analyst and Veolia, Robert Lee, Customer Service Manager	Data from State, Supplier or Other	X	X	X	X	X	X	X	X	X
	WATER LOSS COMPLIANCE REPORTING											
5-2	Water Loss Compliance Reporting	Veolia, Stephanee Valencia, Operations Supervisor	Water Code Section 982/ State Standards	X	X✔	X✔	X✔	X✔✦	X✔	X✔	X✔	X✔
	CII PERFORMANCE MEASURES - NOT INCLUDED IN UWUO											
7-2	All CII- Classification (18+ Categories)	Veolia, Robert Lee, Customer Service Manager	Supplier & State/ENERGYSTAR	X		20%	40%	60%	80%	100%		
7-1	CII BMP Implementation for Top 20% (in each of 18+ classifications) and 2.5% of all CII 1 BMP per 5 categories for Top 20% & 2 BMPs for top 2.5%	Veolia, Robert Lee, Customer Service Manager, Utilities Department and Nicole Hemmans, Senior Administrative Analyst	Supplier		X	20%	40%	60%	80%	100%		
7-5	ID Disclosable Buildings and Provide Water Use to Customer	Veolia, Robert Lee, Customer Service Manager	Supplier Data, U.S. EPA ENERGYSTAR, Section 1681 of the CA Code of Regulations		X	20%	40%	60%	80%	100%		
7-6	Ban CII Non-Function Turf Irrigation	City of Rialto City Council, Utilities Department, Toyasha Sebbag, Assistant to the City Manager	AB 1572		X							
	STATE ENFORCEMENT											
1-7	UWUO Enforcement- Informational Orders (2024), Written Notices (2025), & Conservation Orders (2026)	State	Water Code section 1846 or 1846.5	✔	✔				X✔✦			

City of Rialto

Urban Water Use Objectives (UWUO) Roadmap

Drought Contingency Plan

January 2024

Background and Purpose

This Urban Water Use Objectives (UWUO) Roadmap was developed in collaboration with City and RWS staff during a workshop conducted in September 2023 as part of the Drought Contingency Plan development process. These slides have been adapted from the workshop discussions to create an actionable UWUO Roadmap to inform and guide staff towards UWUO compliance. These slides are based on the draft UWUO regulations as of January 2024 and provide supplementary detail for each of the components on the one-page summary of UWUO actions (shown on the next slide).

Achieving UWUO standards will support long term drought mitigation through demand reduction. The DCP Mitigation Action 132 will build from this UWUO Roadmap to develop implementation and enforcement tools to achieve required demand reductions.

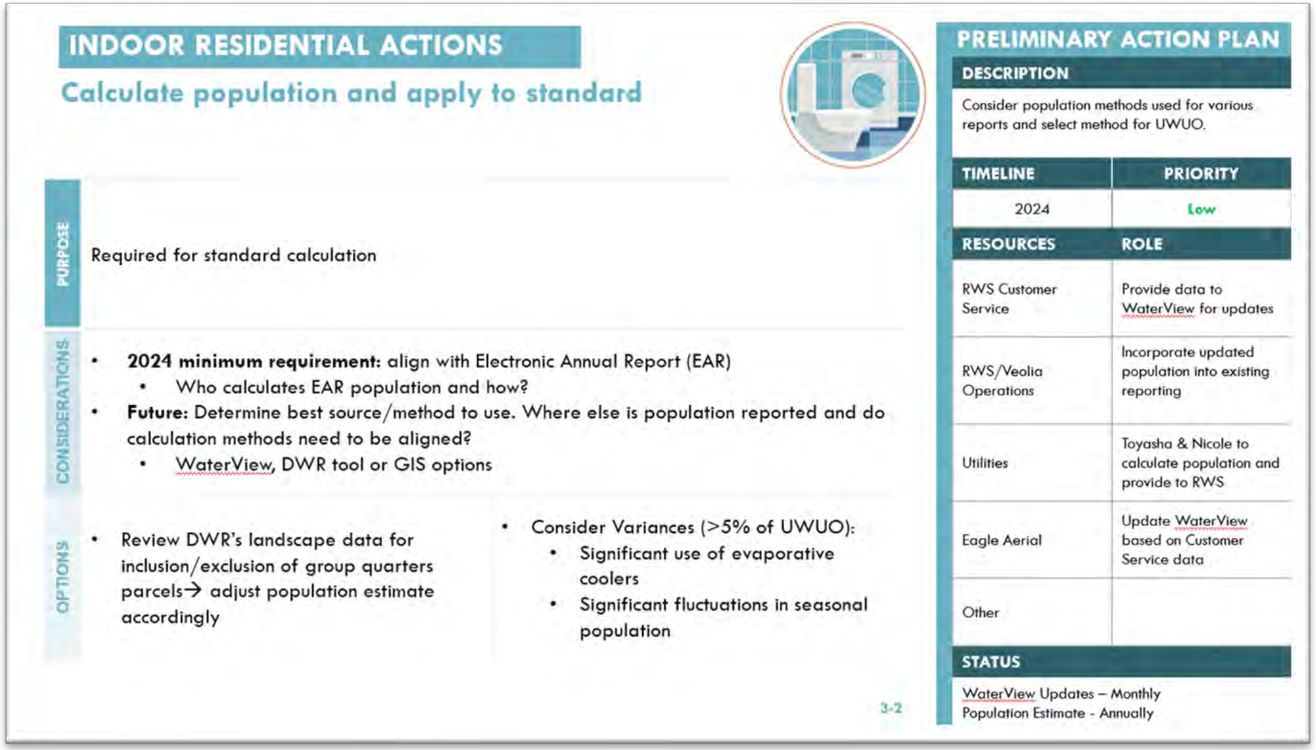
UWUO Regulation Timeline and Roadmap Overview

X Reporting Due ✓ Reporting/Data can be used for compliance measurements + First Deadline for compliance

ROADMAP PG#	COMPONENT STANDARD/ACTION	RESPONSIBILITY	RESOURCE	2024	2025	2026	2027	2028	2029	2030	2035	>2035
3-1	Residential Indoor gpcd	Informational - Use Standard	Water Code 10609.4	55	47					42		
3-2	Population Estimate	Utilities Division, Nicole Hemmans, Senior Administrative Analyst	Census/ACS, EAR, or Other	X	X	X	X	X	X	X	X	X
3-4	Residential Outdoor Landscape Efficiency Factor (LEF) for pre-2019 Customers	Informational - Use Standard	SWRCB	0.8							0.63	0.55
3-4	Residential Outdoor LEF for post-2019 Customers	Informational - Use Standard	SWRCB	0.55								
3-5	Residential Outdoor- Net Evapotranspiration (ETo)	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
3-5	Residential Outdoor- Irrigated "II" Area	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
3-5	Residential Outdoor- Potentially Irrigated "INI" Area Allowance	Informational - Use Standard	SWRCB	0-20%				0%				
3-5	Residential Outdoor- INI Area	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
3-4	Residential Outdoor- LEF for Special Landscape Areas (SLA)	Informational - Use Standard	SWRCB	1								
3-5	Residential Outdoor -SLA Area	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
	CII DIM											
7-3	Identify CII Mixed Use Meters (MUMs) for DIMs Conversion or In-lieu Tech (>500,000 gal)	Veolia Customer Service & Operations	Supplier	X								
4-2	MUM>DIM Landscape Area Measurement (LAM) & Budget Estimate	Veolia Customer Service & Operations	Data from State, Supplier or Other	X		20%	40%	60%	80%	100%		
7-3	MUM>DIM Conversion or In-lieu Tech Implementation	Veolia Operations				20%	40%	60%	80%	100%		
4-1	CII LEF for pre-2019 Customers	Informational - Use Standard	SWRCB	Actual Deliveries in EAR					0.8		0.63	0.45
4-1	CII LEF for post-2019 Customers	Informational - Use Standard	SWRCB	0.45								
4-1	CII LEF- Special Landscape Area (SLA)	Informational - Use Standard	SWRCB	1								
4-2	CII-SLA Area Identification & Measurement	Utilities Division, Nicole Hemmans, Senior Administrative Analyst and Veolia, Robert Lee, Customer Service Manager	Data from State, Supplier or Other	X	X	X	X	X	X	X	X	X
	WATER LOSS COMPLIANCE REPORTING											
5-2	Water Loss Compliance Reporting	Veolia, Stephanee Valencia, Operations Supervisor	Water Code Section 982/ State Standards	X	X✓	X✓	X✓	X✓+	X✓	X✓	X✓	X✓
	CII PERFORMANCE MEASURES - NOT INCLUDED IN UWUO											
7-2	All CII- Classification (18+ Categories)	Veolia, Robert Lee, Customer Service Manager	Supplier & State/ENERGYSTAR	X		20%	40%	60%	80%	100%		
7-1	CII BMP Implementation for Top 20% (in each of 18+ classifications) and 2.5% of all CII 1 BMP per 5 categories for Top 20% & 2 BMPs for top 2.5%	Veolia, Robert Lee, Customer Service Manager, Utilities Department and Nicole Hemmans, Senior Administrative Analyst	Supplier		X	20%	40%	60%	80%	100%		
7-5	ID Disclosable Buildings and Provide Water Use to Customer	Veolia, Robert Lee, Customer Service Manager	Supplier Data, U.S. EPA ENERGYSTAR, Section 1681 of the CA Code of Regulations		X	20%	40%	60%	80%	100%		
7-6	Ban CII Non-Function Turf Irrigation	City of Rialto City Council, Utilities Department, Toyasha Sebbag, Assistant to the City Manager	AB 1572		X							
	STATE ENFORCEMENT											
1-7	UWUO Enforcement- Informational Orders (2024), Written Notices (2025), & Conservation Orders (2026)	State	Water Code section 1846 or 1846.5	✓	✓				X✓+			

Preliminary Action Plans

This Roadmap includes a set of Preliminary Action Plans for each action that will be needed to comply with the UWUO regulations. It provides the purpose of each action, as well as considerations and options for the City/RWS to inform future decisions. The section on the right side of each slide summarizes the timeline and priority of the action and the specific steps that various parties will take to help complete this action.



Contents

Click to navigate

Abbreviations

AFY = Acre feet per year

AWUR = Annual Water Use Report (AWUR)

BMP = Best Management Practice

CII = Commercial, Industrial, Institutional

DIM = Dedicated Irrigation Meter

DWR = CA Department of Water Resources

EAR = Electronic Annual Report

ET0 = Reference Evapotranspiration

GPCD = Gallons Per Capita (Persons) Per Day… *Note different kinds of GPCD, including Total, Residential and Residential Indoor*

HOA = Homeowners Association

II = Irrigable Irrigated

INI = Irrigable Not Irrigated

LAM = Landscape Areas Measurement

LEF= Landscape Efficiency Factor

MUM = Mixed Use Meters

MWELO= Model Water Efficiency Landscape Ordinance

PM = Performance Measures

RW = Recycled Water

SLA = Special Landscape Areas

SWRCB = CA State Water Resources Control Board

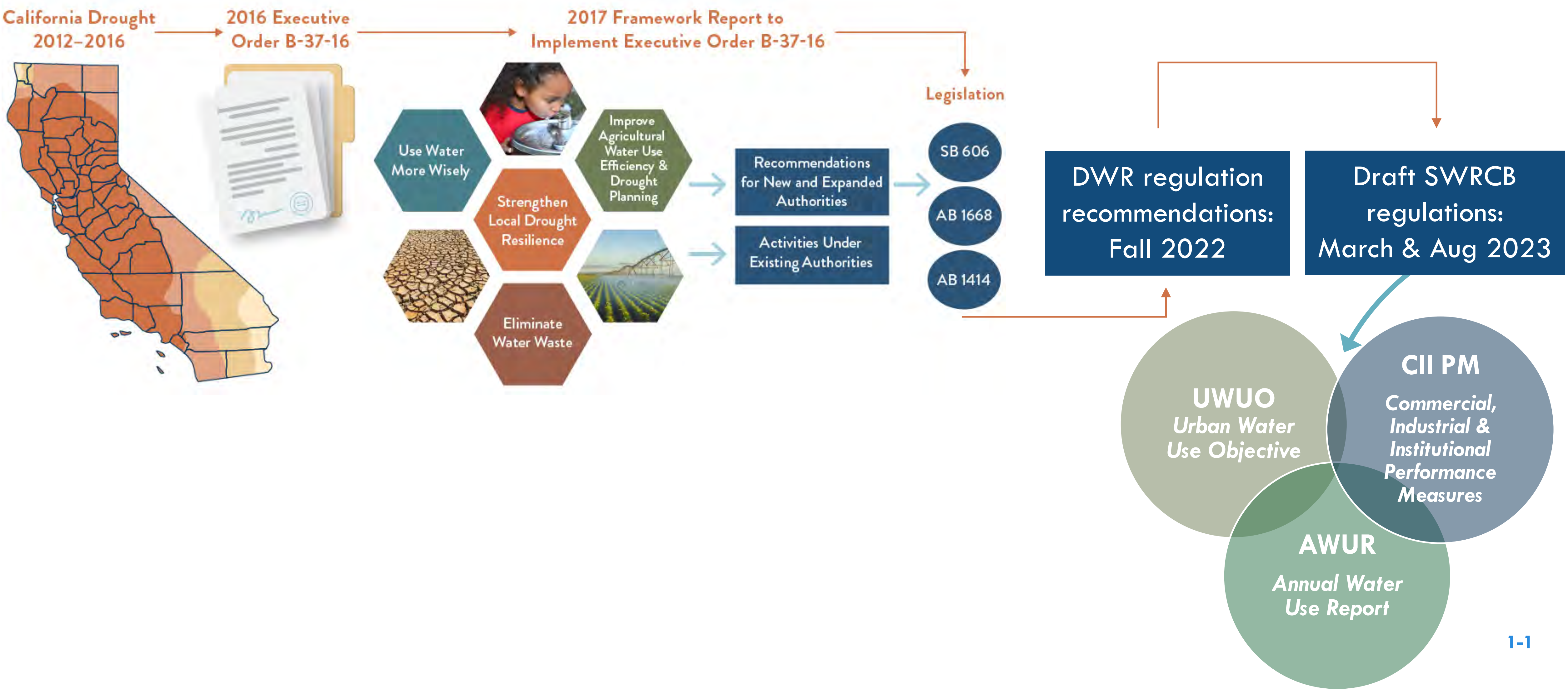
TDS = Total Dissolved Solids

UWUO= Urban Water Use Objective

1. Regulations Overview and Timeline

Making Conservation a Way of Life

Regulatory Framework

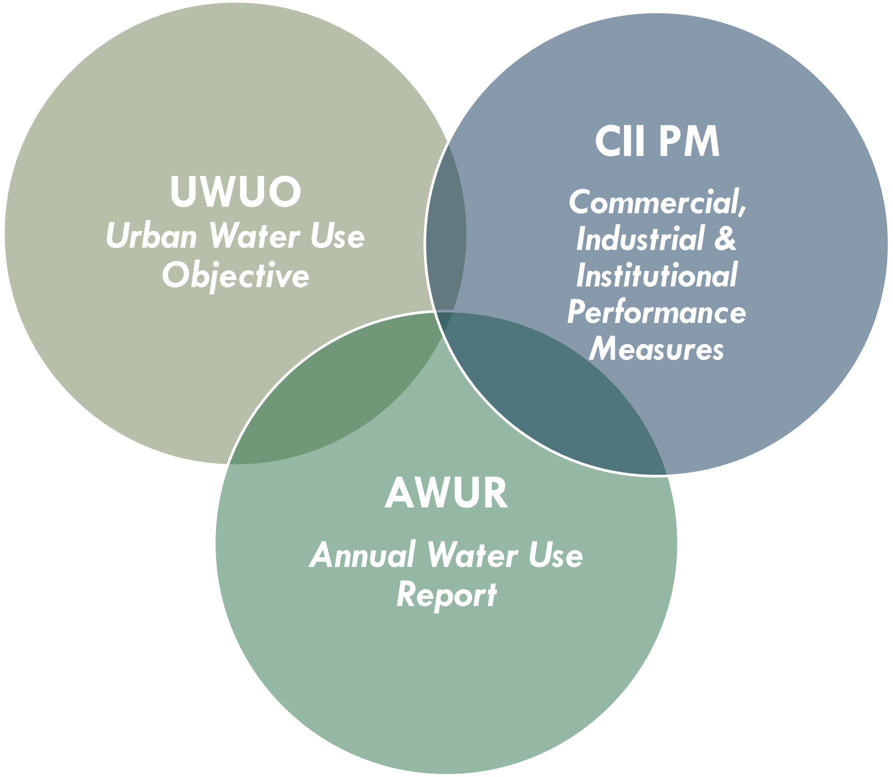


Regulation Components

The regulations have 3 primary components, which are inter-related:

- a numeric UWUO calculation
- performance measures for CII indoor use (which is not included in the UWUO calculation)
- an Annual Water Use Report to track and report progress toward meeting the requirements

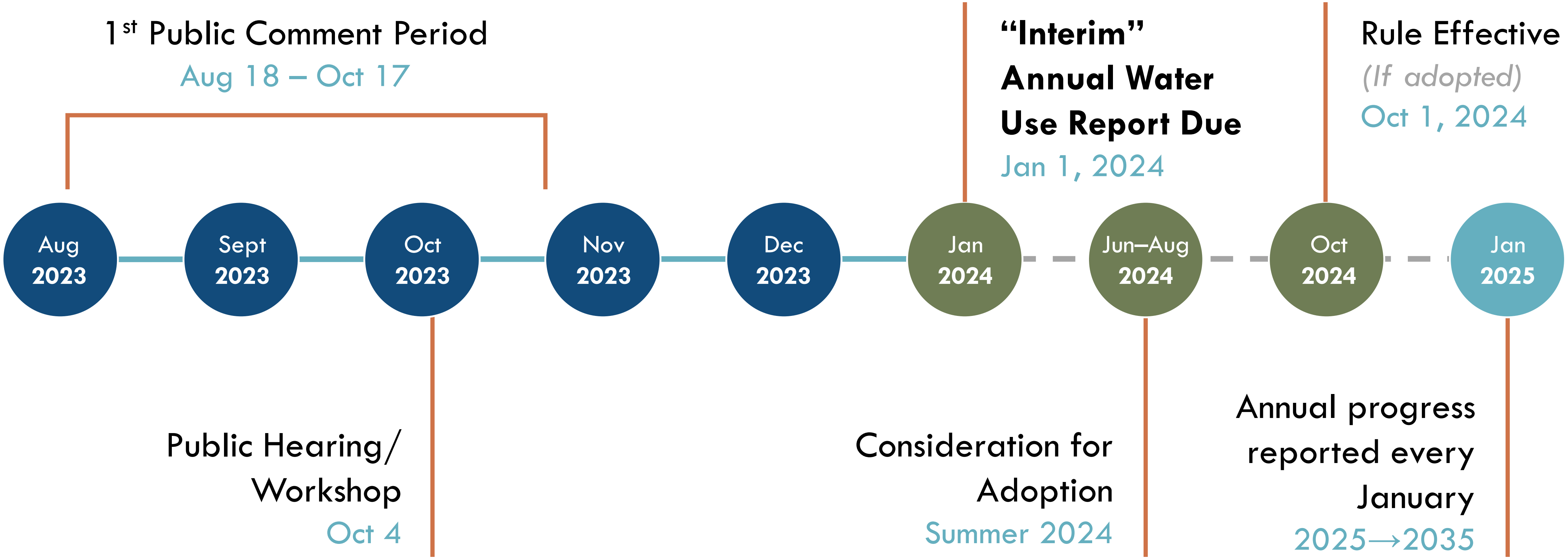
This graphic on each slide of the Roadmap is used to identify which component the content is related to.



Making Conservation a Way of Life

Next Steps

UWUO
CII PM
AWUR



Urban Water Use Objective Calculation

Supplier updates UWUO calculation annually and compares to prior year

+

+

+

+

Indoor Residential Standard

Outdoor Residential Standard

Commercial, Industrial, Institutional (CII) Landscape Standard

Water Loss Standard

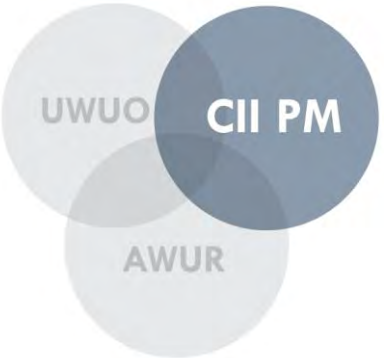
Adjustments (if applicable)

Excluded from UWUO: CII Indoor Use, Apparent Water Losses, Other Uses

2020 - 2035

Calculation includes increasingly stringent requirements

Additional CII Performance Measures (PM) Excluded from UWUO

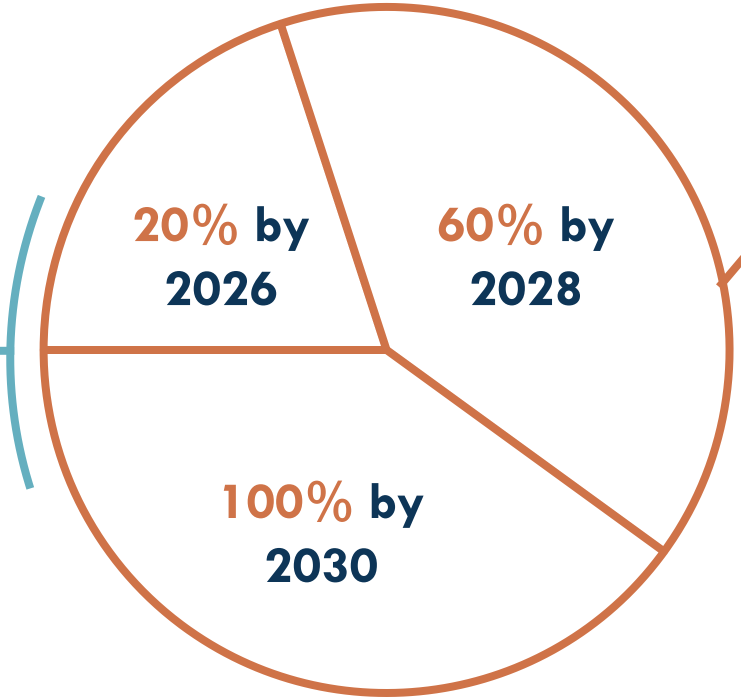


Jan 1 2025

Identify all disclosable buildings in service area (>50,000 sq. ft.)

July 1 2025

Ban the irrigation of non-functional turf on CII landscapes



- **Classify all CII customers in 18 specific & 4 general categories**
- **Identify all CII large landscapes (>500k gal) for Dedicated Irrigation Meter (DIM) or equivalent/in-lieu measures**
- **Design and implement Best Management Practices (BMPs)**

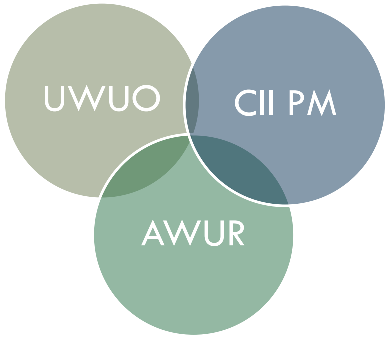
Annual Water Use Report (AWUR) due starting January 2024

1. Calculate UWUO
2. Calculate actual water use for the prior year
3. Describe progress toward meeting the UWUO
4. Document progress on CII PM

Information Needed:

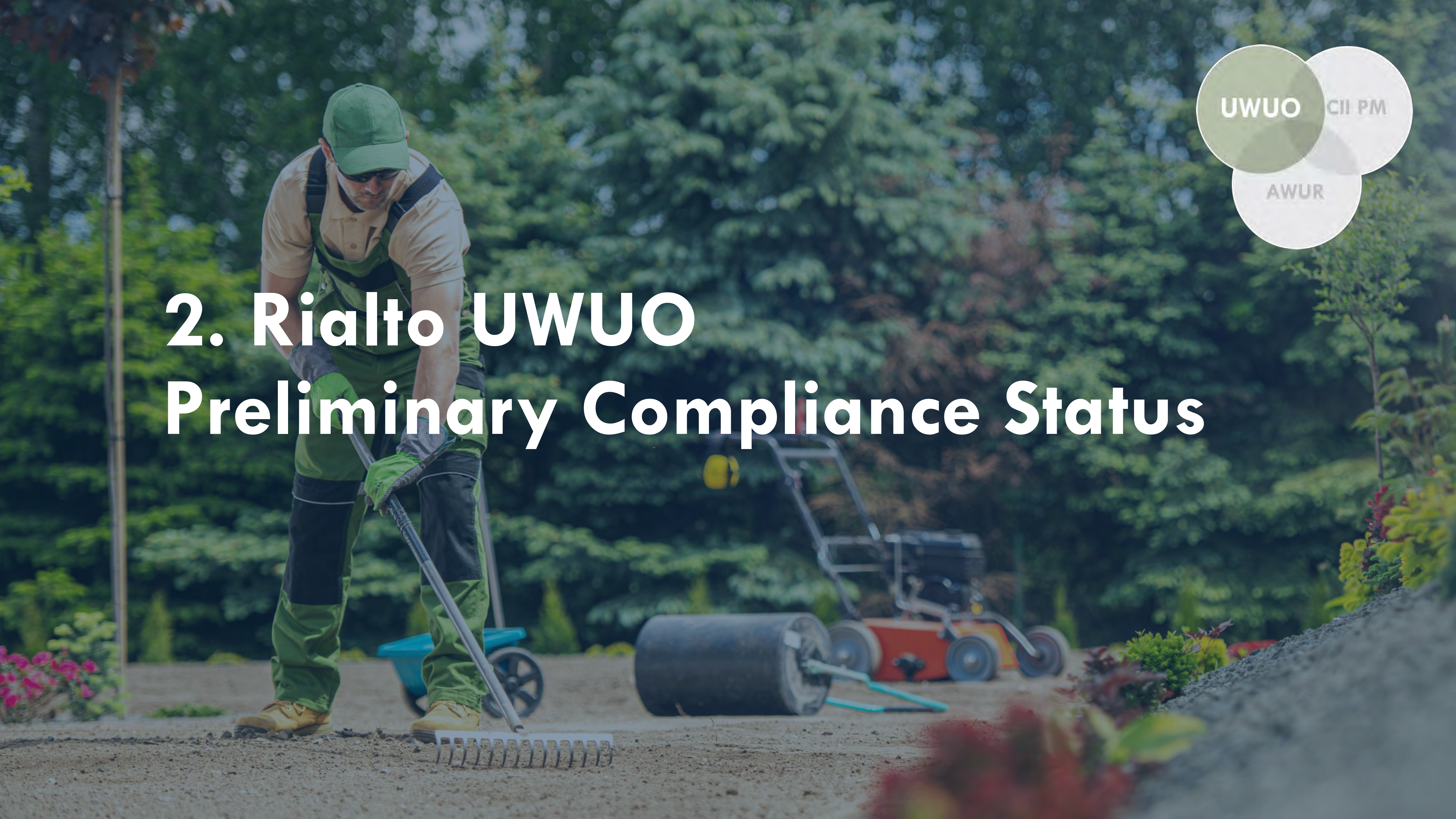
- Info from other State reports
- Supporting info for incremental CII progress
- Supporting info for any adjustments

UWUO Enforcement Timeline



Jan 1, 2024*	Jan 1, 2025	Jan 1, 2026	Nov 1, 2027
FY 22/23 Water Use	*FY 23/24 Water Use*	*FY 24/25 Water Use*	
The State Board may issue *informational orders* pertaining to water production, water use, and water conservation to an urban retail supplier that does not meet its UWUO.	The State Board may issue *written notices* to an urban retail supplier that does not meet its UWUO. May request that the supplier address areas of concern in its next annual report.	The State Board may issue a *conservation order* to an urban retail supplier that does not meet its UWUO.	The State Board may issue *civil liability (fines)* for a violation of the regulation.

*Regulation will not be finalized by this date



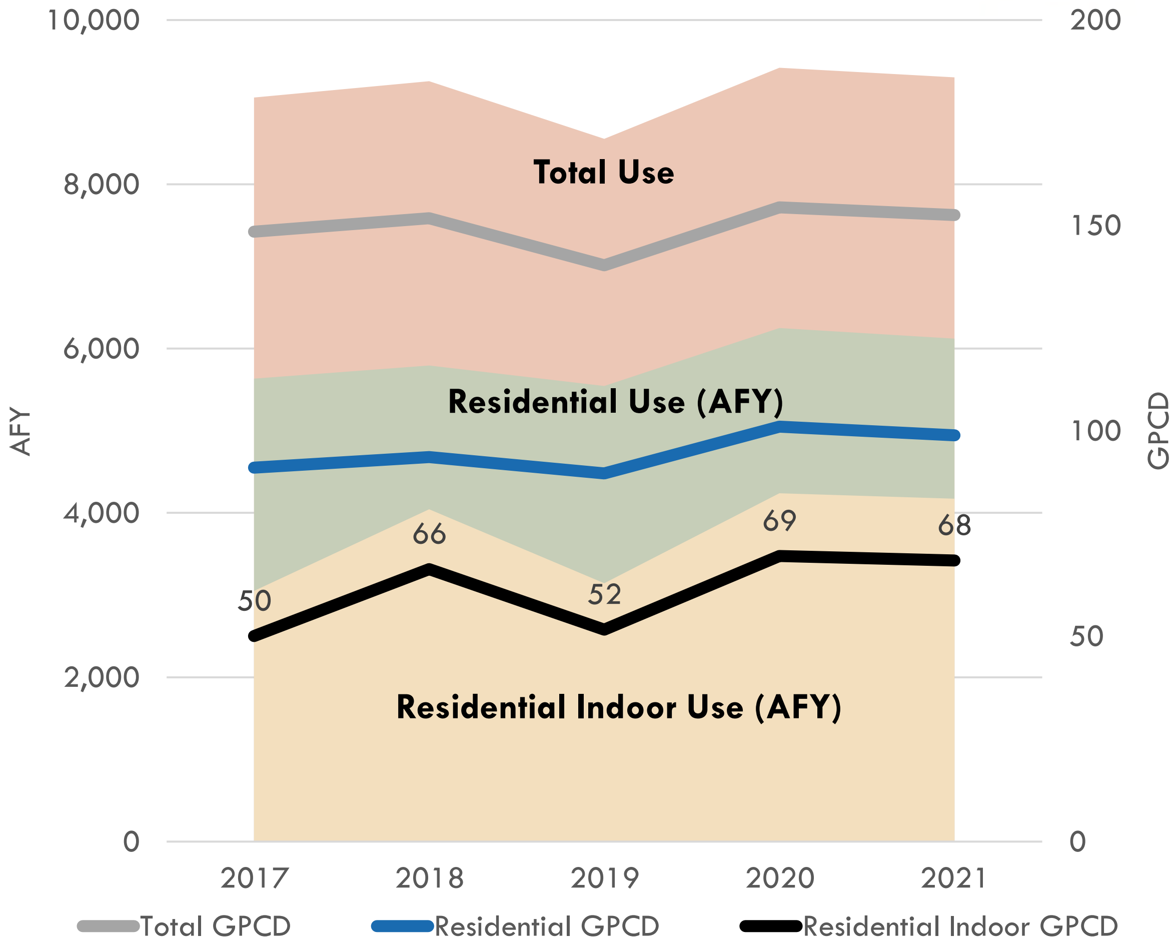
2. Rialto UWUO Preliminary Compliance Status

Rialto Total and Residential Water Use

UWUO CII PM AWUR

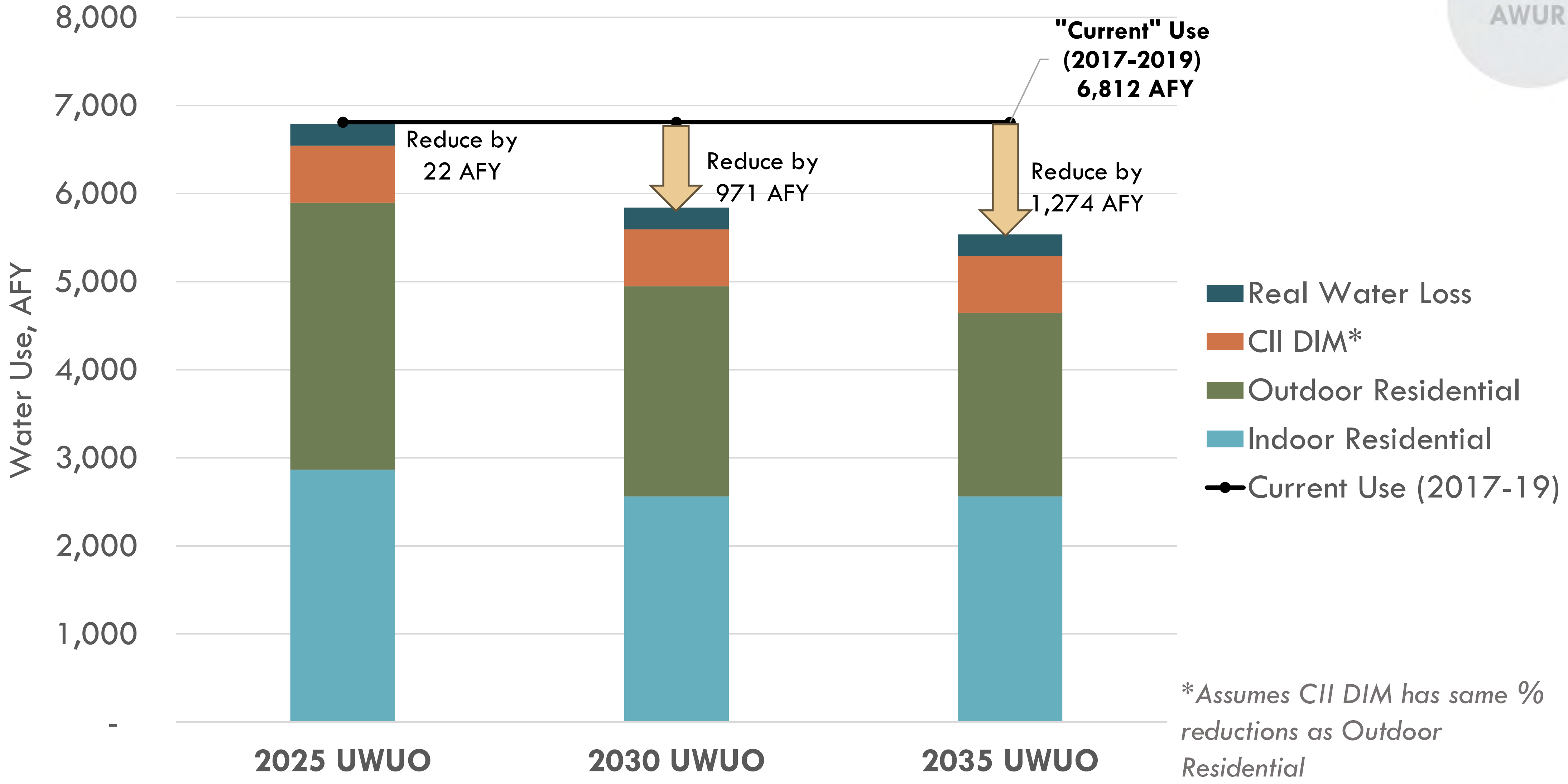
	2017	2018	2019	2020	2021
Population	54,453	54,453	54,453	54,453	54,453
Total Use (AFY)	9,055	9,254	8,555	9,418	9,302
Total GPCD	**148**	**152**	**140**	**154**	**153**
Residential Use (AFY)	5,634	5,793	5,546	6,250	6,122
Residential GPCD	**91**	**94**	**90**	**101**	**99**
Residential % of Total	62%	63%	65%	66%	66%
Indoor Use (%) Using Min Month Method	54%	70%	57%	68%	68%
Residential Indoor Use (AFY)	3,050	4,045	3,145	4,237	4,173
Residential Indoor GPCD	**50**	**66**	**52**	**69**	**68**

Data Source: Electronic Annual Reports/ State Water Board



Preliminary UWUO Compliance Snapshot

"Current" vs. UWUO



*Assumes CII DIM has same % reductions as Outdoor Residential

Preliminary UWUO Compliance Snapshot

“Current” vs. UWUO

Based on the current draft regulations and the State’s UWUO online estimator, Rialto would need to achieve water use reductions of **971 AFY by 2030** and **1,274 AFY by 2035**. Based on UWUO targets for each category of use, it appears that the Outdoor Residential is already well below the target and the Indoor Residential category has the most potential for reduction, but compliance is measured based on total water use.

	“Current” Use (2017-19)	2025 UWUO	Over/ Under	2030 UWUO	Over/ Under	2035 UWUO	Over/ Under
Indoor Residential	3,565	2,867	698	2,562	1,003	2,562	1,003
Outdoor Residential*	2,093	3,030	-937	2,386	-293	2,083	10
CII DIM*	647	647	0	647	0	647	0
Real Water Loss	507	246	261	246	261	246	261
Potable Reuse Bonus Incentive	0	0	0	0	0	0	0
Total	**6,812**	**6,790**	**22**	**5,841**	**971**	**5,538**	**1,274**

** Assumes 20% of Irrigable Not Irrigated (INI) area can be added to the UWUO through 2027*

***Assumes CII DIM has same % reduction as Outdoor Residential*

RESIDENTIAL & CII ACTIONS

Assess and implement appropriate compliance strategy, programs & policies

PURPOSE

Support achieving future UWUO and CII PM compliance.

CONSIDERATIONS

- Develop a compliance strategy based on any of the following:
  - preliminary estimates and in-house determination of appropriate water use efficiency BMPs
  - previous conservation plan's unimplemented elements/BMPs or recommendations, or other available reports/studies (CalWEP, WRF)
  - hire a consultant to develop a detailed water use efficiency study
- Implement programs and policies for tracking and incorporating new development data into UWUO and necessary datasets. Work with land use planning agencies/department(s) to develop a process to:
  - Ensure new development meets UWUO guidelines, MWELO, and compliance for new construction
  - Track new development and incorporate information to update UWUO
  - Determine if a new customer should install a DIM/equivalent technology or measure landscape area
  - Implement programs and policies for tracking and estimating effectiveness of implemented BMPs and UWUO actions

PRELIMINARY ACTION PLAN

DESCRIPTION

Establish programs and policies to achieve future UWUO & CII PM compliance.
(DCP Mitigation Action 132)

TIMELINE	PRIORITY
Start by 2025 and implement through 2030/35	Medium

RESOURCES	ROLE
RWS Customer Service	Provide support to determine most appropriate actions.
RWS/Veolia Operations	Provide support to determine most appropriate actions and assist in implementation.
Utilities	Identify potential actions to achieve required reductions and comply with UWUO, present options to Water Subcommittee.
Other	Leverage regional resources. Coordinate to describe programs and policies in the AWUR, when needed.

UWUO
CII PM
AWUR

UWUO Compliance Details and Preliminary Action Planning

3. Residential UWUO Standards

INDOOR & OUTDOOR

Indoor Residential Standard

Residential Indoor Standard
gallons per capita per day (gpcd)

× **Population**
Number of people in supplier's service area

× **365**
Number of days in the year

= **Residential Indoor Budget**
Gallons Per Year

2020 55 gpcd

2025 47 gpcd

2030 42 gpcd

INDOOR RESIDENTIAL ACTIONS

Calculate population and apply to standard

PURPOSE

Required for standard calculation

CONSIDERATIONS

- Determine best source/method to use. Where else is population reported and do calculation methods need to be aligned?
  - WaterView, DWR tool or GIS options (see next slide for details)

OPTIONS

- Review DWR's landscape data for inclusion/exclusion of group quarters parcels→ adjust population estimate accordingly

- Consider Variances (>5% of UWUO):
  - Significant use of evaporative coolers
  - Significant fluctuations in seasonal population

PRELIMINARY ACTION PLAN

DESCRIPTION

Consider population methods used for various reports and select method for UWUO.

TIMELINE	PRIORITY
Annual	High

RESOURCES	ROLE
RWS Customer Service	Provide data to WaterView for updates
RWS/Veolia Operations	Incorporate updated population into existing reporting
Utilities	Calculate population and provide to RWS
Eagle Aerial	Update WaterView based on Customer Service data
Other	

STATUS

WaterView Updates – Monthly
Population Estimate - Annually

INDOOR RESIDENTIAL ACTIONS

Calculate population and apply to standard

- Sources to calculate population:

Tool	Considerations	Estimated Population	
		2020	2023
WaterView	• Data refinement within WaterView required to accurately reflect City population/water budgets. • Potentially update WaterView assumptions with City sewer data on persons per household/account • Website: https://login-spatialstream.prod.lightboxre.com/MemberPages/Login.aspx?ReturnUrl=%2fmemberpages%2fdefault.aspx%3fma%3dWVRIALTO&ma=WVRIALTO	N/A	56,189
DWR Population Tool	• Based on latest Census* data and number of connections. 2020 Census data not currently loaded. • Can use historic persons per connection output from DWR Tool (4.55) and apply to City number of connections. • Website: https://wuedata.water.ca.gov/secure/login_auth.asp	55,860*	N/A
GIS Tools	• Using GIS, determine population from City service area boundary and 2020 Census data. Based on 2020 Census and 2020 number of connections, a revised 2020 persons per connection factor is 5.25. • Applied SCAG estimated growth rate for 2020-2025 to obtain 2023 estimate.	57,171	59,479

- Note: In past years, the City has used the eAR population value. This value has not been recently updated and does not include recent growth.

Outdoor Residential Standard

Residential Outdoor Standard
Landscape Efficiency Factor (LEF)

×

Net ETo
Inches per year
Reference ET– Effective precipitation

×

Landscape Area
Square feet of Irrigable Area

×

0.62
Unit Conversion Factor

=

Residential Outdoor Budget
(Gallons Per Year)

Pre-2019 Customers	Post-2019 Customers	Special Landscape Area (SLA) Customers
2020 0.80		
2030 0.63		
2035 0.55	0.55	1.0

Pre-2019 Customers

Data from DWR or supplier

Post-2019 & SLA Customers

- Supplier estimate (optional)
- Future DWR data availability date unknown

OUTDOOR RESIDENTIAL ACTIONS

Calculate outdoor allocation

PURPOSE

Required for standard calculation.

CONSIDERATIONS

- **2024 minimum requirement:** Use Landscape Area Measurement (LAM) and net ETo data provided by State to calculate allocation
  - If far from compliance, consider the following items' impacts on the allocation and potentially seek State pre-approval:
    - Measuring new development irrigated areas since State LAM was developed. Requires supporting MWELO report documentation
    - Consider alternative net ETo data
- **Future:** Determine best source(s)/method(s) to use.

OPTIONS

- **Evaluate Residential Special Landscape Areas (SLAs)** and provide data to State: recycled water irrigation or irrigation of solely edible plants
- **Evaluate MFR & HOAs to designate as CII SLAs:** see Outdoor CII Actions slide
- Evaluate and include new development

PRELIMINARY ACTION PLAN

DESCRIPTION	
Collect data and multiply the LEF, net ETo and Landscape Area.	

TIMELINE	PRIORITY
12/2024	High

RESOURCES	ROLE
RWS Customer Service	Assist in identifying SLAs. Review cemetery & parks accounts & classify as CII for larger allocation. Pair state data with rates/multi-classifications per account within billing database.
Utilities	Compile ETo data (either from the State or other source). Confirm appropriate irrigated & potentially irrigated areas, based on State data. Develop outdoor budgets. Coordinate with Eagle Aerial/calculate II and INA areas. Identify SLAs.
Eagle Aerial	Pending irrigated area review, update budgets in WaterView.

OUTDOOR RESIDENTIAL ACTIONS

OPTION: Spatially allocate billing data and link to parcels*

PURPOSE

Optimize UWUO, CII performance measures, and conservation through refined customer categorization

CONSIDERATIONS

- Partially completed with WaterView
- ID land use code "crosswalk" to billing categories to investigate and refine residential or CII customer categorization, or Special Landscape Areas (SLAs) (e.g., HOA landscape/common area meters, mixed use, recreation/public benefit, etc.)
  - Assess best categorization for optimal UWUO standards application
- Supports CII Outdoor UWUO and CII Performance Measures (see slides later in presentation)
- Sets up potential to efficiently categorize new development or ADUs, and application to the UWUO→ Use MWELO annual reports

OPTIONS

- Evaluate and adjust State landscape area data or use supplier data.
- Target review of users over their allocation estimate and investigate commonalities to inform conservation program development.

*Also applies to CII Outdoor

PRELIMINARY ACTION PLAN

DESCRIPTION

Use WaterView or GIS to assess refined customer categorization to optimize residential and CII outdoor UWUO allocations & CII PMs

TIMELINE	PRIORITY
12/2024	Medium

RESOURCES	ROLE
RWS Customer Service	Complete classifying accounts by use type/spatial allocation
Other	Consider how to address ADUs/upgraded services vs separate service at same property addresses/APNs. Consider coordinating with the Planning Dept and MWELO requirements.

STATUS

In Progress

OUTDOOR RESIDENTIAL ACTIONS

OPTION: Assess variances

PURPOSE

Optimize UWUO, CII Performance Measures (PM), and conservation through refined customer categorization

CONSIDERATIONS

- Variances may be granted if the impact on the UWUO is 5% or larger
- Potential Variances:
  - Populations of horses and other livestock
  - Water for dust control on horse corrals or other animal exercise arenas
  - Water for irrigating agricultural landscapes that are within residential areas but have not been classified as irrigable irrigated by DWR
  - Water used to respond to emergency events, not including drought
  - Water for landscapes irrigated with recycled water containing high levels of TDS
  - Water to supplement ponds and lakes to sustain wildlife as required by existing regulations or local ordinances.

PRELIMINARY ACTION PLAN

DESCRIPTION

Do not pursue variances now, but reconsider in the future if needed to meet the UWUO.

TIMELINE	PRIORITY
2024/25	Low

STATUS

TBD – Unlikely to Apply

Indoor Residential Standard

Outdoor Residential Standard

Commercial, Industrial, Institutional Landscape Standard

Water Loss Standard

Adjustments (if applicable)

4. CII UWUO Standards

OUTDOOR- Dedicated Irrigation Meters (DIM)

Outdoor CII DIM Standard

CII Landscapes Standard (LEF) × **Net ETo** Inches per year Reference ET– Effective precipitation × **CII Landscape Area with DIMs** Sq. feet of Irrigable Irrigated Area × **0.62** **Unit Conversion Factor** = **CII Landscapes Budget** (Gallons Per Year)

Pre-2019 Customers	**Post-2019 Customers**	**SLA Customers**
Until July 2028 Actual Use in EAR		
7/2028– 7/2030 0.80		
7/2030– 7/2035 0.63		
After 7/2035 0.45	0.45	1.0

Pre-2019 Customers

Data from DWR or supplier

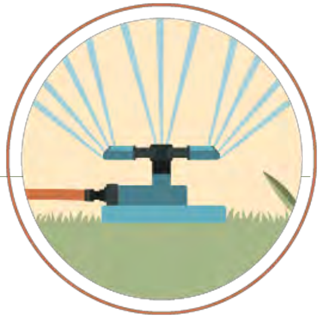
Post-2019 Customers

- Future DWR data availability timeframe unknown
- Supplier estimate optional

Excluded from UWUO: CII Indoor, Other Uses, & CII Performance Measures (PM), but **Coordinate/Update UWUO based on CII PMs described later**

OUTDOOR CII ACTIONS

Calculate Outdoor Allocation



PURPOSE

Required for standard calculation.

CONSIDERATIONS

- **Before July 2028:** Report CII DIM use as shown in EAR
- **After 2028:** Use data provided by State or supplier data/estimate with approval from State. Incorporate newly classified DIMs per CII PM slides.

OPTIONS

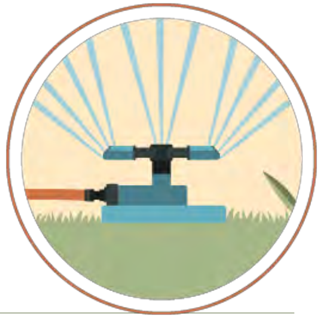
- **Evaluate SLAs**
  - Recreation areas, permanent/dedicated areas for edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water
  - slopes with vegetation for stability
  - ponds/lakes sustaining wildlife, recreation/public benefit (excludes those claimed as variances shown in next slide)
  - Plant collections, botanical gardens, and arboretums
  - Public swimming pools and similar recreational water features
  - Cemeteries built before 2015
- **Evaluate and include new development**
- See previous slide: "OPTION: Spatially allocate billing data and link to parcels" and "Assess and implement appropriate compliance strategy, programs & policies" slide later in presentation

PRELIMINARY ACTION PLAN

DESCRIPTION	
Multiply the LEF, net ETo and Landscape Area. Consider SLAs and new development.	
TIMELINE	**PRIORITY**
12/2024	**High**
RESOURCES	**ROLE**
RWS Customer Service	Assist in identifying SLAs. Review cemetery and parks accounts and classify as CII for larger allocation.
Utilities	Compile ETo data (either from the State or other source) Confirm appropriate irrigated and potentially irrigated areas, based on State data Identify SLAs Develop outdoor budgets
Eagle Aerial	Pending irrigated area review, update budgets in WaterView

OUTDOOR CII ACTIONS

OPTION: Assess Variances



PURPOSE

Assess potential variances and consider applicability and impact to the UWUO >5%

CONSIDERATIONS

- Potential Variances:
  - Water used to respond to emergency events, not including drought
  - Water for landscapes irrigated with recycled water containing high levels of TDS
  - Water to supplement ponds and lakes to sustain wildlife as required by existing regulations or local ordinances (1.1 LEF vs 1.0 LEF for SLA).

PRELIMINARY ACTION PLAN

DESCRIPTION

Consider impacts of potential variances and need for potential further assessment

TIMELINE	PRIORITY
2025	Low

STATUS

TBD – Unlikely to Apply

Indoor Residential Standard + Outdoor Residential Standard + Commercial, Industrial, Institutional Landscape Standard + Water Loss Standard + Adjustments (if applicable)

5. Water Loss UWUO Standards

Summarize Separately Regulated and Reported Component

Water Loss Standard

System-Specific Standard
Gallons per connection per day
(or gallons per mile per day)

×

Connections
Number of connections
served by supplier

×

365
Number of days
in the year

=

Water Loss Budget
(Gallons Per Year)

18 by 2028

2017-19: 166 AFY

2028: 213 AFY

Reduction Required: 0 AFY

Ongoing compliance on a 3-year basis

By July 2021
Adoption of proposed legislation

Jan 1, 2023
Respond to questionnaire: Data quality
Optional: Suppliers with low losses request off-ramp

July 1, 2023
Optional: Request adjustments to standards using new data

Jan 1, 2024
Water use objective calculated including allowed water loss

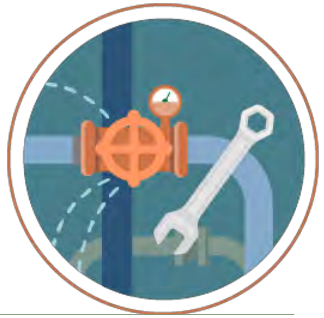
July 1, 2024
Respond to questionnaires: Pressure and asset management

July 1, 2027
Update questionnaire responses: Pressure and asset management

Jan 1, 2028
State Water Board begins assessing compliance for volumetric standards

WATER LOSS ACTIONS

Consider alignment strategy for future reporting



PURPOSE

Assess Water Loss Audits data that should align with other reports, correct if necessary, and plan for data alignment in multiple reports.

CONSIDERATIONS

- Water Loss reporting has its own compliance regulations (SB 555) but impacts the UWUO. Align preparation of water loss reporting data with impacts to the UWUO and other reports, such as the EAR.
- Assess cost/benefit of investing in real water loss reduction programs for SB 555 compliance purposes vs UWUO compliance. Apparent water loss isn't included in UWUO.
- Note that suppliers cannot be deemed out of compliance with their UWUO solely for not meeting their Water Loss standard.
- Prepare for upcoming questionnaires due in July 2024 and July 2027, and 2028 compliance.

PRELIMINARY ACTION PLAN

DESCRIPTION

Plan for future reporting alignment

TIMELINE	PRIORITY
Annual	Low

RESOURCES	ROLE
RWS Customer Service	Continue to support Operations reporting needs
RWS/Veolia Operations	Continue to complete the Water Loss Reporting and Validations. Provide copies to the Utilities Department. Maintain existing Water Loss level. *Note that current efforts meet the Water Loss Standard.
Utilities	Obtain Water Loss values for inclusion in UWUO reporting and calculation.

STATUS

TBD

Indoor Residential Standard

Outdoor Residential Standard

Commercial, Industrial, Institutional Landscape Standard

Water Loss Standard

Adjustments (if applicable)

6. UWUO Adjustments

Other Adjustments

Potable Reuse Bonus Incentive

**Not Applicable for the City of Rialto. Informational Only.*

Bonus Incentive As a percentage of the objective not to exceed 10% or 15%*

=

Potable water delivered to residential accounts + Potable water delivered to CII landscapes w/DIMs

divided by

All potable water deliveries

×

Supplier individual potable reuse

Loss Factor × Recharge

divided by

Total Basin Production

× Supplier Basin Production

*Bonus for potable reuse delivered to residential and CII-DIM customers

- **Up to 10% of UWUO:** Facilities operational **AFTER 2022**
- **Up to 15% of UWUO:** Facilities operational **BEFORE 2022**

Other Adjustments

Suppliers can propose alternate data and methods and supporting information for approval from the State 3 months prior to AWUR due date for the following categories:

- Alternative supporting data (landscape area, SLAs, new construction, ETo, etc.) and methods (population different from EAR)
- Variances described in previous slides
- Temporary Provisions
  - **Indoor Residential:** negative impacts to wastewater systems
  - **Outdoor Residential:** water for pools, spas, water features; new climate-ready trees; establishment of qualifying landscapes (low-impact, ecological restoration)
  - **Outdoor CII DIM:** new climate-ready trees; establishment of qualifying landscapes (low-impact, ecological restoration)

- Recommendation: Do not pursue now, but assess potential benefits if unable to meet the UWUO through other efforts

7. CII Performance Measures Compliance Details and Preliminary Action Planning

Not included in UWUO, but should be coordinated with UWUO calculations

CII Performance Measures

ID CII MUM for DIM Conversion (>500,000 gal)

Measure DIM Irrigated Areas

MUM > DIM/in-lieu Conversion Implementation

Coordinate/Update UWUO

UWUO compliance may inform BMPs implementation

Classify CII (18 Categories) & 4 Categories (Laundries, Large Landscapes, Water Recreation, Car Wash)

Identify CII Top 2.5% & 20% for BMP Development & Implement BMPs

Top 2.5% of all CII Users
2 BMPs from each category below

Top 20% of each of 18 categories
1 BMP from each category below

1. **Outreach, Technical Assistance, and Education:** Bill inserts, education, webpage, social marketing, etc.
2. **Incentive:** Rebates, certification programs
3. **Landscape:** System inspections, workshops, training, turf removal, etc.
4. **Collaboration and coordination:** Coordinate with "green building" certification, or land use or NGO entities
5. **Operational:** Infrastructure changes (smart meters), billing programs, etc.

Ban CII Non-Functional Turf Irrigation

ID Disclosable Buildings & Report Use

2025: ID or Design & Implement

2026–2030: 20% progress each year until 100% in 2030

CII PM ACTIONS

Classify all CII customers with 18 categories from USEPA Energy Star Portfolio Manager (EPSM)

PURPOSE

Customers must be classified into USEPA EPSM categories and four general categories. This will aid in BMP development.

CONSIDERATIONS

- Use spatially allocated billing, land use, and parcel data as previously described, business permitting/licensing offices coordination, sewer rate categories, or CA Secretary of State business forms to categorize customers as follows:

1. Banking/financial services
2. Education
3. Entertainment/public assembly
4. Food sales and service
5. Healthcare
6. Lodging/residential
7. Manufacturing/industrial
8. Mixed use
9. Office
10. Parking
11. Public services
12. Religious worship
13. Retail
14. Technology/science
15. Services
16. Utility
17. Warehouse/storage
18. Other

In addition, identify:
- CII Laundries
- Large Landscapes
- Water Recreation
- Car Wash

PRELIMINARY ACTION PLAN

DESCRIPTION	
Classify CII into18 USEPA ESPM Categories & 4 general categories	
TIMELINE	**PRIORITY**
Classify 20% of accounts/ year over 5 years starting 2026	Medium
RESOURCES	**ROLE**
RWS Customer Service	Categorize customer accounts into these categories.
Utilities	Utilities to provide Customer Service a business license category list to inform classification of accounts by use type.
Other	Consider land use information to populate customer use type.

CII PM ACTIONS

Identify CII landscapes using >500,000 gallons/year with mixed-use meters (MUMs)

PURPOSE

Convert to Dedicated Irrigation Meter (DIM) or equivalent/in-lieu technology in coordination with CII UWUO.

CONSIDERATIONS

- If CII LAM data is available, report in the 2024 AWUR as included in the EAR. Provide supporting documentation to State.
- Measure DIM and MUM landscape areas & estimate irrigation allocations using supplier LAM data or DWR data when available
- Assess cost/benefit of developing budget-based structures/rates vs implementing DIM or other equivalent/in-lieu tech. Use in-house analysis, other available studies/reports, or hire consultant to develop a detailed study
- Implement DIMs or other equivalent/in-lieu tech with State approval making 20% progress by 2026 and 20% each year until 100% in 2030
- Equivalent/in-lieu technologies- Must use two if no DIM:
  - Water budget-based rate structures
  - Water budget-based management program without a rate structure
  - Hardware improvements to identify outdoor water use, smart irrigation controllers and pressure-regulated sprinkler spray heads
  - Remote sensing
  - Landscape plant palette transformation programs
  - Others (as approved by SWRCB)
- Water management practices for large landscapes that do not have DIMs:
  - Communications
  - Irrigation systems maintenance
  - Irrigation scheduling

PRELIMINARY ACTION PLAN

DESCRIPTION	
Evaluate CII large landscape irrigation estimates and assess compliance options	

TIMELINE	PRIORITY
Start with supplier CII LAM data or DWR data once available, then 20% of accounts / year starting 2026	Medium

RESOURCES	ROLE
RWS Customer Service	Identify top 20% of users in each category (see previous page). Identify top 2.5% of all CII accounts.
RWS/Veolia Operations	Implement DIMs or other equivalent/in-lieu tech
Utilities	Identify and implement in-lieu tech where DIMs are not used

CII PM ACTIONS

Assess appropriate BMPs and costs based on CII PM criteria

PURPOSE

ID and implement BMPs to achieve CII UWUO and meet CII PM requirements.

CONSIDERATIONS

- Use preliminary estimates and in-house determination of appropriate BMPs, other studies/reports available (CalWEP), or hire consultant to develop a detailed study.
- Consider what is most effective for service area.
- Consider the costs/benefits associated with BMP implementation.
- Incorporate into budget/staffing plans.
  - State estimates 25% of a full-time employee's hours for program startup and 5% of the employee's hours for continued annual program administration
- Design BMPs by 2025 and make 20% implementation progress annually starting in 2026

PRELIMINARY ACTION PLAN

DESCRIPTION	
BMP evaluation and implementation	
TIMELINE	**PRIORITY**
ID BMPs by 2025, then implement for 20% of accounts/ year starting 2026	Medium
RESOURCES	**ROLE**
RWS Customer Service	Provide supporting customer use data, as needed.
Utilities	Identify and implement BMPs.

CII PM ACTIONS

ID disclosable buildings and usage, then notify customer

PURPOSE

Comply with regulations. Identify buildings >50,000 sq ft, then aggregate and disclose annual use to the building owner or Owner's Agent.

CONSIDERATIONS

- Use spatially allocated billing, land use, and parcel data as previously described to identify appropriate customers/buildings by 2025
- Provide usage data to building owners in ENERGY STAR program or template at 20% of customers per year starting in 2026

PRELIMINARY ACTION PLAN

DESCRIPTION	
Classify disclosable buildings and provide usage to customers	
TIMELINE	**PRIORITY**
ID all disclosable buildings by 2025, then provide usage for 20% of accounts/ year starting 2026	Medium
RESOURCES	**ROLE**
RWS Customer Service	Identify buildings >50,000 sq ft and provide customer use to the owner.
Utilities	Consider using WaterView to ID disclosable buildings.

CII PM ACTIONS

Ban Non-Functional Turf (NFT) Irrigation with Potable Water

PURPOSE

Identify CII NFT and develop plan to comply with regulations.

CONSIDERATIONS

- Use data when provided by State , land use and parcel data as previously described, and/or additional information, to identify NFT areas that are decorative and have no other functions, such as recreation
- Includes turf located on road medians and outside businesses that are not used for recreation
- Includes homeowners' associations and other similar entities but does not include the residences of these entities' members
- Exceptions:
    - Functional grass, such as sports fields, picnic areas, cemeteries, and the areas irrigated with recycled water
    - Turf necessary for health of trees and other perennial non-turf plantings or that is necessary to address an immediate health and safety need
    - Turf with a plant factor of 0.3 or less, and actual use is less than 40% of reference ETo
- Proposed regulations indicate a ban occurring by January 1, 2025. However, AB 1572 (awaiting Governor's signature) indicates the ban takes effect as follows:
    - 2027 - Properties owned by local governments
    - 2028 - Commercial and industrial properties
    - 2029 - Common areas of homeowners' associations
    - 2031 - Properties owned by local governments in disadvantaged communities or when state funding for turf replacement is available
- Violations are subject to civil liability and penalties set forth in Section 1846, or to civil liability and penalties imposed by an urban retail water supplier pursuant to a locally adopted ordinance or policy

PRELIMINARY ACTION PLAN

DESCRIPTION

Identify CII NFT irrigated with potable water and develop an ordinance or policy to ban it.

TIMELINE	PRIORITY
By 2025, or as proposed in AB 1572 from 2027-2031	Medium

RESOURCES	ROLE
Utilities	Review data provided by the State that identifies NFT. Make recommendation to City Council to ban non-functional turf throughout the City.

8. Annual Water Use Report

AWUR Actions

Develop Annual Water Use Report (AWUR)

PURPOSE

Develop and submit an AWUR to comply with regulations.

CONSIDERATIONS

- The AWUR includes:
  - UWUO calculation and relevant supporting data
  - Actual urban water use and relevant supporting data
  - Documentation of CII PM implementations
  - Description of progress towards meeting UWUO
- Other data required includes:
  - CII and other deliveries to MUMs, apparent water losses, # of connections, supporting data and estimated water savings for CII UWUO components and CII PMs if progress has been made
- Use State spreadsheet template for the 2024 report, which will be submitted as an attachment, not entered into a State database. AWURs submitted after regulations are adopted and effective may be uploaded in a different template and database.

PRELIMINARY ACTION PLAN

DESCRIPTION	
Collect data, perform calculations, and report data in State template	

TIMELINE	PRIORITY
January 1st each year	High

RESOURCES	ROLE
RWS Customer Service	Provide customer use data.
RWS/Veolia Operations	Provide water supply data, electronic annual reports, water loss, etc.
Utilities	Compile data and complete the AWUR. Leverage WaterView, when available.

Annual Water Use Report Template

Annual Water Use Report Information

Urban Retail Water Supplier's Contact Information (Required)	
Name of Entity:	
Contact Person Name:	
Contact Person Title:	
Street Address:	
ZIP Code:	
Phone Number:	
Email Address:	
Report Preparer's Contact Information (Required, if different from the above info (cells B4-10). If the same as above, include "n/a" in cells B12-15.)	
Preparer's Organization Name:	
Preparer's Contact Name:	
Phone Number:	
Email Address:	
Select Year-Type and Input Year Covered By This Report (Required)	
Reporting Year Cycle	Calendar Year
Start Date (MM/DD/YYYY)	01/01/2022
End Date (MM/DD/YYYY)	12/31/2022
Other Annual Water Use Reporting Components (Required) (***select all that apply to this report***)	
Actual Residential Water Use	☐
Actual Outdoor Landscape Irrigated with CII-DIM Water Use	☐
Actual System Water Loss	☐
Efficient Indoor Residential Water Use	☐
Efficient Outdoor Residential Water Use	☐
Efficient Water Loss	☐
Bonus Incentive	☐
Variances	
Significant Water Use of Evaporative Coolers	☐
Significant Populations of Horses and Other Livestock	☐
Significant Fluctuations in Seasonal Populations	☐
Significant Landscaped Areas Irrigated with Recycled Water Having High Levels of Total Dissolved Solids	☐
Significant Use of Water for Dust Control for Horse Corrals and Animal Exercising Arenas	☐
Significant Use of Water to Supplement Ponds and Lakes to	☐
Significant Use of Water During Major Emergencies	☐
Significant Use of Water for Commercial or Noncommercial	☐
CII Water Use Performance Measures	
CII Water Use Classification System Performance Measure	☐
CII BMP Performance Measure	☐
DIM Conversion Threshold Performance Measure	☐
In-Lieu Technologies Performance Measure	☐

Actual Water Use	Values	Units	Calculation Instructions
Aggregate Actual Water Use	0	gallons/year	Calculated
Actual Residential Water Use (Required)			
Total Volume of Single-family Residential Water Use in Your Service Area		gallons/year	From eAR or equivalent pursuant to HSC Section 116530. This water use includes all potable and non-potable water for indoor plus outdoor uses delivered to property classified as residential in the county assessor rolls, regardless of whether the service connections and meters providing this water have been classified by the urban retail water supplier as residential.
Total Volume of Multifamily Residential Water Use in Your Service Area			
Total Volume, if any, of Unmetered Residential Water Use in Your Service Area			
Total Volume of deliveries to residential customers that are at or above the 90th percentile for residential water use aross the supplier's service area			
Total Residential Water Use			
Actual Outdoor Irrigation of Landscape Are			
Optional: Switch to separate potable and non-potable tracking			
Volume of Total Water Delivered through CII-DIM (or equivalent technology) for Outdoor Irrigation			
Aggregate of Potable and Non-Potable Water Delivered			
Actual Service Area Water Loss (Required)			
Total Annual Volume of Real Losses			
COMMENT (Not Required; the urban retail w			

Urban Water Use Objective	Values	Units	Data Source/Value to Use
Interim Estimated Urban Water Use Objective with SB X7-7 cap	0		**Draft Regulation Optional for Interim Report**: Calculated: Must use lower of Adjusted SBX7-7 Target or Interim Estimated Urban Water Use Objective. For comparison, refer to 'UWUO Tools and Info' tab
Adjusted SB X 7-7 Target	0		**Draft Regulation Optional for Interim Report**: From 'UWUO Tools and Info' tab: SB X7-7 target sans UWUO excluded water
Interim Estimated Urban Water Use Objective without SB X7-7 cap	0	gallons/year	Calculated from below standards and **Draft Regulation** wastewater provision
Efficient Indoor Residential Water Use (Required)			
Service Area Residential Population		# people	Reported in the eAR or equivalent pursuant to HSC Section 116530 as residential less transient population
Indoor Residential Water Use Standard	55	gpcd	55 gpcd until January 1, 2025; 47 gpcd in 2025; 42 gpcd 2030 and onward. Water Code Section 10609.4
Estimated Annual Efficient Indoor Residential Water Use	0	gallons/year	Calculated
Provision for Wastewater	0	gallons/year	See UWUO Tools and Info tab
Efficient Outdoor Residential Water Use (Required)			
Existing Irrigable Irrigated Residential Landscape Area		square feet	Urban Retail Water Supplier: Residential landscape area consists of residential landscape areas that came into existence before January 1, 2019. II (Irrigable Irrigated) landscape area data provided by DWR available at: Urban Water Use Efficiency Standards, Variances and Performance Measures (ca.gov) or approved alternative data."
Irrigable Not Irrigated Landscape Area		square feet	**Draft Regulation**: through June 30, 2027; may include up to 20% of residential INI if the actual water use for the reporting year is greater than the UWUO without the inclusion of residential INI area.
Reference Evapotranspiration (ETo)		inches per year	From DWR available at: Urban Water Use Efficiency Standards, Variances and Performance Measures (ca.gov)
Effective Precipitation		inches per year	From DWR available at: Urban Water Use Efficiency Standards, Variances and Performance Measures (ca.gov)
Net ETo	0.0	inches per year	Net Eto = ETo - Effective Precipitation
LEF for Regular Residential Landscapes	0.80		**Draft Regulation**: Landscape Efficiency Factor 0.80 through June 30th, 2030; 0.63 from 2030 to 2035; 0.55 from 2035 onward
Unit Conversion Factor	0.62		
Regular Residential Outdoor Water Use	0		Calculated
Regular Residential Outdoor Water Use with INI	0		**Draft Regulation**: Through June 30, 2027; may include up to 20% of residential INI if the actual water use for the reporting year is greater than the UWUO without the inclusion of residential INI area.
Residential Special Landscape Areas		square feet	Urban Retail Water Supplier; residential landscape area with edible plants or recycled water irrigation, only. If none, insert "0" (zero) into B16 (note: must be approved by SWB). **Draft Regulation**: Please identify sources of recycled water with the GeoTracker Global Identification Number (AVR) in the comments section of this tab.
LEF for Residential Special Landscape Areas	1		**Draft Regulation**
Residential Special Landscape Area Water Use	0		Calculated

AWUR Data Sources

Actual Water Use	Source
Actual Residential Water Use	EAR
Actual Outdoor Irrigation of Landscape Areas with DIM in Connection with CII Water Use	EAR/Supplier Discretion/Estimate
Actual System Water Loss	Water Loss Audit
Actual Residential Water Use	EAR
Actual Outdoor Irrigation of Landscape Areas with DIM in Connection with CII Water Use	EAR/Supplier Discretion/Estimate

Urban Water Use Objective

Annual Efficient Indoor Residential Water Use	Source
Service Area Residential Population	EAR/Supplier Estimate
Indoor Residential Water Use Standard (gallons/year)	State Regs
Estimated Annual Efficient Indoor Residential Water Use (gallons/year)	Supplier Calculation

AWUR Data Sources

Urban Water Use Objective

Annual Efficient Outdoor Residential Water Use	Source
Existing Residential Landscape Area (square-ft)	DWR LAM or Supplier Data
Irrigable Not Irrigated Landscape Area (square-ft)	DWR LAM or Supplier Data
New Residential Landscape Area (square-ft)	Supplier/MWELO Annual Report(s)
Residential Special Landscape Area (square-ft)	Supplier Estimate Based on State or Supplier Data
Reference Evapotranspiration (ETo) (inches per year)	DWR/CIMIS or Supplier Data
Effective Precipitation (Peff) (inches per year)	DWR/CIMIS or Supplier Data
Total Estimated Annual Efficient Outdoor Residential Water Use (gallons/year)	Supplier Calculation
Temporary Provisions	Supplier Estimate Using State and/or Supplier Data
Annual Efficient Outdoor Irrigation of Landscape Areas with CII-DIM or Equivalent Technology	Supplier Estimate Using State and/or Supplier Data
Annual Efficient Water Loss	Supplier Calculation Using Water Loss Audit
Annual Efficient Variance Water Use (For Informational Purposes)	Supplier Estimate Using Supplier/Other Data

Bonus Incentive	Source
Bonus Incentive	Supplier Estimate Using Supplier, State or Other Data, GeoTracker, Annual Volumetric Reporting

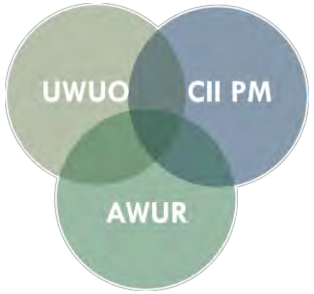
9. Preliminary Roadmap to UWUO Compliance

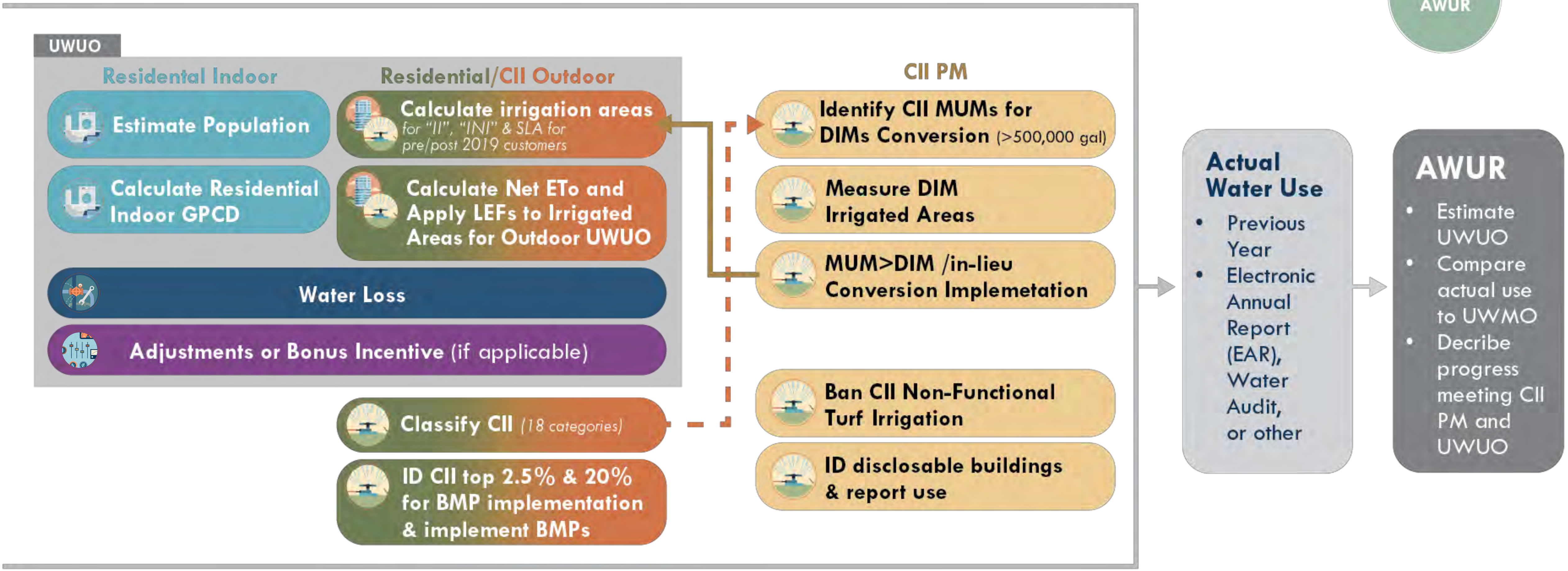
UWUO Regulation Timeline and Roadmap Overview

X Reporting Due ✔ Reporting/Data can be used for compliance measurements + First Deadline for compliance

ROADMAP PG#	COMPONENT STANDARD/ACTION	RESPONSIBILITY	RESOURCE	2024	2025	2026	2027	2028	2029	2030	2035	>2035
3-1	Residential Indoor gpcd	Informational - Use Standard	Water Code 10609.4	55			47				42	
3-2	Population Estimate	Utilities Division, Nicole Hemmans, Senior Administrative Analyst	Census/ACS, EAR, or Other	X	X	X	X	X	X	X	X	X
3-4	Residential Outdoor Landscape Efficiency Factor (LEF) for pre-2019 Customers	Informational - Use Standard	SWRCB				0.8				0.63	0.55
3-4	Residential Outdoor LEF for post-2019 Customers	Informational - Use Standard	SWRCB					0.55				
3-5	Residential Outdoor- Net Evapotranspiration (ETo)	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
3-5	Residential Outdoor- Irrigated "II" Area	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
3-5	Residential Outdoor- Potentially Irrigated "INI" Area Allowance	Informational - Use Standard	SWRCB		0-20%					0%		
3-5	Residential Outdoor- INI Area	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
3-4	Residential Outdoor- LEF for Special Landscape Areas (SLA)	Informational - Use Standard	SWRCB					1				
3-5	Residential Outdoor -SLA Area	Utilities Division, Nicole Hemmans Senior Administrative Analyst	Data from State or Other	X	X	X	X	X	X	X	X	X
	CII DIM											
7-3	Identify CII Mixed Use Meters (MUMs) for DIMs Conversion or In-lieu Tech (>500,000 gal)	Veolia Customer Service & Operations	Supplier	X								
4-2	MUM>DIM Landscape Area Measurement (LAM) & Budget Estimate	Veolia Customer Service & Operations	Data from State, Supplier or Other	X		20%	40%	60%	80%	100%		
7-3	MUM>DIM Conversion or In-lieu Tech Implementation	Veolia Operations				20%	40%	60%	80%	100%		
4-1	CII LEF for pre-2019 Customers	Informational - Use Standard	SWRCB			Actual Deliveries in EAR			0.8		0.63	0.45
4-1	CII LEF for post-2019 Customers	Informational - Use Standard	SWRCB					0.45				
4-1	CII LEF- Special Landscape Area (SLA)	Informational - Use Standard	SWRCB					1				
4-2	CII-SLA Area Identification & Measurement	Utilities Division, Nicole Hemmans, Senior Administrative Analyst and Veolia, Robert Lee, Customer Service Manager	Data from State, Supplier or Other	X	X	X	X	X	X	X	X	X
	WATER LOSS COMPLIANCE REPORTING											
5-2	Water Loss Compliance Reporting	Veolia, Stephanee Valencia, Operations Supervisor	Water Code Section 982/ State Standards	X	X✔	X✔	X✔	X✔+	X✔	X✔	X✔	X✔
	CII PERFORMANCE MEASURES - NOT INCLUDED IN UWUO											
7-2	All CII- Classification (18+ Categories)	Veolia, Robert Lee, Customer Service Manager	Supplier & State/ENERGYSTAR	X		20%	40%	60%	80%	100%		
7-1	CII BMP Implementation for Top 20% (in each of 18+ classifications) and 2.5% of all CII 1 BMP per 5 categories for Top 20% & 2 BMPs for top 2.5%	Veolia, Robert Lee, Customer Service Manager, Utilities Department and Nicole Hemmans, Senior Administrative Analyst	Supplier		X	20%	40%	60%	80%	100%		
7-5	ID Disclosable Buildings and Provide Water Use to Customer	Veolia, Robert Lee, Customer Service Manager	Supplier Data, U.S. EPA ENERGYSTAR, Section 1681 of the CA Code of Regulations		X	20%	40%	60%	80%	100%		
7-6	Ban CII Non-Function Turf Irrigation	City of Rialto City Council, Utilities Department, Toyasha Sebbag, Assistant to the City Manager	AB 1572		X							
	STATE ENFORCEMENT											
1-7	UWUO Enforcement- Informational Orders (2024), Written Notices (2025), & Conservation Orders (2026)	State	Water Code section 1846 or 1846.5	✔	✔				X✔+			

Components & Actions to Meet Regulations





LEF= Landscape Efficiency Factor
II= Irrigable Irrigated
INI= Irrigable Not Irrigated

SLA= Special Landscape Area
MUM= Mixed-use Meter
DIM= Dedicated Irrigation Meter

10. Additional References

Resources

- CII Water Use Classification (Santa Barbara & Placer County Water Agency) and Commercial Pilot Program (West Basin MWD)
  - https://calwep.org/wp-content/uploads/2023/02/CII-Standard_P2P_2023-5-22_Maddaus-Water-pdf.pdf
- SAWPA- WUE Budget Assistance Project via a consultant
  - https://calwep.org/wp-content/uploads/2022/03/CalWEP_CII-Overview_Spring-Plenary_2022_COMBINED.pdf
- Metropolitan Water District of Orange County
  - https://www.mwdoc.com/9-things-to-know-about-evolving-water-use-efficiency-standards/
  - Consultant support to measure DIMs irrigated area
  - Participation in State's regulatory meetings and comment letters submitted
  - Consultant (WSC/M Cubed) tool estimated preliminary UWUOs for retail customer agencies, cost/benefit, and rates/DAC impacts
  - Flume pilot
  - Water loss technical assistance program
  - Incentive and educational programs

Resources

Regulation Updates, Summaries & Data

- SWRCB
  - https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/regs/water_efficiency_legislation.html
- CalWEP
  - https://calwep.org/framework-updates/
  - https://calwep.org/update-dwr-sends-final-framework-recommendations-to-swrcb/
  - (see cut sheets) https://calwep.org/all-resources/
  - https://calwep.org/commercial-industrial-institutional/
  - https://calwep.org/event/peer-to-peer-2023/
  - CII classification guidance document coming soon
- Locate or request LAM data from DWR at WUE_LAM@water.ca.gov

Preliminary UWUO Calculation Tools

- State Water Board Water Use Objective Exploration Tool
  - https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/regs/objective-exploration.html
- Alliance for Water Efficiency Water Conservation Tracking Tool
  - https://www.allianceforwaterefficiency.org/resources/topic/water-conservation-tracking-tool#:~:text=The%20AWE%20Water%20Conservation%20Tracking,for%20projecting%20future%20water%20demands.
- WaterView by Eagle Aerial-
  - https://www.eagleaerial.com/
- CA Data Collaborative (CaDC) Analytics
  - https://www.thecadc.org/product
- DCSE Water Saving Targets (WST) Application
  - Masoud Hoseyni, Ph.D Phone: 949-465-3407 Email: mhoseyni@dcse.com

Related Reporting Timeline

Requirements	2022	2023	2024	2025	2026	2027	2028	2029	2030
NEW Urban Water Use Objectives (UWUO) WUE standards for urban retail water suppliers including: four water efficiency standards (indoor residential, outdoor residential, water loss, and large CII landscapes irrigated with dedicated meters), local conditions, variance, and bonus incentive for potable reuse.		Early 2023–Fall 2023: State Water Board to seek public comment and adopt DWR WUE standards recommendations to set UWUOs	State Board may issue informational orders (2024), written notices (2025), or conservation orders (2026) to suppliers not meeting their UWUO	1/1/2025: Increasingly stringent UWUO standards compliance required	**2025 Urban Water Management Plans Due**				2030: Increasingly stringent UWUO standards compliance required
Annual Water Use Report Calculate UWUO vs actual use and provide narrative that describes water demand management measures to achieve the UWUO by 1/1/27. DWR also recommends a narrative of past practices to inform the development of CII Water Use Efficiency. Calendar year basis reporting period of 1/1/22–12/31/22 and fiscal year basis reporting period of 7/1/22–6/30/23.			1/1/2024: Annual Water Use Report	✓	✓	✓	✓	✓	✓
Annual Water Supply & Demand Assessments Each urban water supplier is required to prepare an Annual Water Supply and Demand Assessment and submit an Annual Water Shortage Assessment Report (Annual Shortage Report) to the DWR.	7/1/2022: Water Shortage Report Due	✓	✓	✓	✓	✓	✓	✓	✓
Water Loss Audits (WLAs) Senate Bill 555 requires all urban retail water suppliers in the state of California to submit a completed and validated WLA annually to the DWR. Suppliers must meet water loss performance standards identified here.	Now until 7/1/2023: Agencies can update inputs for the water loss model to adjust their standard.	1/1/2023: Validated FY 21/22 WLAs due for Fiscal Year Reporters.	1/1/2024: All 2022/23 Validated WLAs will be due 1/1/2024, regardless of FY/CY reporting.	✓	✓	✓	✓ 1/1/2028: Validated WLA due for 2027 and water loss standard required	✓ 1/1/2029: WLA will be due every three years	(Next due in 2032)

Appendix H Draft Model 6-Stage WSCP Response Actions

H

The following pages outline the DRAFT 6-stage WSCP for use in a future WSCP update (anticipated in 2026 as part of the next Integrated Regional Urban Water Management Plan cycle).

This DRAFT 6-stage WSCP may need to be further revised as additional guidance pertaining to urban water use objectives and water use efficiency is developed and adopted prior to 2026.

Topic	Stage 1 10%	Stage 2 20%	Stage 3 30%	Stage 4 40%	Stage 5 50%	Stage 6 >50%
Irrigation - New Homes and Buildings	The irrigation with potable water of landscape outside of newly constructed homes and buildings must be consistent with regulations or other requirements established by the California Buildings Standards Commission, as those regulations may be modified from time to time.	→	→	→	→	→
New Irrigation Services					New irrigation water service shall not be installed.	→
Watering Restrictions - Specific Days		All landscape irrigation shall be limited to no more than four (4) days per week for no more than ten (10) minutes per station per day. This provision does not apply to any landscape that has water-efficient devices that are operated properly. Water-efficient devices are drip irrigation systems and operational weather-based irrigation controllers. The term "week" is defined as Sunday through Saturday.	All landscape irrigation with potable water shall be limited to no more than three days per week for no more than ten minutes per station per day. This provision does not apply to any landscape that has water-efficient devices that are operated properly. Water-efficient devices are drip irrigation systems and operational weather-based irrigation controllers. Week is defined as Sunday through Saturday.	All landscape irrigation with potable water shall be limited to no more than two days per week for no more than ten minutes per station per day.	All landscape irrigation with potable water shall be limited to no more than one day per week for no more than ten minutes per station per day.	All outdoor watering of any kind is prohibited, except to maintain trees.

Topic	Stage 1 10%	Stage 2 20%	Stage 3 30%	Stage 4 40%	Stage 5 50%	Stage 6 >50%
Watering Restrictions - Specific Times	Watering with automatic sprinklers should be done between eight p.m. and six a.m. Hand watering and non-automatic sprinklers should be completed within two hours before or after dawn, or two hours before or after dusk, as conditions are safe. Drip irrigation is exempt from this recommendation. Water being used during repair or maintenance of watering systems is exempt from this section.					
Irrigation During High Winds	The use of sprinklers for any type of irrigation during high winds, which divert a significant amount of water away from the intended landscaping, is prohibited.		There shall be no watering of any lawn or landscaped area, except by use of reclaimed water.			
Irrigation - Medians	The irrigation of potable water of ornamental turf on public street medians is prohibited. The term "median" shall mean the strip of land between street lanes.					
Irrigation After Measureable Rainfall	Customers encouraged not to irrigate turf or ornamental landscapes during or within forty-eight (48) hours following measurable precipitation in excess of one-quarter inch.	Irrigating turf or ornamental landscapes during or within forty-eight (48) hours following measurable precipitation in excess of one-quarter inch is prohibited.				
CII - Restaurants	All restaurants and food establishments are *requested* not to serve water to their customers unless specifically requested by the customer.	All restaurants are *prohibited* from serving water to their customers except when specifically requested by the customer.				

Topic	Stage 1 10%	Stage 2 20%	Stage 3 30%	Stage 4 40%	Stage 5 50%	Stage 6 >50%
CII - Construction			Water used for compaction, dust control, and other types of construction shall be by permit only and will be limited to conditions of the permit or may be prohibited as determined by the city administrator, or his/her designee.		No potable water shall be used for construction purposes. All construction meters shall be locked off or removed. Construction meters may be reinstated upon the direction of the City Manager or his/her designee.	
CII - Laundered Linens	Operators of hotels and motels must provide guests with the option of choosing not to have towels and linens laundered daily. The hotels and motels shall prominently display notice of this option in each guestroom using clear and easily understood language.					
Vehicle Washing	Washing of automobiles, trucks, trailers, boats, airplanes, and other types of mobile equipment is prohibited unless done with: -a bucket or hand-held hose equipped with a shut-off nozzle - a device attached to the hose that causes it to cease dispensing water immediately when not in use -commercial car wash with recirculating water					

Topic	Stage 1 10%	Stage 2 20%	Stage 3 30%	Stage 4 40%	Stage 5 50%	Stage 6 >50%
Wash Down	There shall be no application of water to sidewalks, walkways, driveways, parking areas, patios, porches, verandas, tennis courts or other paved, concrete or other hard surface areas, except that flammable or other similarly dangerous or unhealthy substances may be washed from said areas by direct hose flushing for the benefit of public health or safety.					
Run-Off	Use of water for outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures is prohibited.					
Water Features - Decorative Fountains	No water shall be used to clean, fill, operate or maintain levels in decorative fountains unless such water is part of a recirculating system.					
Water Features - Swimming Pools			Swimming pools, ornamental ponds, fountains, water displays, hot tubs, spas and artificial lakes shall not be filled or refilled after being drained.		Temporary, above-ground swimming pools shall be prohibited.	
Leaks	No person shall knowingly permit water to leak from any facility, improvement or plumbing fixture on his/her/its premises; any such leak shall be repaired in a timely manner.	All customers shall repair all leaks within seventy-two (72) hours of notification by the city, actual notice by the customer, or other notice of such leak, unless other arrangements are made with the city administrator or his/her designee.				

Note: Actions proposed for future Water Shortage Contingency Plan update.