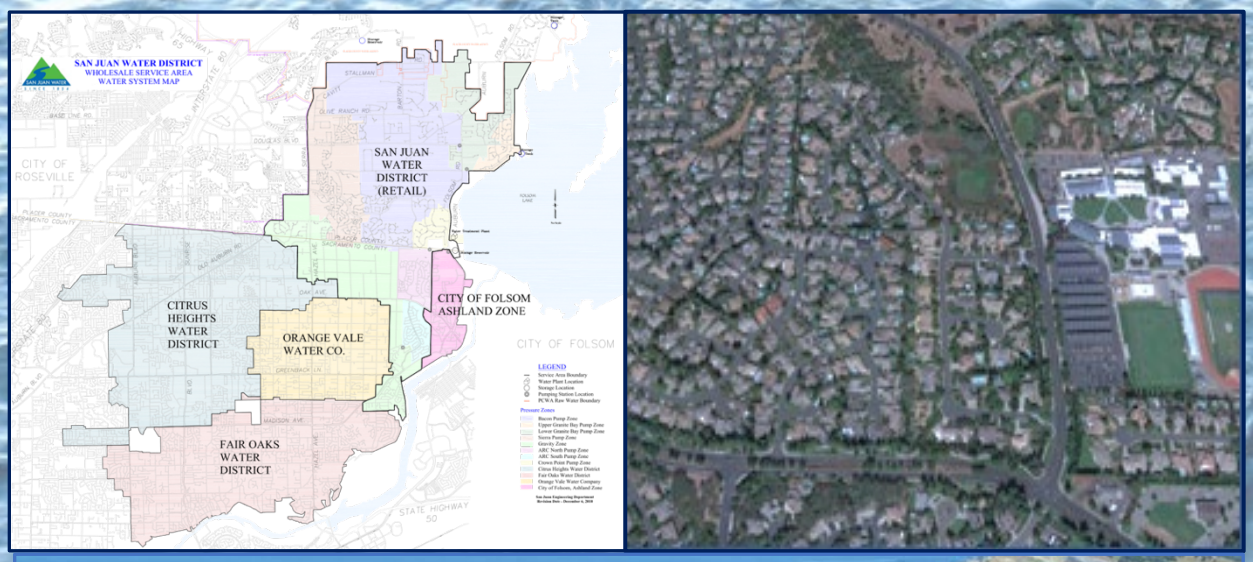

Public Review Draft – June 9, 2026

2025 Urban Water Management Plan

SAN JUAN WATER
SINCE 1854

Prepared By:

Trinity Consultants

ZANJERO
ADVISE • MANAGE • SOLVE

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This 2025 Urban Water Management Plan was prepared under the direction of a California licensed civil engineer.

EXECUTIVE SUMMARY
LAYPERSON'S DESCRIPTION

After the devastating drought in the late 1970s, the California Legislature declared California's water supplies a limited resource, subject to ever-increasing demands and that the long-term, reliable supply of water is essential to protect California's businesses, communities, agricultural production, and environment. To strengthen local and regional water management and drought planning, the Urban Water Management Planning Act (UWMPA) was signed into law in 1983.[1] Since then, the Legislature has amended the UWMPA to require additional detail in Urban Water Management Plans (UWMP), including addressing resilience to drought and climate change.

The UWMPA requires urban water suppliers serving over 3,000 customers or supplying at least 3,000 acre-feet of water annually to prepare and adopt an UWMP every five years,[2] and demonstrate water supply reliability in a normal year, single dry year, and droughts lasting at least five years over a twenty-year planning horizon.[3] The UWMPA also requires each urban water supplier to prepare a drought risk assessment and water shortage contingency plan.[4]

At a practical level, the UWMP provides the water management planning foundation for urban water suppliers throughout California. A UWMP will provide the supplier's elected officials, management, staff, and customers with an understanding of the agency's past and current, as well as projected future, water supply and demand conditions. The UWMP integrates local and regional land use planning, regional water supply, infrastructure, and demand management projects, and also identifies challenges that may result from climate change and evolving regulations. Urban water management planning provides an opportunity for the supplier to evaluate supplies and demands using a balanced and methodical planning platform that addresses short-term and long-term planning conditions. In brief, the UWMP gathers, characterizes, and synthesizes water supply related information from numerous sources - to inform the agency's planning, while also providing interested local, regional, and statewide stakeholders with access to the same information.

[1] CWC §10610 *et seq*. (Chapter 1 added by Stats. 1983, Ch. 1009, Sec. 1).

[2] CWC § 10610 *et seq*.

[3] CWC §§ 10631-10635

[4] CWC § 10632

ES-1 SAN JUAN WATER DISTRICT

The San Juan Water District (SJWD or District) provides water service to retail customers and wholesale customer agencies (WCAs) in northeastern Sacramento and southeastern Placer Counties. The District's retail service area is roughly seventeen square miles, mostly rural in character with large parcel sizes, east of Roseville and west of Folsom Lake in both Placer and Sacramento counties. The WCAs served by the District include Citrus Heights Water District (CHWD), Fair Oaks Water District (FOWD), Orange Vale Water Company (OVWC), and a portion of the City of Folsom referred to as the Ashland area (Folsom). **Figure ES-1** shows the entire wholesale service area in relation to the retail service and WCA service areas.

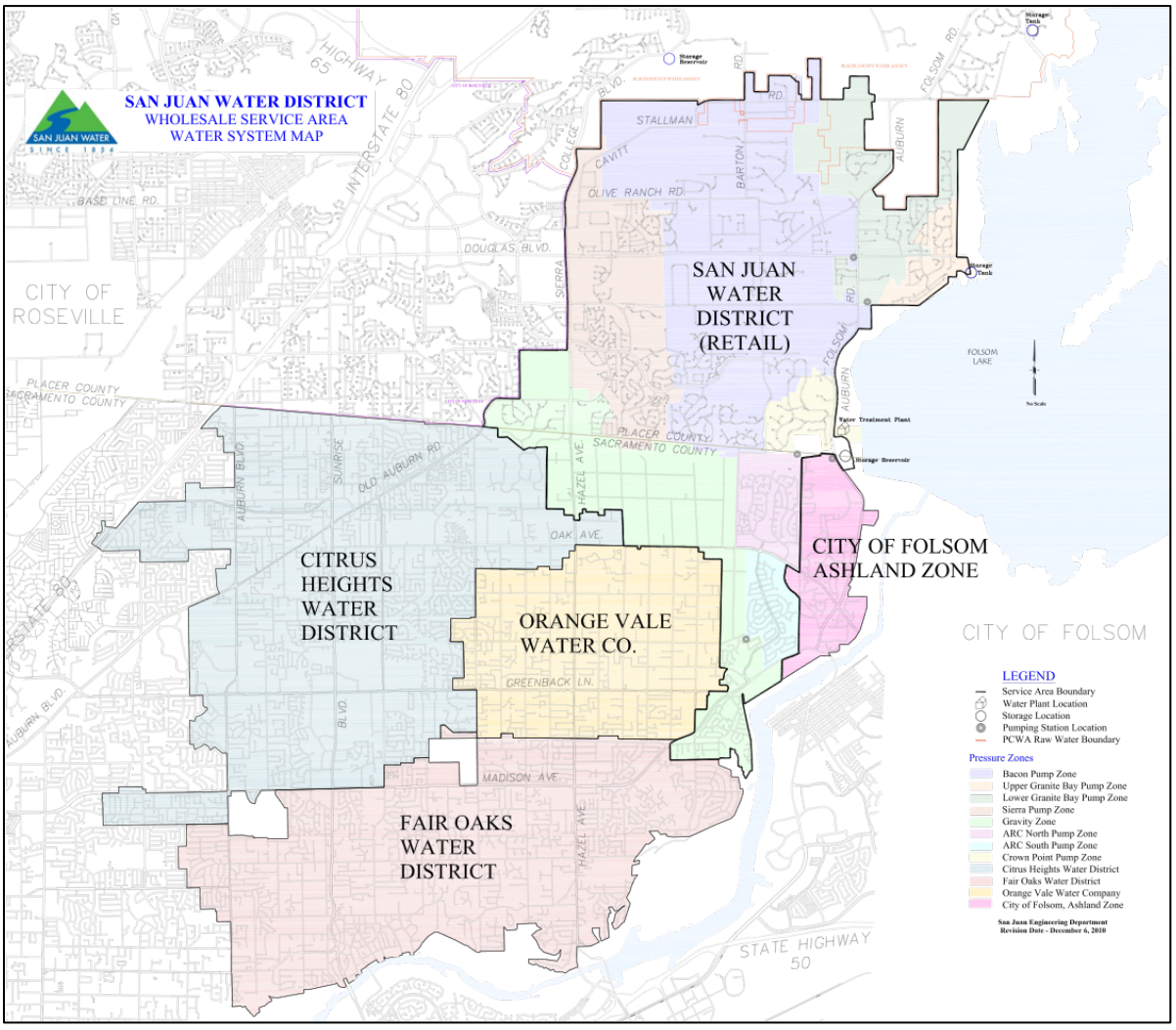


FIGURE ES-1: SAN JUAN WATER DISTRICT WHOLESALE AND RETAIL WATER SERVICE AREAS

The retail service currently meets the needs of nearly 30,000 residents and a variety of non-residential customers, with a current annual water use of about 11,000 acre-feet. The retail service area is projected to have only modest growth, adding approximately 2,000 new residents by 2050, with only nominal changes to total water use as a result of on-going reductions in per-capita water use. With the addition of the WCAs, the population served grows to over 164,000, projected to increase to over 181,000 by 2050. Current surface water use by the WCAs is about 24,000 acre-feet annually and is forecast to increase only slightly, even with the added population. Overall, the District anticipates a future total wholesale surface water use of around 36,000 to 39,000 acre-feet per year in 2050.

The District's water supplies include an array of surface water rights and contracts that provide access to over 80,000 acre-feet during normal hydrologic conditions. These supplies are estimated to be constrained to about 46,500 acre-feet during dry conditions.

ES-2 Water Service Reliability

The District has ample water supplies to meet current and growing customer demand. Specifically, with an array of surface water assets that can be flexibly managed in a single year, the District can maintain reliability during drought conditions. Nevertheless, the District continues to encourage its customers to use water efficiently and continues to see declining per-capita water use.

The District's current normal year water supply and demand conditions represent the expected water supply and demand conditions that would likely occur based upon a reasonable assessment of regional and statewide hydrology and current regulatory constraints. Under these conditions, the District anticipates that it would maintain full access to its current surface water supplies. The District's description of current water use conditions represents an historical assessment of water use within the District, which supports the characterization of growth and potential future customer use patterns.

A representative example of the District's water system reliability if the next five years were to be consecutively dry is illustrated in **Table ES-1**. As demonstrated in this representation, the District is able to reliably meet all unconstrained demands based upon the characterization of the District's supplies as detailed in this 2025 UWMP.

TABLE ES-1: FIVE YEAR DROUGHT RISK ASSESSMENT: WHOLESALE SYSTEM (VALUES IN ACRE-FEET)

	2026	2027	2028	2029	2030
Supply	46,750	45,500	44,250	44,250	45,500
Demand	38,108	39,072	40,035	40,999	41,962
Difference	8,642	6,428	4,215	3,251	3,538

Although the District has sufficient supplies to meet its needs during single-dry years and extended droughts as evaluated in this 2025 UWMP, other regulatory constraints, like the declaration of a drought emergency by the Governor of the State of California potentially including urban water use reduction mandates, or State-ordered curtailment of water rights, could still constrain the District's water service to its customers.

Overall, as documented in this 2025 UWMP, the District's water supply portfolio is expected to be able to meet water demands in its retail and wholesale service areas in normal, single dry, and five consecutive dry years from 2025 through 2050.

CHAPTER 1
INTRODUCTION

San Juan Water District (District or SJWD), formed in 1954, provides both retail and wholesale water supplies to customers in northeastern Sacramento County and southeastern Placer County. The District's history extends back to the mid-nineteenth century when the North Fork American River and Mining Company was established during the Gold Rush and claimed a water right in 1853. That early enterprise later became the North Fork Ditch Company and ultimately evolved into today's San Juan Water District.

The District is organized as a community services district, established by citizen vote,[5] and is governed by a five-member Board of Directors elected by the public. The Directors serve staggered four-year terms, ensuring local representation and accountability in District decision-making.

As detailed in Chapter 2, the District provides direct potable retail water service within a portion of its wholesale service area, referred to as San Juan Water District Retail (Retail). In addition, SJWD treats and distributes surface water supplies to its Wholesale Customer Agencies (WCAs): Citrus Heights Water District (CHWD), Fair Oaks Water District (FOWD), Orange Vale Water Company (OVWC), and the City of Folsom (Ashland service area). Together, the operations undertaken to serve the WCAs are collectively referred to as San Juan Water District Wholesale (Wholesale).

On occasion, to enhance regional conjunctive use and provide for in-lieu recharge of the groundwater aquifer, and only if hydrologic conditions allow and the District has access to surplus water supplies, the District may enter into single-year transfer agreement(s) to deliver surplus surface water to other retail water agencies that can receive delivery from existing facilities. Any such agreement is limited to a single-year and a specified amount of surplus surface water and conditioned upon the District's contractual obligation to meet the surface water demands of the WCAs and the demands of the District's retail customers. If such a water agreement is requested by a retail water agency, the District evaluates hydrologic conditions and water availability at the time of the request. The District is not

[5] Formed in 1954 under the Community Services District Law, Government Code §§61000 et seq., and originally named the San Juan Suburban Water District.

obligated to enter into any such agreement in any year and the District makes no guarantee that it will enter into any such agreement in any future year.

SJWD's mission is to ensure the reliability and sustainability of delivering affordable, high quality water supplies to meet the existing and future needs of the District's Retail customers and WCAs. This 2025 Urban Water Management Plan (UWMP) integrates local, regional, and statewide data and planning inputs into a foundational resource document to inform the District's near- and long-term planning and decision-making. The UWMP is intended to support the District's Board of Directors, management, partner agencies, and the broader community in navigating water resource planning in a future that will be shaped by changing water supply conditions, evolving regulatory requirements, and population growth.

1.1. Background and Purpose

The Urban Water Management Planning Act (UWMPA) was enacted by the California Legislature in 1983 to require comprehensive water supply planning in the state's urban areas. Codified in California Water Code (CWC) §§10610-10656, the UWMPA requires urban water suppliers serving more than 3,000 customers or delivering more than 3,000 acre-feet annually to prepare and adopt comprehensive water management plans every five years. The District has prepared this 2025 UWMP to comply with the UWMPA requirements and addresses the District's water management planning efforts intended to assure adequate water supplies to meet forecast demands over the next 25 years.

As required, this 2025 UWMP specifically assesses the availability of the District's supplies to meet forecast water uses during average water supply years, a single dry-year, and five consecutive drought years, through 2050. Verification that future demands will not exceed supplies and assuring the availability of supplies in dry-year conditions are critical outcomes of this plan. Assessing the District's supply and demand projections under various hydrologic conditions, identifying potential shortage scenarios, and addressing these shortage conditions through Water Shortage Contingency Plan (WSCP) actions are key functions of this UWMP.

The 2025 UWMP is an update to the District's 2020 UWMP and presents new data with analysis as required by the California Department of Water Resources (DWR) and the CWC. This comprehensive water planning document describes existing and future supply reliability, forecasts future water uses, presents demand management progress, and identifies potential local and regional cooperative efforts to help bridge any gaps between future estimated water use and available water supplies.

The UWMP is a valuable water management planning tool and guide to inform the District's Board, management, retail customers and WCAs, and the State of California, about the District's water management practices. It describes the District's planning assumptions and goals, to be used in combination with other planning resources, documents, and management tools over the UWMP planning horizon to help ensure SJWD's water supplies can meet the District's demands.

California's vulnerability to drought and the exacerbating impacts of climate change, as well as population growth, underscore the importance of planning ahead to be able to continue to provide sufficient water to meet demands. This 2025 UWMP is a key component of such responsible planning by SJWD.

1.2. Basis for Plan Preparation

The District operates a Public Water System as described in California Health and Safety Code §116275. The District is both a Wholesale Urban Water Supplier, and Retail Urban Water Supplier as described in CWC §10617, providing water for municipal purposes to more than 3,000 customers or 3,000 acre-feet of water per year. This level of service thus requires the District to prepare an Urban Water Management Plan every five years.

The District's retail Public Water System details are listed in **Table 1-1**.

Table 1-1: Public Water System Information

Public Water System Number	Public Water System Name	Number of Municipal Connections 2025
CA3410021	San Juan Water District	11,100

Major required components of the 2025 UWMP are listed below, along with references to the corresponding sections where they are addressed in this document.

Five Consecutive Dry-Year Water Reliability Assessment: Dry-year water reliability planning is required for a "drought lasting five consecutive water years". This requirement is addressed in Chapter 3—Water Supply Characterization, Chapter 4—Water Use, and Chapter 5—Water Service Reliability Assessment.

Drought Risk Assessment (DRA): The DRA requires a projection assessing water supplies, water uses, and the resulting water supply balance should the five consecutive years between 2026 and 2030 be dry. The DRA is addressed in Chapter 5—Water Service Reliability Assessment and Chapter 6—Water Shortage Contingency Plans.

Seismic Risk: Evaluating seismic risk to water system infrastructure and facilities and having a mitigation plan is required as part of UWMPs. Incorporating the water system into regional or county hazard mitigation planning is a typical approach. Seismic risk is addressed in Chapter 6.

Water Shortage Contingency Plan (WSCP): The WSCP provides the District with an action plan for a severe drought or catastrophic water supply interruption. The WSCP is included in Chapter 6 of this UWMP.

Groundwater Supplies Coordination: UWMPs are required to be consistent with applicable local Groundwater Sustainability Plans which have been developed pursuant to the Sustainable Groundwater Management Act (SGMA) of 2014. Information regarding groundwater management is presented in Chapter 2.

Lay Description: A required synopsis of the fundamental determinations of the UWMP for the lay reader is incorporated within the Executive Summary.

1.3. COORDINATION AND OUTREACH

As required by the UWMPA, the District coordinated with its WCAs and other nearby agencies while developing this UWMP in order to ensure consistency with related planning efforts such as General Plans, Water Master Plans (WMP), and Groundwater Sustainability Plans (GSP). This requirement includes coordination with (a) water suppliers that share a common water source, (b) relevant water management agencies that affect the District's water assets, and (c) relevant public agencies that may have land use or other regulatory relationships with the District. The District prepared this 2025 UWMP in coordination with regional water purveyors and has appropriately notified and coordinated with other appropriate local government agencies as listed in **Table 1-2**.

As stipulated in CWC §10621(b), every urban water supplier shall conduct a public hearing in order to encourage active involvement from diverse elements of the community. The District sought public participation with a public hearing and appropriate notices as required by law. In addition, beyond the statutory requirements, the District provided an opportunity for public engagement at the outset of its UWMP process and made the draft UWMP available to the public for review almost four weeks prior to the public hearing.

TABLE 1-2: PUBLIC AND AGENCY COORDINATION

Coordinating Agencies	Coordinate Regarding Demands	Provided Copy of Draft UWMP	Sent 60-Day Notice	Notice of Public Hearing
Cities, Counties, Customers, and Interested Parties				
Citrus Heights Water District	X	X	X	X
City of Citrus Heights		X	X	X
City of Folsom	X	X	X	X
City of Roseville		X	X	X
Fair Oaks Water District	X	X	X	X
Placer County		X	X	X
Placer County Water Agency		X	X	X
Orange Vale Water Company	X	X	X	X
Regional Water Authority		X	X	X
Sacramento Suburban Water District		X	X	X
Sacramento Regional County Sanitation District		X	X	X
Sacramento County		X	X	X
Sacramento County Planning Department		X	X	X
Sacramento County Water Agency		X	X	X
Sacramento Groundwater Authority		X	X	X
Sacramento County LAFCo		X	X	X
General Public		X		X

SJWD is a member of the Regional Water Authority (RWA), a joint powers authority created by water purveyors in the Sacramento region to promote and support a coordinated approach to regional water issues. The District is also a member of the Sacramento Groundwater Authority (SGA). SGA is also a joint powers authority and was created to manage the Sacramento region's North Area Groundwater Sub-Basin, which includes all of Sacramento County north of the American River.

1.3.1. Water Supplier Information Exchange

CWC §10631 requires wholesale and retail water agencies to provide each other with information regarding water supply and demand. As a wholesale supplier, the District provided information regarding water supply and demand estimates to each of its WCAs covering five-year increments from 2030 through 2050, with projections for normal, single dry, and five consecutive dry years. Further Retail system and Wholesale system discussion is included in each appropriate Chapter and related sections of this UWMP as described in Section 1.5 – Document Organization.

1.4. Public Hearing, Adoption, and Submittal

The District held a noticed public hearing to consider adoption of its 2025 UWMP and WSCPs on June 17, 2026 at 6:00 PM. Before the hearing, a draft was made available for public inspection at the District's administration building located at 9935 Auburn Folsom Road, Granite Bay, CA 95746, and posted on the District's website almost four weeks prior to the Public Hearing. Pursuant to CWC §10642, general notice of the public hearing was provided through publication of the hearing date and time in the local press as required under the UWMPA and posting of the hearing notice at the District's office. In addition, the entities in **Table 1-2**, as well as members of the public who had requested that they be kept apprised of progress, were emailed the link to the draft UWMP as soon as the draft was available.

The District's Board of Directors considered and adopted this 2025 UWMP and WSCPs on June 17, 2026 [*ANTICIPATED ADOPTION DATE, SUBJECT TO CHANGE*]. A copy of the adopted 2025 UWMP will be submitted to DWR, provided to local cities and counties and the California State Library, and posted on the SJWD website within 30 days after its adoption.

The District's draft Water Shortage Contingency Plans were also posted to the District's website well prior to the Public Hearing.

The District will submit all required documentation related to the UWMPA through the DWR submittal website soon after adoption. This will include the following required DWR Excel workbooks:

- "2025 Submittal Tables.xlsx"
- "Energy Use Tables.xlsx"
- "UWMP Checklist"

1.5. Document Organization

This 2025 UWMP is organized as follows:

- **Executive Summary** provides an overview of the purpose and findings of this 2025 UWMP.
- **Chapter 1** establishes the basis for the UWMP, describes the outreach activities and introduces the document organization.
- **Chapter 2** provides a description of the District's service area, demographic characteristics and climate, and describes the future population the District anticipates needing to serve.
- **Chapter 3** describes current and future water supplies and the availability of the supplies through 2050.
- **Chapter 4** details customer uses, including past and future estimated uses, and describes the District's past, ongoing, and potential future demand management measures.
- **Chapter 5** discusses the District's water service reliability into the future, including an assessment of reliability if a drought occurred over the next five consecutive years.
- **Chapter 6** is the District's stand-alone Water Shortage Contingency Plan, incorporated as a chapter in this UWMP, but also available to be shared and utilized separate from the UWMP.

NOTE TO DWR:

The San Juan Water District has prepared this Urban Water Management Plan (UWMP) primarily as a water resources planning tool to contribute to its continuing efforts to effectively manage water supply, reliability and demand. This UWMP also satisfies all the requirements of the Urban Water Management Planning Act (UWMPA).

The body of the document provides narratives, analysis and data that DWR requested in its 2025 UWMP Guidebook, including satisfying pertinent changes related to UWMPs made to the California Water Code in 2020. Efforts have also been made to include enhancements to this document wherever possible as recommended in the UWMP Guidebook.

Unless otherwise noted, annual reporting is on a calendar year basis and units for volumetric values are reported in acre-feet.

To facilitate review by DWR for compliance with the UWMPA, data from the body of the document has been transferred into required DWR submittal tables consistent with the organization of the tables in Appendix E of the 2025 UWMP Guidebook. These tables have been separately uploaded to DWR's web portal. This UWMP has been reviewed for adequacy by the preparers, and determined to be so, according to the UWMP Checklist as contained in Appendix F in the 2025 UWMP Guidebook

CHAPTER 2
WATER SERVICE AND SYSTEM DESCRIPTION

The District is governed by an elected Board of Directors and provides water service to retail customers and WCAs in northeastern Sacramento and southeastern Placer Counties.

The District's wholesale service area covers forty-five square miles, geographically incorporating its retail service area along with the service areas of its WCAs.[6]

The District's retail service area is roughly seventeen square miles, mostly rural in character with large parcel sizes, east of Roseville and west of Folsom Lake in both Placer and Sacramento counties. Approximately 75 percent of the District's retail service area is in Placer County. According to the revised Placer County 2012 Granite Bay Community Plan, population, housing and employment in the Granite Bay area are projected to grow at a minimal rate.

Figure 2-1 displays the District's Wholesale and Retail system service areas.

[6] The District's retail service area is also essentially a wholesale customer of the District, sharing in the District's water supplies with the WCAs. But the retail service area does not have a separate contractual agreement as exists between the District and each WCA, so is therefore not considered a WCA for purposes of this 2025 UWMP. The retail system future water use, however, is additive to the WCA's future water use for purposes of assessing the Wholesale system's water service reliability (see Chapter 5).

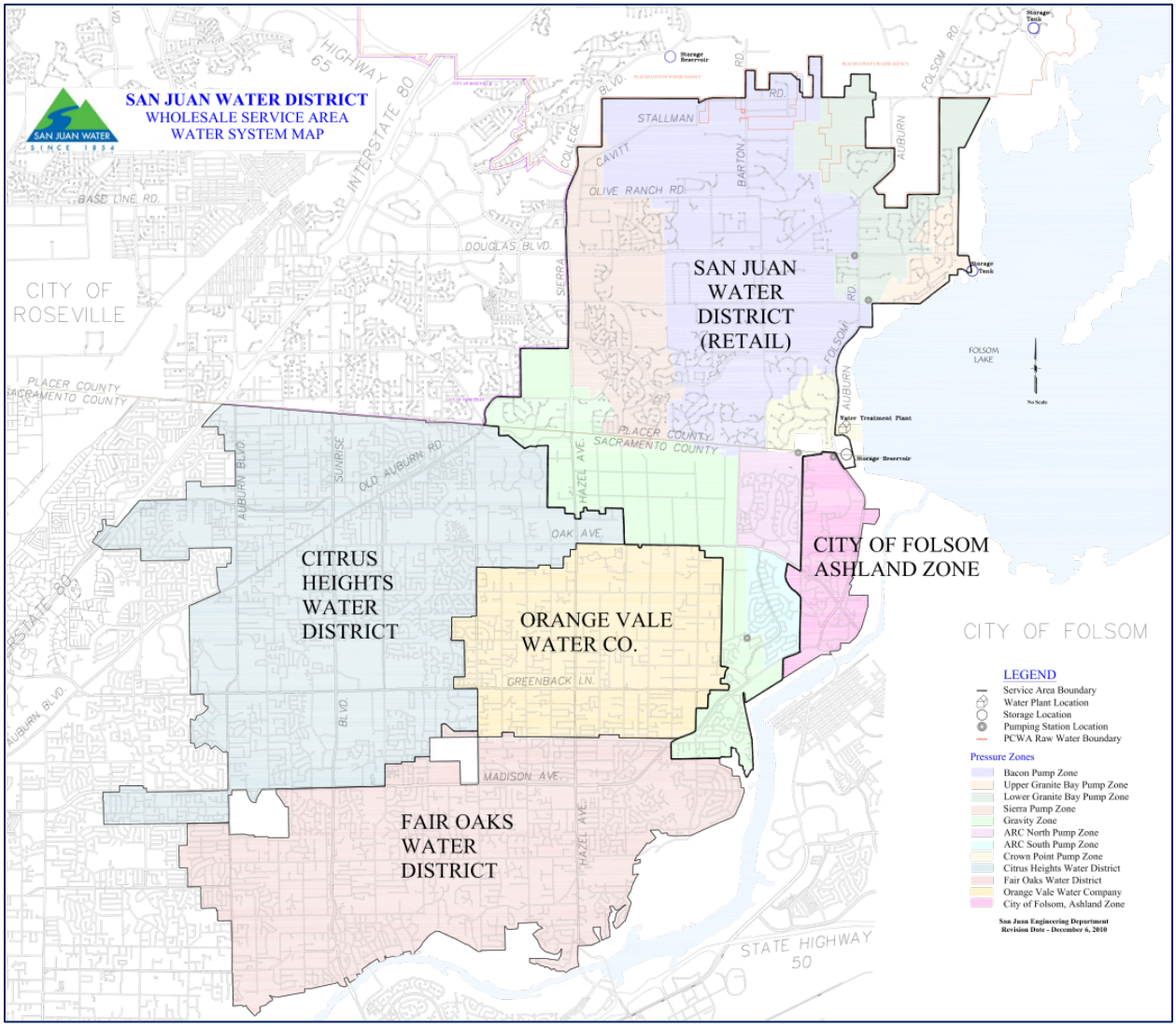


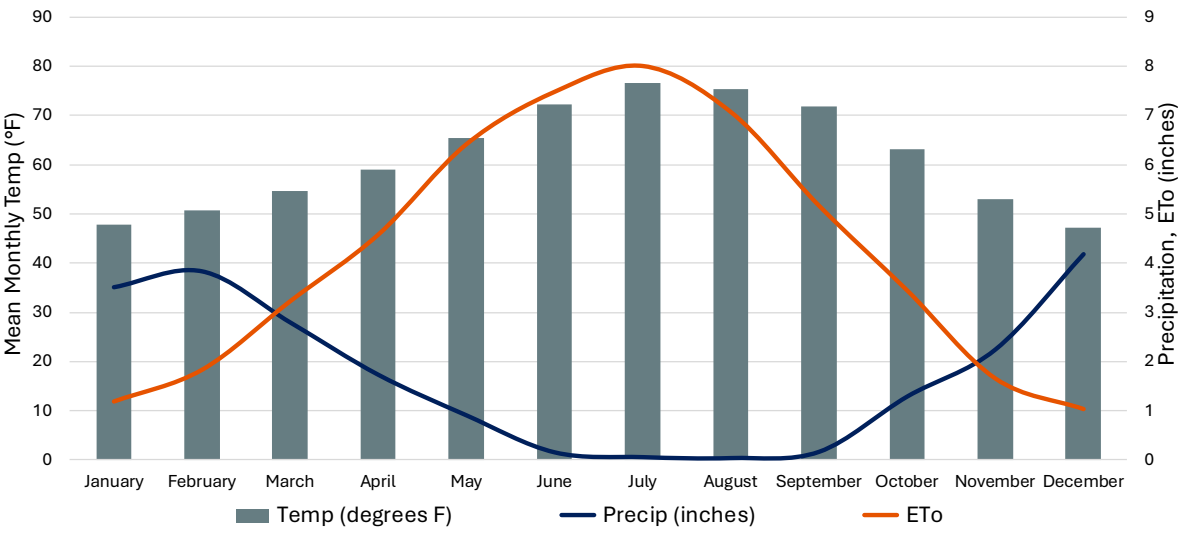
FIGURE 2-1: WATER SERVICE AREA

2.1. SERVICE AREA CLIMATE

SJWD's service area experiences cool winters and hot, dry summers. The California Irrigation Management Information System (CIMIS) maintains historic climate data. CIMIS has a measuring station located in Fair Oaks, which is within the SJWD wholesale service area boundary located approximately five miles southwest of the District's campus. The Fair Oaks station (Station #131) was utilized for this UWMP's climate data analysis, reporting monthly temperatures for the period 1998-2025 ranging from an average daily low of 39.2 degrees Fahrenheit (°F) in December to an average daily high of 94.2 °F in July. For the same period, 20.84 inches of average annual rainfall was measured.

Evapotranspiration is the process of water transpiring from plants and evaporating from land and water surfaces. Reference evapotranspiration (ETo) refers to the rate at which water is consumed by normally watered grasses, which can be used to better understand landscape irrigation needs. ETo varies seasonally, and during dry years the significance of evapotranspiration is magnified because it continues to deplete surface water supplies and reduce soil moisture. The District monitors ETo closely. Standard monthly average ETo data was also obtained from the CIMIS Fair Oaks station. Average annual ETo for the period 1998-2025 measured 51.11 inches and has ranged from 45.64 inches (1998) up to 55.77 inches (2022). More recently, the Eto has trended upward, with an average of 52.92 inches for the 2021 – 2025 period.

Figure 2-2 presents monthly average climate figures based on historical data.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temp	47.8	50.7	54.7	58.9	65.4	72.4	76.7	75.4	71.8	63.2	53.0	47.3
Precip	3.51	3.83	2.79	1.72	0.90	0.15	0.05	0.03	0.16	1.28	2.24	4.18
ETo	1.19	1.83	3.23	4.58	6.42	7.48	8.01	7.07	5.17	3.44	1.65	1.03

FIGURE 2-2: AVERAGE CLIMATE CONDITIONS (1998-2025) [7]

2.1.1. SERVICE AREA POPULATION AND DEMOGRAPHICS

The population served by the District is estimated for both the Retail and Wholesale system service areas. Population figures (historic and projected) were obtained from the WCAs, and combined with SJWD Retail data, to calculate SJWD's Wholesale system service area population.

The District's WCAs and Retail system service area are within Sacramento and Placer counties. Additional demographic information for these counties was obtained from the American Community Survey (ACS). **Table 2-1** summarizes demographics associated with the District.

[7] Climate date obtained from Fair Oaks CIMIS Station # 131 (https://cimis.water.ca.gov/). Temperature data reports daily average over each month listed.

TABLE 2-1: SACRAMENTO AND PLACER COUNTY DEMOGRAPHICS[8]

Metric	Sacramento County	Placer County
Median Household Income ($)	88,724	114,678
Average Household Size	2.73	2.62
Median Age	37.2	42.4
Unemployment Rate	6.4%	4.5%

RETAIL SYSTEM POPULATION

The population served by SJWD Retail includes a mix of users and user classes. The District's retail customer base is comprised of single-family residential (94.3 percent), commercial and institutional (2.4 percent), landscape irrigation (2.0 percent), and multi-family residential (1.1 percent), with agricultural and other (sewer lift/pump stations) making up the remaining 0.2 percent of customer connections. The service area is relatively built out, and expected limited future increases in water demands will result from expansion of residential, multi-family, and commercial land uses. Notably, the ongoing implementation of the "Make Conservation a California Way of Life" regulations will largely negate estimated increases in water demands and will likely result in reduced aggregate demands on the ground and as compared to estimates in prior UWMPs.

2025 retail service area population estimates were generated using United States Census data for 2020. Due to the fact that the District's retail service area does not align with any Census Designated Place, a Geographic Information System (GIS) was used to identify Census Blocks within the retail area, and the total population and number of housing units were obtained. The person per connection for the District's retail service area is calculated as 2.70 people per household[9]. The number of 2025 residential connections are multiplied by this value to estimate the District's 2025 population.

Retail population projections utilized information from the Sacramento Area Council of Governments (SACOG). SACOG's 2025 Blueprint growth projections were utilized for projecting SJWD's future retail service area population. The modeling utilized small, multi-block sections to increase accuracy of projections for population, dwelling units, and growth rates. Results from the 2025 Blueprint indicate an approximate growth rate of 0.3%, resulting in over 700

[8] https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/2023/

[9] A Geographical Information System (GIS) analysis using 2020 Census results overlayed on the District's retail service area indicated an average person per household value of 2.70. Applicable census blocks within the service area were identified and the total number of housing units and population were used to determine this District-wide average.

new residential units by 2050. The person per connection ratio of 2.70 was applied to this growth estimate to project the future retail service area population over time. The resulting population projection is presented in **Table 2-2**.

TABLE 2-2: RETAIL POPULATION – CURRENT AND PROJECTED

Population Served	2025	2030	2035	2040	2045	2050
SJWD - Retail	28,581	28,963	29,349	29,741	30,137	30,539

WHOLESALE SYSTEM POPULATION

Population projections for the Wholesale system service area include the SJWD retail population, CHWD, FOWD, OVWC, and the City of Folsom (Ashland). Population projections were provided to the District by the WCAs to calculate population figures for inclusion in this UWMP. Current and projected population for the District's wholesale service area are presented below in **Table 2-3**.

TABLE 2-3: WHOLESALE POPULATION – CURRENT AND PROJECTED

Population Served	2025	2030	2035	2040	2045	2050
SJWD - Wholesale	164,682	168,469	171,319	174,209	177,050	181,553

COMPARISON WITH PRIOR POPULATION PROJECTIONS

SJWD's 2025-2045 population projections developed for this 2025 UWMP indicate less projected growth for the period than estimated in the District's 2020 UWMP. **Table 2-4** displays the comparison of SJWD's retail population projections for the 2020 and 2025 UWMPs, while **Table 2-5** displays the comparison for the Wholesale system service area.

TABLE 2-4: COMPARISON OF SJWD'S RETAIL SYSTEM POPULATION PROJECTIONS WITH 2020 UWMP

Source	2025	2030	2035	2040	2045
2020 UWMP	29,840	30,379	31,107	31,851	32,885
2025 UWMP	28,581	28,963	29,349	29,741	30,137
% Difference	-4.2%	-4.7%	-5.7%	-6.6%	-8.4%

As seen from the comparison table above, the population projections for SJWD's retail system service area are lower than projections developed for the 2020 UWMP. The 2020 UWMP projected populations were based upon SACOG's 2016 and 2020 MTP/SCS growth projections. This 2025 UWMP's projected population figures reflect growth characterized in SACOG's 2025 Blueprint. An important consideration is the adjustment made to the occupancy rate for this 2025 UWMP update, informed by data from the 2020 census. The previous occupancy rate for the 2020 UWMP was reported as 2.91 persons per household, while for this 2025 UWMP update the value of 2.70 was incorporated (a decrease of approximately 7%).

TABLE 2-5: COMPARISON OF SJWD'S WHOLESALE SYSTEM POPULATION PROJECTIONS WITH 2020 UWMP

Source	2025	2030	2035	2040	2045
2020 UWMP	154,173	159,221	166,473	173,842	181,577
2025 UWMP	164,682	168,469	171,319	174,209	177,050
% Difference	6.8%	5.8%	2.9%	0.2%	-2.5%

Table 2-5 compares SJWD's wholesale system population projections developed for this 2025 UWMP with those in the District's 2020 UWMP. Notably, wholesale population projections go up compared to the 2020 UWMP figures, despite the reduction in the occupancy rate. This is a consequence of the Fair Oaks Water District's current 2025 population estimate being over 13,000 people[10] higher than its 2020 projection of its 2025 population. This change is carried through this UWMP's planning horizon.

[10] Based on Table 3-1 of FOWD's Draft 2025 UWMP.

2.1.2. Economic Factors and Conditions

Economic data in the region informs estimates regarding the potential for changes in the end uses of water. During 2020-2024, the greater Sacramento Region's[11] annual job growth rate was approximately 3.4%. As of July 2024, the largest job sectors for the Sacramento Region were Government[12] (16%), Healthcare and Social Services (16%), and Professional and Business Services (12%).[13]

The Placer County Employment Profile (2025) identifies Health Care, Government, Professional, Scientific Technical Services, and Management as industries experiencing the largest growth for the period fourth quarter 2022 through fourth quarter 2023. Conversely, Financial Services and Real Estate as well as Admin Support industries have experienced the largest decrease in jobs for the same period.[14]

In the years prior to the COVID-19 pandemic, the greater Sacramento Region experienced relatively low unemployment rates. **Figure 2-3** displays the Sacramento Metropolitan Area labor force and employed populations as well as the resulting unemployment rate for the period 2010 through 2025. As seen in the figure, the unemployment rate reached a low of about 3% in parts of 2019 before jumping to a high of 14.3% in April 2020 due to effects of the pandemic. The unemployment rate has significantly decreased from the historic highs of 2020, even reaching the pre-pandemic low of 3.1% in May of 2022.

No portions of the District's retail system service area are identifiable as comprising a "Disadvantaged Community" when applying DWR's DAC Mapping Tool.

[11] Data for Sacramento Area Council of Governments (SACOG) area of El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba counties.

[12] Includes Federal, State, and Local governments.

[13] SACOG, 2024 Regional Indicators Dashboard.

[14] https://www.placer.ca.gov/1375/Reports-Stats#docaccess-859422d19c47e96eaf27d97e94a9c42091c5fba7ba38f2caa34dc12afab54444

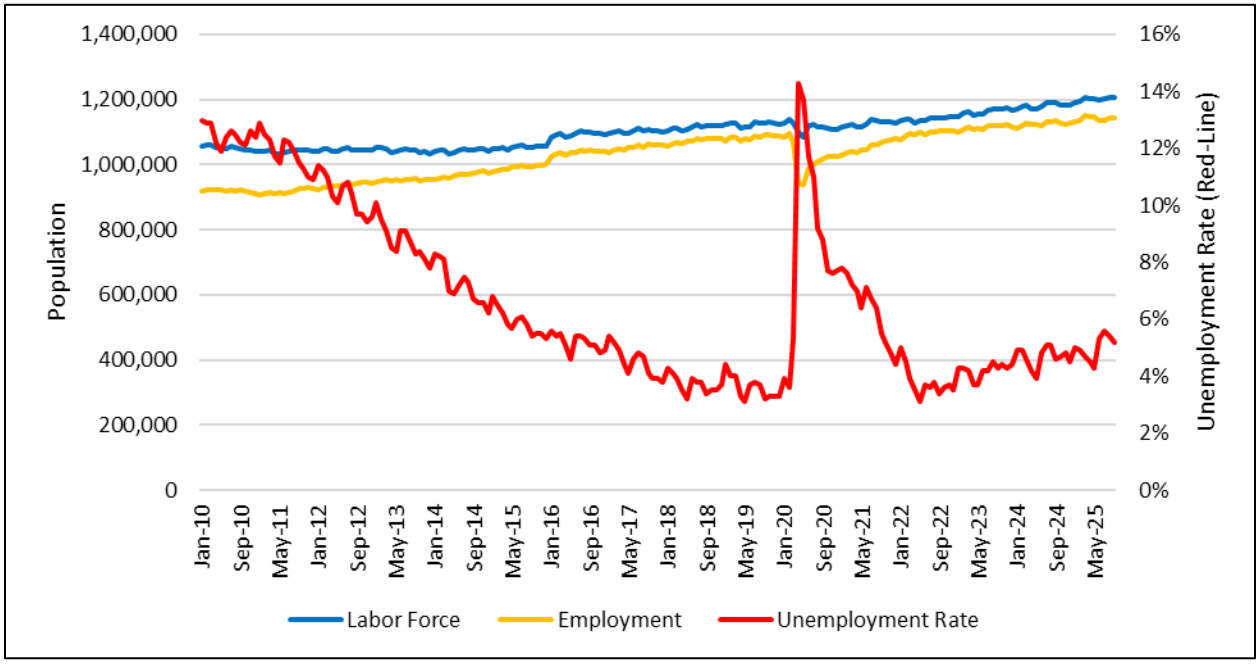


FIGURE 2-3: SACRAMENTO REGION LABOR STATISTICS[15]

2.1.3. CURRENT AND PROJECTED LAND USE

Service area land use projections are critical to developing a useful planning framework. These projections directly influence planning measures for system supply, delivery, infrastructure, and demand management. This section of the 2025 UWMP addresses these factors to provide a supportable basis for forecasting future water use in Chapter 4.

FUTURE CUSTOMER CONNECTIONS – RETAIL SYSTEM

Growth in SJWD's retail residential and non-residential connections was based upon the latest land use growth projections from SACOG, specifically the 2025 Blueprint. The modeling separated the retail area into small multi-block sections and modeled dwelling unit projections used to develop approximate growth baselines and trends.

For the District's retail service area, the 2025 Blueprint projects a growth rate of approximately 0.3 % and approximately 700 new residential units by 2050. This projection is consistent with the previous analysis completed as part of the 2020 UWMP.

This analysis conservatively allocated these new residential connections as 665 new single-family homes and 60 new multi-family homes. Nominal additional commercial and public

[15] U.S Bureau of Labor Statistics Local Area Unemployment Statistics for Sacramento-Roseville-Folsom, CA Metropolitan Statistical Area. 2010-2025.

landscaping are assumed to also be in place by 2050 to support the additional housing, i.e., 18 new commercial connections and 15 new public landscaped connections. **Table 2-6** details the forecast new retail customer connections over the 25-year UWMP planning horizon.

TABLE 2-6: SUMMARY OF FUTURE CONNECTION GROWTH WITHIN RETAIL SYSTEMS

Customer Class	Current	2030	2035	2040	2045	2050
Single Family Residential	10,459	10,588	10,719	10,852	10,987	11,123
Multi-Family Residential	124	136	148	160	172	185
Commercial/Institutional	270	274	277	281	285	289
Landscape	219	222	225	228	231	234
Agricultural	8	10	12	14	16	18
Total Retail	**11,080**	**11,230**	**11,381**	**11,535**	**11,691**	**11,849**

2.1.4. OTHER RELEVANT SERVICE AREA DESCRIPTORS

SJWD's wholesale service area relies on local water resources, including American River inflows to Folsom Reservoir and groundwater from the east zone of the North American Sub-Basin, accessed by FOWD and CHWD (and OVWC in the near future) for use in their individual retail service areas. Surface water diversions and releases from Folsom Reservoir serve SJWD and many entities in the region. Other water purveyors that rely on the American River and Folsom Reservoir for supplies, directly or indirectly, include:

- Placer County Water Agency (PCWA)
- Sacramento Suburban Water District (SSWD)
- El Dorado Irrigation District (EID)
- City of Roseville
- City of Folsom
- City of Sacramento
- Carmichael Water District
- Golden State Water Company
- Sacramento Municipal Utility District (SMUD)
- Cal American Water Company
- Sacramento County
- South Sutter Water District

Some issues related to regional dependence on Folsom Reservoir (Folsom Lake), and its related operations by the United States Bureau of Reclamation (Reclamation), are collaboratively addressed through the Sacramento Water Forum (WF). As signatories to the WF Agreement, the District and other water purveyors in the region meet and consult when March through November unimpaired inflow into Folsom Reservoir is projected to be less than 400,000 acre-feet, to develop a regional approach to meeting water supply demands along with environmental flow and temperature management needs in the Lower American River. Operation issues are also discussed monthly within the multi-agency and stakeholder technical coordination group known as the American River Group (ARG). The ARG is led and convened by Reclamation, who owns and operates Folsom Dam.

Some of the District's WCAs pump groundwater from the east zone of the North American Sub-Basin (NASb), which is under the jurisdiction of the Sacramento Groundwater Authority (SGA), to partially meet their supply needs. SGA developed a Groundwater Sustainability Plan (GSP) in 2014, which identified four basin management objectives[16]:

1. Maintain groundwater elevations in the SGA area that provide for sustainable use of the groundwater basin.
2. Maintain or improve groundwater quality in the SGA area to ensure sustainable use of the groundwater basin.
3. Maintain groundwater levels to prevent inelastic land surface subsidence that would damage infrastructure or exacerbate flooding.
4. Protect against adverse impacts to surface water or groundwater resulting from interaction between groundwater in the basin and surface water in the American River, the Sacramento River, and other surface water bodies within the SGA area.

SGA implemented a groundwater accounting framework (WAF) that tracked SGA member agencies' groundwater banking and conjunctive use efforts, with ongoing monitoring of groundwater levels. This information was used to proactively manage the basin's storage capacity and available yield to support a regionally optimized surface-groundwater use strategy. The WAF has recently been replaced by a Water Accounting System, serving the same function, implemented as part of the development of the Sacramento Regional Water Bank, which encompasses a number of groundwater basins in the region, including the NASb.

[16] Sacramento Groundwater Authority, Groundwater Management Plan, Section 3.2. Full document can be accessed at, https://www.sgah2o.org/management/.

2.2. Delivery System Details

SJWD receives raw water, either by gravity or pumped (depending on lake levels), from Reclamation's pumping plant at Folsom Reservoir. It then flows to the District's Sidney N. Peterson Water Treatment Plant (WTP). Treated water is sent to Hinkle Reservoir, a 62 million gallon (MG) storage reservoir on SJWD's campus, which provides capacity for peaking and emergencies in excess of the WTP's production capacity.

The District's retail service area is divided into eight separate pressure (i.e., service) zones based on variations in elevation. SJWD provides retail water service to unincorporated areas of Granite Bay, portions of northeast Sacramento County, a portion of the City of Roseville, and a portion of the City of Folsom (Ashland). Treated water is delivered on demand by gravity and a pressure distribution system that includes storage, pump stations, reservoirs, and interconnections.

The District's wholesale deliveries are gravity fed to CHWD, FOWD, OVWC, and the City of Folsom (Ashland).

In addition, the District has a contract with Sacramento Suburban Water District (SSWD) to treat and wheel water SSWD purchases from Placer County Water Agency (PCWA) in wetter years if WTP capacity is available.

The District maintains intertie connections with neighboring water agencies, including PCWA, City of Folsom, City of Roseville, CHWD, FOWD and OVWC. Based on elevations of each specific agency's interties, the District can receive water from PCWA and the City of Roseville. The District can also receive water from SSWD through the Cooperative and Antelope Transmission Pipelines and the Antelope Pump Station.

2.2.1. Energy Intensity

Pursuant to UWMPA requirements, an urban supplier shall include information it can readily obtain related to the energy used to produce, treat and deliver water. "Energy Intensity" is defined as: total amount of energy expended in kilowatt-hours (kWh) by the urban water supplier on a per acre-foot basis to take water from the location where the urban water supplier acquires the water to its point of delivery.

For purposes of reporting in this UWMP, the District is using the Total Utility Approach to calculating energy usage as described in DWR's 2025 UWMP Guidebook. This method sums the annual net energy consumed for all water management processes, divided by total volume of water delivered in acre feet. These processes include diversion, conveyance,

placement into storage, treatment, and distribution. The total energy intensity is reported in **Table 2-7**.

TABLE 2-7: ENERGY INTENSITY – TOTAL UTILITY APPROACH

Customer Type	Energy Consumed (kWh)	Volume of Water Entering Process (AF)	Energy Intensity (kWh/AF)
Retail	3,014,006	11,195	269
Wholesale	547,285	22,059	25
Total	**3,561,290**	**33,254**	**107**

**Values from fiscal year 2023.*

Most of the water delivered to the retail service area has to be pumped uphill from the water treatment plant, which contributes to the overall energy intensity associated with the retail deliveries. Conversely, the delivery of wholesale water is primarily gravity fed from the water treatment plant and is therefore less energy intensive when compared to the retail deliveries. Of course, the WTP itself requires a significant amount of energy to operate.

2.2.2. FUTURE CLIMATE CHANGE IMPACTS FOR CONSIDERATION

The Regional Water Authority (RWA), of which the District is a member, partnered with other local water purveyors and Reclamation on a climate change study – the American River Basin Study (ARBS, 2022) – with the purpose of developing climate change adaptation strategies specific to the American River Basin. Much of Sacramento County is in the western portion of the basin and study area. Sacramento County has experienced a general warming trend over the last 100 years, as shown by the trendlines in **Figure 2-4**.

The ARBS projected surface air temperatures to increase steadily, with average summer temperatures increasing by approximately 7.2 degrees Fahrenheit (°F) by the end of the 21st century, and average winter temperatures increasing by 4.9°F within the American River Basin. Projections of daily maximum and minimum temperatures suggest similar warming trends during all seasons, with maximum temperatures projected to increase as much as 7.3°F during the summer months.

Climate change is generally forecast to bring higher temperatures, more variability in precipitation and more frequent and prolonged droughts within the American River Basin. Although there is a lack of a clear trend in projected annual precipitation, by the end of the 21st century the average fall and spring precipitation is expected to decrease, with winter and

summer precipitation increasing, with little change in the aggregate total. Increasing variability is also projected in winter and fall precipitation.

Water supplies in the region are inextricably tied to Sierra snowpack runoff. The ARBS projects Snow Water Equivalent (SWE) to decrease significantly due to higher average surface temperatures and precipitation variability. Historical average SWE for the American River Basin is 3.1 inches. It is forecasted to decrease by 0.7 to 1.3 inches across all climate scenarios and future time periods. These values include areas that do not receive snow and therefore have a change of zero inches. Areas that accumulate snow are projected to have up to a 12-inch decrease in average annual SWE, reflecting a 50-75% loss of snow through the end of the century. This will likely strain summer and fall water supply in the region and throughout the state due to earlier and reduced runoff to storage. By mid to late century, peak runoff is expected to shift to occur more than a month earlier than it does currently. Increased evapotranspiration will also accompany the intensification of hotter extreme temperatures.

For purposes of this UWMP, however, the relevant anticipated substantive changes will likely occur beyond the UWMP planning horizon, which extends to 2050, and thus are noted for consideration during future UWMP updates.

This 2025 UWMP update includes additional climate change discussion in subsequent chapters.

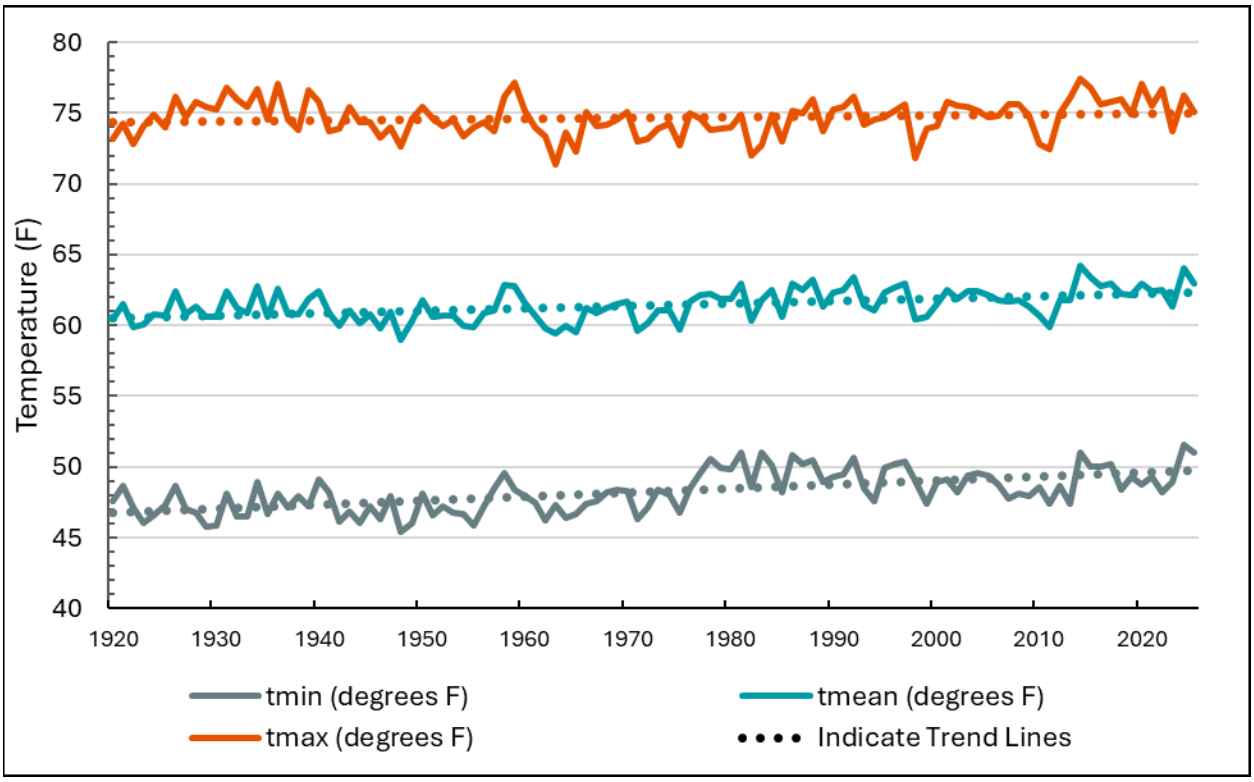


FIGURE 2-4: HISTORICAL ANNUAL TEMPERATURE (1920-2025)

CHAPTER 3
WATER SUPPLY

San Juan Water District (SJWD or District) utilizes multiple water supply sources. The District's abundant surface water supplies – derived from water rights and contracts – are used to meet wholesale and retail demands, as well as from time to time supporting opportunistic water transfer activities. SJWD receives all of its high-quality surface water from Folsom Reservoir, as diverted by Reclamation. In addition, if it ever became necessary, SJWD has access to limited groundwater from the North American Sub-Basin through a contract with the Sacramento Suburban Water District (SSWD).[17]

Notably, the District's surface water supply portfolio, which is otherwise highly reliable, could be subject to potential reduction during a severe and prolonged drought event as a consequence of physical constraints at Reclamation's pumping facilities at Folsom Dam caused by extremely low reservoir water levels: a possibility that impacts long-term reliability projections.

Figure 3-1 shows the District's Wholesale and Retail water service areas.

3.1. WHOLESALE SYSTEM WATER SUPPLY SOURCES

The District's water supplies are diverted, treated, and delivered under two water rights and three contracts relying on the same surface water source; the American River watershed. The District manages all of its water supplies to best meet its wholesale and retail customers' demands in different year types, to control costs, and to be prepared to effectively respond to emergencies.

The District's two water rights to divert water from the North Fork American River are: (1) a pre-1914 appropriative water right with a priority date of 1853; and, (2) a State-issued appropriative water right license (License No. 6324) with a priority date of 1928.

The District's three contracts are: (1) Contract No. DA-04-167-eng-610 with the United States for delivery of the District's two water rights as a settlement with the District's predecessor

[17] FOWD and CHWD also have access to this groundwater sub-basin supply. It is anticipated that OVWC will also have access to this supply in the near future.

accommodating the construction and operation of Folsom Dam and Reservoir (Settlement Contract); (2) Contract No. 6-07-20-W1373-LTR1-P with Reclamation for delivery of Central Valley Project (CVP) Project Supply water (CVP Contract); and, (3) Contract Between Placer County Water Agency and San Juan Water District for a Water Supply from PCWA's Middle Fork Project (PCWA Contract).[18]

[18] SJWD also holds a Warren Act Contract (Contract 26-WC-20-6409) that provides for delivery of the District's PCWA contract water through Reclamation's facilities at Folsom Reservoir.

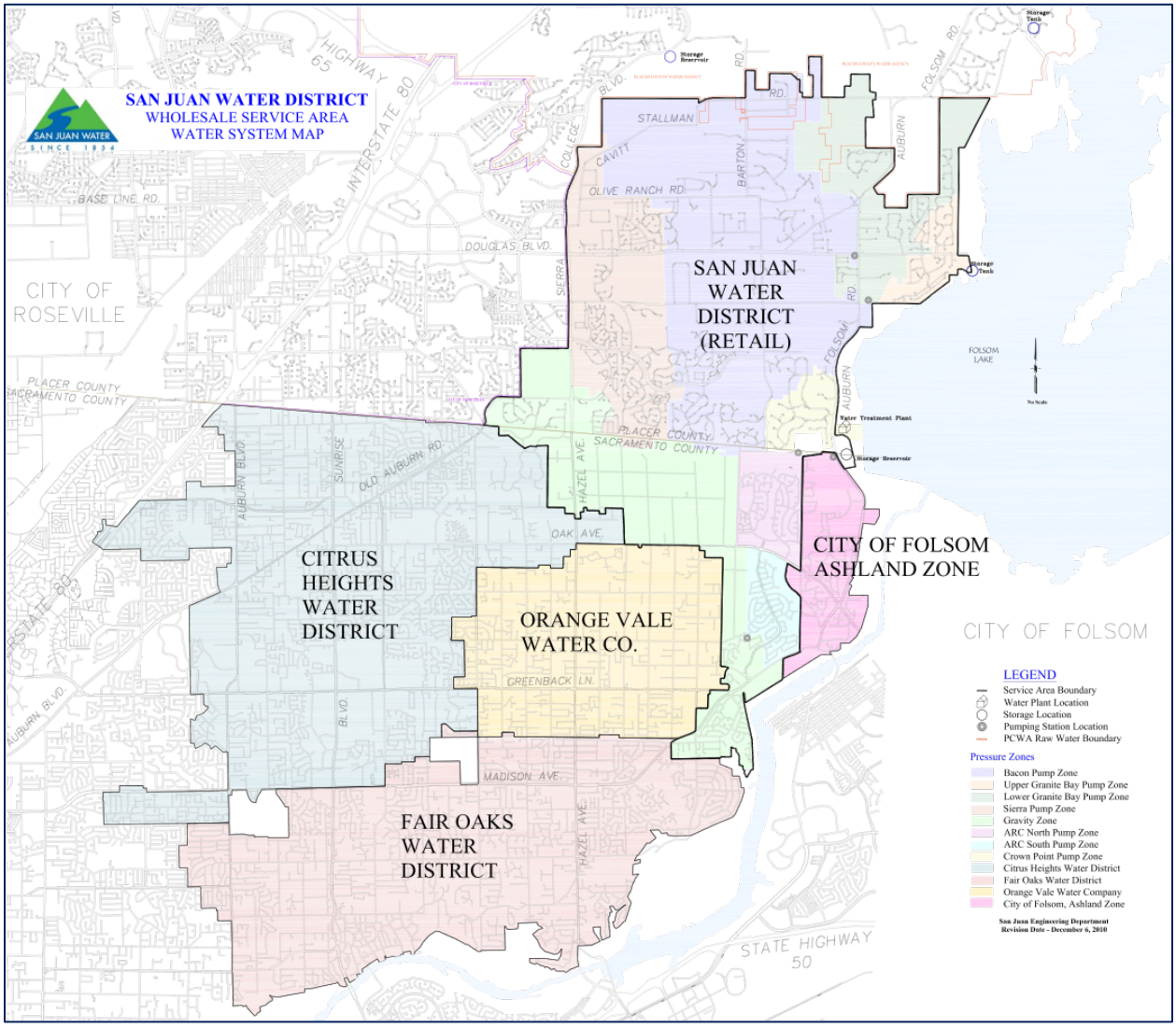


FIGURE 3-1: SAN JUAN WATER DISTRICT WHOLESALE AND RETAIL SYSTEM SERVICE AREAS

3.1.1. AMERICAN RIVER PRE-1914 WATER RIGHT CLAIM

The District possesses a pre-1914 appropriative water right (S000656) from the American River with a priority date of 1853.[19] This water right was perfected by the North Fork Ditch Company (Company) delivering water for beneficial uses in a broad area incorporating portions of Sacramento County and Placer County. The water under this water right can be diverted from January through December each year, at a rate of up to 60 cubic feet per

[19] Although the 1898 Superior Court Ruling in Sacramento Electric, Gas and Railway Company v. C.W. Clarke, H.G. Smith, and A.N. Buchanan states that the water right priority date was 1854, the initiation of the water right occurred in 1853 which is the accurate priority date.

second (cfs), with a maximum total annual diversion of 28,418 AF[20]. The Company's water supply served numerous areas in Sacramento and Placer counties that were both within and outside of the District's current service area boundary. The original water right provided supplies for domestic and irrigation purposes but has since been additionally designated to be able to supply municipal uses as well.

In 1954, the District acquired this water right when it purchased the Company. The District has continually used the water under this water right since its acquisition. Moreover, the District's access to this surface water supply is enhanced and further secured through the Settlement Contract executed with the United States mentioned above and discussed further below. **Table 3-1** below shows the last ten years of the District's use of this water asset.

TABLE 3-1: PRE-1914 APPROPRIATIVE WATER RIGHT ANNUAL USE 2016-2025 (VALUES IN ACRE-FEET)

Year	S000656 Appropriations
2016	18,840
2017	28,418
2018	26,822
2019	27,915
2020	28,418
2021	23,569
2022	27,568
2023	21,080
2024	27,616
2025	28,418

The 1853 priority date of this water supply, coupled with Reclamation's obligation to deliver it to the District pursuant to the Settlement Contract, make this right reasonably expected to be 100 percent reliable in all year types. However, if storage in Folsom Reservoir dropped to a level that made the municipal intake from the reservoir non-functional, Reclamation currently would install emergency pumps which would deliver less than 60 cfs to SJWD. If water demands during such an occurrence were higher than the flow rate provided by the

[20] This amount is less than the total maximum water right of 60 cfs if diverted year-round and reflects the amount allowed after taking maximum supplies under License 6324 (up to 4,582 AF). As further explained in Section 3.1.3, the combined maximum allowed under this pre-1914 water right and License 6324 is limited to 33,000 AF per year.

emergency pump, which will have to be shared with the City of Roseville, the District would potentially need to rely on supplemental supplies from other sources as discussed elsewhere in this plan. This scenario has never occurred during the years since construction of Folsom Dam, but storage levels in the late autumn of 2015, in the 3rd year of an unprecedented multi-year drought, did decline to the point where contingency planning was initiated. Since that time, Reclamation has committed to trying to operate in a manner that will maintain water storage levels in Folsom Reservoir sufficient to avoid daylighting the municipal intake and requiring the need to initiate emergency pumping operations. Accordingly, the reasonable projected normal and multiple drought year availability to the District of the water supply under the pre-1914 appropriative water right from 2026 through 2030 is deemed to be sufficiently reliable to provide full deliveries of this supply as shown in **Table 3-2**. Long-term supply availability of this water right water through 2050 is shown in **Table 3-3.**

TABLE 3-2: PRE-14 AVAILABILITY FOR FIVE CONSECUTIVE DRY YEARS FROM 2026-2030 (ACRE-FEET)

S000656	Year Type	Amount
	Normal	28,418
	Single Dry	28,418
Multi-Year Drought	2026	28,418
	2027	28,418
	2028	28,418
	2029	28,418
	2030	28,418

TABLE 3-3: PRE-14 AVAILABILITY BY YEAR TYPE THROUGH 2050 (ACRE-FEET)

S000656	Year Type	2030	2035	2040	2045	2050
	Normal	28,418	28,418	28,418	28,418	28,418
	Single Dry	28,418	28,418	28,418	28,418	28,418
Multi-Year Drought	Year 1	28,418	28,418	28,418	28,418	28,418
	Year 2	28,418	28,418	28,418	28,418	28,418
	Year 3	28,418	28,418	28,418	28,418	28,418
	Year 4	28,418	28,418	28,418	28,418	28,418
	Year 5	28,418	28,418	28,418	28,418	28,418

Nevertheless, the potential delivery constraints described above may result in Reclamation being unable to deliver 100 percent of the District's pre-1914 water supplies under a historically unlikely drought scenario involving successive extremely severe dry years, even accounting for climate change.

3.1.2. AMERICAN RIVER 1928 WATER RIGHT – LICENSE 6324

The North Fork Ditch Company also acquired a State-issued appropriative water right. Water Right License 6324 has a priority date of February 11, 1928, and allows the District to divert up to 15 cubic feet per second of flow from the American River from June 1 through November 1 each year. The total annual volume of water available under License 6324 is 4,582 acre-feet. In 1954, the water right permit was assigned to the District as part of its purchase of the Company. As such, License 6324 is part of the District's water supply portfolio. **Table 3-4** shows the last 10 years of the District's use of License 6324 water.

TABLE 3-4: LICENSE 6324 ANNUAL USE 2016-2025 (VALUES IN ACRE-FEET)

Year	License 6324 Appropriations
2016	4,582
2017	4,038
2018	3,128
2019	4,582
2020	4,582
2021	1,564
2022	4,582
2023	4,582
2024	1,838
2025	2,447

The Company also incorporated this water right into the quantification of its water rights and use under the 1954 Settlement Contract with the United States. With a 1928 priority date, this water right can be subject in the driest years to State Water Resources Control Board (SWRCB) curtailment orders. However, the inclusion of the right as part of the water supplies quantified in the Settlement Contract requires Reclamation to deliver the water supply in all year types using stored water to the extent necessary. Reclamation meets its commitment to the District by diverting previously stored water, which is not subject to curtailment. Accordingly, Water Right License 6324 is reasonably expected to be 100 percent reliable in all year types. As noted above, there could be periods when Reclamation would need to deliver water supplies to the District via other methods than use of the municipal intake, which could impact the flowrate of deliveries. In this unlikely situation, the District would need to rely on supplemental supplies from other sources as discussed elsewhere in this plan. **Table 3-5** displays License 6324 availability in various year types through 2030.

TABLE 3-5: LICENSE 6324 AVAILABILITY FOR FIVE DRY YEARS FROM 2026-2030 (ACRE-FEET)

License 006324	Year Type	Amount
	Normal	4,582
	Single Dry	4,582
Multi-Year Drought	2026	4,582
	2027	4,582
	2028	4,582
	2029	4,582
	2030	4,582

Table 3-6 shows License 6324 availability in various year types through 2050.

TABLE 3-6: LICENSE 6324 AVAILABILITY BY YEAR TYPE THROUGH 2050 (ACRE-FEET)

License 006324	Year Type	2030	2035	2040	2045	2050
	Normal	4,582	4,582	4,582	4,582	4,582
	Single Dry	4,582	4,582	4,582	4,582	4,582
Multi-Year Drought	Year 1	4,582	4,582	4,582	4,582	4,582
	Year 2	4,582	4,582	4,582	4,582	4,582
	Year 3	4,582	4,582	4,582	4,582	4,582
	Year 4	4,582	4,582	4,582	4,582	4,582
	Year 5	4,582	4,582	4,582	4,582	4,582

3.1.3. SAN JUAN WATER DISTRICT SETTLEMENT CONTRACT

The Company entered into Settlement Contract No. DA-04-167-eng-610 (Settlement Contract) with the United States in 1954 to resolve issues associated with construction of Folsom Dam and Reservoir as part of the Central Valley Project (CVP). This Settlement Contract identified the rights and obligations of the Company and United States related to the preservation of the Company's senior water rights from the American River, construction of new infrastructure to deliver the Company's (succeeded by the District) water right water from the American River, and the obligations of the United States to provide the supplies under the Company's senior water rights. The Settlement Contract quantifies the District's total water rights supply as 33,000 acre-feet per year delivered at a maximum diversion rate

of 75 cfs. The Settlement Contract's term is perpetual and does not contain any provisions that permit Reclamation to reduce deliveries of water right water supplies to the District for any reason.

3.1.4. CVP WIIN Act Repayment Contract

In 2020 the District executed Contract No. 6-07-20-W1373-LTR1-P (CVP Contract) with Reclamation under terms directed by the Water Infrastructure Improvements for the Nation Act (WIIN Act).[21] The WIIN Act allowed Central Valley Project contractors to modify their long-term CVP renewal contracts to make the term perpetual, eliminate any need to negotiate future renewals, and clarify reimbursement provisions for project construction. The District converted its 2006 CVP Long-Term Renewal Contract into the CVP Contract to take advantage of establishing contractual permanency and related financial benefits. The CVP Contract also clarified provisions of the District's 2006 contract and reinforces the validity of the Settlement Contract.

The District's CVP Contract allocates up to 24,200 acre-feet of CVP Project Supply water to the District. Under the terms and conditions of the CVP Contract, a portion of the Contract Total (13,000 acre-feet) may only be sold, transferred or exchanged to others for reasonable and beneficial uses within Sacramento and El Dorado Counties. CVP Project Supply water includes water diverted and stored in Folsom Reservoir by Reclamation under its State issued appropriative water rights.[22] The District's CVP Contract supply is determined through annual allocations issued by Reclamation depending upon hydrological conditions and various flow requirements in the watershed. **Table 3-7** shows the last 10 years of CVP Project Supply allocations and the District's use of those allocations.

[21] Public Law 114-322, December 16, 2016.

[22] Reclamation holds SWRCB issued appropriative water rights on other water systems in California, but the American River water rights are the only ones relevant to this supply assessment.

TABLE 3-7: CVP CONTRACT ANNUAL USE 2025-2025 (VALUES IN ACRE-FEET)[23]

Year	Allocation	CVP
2016	100%	0
2017	100%	0
2018	100%	0
2019	100%	0
2020[1]	75%	0
2021[1]	25%	0
2022	PHS[2]	0
2023	100%	9,850
2024	100%	4,700
2025	100%	5,000

[1]Allocation applied to Historic Use consistent with contract terms.

[2]Public health and safety needs. However, due to the District's access to other supplies, the District had no need for this supply.

Reclamation's Municipal and Industrial Shortage Policy (Shortage Policy) governs the amount of water supplies available to the District when Reclamation's CVP allocation to the District is less than 100%. Under the Shortage Policy, an average of the District's last three unconstrained years of CVP Project Supply water use is the primary determinant of the supply available under the Shortage Policy. For example, if the District used an average of 10,000 acre-feet in the last three 100% allocation years (unconstrained years), then in a 75% of historic use allocation year, the Shortage Policy allocation would be 75% of 10,000 acre-feet or 7,500 acre-feet of available CVP Supply. Similarly, in a 25% allocation year, the District's available supply would be 25% of 10,000 acre-feet of prior average use or 2,500 acre feet of CVP Project Supply. Thus, the District's use of CVP Project Supply allocation in unconstrained years is the primary determining factor for the availability of the CVP Project Supply in dry years. The Shortage Policy allocation may be adjusted for public health and safety or other reasons, including

[23] The values presented in **Table 3-7** (above) report the deliveries consistent with the CVP delivery year of February through March.

population growth, extraordinary conservation measures, use of Non-CVP water, or other unique or unusual circumstances.[24]

Table 3-8 shows the District's CVP Project Supply availability through 2030 based on the CVP Project Supply use in the last three unconstrained years (2023-2025) and an assumed CVP allocation of 75% (single dry and year 1 of a multi-year drought), 50% (year 2 of a multi-year drought), 25% (years 3 and 4 of a multi-year drought), and 50% (year 5 of a multi-year drought). For planning purposes this supply is assumed to be available in all dry year scenarios over the planning period. **Table 3-9** shows the maximum CVP Project Supply availability through 2050 based on these assumptions.

TABLE 3-8: CVP CONTRACT AVAILABILITY FOR FIVE DRY YEARS FROM 2026-2030[25]

CVP Contract	Year Type	Amount
	Normal	24,200
	Single Dry	3,750
Multi-Year Drought	2026	3,750
	2027	2,500
	2028	1,250
	2029	1,250
	2030	2,500

TABLE 3-9: CVP CONTRACT AVAILABILITY BY YEAR TYPE THROUGH 2050 (ACRE-FEET)

CVP Contract	Year Type	2030	2035	2040	2045	2050
	Normal	24,200	24,200	24,200	24,200	24,200
	Single Dry	3,750	3,750	3,750	3,750	3,750
Multi-Year Drought	Year 1	3,750	3,750	3,750	3,750	3,750
	Year 2	2,500	2,500	2,500	2,500	2,500
	Year 3	1,250	1,250	1,250	1,250	1,250
	Year 4	1,250	1,250	1,250	1,250	1,250
	Year 5	2,500	2,500	2,500	2,500	2,500

[24] https://cawaterlibrary.net/wp-content/uploads/2017/10/miwsp-guidelines.pdf at 3.

[25] The M&I Shortage Policy allows for Health and Safety CVP Project Supply delivery in extreme circumstances.

3.1.5. PCWA Contract

On July 25, 1972, the District entered into a water supply contract with Placer County Water Agency (PCWA Contract). PCWA and the District entered into a new supply contract on December 7, 2000, which supplanted the 1972 contract. PCWA and the District have amended the 2000 contract four times. The second amendment, effective December 31, 2017, reduced the District's "take or pay" obligation from 25,000 acre-feet per year to 12,500 acre-feet per year, while maintaining the availability of up to 25,000 acre-feet upon District request (subject to specific shortage provisions). The third amendment, approved in November 2020, extended the term of the PCWA Contract into 2041. The fourth amendment, effective April 17, 2025, further reduced the District's "take or pay" obligation to 10,000 acre-feet. PCWA delivers this water to Folsom Reservoir, and the District receives the water from Reclamation under its Warren Act Contract No. 26-WC-20-6409 which provides for wheeling the PCWA supplies through federal facilities, including the reservoir (Warren Act Contract). **Table 3-10** shows the PCWA supplies used by the District from 2016 through 2025.

Table 3-10: PCWA Contract Annual Use 2016-2025 (values in acre-feet)

Year	PCWA Water Used
2016	8,923
2017	2,645
2018	5,077
2019	4,250
2020	9,623
2021	6,083
2022	9,600
2023	0
2024	3,900
2025	5,800

The PCWA Contract allows the District to use this supply to serve wholesale and retail customer demands in both Placer County and Sacramento County, however, as a result of significant cost differentials, the District rarely uses PCWA Contract water in Sacramento County. The distinction between the two counties is also important with respect to the availability of PCWA Contract water during severe shortage conditions, should they occur. If PCWA declares a shortage such that it cannot provide the District with at least 10,000 AF, SJWD will still receive a supply from PCWA, to serve SJWD retail customers in Placer County,

that is proportionate with other users in PCWA's own service area. However, shortages in PCWA supplies may result in a complete cessation of deliveries for use in the District's Sacramento County retail and wholesale service areas. Importantly, however, the water supplies available under this contract have not been substantially curtailed in any year to date[26]. **Table 3-11** shows the supply available under this contract through 2030 reflecting a conservative approach assuming the "take or pay" supply (which is less than half of the potential maximum supply) would still be available in critically dry conditions. **Table 3-12** shows the supply available through 2050 with the same conservative assumption. It is important to note that the same physical constraints on water pumping from Folsom Reservoir noted in previous sections of this plan would apply to this water supply as well. However, the District and PCWA do share an intertie that could deliver a small, but meaningful, amount of water that would not be dependent upon delivery through Folsom Dam. In addition, the District and PCWA are currently investigating an expansion of that intertie to increase emergency and mutual-aid delivery capacity.

TABLE 3-11: PCWA CONTRACT AVAILABILITY FOR FIVE DRY YEARS FROM 2026-2030 (VALUES IN ACRE-FEET)

CVP Contract	Year Type	Amount
	Normal	25,000
	Single Dry	10,000
Multi-Year Drought	2026	10,000
	2027	10,000
	2028	10,000
	2029	10,000
	2030	10,000

[26] SWRCB Curtailments impact direct diversion and/or diversion to storage and do not affect deliveries associated with previously stored water, which is the source of the District's supplies from PCWA.

TABLE 3-12: PCWA CONTRACT AVAILABILITY BY YEAR TYPE THROUGH 2050 (VALUES IN ACRE-FEET)

PCWA Contract	Year Type	2030	2035	2040	2045	2050
	Normal	25,000	25,000	25,000	25,000	25,000
	Single Dry	10,000	10,000	10,000	10,000	10,000
Multi-Year Drought	Year 1	10,000	10,000	10,000	10,000	10,000
	Year 2	10,000	10,000	10,000	10,000	10,000
	Year 3	10,000	10,000	10,000	10,000	10,000
	Year 4	10,000	10,000	10,000	10,000	10,000
	Year 5	10,000	10,000	10,000	10,000	10,000

3.1.6. WATER FORUM AGREEMENT VOLUNTARY COMMITMENT

As a signatory to the Water Forum Agreement, the District has agreed, under specified conditions related to Folsom Reservoir inflows, to voluntarily try to limit surface water diversions. SJWD has agreed to limit total diversions to its wholesale service area to 38,603 acre-feet per year during "normal years"[27], defined as years in which the projected March through November unimpaired inflow to Folsom Reservoir is greater than 950,000 acre-feet per the Water Forum Agreement. Further, the District has agreed to proportionally reduce total surface water supplies from Folsom Reservoir down from 38,603 acre-feet to a minimum of 30,882 acre-feet during dry periods, to mirror reduced projected March through November unimpaired inflow to Folsom Reservoir of less than 950,000 acre-feet but more than 400,000 acre-feet.

It is important to note potential reductions in surface water supply availability to the District's wholesale service area will be mitigated with likely increases in groundwater production by WCAs with that capability and possible delivery of groundwater from Sacramento Suburban Water District to SJWD (see Section 3.2 below), thus minimizing overall impacts to water service reliability.

[27] The value of 38,603 acre-feet does not include diversions for transfers or banking activities.

3.2. Retail Dry Year Water Supply

In 2015, SJWD entered an agreement with Sacramento Suburban Water District (SSWD Agreement) to access groundwater supplies.[28] Although the SSWD Agreement was signed by SJWD and SSWD, accessed groundwater may be used in the SJWD, OVWC, and Ashland retail service areas. The SSWD Agreement provides these retail agencies additional security against surface water shortages by potentially delivering SSWD groundwater supplies through the Antelope Pump-Back Booster Pump Station (Station). The Station has a capacity of 10,000 gallons per minute to deliver water to SJWD, but this volume of water is allocated proportionally to SJWD, Folsom, and OVWC, the three agencies that paid for the Station. The total water supply that could be made available is approximately 16,000 acre-feet per year. Although this water supply would be available to the SJWD Retail service area under potential water shortage conditions, it is not incorporated into the total retail water supply presented later in this chapter. For purposes of this UWMP analysis, this emergency supply would only be used in the event SJWD's surface water supplies were reduced significantly, e.g. if Folsom Lake levels fell to the point of making the M&I intake non-functional.

Table 3-13 shows the water supply availability under the SSWD Agreement from 2026 through 2030 and **Table 3-14** shows the water supply availability under the SSWD Agreement from 2030 through 2050.

TABLE 3-13: SSWD AGREEMENT WATER SUPPLY FROM 2026-2030 (VALUES IN ACRE-FEET)

SSWD Contract	Year Type	Amount
	Normal	16,130
	Single Dry	16,130
Multi-Year Drought	2026	16,130
	2027	16,130
	2028	16,130
	2029	16,130
	2030	16,130

[28] Agreement Between Sacramento Suburban Water District and San Juan Water District for the Ownership, Operation, and Maintenance of the Antelope Pump-Back Booster Pump Station, June 23, 2015, and Amendment No. 1, dated March 26, 2020 (Agreement).

TABLE 3-14: SSWD AGREEMENT WATER SUPPLY BY YEAR TYPE THROUGH 2050 (VALUES IN ACRE-FEET)

SSWD	Year Type	2030	2035	2040	2045	2050
	Normal	16,130	16,130	16,130	16,130	16,130
	Single Dry	16,130	16,130	16,130	16,130	16,130
Multi-Year Drought	Year 1	16,130	16,130	16,130	16,130	16,130
	Year 2	16,130	16,130	16,130	16,130	16,130
	Year 3	16,130	16,130	16,130	16,130	16,130
	Year 4	16,130	16,130	16,130	16,130	16,130
	Year 5	16,130	16,130	16,130	16,130	16,130

3.3. CLIMATE CHANGE

While the CWC does not prescribe specific climate change planning and management measures for water suppliers, it does emphasize that climate change is appropriate to consider when conducting a drought risk assessment, developing water conservation and use efficiency programs, and projecting demand management needs and supply – both in an historical and future-projection context. SJWD's 2025 UWMP has incorporated climate change considerations into its retail and wholesale water supply analyses, water demand analyses, water supply reliability assessments and water shortage contingency plans. These considerations are embedded in the characterizations of supply availability in normal, single dry, and five-consecutive dry year periods, as well as the estimated demand alterations that may result from climatological changes in those same periods. Moreover, the climate change characterizations are incorporated into future projected conditions through the 2050 planning horizon.

As noted in Chapter 2, the RWA partnered with other local water purveyors and Reclamation on the American River Basin Study (ARBS)[29] to develop climate change scenarios and resulting adaptation strategies specific to the American River Basin.[30] Climate change is generally forecast by the ARBS to bring higher temperatures, more variability in precipitation and more frequent and prolonged droughts. Although there is a lack of a clear trend in projected annual precipitation, by the end of the 21st century the average fall and spring precipitation is expected to decrease, with winter and summer precipitation increasing.

[29] The American River Basin Study includes objectives aimed at characterizing and addressing impacts associated with future climate change conditions.

[30] Full findings and approved ARBS document can be found at https://www.pcwa.net/planning/arbs.

Increasing variability is also projected in winter and fall precipitation with the potential that more precipitation falls as rain rather than snow, altering the runoff patterns from the Sierra Nevada mountains.

3.4. Additional Water Supplies

The District continually evaluates opportunities to supplement and diversify its water supply portfolio to maintain long-term reliability and resilience under varying hydrologic and regulatory conditions. While SJWD's core supplies are derived from its senior American River surface water rights, the District also participates in regional partnerships and planning efforts to expand opportunities for cooperative use, transfers, and exchanges of available water assets.

3.4.1. Indirect Water Reuse and Recycled Water

The District does not currently produce or receive recycled water supplies. Wastewater generated within SJWD's service area, along with that of other regional providers, is conveyed to the Sacramento Area Sewer District (SASD)[31] for treatment. SASD currently delivers a portion of its tertiary treated water supplies through Harvest Water[32] Program and other recycled water initiatives located outside of SJWD's service area.

For SJWD, use of recycled water from SASD is not considered feasible during the 2025 UWMP planning horizon. The elevation of SJWD's service area relative to SASD's treatment facilities would require extensive and costly infrastructure to pump recycled water uphill to Granite Bay, Citrus Heights, Fair Oaks, Orangevale, and the Ashland area of Folsom. As a result, recycled water is not anticipated to become a component of SJWD's portfolio within the 2025 UWMP planning horizon.

3.4.2. Desalinated Water

Desalination of ocean or brackish water is not physically, geographically, or financially feasible for SJWD. Given the District's inland location and reliable access to American River supplies, desalination does not represent a practical future supply option. Accordingly, SJWD has no plans to pursue desalinated water supplies during this UWMP planning period.

[31] SASD merged with Sacramento Regional County Sanitation District (SRCSD) in 2024; the combined agency operates as SacSewer.

[32] Formerly named the "South Sacramento County Agriculture and Habitat Lands Recycled Water, Groundwater Storage, and Conjunctive Use Program" (South County Ag Program).

3.4.3. Water Transfers and Exchanges

SJWD is an active participant in regional water transfers and exchanges. SJWD has been active in developing its water supply portfolio and works closely with partners to develop water transfer opportunities. SJWD has also engaged in extensive water conservation actions and has protected its water assets under California Water Code (CWC) §1011, making those assets available for transfer. Moreover, SJWD works closely with its WCAs, as well as neighboring agencies, to facilitate conjunctive use of surface and groundwater assets in order to protect those assets for the future under CWC §1011.5. In these ways, SJWD has improved its capability to pursue future water transfers and exchanges with its available water assets.

SJWD anticipates actively engaging in other water transfers and exchanges in the future – both to diversify the utility of the regional water asset portfolio as well as generate revenue to support its long-term water management objectives. These coordinated water transfer and exchange activities may involve delivering portions of SJWD surface supplies to other areas within the SJWD wholesale boundary, exchanging water assets with other retail providers, and developing more robust conjunctive use actions to support groundwater levels and groundwater substitution transfers through water banking activities.

3.5. Water Quality

The quality of the water supplied by the District after treatment at its water treatment plant meets or exceeds all drinking water standards. **Table 3-15** shows water quality data from the District's consumer confidence report.

TABLE 3-15: SAN JUAN WATER DISTRICT WATER QUALITY REPORT (2024 CONSUMER CONFIDENCE)

Water Quality Standard	Public Health Goal	Maximum Contamination Level	Range	Average
Primary Standards				
Arsenic (ppb)	0.004	10	ND	ND
Barium (ppm)	2	1	ND	ND
Fluoride (ppm)	1	2.0	ND	ND
Hexavalent Chromium (ppb)	0.02	10	ND	ND
Nitrate as N (ppm)	10	10	ND	ND
Uranium (pCi/L)	0.43	20	NR	n/a
Chlorine Residuals (ppm)	4	4	0.15 – 0.98	0.68
TTHMs – Distribution System (ppm)	n/a	80	32 – 46	37
HAA5 – Distribution System (ppb)	n/a	60	23 – 38	29
Disinfection By-Product Precursors (ppm)	n/a	2	1.38 – 1.90	1.49
Turbidity (% of samples)	n/a	≤0.3 NTU	100%	
Secondary Standards				
Total Dissolved Solids (ppm)	n/a	1,000	34 – 60	42.8
Specific Conductance (µS/cm)	n/a	1,600	50 – 140	76.9
Chloride (ppm)	n/a	500	3.2	3.2
Sulfate (ppm)	n/a	500	4.5	4.5
Lead and Copper				
Lead (ppb)	0.2	15	ND	
Copper (ppm)	0.3	1.3	0.35	
Federal Unregulated Contaminates				
Bicarbonate (HCo3) (ppm)	n/a	none	14 – 20	16.8
Total Hardness (ppm)	n/a	none	17	17
Sodium (ppm)	n/a	none	2.1	2.1
Calcium (ppm)	n/a	none	4.5	4.5
Magnesium (ppm)	n/a	none	1.3	1.3

Legend: ND = Analyzed; Not Detected
NTU = Nephelometric Turbidity Unit
PCi/L = Picocuries per Liter
n/a = Not Applicable
PPM = Parts per Million
PPB = Parts per Billion
TT = Treatment Technique

3.6. Planned Water Supply Projects

Currently, SJWD is not planning to develop any additional water supply sources in its service area. Opportunities may arise during the 2025 UWMP planning horizon that allow SJWD to access additional groundwater supplies either through direct deliveries from a regional purveyor or through groundwater banking opportunities.

3.7. Water Supply Summary

Table 3-16 below provides the water supply summary incorporating the normal, single-dry, and multi-year drought characterizations from the District's individual supply assets. These totals are used as the basis for the water service reliability assessment later presented in this UWMP (see Chapter 5). Importantly, this table does not include the supply associated with the SSWD Agreement. As previously discussed, supplies derived from the SSWD Agreement are considered emergency supply and would only be used in the event SJWD's surface water supplies were significantly reduced.

Table 3-16: Water Supply Summary (values in acre-feet)

Total Supplies	Year Type	2030	2035	2040	2045	2050
Normal		82,200	82,200	82,200	82,200	82,200
Single Dry		46,750	46,750	46,750	46,750	46,750
Five Consecutive Drought Years	Year 1	46,750	46,750	46,750	46,750	46,750
	Year 2	45,500	45,500	45,500	45,500	45,500
	Year 3	44,250	44,250	44,250	44,250	44,250
	Year 4	44,250	44,250	44,250	44,250	44,250
	Year 5	45,500	45,500	45,500	45,500	45,500

CHAPTER 4
WATER USE

Developing a thorough understanding of water use enables the San Juan Water District (District or SJWD) to reliably and cost-effectively manage its water supplies to continue to meet retail customer and WCA needs. This chapter characterizes SJWD's current and forecasted retail and wholesale system customer water needs, examining how various factors such as seasons, land use classifications, and differing hydrologic conditions impact water use.

A thorough analysis of the District's past and current water use enables realistic water use predictions to be made for the future that consider anticipated growth, new regulations, changing climate conditions, and trends in retail and wholesale system customer water use behaviors. After individually analyzing each water use sector, information can be aggregated into a comprehensive projection of customer water use that becomes the foundation for integration with the District's water supplies (see Chapter 3) to assess long-term water system reliability (see Chapter 5).

The District's 2025 UWMP includes new information in response to pertinent legislative changes and updates to DWR guidance going into effect since the District's 2020 UWMP was adopted. Those that are particularly noteworthy for the District are listed below:

- Starting in 2024, develop long-term water use efficiency standards – called Urban Water Use Objectives (UWUO) – to be reported as part of the District's Annual Water Use Report.
- Implement revisions to reporting requirements within mandated annual supply and demand assessments.
- Complete drought and conservation reporting on a monthly basis using the Safe and Affordable Funding for Equity and Resilience (SAFER) portal. Starting in 2023, this monthly reporting was consolidated annually into an auto-generated Clearinghouse Annual Inventory Report (CAIR).

This Chapter is organized as follows:

- Current Retail System Customer and WCA Water Use – This subsection presents data reflecting SJWD's residential and non-residential customers for 2021 through

2024 as well as the actual 2025 water use and presents the distribution system losses for this same period.

- Retail Compliance with 2020 Urban Water Use Target – This subsection documents and reports the calculation of the Retail service area's actual 2020 gallons per capita per day (GPCD) value per DWR's UWMP Guidebook.
- Demand Management Measures (DMMs) – This subsection provides a narrative description of each water demand management measure implemented over the past five years and describes SJWD's planned measures for the foreseeable future.
- Forecasting Customer Use – This subsection presents the derivation and results of future water use forecasts within the District's service area customer unit demand factors and estimation of distribution system losses. This subsection also estimates the variations in customer water use the District should expect during years with low rainfall as well as discusses longer-term climate change considerations.
- Forecasting Water Use for Drought Risk Assessment (DRA) – This subsection focuses on the subset of the customer water use forecast that is necessary for completing the District's 5-year Drought Risk Assessment (DRA), which includes representative unconstrained demand.
- Projecting Disadvantaged Community Water Use – This subsection presents the estimated water use necessary to meet lower income households, pursuant to California Water Code (CWC) §10631.1.

4.1. Current Customer Water Use

As described in Chapter 2, the District serves potable water to approximately 11,100 customer connections within its retail system and the WCAs collectively serve approximately 42,600 connections. Water supplied to the retail customers and the WCAs is drawn from the District's multiple surface water sources (see Chapter 3), treated at its water treatment plant, and delivered through an array of transmission and distribution pipelines to the retail customer's meter or the WCA connection points. Information about the District's current customers, their recent and expected water use, and SJWD's ongoing demand management efforts targeting these customers provide a foundational basis for this UWMP's retail water use forecast to 2050.

Furthermore, annual records of actual water use provide the basis for determining the District's compliance with its urban water use objective, reported annually to the Department of Water Resources beginning in January of 2024.

4.1.1. Retail Customer and WCA Water Use: 2021 to 2025

Recent customer water use data can help the District understand water use trends, effects of temporary use restrictions imposed during the most recent prolonged drought and recovery from such temporary restrictions, effects of long-term demand management measures, and other pertinent water use factors relevant to forecasts of future water use. The District is also required to quantify past customer water use pursuant to CWC §10631(d)(1).

Table 4-1 presents the District's past retail water use by customer classification for 2021 through 2025 in acre-feet. The District records potable water use within five primary categories:

- Single-family residential
- Multi-family residential
- Commercial/Institutional (CII)
- Landscape Irrigation
- Agriculture

TABLE 4-1: RETAIL CUSTOMER WATER USE: 2021 TO 2025 (VALUES IN ACRE-FEET)

Customer Classification	2021	2022	2023	2024	2025
Single Family	9,661	9,266	8,686	9,389	9,011
Multi-Family	134	132	131	143	139
Commercial	407	366	377	409	407
Institutional	183	185	189	188	192
Landscape Irrigation	847	787	768	863	848
Agricultural	65	65	59	64	59
Other	4	2	3	2	5
Total	**11,301**	**10,804**	**10,213**	**11,057**	**10,661**

This historic data also provides insight into the relative ratio of water use among differing customer classifications, as well as annual variations. For instance, use for the Single Family Residential and Agricultural customers decreased in 2023 most likely due to the higher than average precipitation during that year. Single Family use consistently accounts for about 85% of the annual retail system water use over this period.

Historic use data for the WCAs is presented in **Table 4-2**. These values, however, only reflect metered deliveries to the WCA's various connections with the District's wholesale distribution system. Thus, unlike the values in **Table 4-1**, these values reflect SJWD wholesale supplies of "gross water" entering each WCAs' system before it is conveyed and delivered to each WCA's retail customers and any system losses are accounted for.

TABLE 4-2: WHOLESALE CUSTOMER AGENCY SURFACE WATER USE: 2021-2025 (VALUES IN ACRE-FEET)

Retail Entity	2021	2022	2023	2024	2025
Citrus Heights Water District	7,749	7,968	9,719	10,783	10,354
City of Folsom (Ashland)	1,133	1,099	1,064	1,149	1,090
Fair Oaks Water District	6,648	5,953	5,841	8,846	8,335
Orange Vale Water Company	3,877	4,032	3,722	4,056	3,988
Total	**19,406**	**19,053**	**20,346**	**24,835**	**23,767**

Note: The notable increase in deliveries of surface water to CHWD starting in 2023 and to FOWD starting in 2024 presumably reflects their choosing to decrease groundwater pumping in anticipation of establishing their pumping baselines for meeting obligations they assumed for the Healthy Rivers and Landscapes Program.

Note that because of their ability to pump groundwater, the surface water usage in **Table 4-2** represent less than CHWD's and FOWD's total actual retail customer water use.

4.1.2. Existing Retail Distribution System Losses

Distribution system water losses (also known as "real and apparent losses") are the water losses from the District's retail water distribution system up to the point of delivery to the customer's system (e.g., up to the residential water meter).

Since 2016, the District has been required to quantify its distribution system losses using the American Water Works Association Method. An electronic copy of the audit in Excel format is to be submitted to the DWR by January 1st of each year for the estimated system losses for the previous applicable year[33], using DWR's online submittal tool pursuant to California Code of Regulations §638.5.

The 2025 estimate has not been submitted to DWR as of the drafting of this UWMP, but it is currently estimated to be approximately 8.7% of the water entering the retail distribution system. This value reflects real losses as well as apparent losses, such as from meter inaccuracies. **Table 4-3** presents the District's retail AWWA Method distribution loss values for 2021 through 2024, as well as an estimate for 2025.

TABLE 4-3: DISTRIBUTION SYSTEM LOSS: 2021 THROUGH 2025

	2021	2022	2023	2024	2025
% of Total Supply	8.8%	10.5%	8.7%	6.8%	8.7%

Given the dynamic functions of a pressurized potable water distribution system, the estimated annual distribution system loss as a percentage of water entering the system will vary year-to-year and month to month. The District is actively working to reduce transmission and distribution system real losses through pipeline and conveyance replacement, and apparent losses through meter replacement, and anticipates this value decreasing over the planning horizon.

4.1.3. Water Loss Control Standard

In 2019, CWC §10608.34 required the SWRCB to develop water loss control and performance standards, known as *'Real Water Loss Standards'* for urban retail water suppliers. In short, the Real Water Loss Standard represents an amount of water loss deemed "acceptable" by the

[33] For example, the water loss report for 2025 is due to be submitted to the State by January 1, 2027.

SWRCB based on model parameters and assumed improvements. The *Real Water Loss Standard* for the District was developed utilizing annual water loss reporting data submitted to the State between 2017 and 2020 and resulted in a Real Water Loss Standard of 62.7 gallons per service connection per day (gpcd), including both active and inactive connections for SJWD's retail system.

The resulting real water loss standard of 62.7 gpcd equates to 2.0% of total water supplied. Using District data from the same time period, the District's "apparent" water loss averaged 1.7% of total water supplied. Combining real and apparent losses as a percentage of total water supplied results in approximately 4%. This average percentage is used for purposes of forecasting total potable water use through 2050.

4.2. Compliance with 2020 Water Use Target

This section examines SJWD's derivation and compliance with state-mandated water use targets and objectives. California's Water Conservation Act of 2009, also known as SB X7-7, introduced water conservation targets that served as a valuable measure of progress through 2020. Water use efficiency regulations have since been updated and refined through the State Water Resources Control Board to implement the "Making Conservation a California Way of Life" legislation, guiding the calculation of "urban water use objectives", as well as the District's annual reporting on these objectives starting in 2024.

4.2.1. Compliance with 2020 Urban Water Use Target

California's Water Conservation Act of 2009, also known as SB X7-7, required Urban water retailers to achieve a 10% reduction in per capita water use by December 31, 2015, and a 20% reduction by December 31, 2020.

The District's 2020 gallons per capita per day (GPCD) target was established in the 2015 UWMP as 413 GPCD. The District's actual 2020 compliance value was 377 GPCD. Because this value was less than the District's established target, the District was determined to be in compliance with CWC §10608.24(b).

In addition, SB X7-7 provided for water purveyors to calculate baseline water usage, using a 10-year period within a range of years identified in the legislation. The District's calculated wholesale baseline under SB X7-7 is 54,367 AF, which was the average of the District's wholesale deliveries from 1999-2008. The District's and WCAs' conservation efforts since then have reduced average demands by almost 20,000 AF (37%).

4.3. Demand Management Measures

DWR requires urban water suppliers to describe both wholesale and retail Demand Management Measures (DMMs) implemented and planned throughout the UWMP planning period. This section outlines the DMMs currently in place and planned by SJWD to promote efficient water use and manage customer demand.

Because wholesale and retail suppliers have different levels of influence over end uses, this section distinguishes between DMMs implemented in SJWD's wholesale operations and those applied within its retail service area. Together, these measures support ongoing water use efficiency, compliance with state conservation objectives, and reduction of per capita water demands.

SJWD uses a range of DMMs to meet water use targets and state-mandated conservation requirements. These measures are integrated into day-to-day operations and long-term planning, ensuring that the District remains responsive to drought conditions, regulatory updates, and customer needs. Going forward, SJWD will continue to build on these programs to meet future water use objectives established under the "Making Conservation a California Way of Life" legislation and subsequent regulations, including standards for indoor and outdoor residential use, commercial, industrial, and institutional (CII) use, and system water loss.

The California Urban Water Conservation Council (CUWCC) originally established a framework for implementing Best Management Practices (BMPs) to guide urban water efficiency efforts statewide. As a former CUWCC signatory, SJWD has long integrated BMPs into its conservation strategy. Today, the District aligns its programs with the California Water Efficiency Partnership (CalWEP), which focuses on supporting utilities through implementation assistance, research, and collaborative efficiency initiatives.

The DMMs described in this section reflect standard utility practices and industry best approaches that SJWD continues to enhance through innovation, data-driven decision making, and partnerships with regional and state agencies.

4.3.1. Demand Management Measures for Wholesale Suppliers

The wholesale DMMs presented below have been utilized by SJWD and are considered standard for urban wholesale suppliers. The following subsections describe the District's past and current implementation of these wholesale DMMs.

Metering

The District maintains full metering of all customers and wholesale service connections in compliance with its CVP contract with the U.S. Bureau of Reclamation, which requires all connections using CVP contract water to be metered by 2025. The District has achieved 100 percent metering of its wholesale deliveries and continues to ensure accurate measurement and reporting of water use.

SJWD performs monthly meter readings and conducts routine internal quality control reviews to maintain data accuracy. Meter performance and calibration are verified through regular testing and analysis using specialized software and field inspections. The District continually evaluates new metering technologies and data management tools to improve operational efficiency, enhance leak detection, and support ongoing water use efficiency and regulatory reporting.

Public Education and Outreach

SJWD continues to actively promote water use efficiency through a comprehensive public education and outreach program that leverages both District-led initiatives and regional partnerships. As a participating member of the Regional Water Authority's Regional Water Efficiency Program (WEP or Program), SJWD collaborates with 16 other water providers serving more than 2.2 million people across the Sacramento region to promote efficient water use and increase public awareness of conservation practices.

The main function of the WEP is to develop and distribute public outreach messages to customers in the region by collaborating with its water supplier members. The Program distributes these messages on a regional scale through regional media and advertising buys and was honored with the United States Environmental Protection Agency WaterSense Partner of the Year award in 2021 along with three Public Relations Society of America (PRSA), California Capital Chapter awards in 2023/2024 for WEP's public outreach and school education programs. For more information regarding the WEP program and its many successes, visit the WEP website at: https://rwah2o.org/programs/wep/.

Wholesale Supplier Assistance Programs

SJWD supports its wholesale customer agencies by providing technical assistance, training, and regional coordination to advance water use efficiency and conservation. The District offers workshops and resources on topics such as irrigation technologies, landscape design and maintenance, and drought-tolerant plant selection. SJWD also serves as a technical resource for its wholesale agencies to assist with implementation of Best Management Practices (BMPs) and DMMs, regulatory compliance, and water use efficiency reporting.

Enhancing the District's commitment to water use efficiency, membership in the RWA provides the District with additional tools to be more effective in planning, implementing, communicating, and advocating for successful and sustainable water management strategies. The WCAs are all members of the RWA.

Asset Management

The District tracks and manages its Wholesale system assets using a computer maintenance management system (CMMS) aimed at increasing overall efficiency and reduce water loss. The system enables the District to track maintenance, safety inspections, service calls, and reporting requirements. Tracking the District's wholesale assets allows for streamlined identification of maintenance needs, including factors such as asset end-of-life and efficiency, which facilitates the District's ability to identify assets that need replacement. A similar asset management program exists for the Retail system and is maintained by Field Services and Water Treatment Plant staff, with oversight provided by respective department managers.

4.3.2. Retail Demand Management Measures

SJWD implements a comprehensive Demand Management Measures (DMM) program within its retail service area to promote efficient water use and support long-term resource sustainability. As a retail water supplier, SJWD continues to apply industry best practices and state guidance to manage customer demand through education, incentives, and efficiency-based programs. The District's DMMs have evolved from the original Best Management Practices (BMPs) established under the former CUWCC to the more outcome-focused objectives promoted under the CalWEP and the State's "Making Conservation a California Way of Life" framework.

Through these programs, SJWD has consistently met and exceeded state water use efficiency requirements, including gallons per capita per day (GPCD) targets established under previous conservation mandates. The District's ongoing efforts are focused on achieving and maintaining compliance with the water use objectives required by current regulations. The District has two full time Water Efficiency staff dedicated to help implement retail DMMs and ongoing water efficiency programs.

The following sections describe the specific retail DMMs currently implemented by SJWD, highlighting ongoing programs, partnerships, and measurable outcomes that contribute to achieving state and regional water efficiency goals.

Water Waste Prevention Ordinances

The District has a water waste prohibition that prohibits gutter flooding, non-recirculating systems in decorative fountains and evaporative coolers, and unnecessary/wasteful uses of water. District water efficiency staff respond to all water waste complaints and requests for assistance from customers. Customers are informed how to improve system performance and water efficiency. The water waste prohibition is part of the SJWD's Code of Ordinance. Additionally, SJWD utilizes a "Report Water Waste" link on its website to facilitate the identification of water waste and promotes active urban conservation.

Metering

SJWD maintains full metering of all retail and wholesale service connections to ensure accurate measurement and billing for all customer accounts.

The District manages meter testing, repair, and replacement through its Asset Management Program's Residential Meter Retrofit Strategy, which guides the District's efforts to modernize its metering infrastructure. In the last few years, the program completed the replacement of all aging meters and is currently upgrading all communication endpoints, transitioning the District's metering system to fully radio-read (AMI/AMR) technology. These improvements enhance operational efficiency, improve data accuracy, and provide customers and staff with near real-time water use data to support leak detection, conservation, and long-term water management objectives.

Conservation Pricing

SJWD employs a rate structure comprised of a fixed charge (based on meter size) plus a single tier consumption charge. To promote conservation during a declared shortage or potentially to achieve mandated conservation requirements, the District may implement tiered pricing, where the customer is charged more for water used above a designated amount charged at the regular rate.[34] Such a drought rate structure would allow the District to recover costs associated with implementation of drought response measures and decreased revenues from reduced consumption, while encouraging increased conservation. When conditions allow, the tiered rate would be halted.

Public Education and Outreach

SJWD implements an active and ongoing public education and outreach program to promote water use efficiency, drought awareness, and long-term conservation practices. The District's retail efforts are closely coordinated with its wholesale and regional partners

[34] See the District's current Retail WSCP for more information.

through participation in the WEP, which provides shared outreach resources, grant funding, and large-scale media campaigns across the Sacramento region.

At the local level, SJWD engages customers through multiple communication channels, including monthly email newsletters, bill inserts, and social media campaigns that share seasonal water conservation tips, irrigation reminders, and drought updates. The District regularly updates its website with current conservation information, rebate opportunities, and links to regional resources such as the Regional Water Authority's web page at BeWaterSmart.info.

SJWD also supports community-based education programs. Each year, the District co-sponsors the Water Awareness Poster Contest, inviting students in grades 4–6 to illustrate water conservation themes. The District further participates in regional school outreach activities and community events that encourage residents of all ages to use water efficiently indoors and outdoors.

Through this combination of regional collaboration, customer communication, and school engagement, SJWD continues to strengthen public understanding of water resource stewardship and promote lasting behavioral change that supports state and regional water efficiency goals.

Programs to Assess and Manage Distribution System Real Loss

The District conducts annual Distribution System Water Audits consistent with the American Water Works Association (AWWA) M36 methodology to quantify and manage real water losses within its distribution system. The audits utilize AWWA's Water Audit Software and are validated internally each year to ensure data quality and continuous improvement in reporting accuracy. A copy of the District's most recent validated water audit is available electronically in a database maintained by the Department of Water Resources.[35]

The 2024 Water Audit indicated an Infrastructure Leakage Index (ILI) of 2.7, which falls within the AWWA-recommended performance range of 1.0 to 3.0. The District employs a combination of data analysis and field-based detection to monitor and control real losses, including continuous review of pressure zone data, flow trends, and surface observations. Detected leaks are prioritized and repaired based on economic and operational considerations to minimize water loss and system disruption.

[35] https://wuedata.water.ca.gov/

SJWD's Capital Improvement Program (CIP) includes ongoing mainline replacement, valve maintenance, and meter upgrades designed to reduce leakage and enhance system reliability. The District's Asset Management Program integrates water loss audit findings to inform replacement priorities and improve long-term planning.

The District also implements an Active Leak Detection Program, contracting annually with a professional electronic leak detection service to survey key segments of the distribution system. In 2023 and 2024, 100% of the pipeline distribution system was surveyed via satellite leak detection technology. In 2024, 73 leaks were reported, investigated, and scheduled for repair. Leaks may also be identified by District staff, meter readers, customers, and coordination with other public agencies. All confirmed leaks are repaired promptly to reduce losses and protect infrastructure integrity.

Retail Water Efficiency Department Coordination and Staffing Support

The District has the equivalent of 3.5 full-time staff working on its retail DMM planning and implementation efforts within their Water Efficiency Department. Distribution field services staff, customer service and administrative staff also provide support. Duties and responsibilities of the Water Efficiency Department include the following:

- Coordination and oversight of conservation program and water efficiency measures.
- Tracking, planning, and reporting program implementation.
- Coordination of water conservation and efficiency efforts and programs with District executive team, other staff, and other agencies.
- Preparation of annual program budgets.
- Preparation of conservation elements in the District's Urban Water Management Plan.
- Monthly conservation reporting required by the State Water Resource Control Board.

In general, the Water Efficiency Department is responsible for generating and executing programs and services aimed are reducing water use to address federal, state, and local commitments.

Other Demand Management Measures

SJWD also undertakes various programs and provides rebates aimed at increasing water use efficiency and reducing waste. Information on each program is presented below.

Hot Water Demand Rebate

SJWD customers who install a District approved on demand or timed hot water recirculation system may qualify for a rebate, subject to funding availability. This rebate is available to all qualifying District retail customers.

Smart Irrigation Timer Rebate

SJWD offers rebates to customers who install a weather-based irrigation (or "Smart") controller. The smart controller automatically adjusts irrigation based on changing weather conditions. This rebate is available to the District's customers who purchase an approved product.

High Efficiency Clothes Washing Machine Rebate

SJWD customers who purchase and install a high-efficiency washing machine are eligible to receive a rebate of up to $100. Eligible washing machines include machines with a water factor of 4.0 or less.

Landscape Irrigation Reviews

The District offers free landscape irrigation reviews to customers. Customer irrigation systems are assessed by trained District staff. The assessments are aimed at identifying opportunities for system improvements, including identification of leaks, misdirected sprinklers, excessive irrigation times, and poor irrigation coverage. Landscape irrigation reviews are available to all District retail customers.

Turf Replacement Rebate

The District offers a Turf Replacement Rebate Program to encourage customers to replace existing high-water-use lawns with water-efficient landscapes featuring drought-tolerant and native plants. Through this program, eligible retail customers can receive a rebate of up to $1,000 as a bill credit for converting irrigated turf areas to sustainable, low-maintenance landscapes.

High Usage Courtesy Notifications

District staff reviews customer meter readings for abnormalities in patterns of use. Past usage is compared to current use and customers are contacted when readings indicate an abnormal use pattern. These reviews can lead to identification of leaks or irrigation equipment problems.

Irrigation Leak Locating Assistance

District staff offers assistance to customers who need help locating leaks on their property.

Water Efficient Informational Workshops

District staff conducts periodic workshops for customers who are interested in water efficient actions available for implementation.

LANDSCAPE TROUBLE-SHOOTING ASSISTANCE

District staff offer assistance to customers who need help trouble-shooting water use issues related to their landscape.

4.3.3. CONSERVATION PROGRAM IMPLEMENTATION OVER THE PAST FIVE YEARS

SJWD has been actively implementing DMMs over the past five years through both local and regional programs in collaboration with the RWA. The DMM budget is established on an annual basis as part of the District's overall annual budget review and adoption process. The DMM budget can vary from year to year depending on program grant funding availability, water savings goals, DMM program approvals, regional DMM program participation levels, and local response to District DMM programs. The District also has DMM expenditures related to WEP membership dues and participation of approximately $17,792 per year.

The District's DMM program is designed to meet local, regional and state water use efficiency objectives, satisfy Water Forum Agreement provisions, and achieve future water use targets. The DMM budget and expenditures reflect the challenge in meeting these multiple water use objectives while providing cost-effective service to customers. The District works collaboratively with other agencies to optimize its water use efficiency investments and pursues outside funding sources when available to deliver DMM programs at the lowest possible cost. Over time, the District's DMM budget may change due to program effectiveness, emerging water saving technologies and devices, and/or saturation of specific DMM programs.

Table 4-4 summarizes some of the District's DMM programs implemented over the past five years, including local DMM programs in the District service area and regional DMM programs offered in collaboration with RWA.

DMMs implemented over the past five years have helped the District maintain its SBX7-7 2020 water use target, as well as its Urban Water Use Objectives. It is anticipated that implementation of DMMs will continue to be relied upon to help meet future water use targets.

The DMM program water savings achieved over the past five years has enabled the District to reliably meet its established water use targets and improve its overall water use efficiency.

TABLE 4-4: PAST DMM PROGRAM NARRATIVE SUMMARY (2021 – 2025)

Program/Item	2021	2022	2023	2024	2025
Hot Water Demand Rebate	YES	YES	YES	YES	YES
Smart Irrigation Timer Rebate	YES	YES	YES	YES	YES
High Efficiency Clothes Washing Machine Rebate	YES	YES	YES	YES	YES
Landscape Irrigation Reviews	YES	YES	YES	YES	YES
Turf Replacement Rebate	YES	YES	YES	YES	YES
High Usage Courtesy Notifications	YES	YES	YES	YES	YES
Irrigation Leak Locating Assistance	YES	YES	YES	YES	YES
Water Efficient Informational Workshops	YES	YES	YES	YES	YES
Landscape Trouble-Shooting Assistance	YES	YES	YES	YES	YES
School Education/Public Information	YES	YES	YES	YES	YES

4.3.4. PLANNED IMPLEMENTATION

In planning for future DMM programs, the District considers the following factors: current efficiency level of the customer base; cost-effective program design and implementation; sustainability of water savings; emerging technologies and devices; and, ability to meet future water use targets. DMM programs are an important long-term strategy to enable the District to provide affordable reliable water service to customers during normal and dry years. While meeting water use targets is important, it is not the only consideration in planning future DMM programs. The District will also consider the provisions of the Water Forum Agreement.

Maintaining recent program activities has allowed the District to meet applicable water use targets. Future water use targets may require further implementation of DMMs that maintain an efficient customer base and water system. The planned 2026-2030 DMM programs would be tailored to meet this goal. Some or all of the current DMM programs would be continued during this period, and some new programs could be instituted.

PLANNED DMM BUDGET

The planned DMM budget over the next five years would be influenced by the level of District participation in regional DMM programs, the ability of the District to secure outside funding sources to defray the future cost of DMM programs, actual participation levels in District DMM programs, and ability to meet future water use targets during the period. The District will monitor the aggregate water use budget and respond with specific DMMs aimed at

addressing compliance with upcoming State regulatory requirements should that be necessary.

In planning future DMM programs, evaluating how water is currently used in the District provides insights in assessing where to target future DMM programs. **Table 4-5** indicates the predominant District water user classes based on percent of total demands:

TABLE 4-5: PLANNED DMM PROGRAMS – FOCUSING ON LARGEST USER CLASSES (2025)

Customer Classification	% of Total Demand	% Indoor	% Outdoor
Single Family	85%	30%	70%
Non-Residential Landscape Irrigation	8%	--	100%

During 2025, about 93% of the District's total water demands were used by the single family residence (SFR) and irrigation (IRR) user classes, with most of the use occurring for outdoor (irrigation) purposes. Meeting future water use targets would require these user classes to achieve commensurate outdoor water use reduction. Based on District water use patterns, **Table 4-6** summarizes the District's priority and optional DMMs that could be employed to meet future water use targets.

TABLE 4-6: POTENTIAL DMM PROGRAMS

DMMs
Priority DMMs
Public Information/Outreach
School Education Program
Landscape Programs – manage outdoor use
Water Audits – SFR and IRR accounts[1]
Water Loss Control Program – audits/repairs
Optional DMM
Hot Water On Demand Rebate Program
Landscape Irrigation Review Program
High Usage Courtesy Calls Program
HECW Rebate Program

[1] *Offered to high users only.*

Priority DMM Programs

Narrative descriptions of planned DMMs are presented in the following subsections.

Public Information/Outreach

DMM literature is provided to all customers via bill inserts, newspaper ad/notices, direct mail, electronic mail, District website and handouts available in District offices. Hold workshops throughout the year on irrigation repair, irrigation controller programming, and landscape maintenance including efficient and effective watering. The District anticipates continuing this DMM to inform the public regarding efficient water use and ways to use water more efficiently

School Education

The school education program targets elementary age students and teachers for the student art calendar contest with material consistent with California curriculum standards. The District also benefits from participation in the regional program with RWA. The District anticipates continuing its partnership with RWA and participating in the school education programs.

Landscape Programs (including Irrigation Efficiency Rebate Program)

Continue the Smart Irrigation Controller Rebate Program. The program reimburses participants 50 percent of total material costs as a bill credit issued after verification of installation. SJWD is committed to helping customers better understand landscape irrigation and anticipates continuing this program as funds are available.

Water Audits

Offer water audits for Single-Family Residential and Irrigation accounts, targeting the top 10 percent of users in each user class. Check for leaks, collect meter data for demand use profile (timing and duration of irrigations, quantify leak losses), conduct irrigation system audits, and recommend irrigation schedule changes. Monitor accounts post-audit to assess effectiveness. The District anticipates continuation of the water audits for identified customers.

High Use Notifications

Contact customers immediately after receiving an abnormally high meter read to notify of a possible leak. Contact is made via email, telephone or in written form. SJWD will continue this outreach effort aimed at informing high-using accounts on their water use.

Water Loss Control Program

Continue to conduct annual distribution system water audits using AWWA M36 methodology, conduct system annual leak detection surveys, repair identified leaks, and quantify loss reduction savings. Integrate program with 10-year Capital Investment Plan main replacement schedule and other asset management program elements. Consider periodic condition assessments to determine the condition and reliability of older infrastructure. Identify locations of concern as sources for future leak losses. System leak repairs may require special budgeting depending on magnitude of activities. SJWD will continue to conduct the annual distribution system water audits as well as proactively identify and repair leaks in order to reduce overall water loss within the retail distribution system.

Additional Programs for Consideration:

- Continually update demonstration sites
- Optional water budget program – rates matching use (target Irrigation Accounts)

Optional DMM Programs

The DMM programs listed in **Table 4-6** may continue to be offered to high users, offered on a limited basis, continued in their current form, or terminated in lieu of other DMM programs depending in effectiveness and funding. It is anticipated that optional DMMs that would be implemented over the 2026-2030 period will help the District reliably meet future water use targets.

Planning for Future DMM Programs

The District may consider the following projects to refine its planning for future DMMs.

1. Conduct a DMM Baseline Study to quantify market saturation of DMMs to date, assess the effectiveness of current DMM programs, identify emerging DMM opportunities and technologies, and identify cost-effective DMM programs that can be implemented during the 2026-2030 period.
2. Evaluate water use of DMM program participants, especially those who have participated in more than one DMM program, to determine actual water savings and cost-effectiveness of DMM programs.
3. Refine landscape reduction measures and policies that would be incorporated into the District's WSCP to assure demand reduction targets are achieved for a given stage.
4. Pursue additional outside sources (such as state and/or federal grants) to fund District DMM programs.

The District will need continued implementation of DMM programs to reliably meet future water use targets. Therefore, optimizing future DMM programs is an important District objective, and the District is committed to continuing to devote the necessary staffing and funding necessary to ensure that DMMs remain an important part of its demand management strategy.

4.4. Forecasting Customer Use

Forecasting future water demands begins with an understanding of existing customer demands and trends, recognizing additional demands will come through growth, and considering the factors that will influence the water use of both existing and new customers well into the future – especially factors that directly affect the efficiency of water use.

Pursuant to CWC §10610.4(c), an urban water supplier "*shall be required to develop water management plans to actively pursue the efficient use of available supplies*." One challenge from this directive is reflecting how the pursuit of efficient use is best represented in the forecast water uses that are the cornerstone of good planning. As required, the future water uses of both existing customers and those estimated to be added over this UWMP's 25-year planning horizon reflect the "efficient use" of water.

4.4.1. Representing Current Retail Customer Water Use

Average use per connection, as well as the 2025 number of retail service connections are used as the basis for estimating a representative "current" retail customer water use. **Table 4-7** provides the derivation of "current" use. Unit factors were developed using customer deliveries and the number of connections for the period 2021 through 2025. It is noted, the unit factor for the "Landscape Irrigation" is reduced by 10% from the historical average to reflect the prohibition on "non-functional turf", pursuant to CWC §10608.14.

TABLE 4-7: REPRESENTATIVE CURRENT WATER USE

Customer Classification	Unit Factors (acre-foot per connection)	2025 Connections	Current Use Representation (acre-feet)
Single Family	0.89	10,459	9,348
Multi-Family	1.15	124	142
Commercial	1.53	259	397
Institutional	17.02	11	187
Landscape Irrigation	3.40	219	745
Agricultural	7.48	8	60
Other	0.38	9	3
	Total	**11,089**	**10,884**

4.4.2. FACTORS AFFECTING FUTURE CUSTOMER USE

There are several factors that affect the forecast of future customer use, ranging from State and local landscape regulations, building code requirements, and other water-use mandates, to changes in the types of housing products being offered. These factors are incorporated into determining appropriate per-dwelling unit or per customer connection water demand values for use in forecasting future water needs. Relevant characteristics of the factors are described here.

WATER CONSERVATION DIRECTIVES

In 2009, Governor Arnold Schwarzenegger signed Senate Bill No. 7 (SBX7-7), which established a statewide goal of achieving a 20 percent reduction in urban per capita water use by 2020 for urban retail water suppliers.[36] As presented previously, the District has shown to be in compliance beyond this mandated target.

Furthermore, the efforts undertaken by the District and its customers to meet these targets, as well as efforts throughout the State by other urban retail suppliers, have changed the availability and use of appliances, fixtures, landscapes and other water using features, through changes or additions to ordinances and/or through a continuing "conservation ethic."

[36] CWC §10608.20

In addition, beginning in 2027, CWC §10608.14 prohibits the use of potable water to irrigate "non-functional turf" for commercial, industrial, institutional properties, as well as by homeowners' associations, common interest developments, and community service organizations or similar entities. This restriction has the potential to reduce overall water use associated with the District's landscape irrigation customers and further information is presented later in this chapter (see "Prohibition of Non-Functional Turf" below).

Urban Water Use Objectives

In response to multi-year drought conditions, Governor Brown issued Executive Order B-37-16 in May 2016 entitled "Making Water Conservation a California Way of Life." In May 2018, Governor Brown signed into law SB 606 and AB 1668, which imposed additional statutory requirements, including an "Urban Water Use Objective", above and beyond the 20 percent by 2020 target included in previous legislation enacted in 2009.

The Urban Water Use Objective (UWUO) is comprised of five components representing the aggregate amount of water that would be used if all water in the supplier's service area were used efficiently[37]. These components include:

- Residential Indoor Water Use: Statewide per capita standard[38] multiplied by the supplier's service area population.
- Residential Outdoor Water Use: Landscape area multiplied by an ET-based standard[39] incorporating principles of the Model Water Efficient Landscape Ordinance.
- CII with Dedicated Irrigation Meters Outdoor Water Use: Commercial, Industrial, and Institutional landscapes served by a dedicated irrigation meters (CII DIM) using ET-based standards.
- Water Loss: Based on submitting water loss audits pursuant to State Water Resources Control Board developed individual water loss standards representing the maximum allowable "real" water loss for a system.
- Variance/Temporary Provisions: Allowances for unique local uses that have a material effect on water use such as significant use of evaporative coolers, livestock watering, seasonal population fluctuations, or high-TDS recycled water irrigation. Temporary Provisions include adjustments due to challenges with wastewater collection, treatment and reuse (Residential Indoor), planting of new, climate-ready trees

[37] CWC §966

[38] 47 gallons per capita per day (2025 – 2029) and reducing to 42 gallons per capita per day (beginning in 2030).

[39] Landscape Efficiency Factors (LEF) for new construction is 0.55. For existing residential landscape areas, LEFs are 0.80 until 2035 where they reduce to 0.63 until 2040. Beginning in 2040, LEFs for existing customers is 0.55.

(Residential Outdoor and CII DIMs), as well as establishment of qualifying landscapes (Residential Outdoor and CII DIMs).

The UWUO and associated regulations are factors to consider when projecting District demands as they incorporate "efficient" water use for the listed use-types.

Requirements in California Building Code

Beginning in January 2010, the California Building Standards Commission adopted the statewide mandatory Green Building Standards Code (hereafter the "CAL Green Code") requiring the installation of water-efficient indoor and outdoor infrastructure for all new projects after January 1, 2011. The CAL Green Code was incorporated as Part 11 into Title 24 of the California Code of Regulations, and was revised in 2013 and in 2016 to address changes to the State's Model Water Efficient Landscape Ordinance ("MWELO") adopted during the drought.[40] Revisions to the CAL Green Code in 2019 modified sections to direct users to MWELO regulations contained in other regulatory sections.[41]

California Model Water Efficient Landscape Ordinance and County Ordinance

The Water Conservation in Landscaping Act was enacted in 2006 and has since been revised and expanded multiple times by DWR resulting in today's MWELO.[42] In response to Governor Brown's executive order dated April 1, 2015, (EO B-29-15), DWR updated the MWELO and the California Water Commission approved the adoption and incorporation of the updated State standards for MWELO on July 15, 2015. MWELO requires a retail water supplier or a county to adopt the provisions of the MWELO or to enact its own provisions equal to or more restrictive than the MWELO provisions. The District uses the State's standard. The District reviews all relevant new development for conformance with this standard.

Prohibition of Nonfunctional Turf

In 2023, the Legislature determined that the use of treated, potable drinking water for irrigating decorative or aesthetic landscaping that serves no recreational or public use is inefficient and inconsistent with state water conservation and climate resilience objectives.[43] Under CWC §10608.12(u), "nonfunctional turf" (NFT) is defined as "any turf that is not

[40] The 2016 Triennial Code Adoption Cycle consisted primarily of the MWELO updates adopted in response to the drought. Indoor infrastructure changes were limited to some minor non-residential fixture changes and changes to the voluntary Tier 1 and Tier 2 requirements. Additionally, the Code was updated to match the new Title 20 Appliance Efficiency Regulations.

[41] The 2019 updated sections to direct CAL Green code users to Title 23 of the California Code of Regulations to allow Title 23 to be the sole location of MWELO requirements.

[42] Gov. Code §§ 65591-65599

[43] In 2025 provisions of Assembly Bill 1572 were codified into the California Water Code.

functional turf, and includes turf located within street rights-of-way and parking lots." Per CWC 10608.12 (m), "functional turf" is defined as "a ground cover surface of turf located in a recreational use area or community space. Turf enclosed by fencing or other barriers to permanently preclude human access for recreation or assembly is not functional turf". The NFT definition excludes cemeteries, parks, sports fields, and lawns that are regularly used for recreation or community gathering.[44]

The prohibition on NFT applies primarily to commercial, industrial, institutional, and municipal properties, as well as common areas maintained by homeowners' associations and common interest developments[45]. Potable water may continue to be used to maintain the health of trees and other perennial, non-turf landscaping, and where irrigation is necessary to address immediate public health or safety concerns. For example, potable irrigation may be allowed where discontinuation would compromise fire prevention or fuel reduction efforts, dust control, or other measures needed to protect human health and safety.

Implementation of the NFT provisions will be phased over several years and may be enforced at the local level by public water systems, cities, and/or counties.[46] Non-compliance of the NFT provisions may result in civil penalties imposed on property owners, or other locally defined enforcement actions.

Initial compliance begins in 2026, with progressively broader property categories subject to the prohibition through 2030 and beyond, including later deadlines for properties located in disadvantaged communities.[47] In 2026, public water systems will be required to update local ordinances and customer policies to reflect the new restrictions.

4.4.3. Forecast of Retail Water Use

The information in **Table 4-7** (above) is used with the growth projections provided in Chapter 2, as well as the factors discussed in Section 4.4.2, to develop SJWD's retail demand projections presented in **Table 4-8**.

[44] CWC §10608.12

[45] Per Civil Code §4100, common interest developments are defined as community apartment projects, condominium projects, planned developments, and stock cooperatives.

[46] CWC §10608.14

[47] Per CWC 10608.12 (l), "disadvantaged community" means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.

TABLE 4-8: RETAIL SYSTEM WATER USE FORECAST (VALUES IN ACRE-FEET)

Customer Class	2030	2035	2040	2045	2050
Single-Family Residential	9,273	7,778	7,151	7,330	7,504
Multi-Family Residential	142	120	111	114	117
Commercial	403	403	414	420	425
Institutional	187	187	187	187	187
Landscape Irrigation	745	766	788	809	809
Agricultural Irrigation	60	60	60	60	60
Other	3	3	3	3	3
Subtotal	10,813	9,318	8,714	8,923	9,106
Non-revenue Water	433	373	349	357	364
Total Projected Retail Demands	**11,246**	**9,690**	**9,062**	**9,280**	**9,470**

UWUO – RESIDENTIAL WATER USE TARGETS (RETAIL)

As stated previously, the UWUO calculation incorporates a decreasing outdoor landscape efficiency factor (LEF) over time. The outdoor standard, per current regulations is 0.80 (until 2035), 0.63 (from 2035 until 2040), and dropping to 0.55 (2040 and beyond). Therefore, comparison can be made using the residential water use projections provided in **Table 4-8** and estimates derived from future residential landscape conditions.

Table 4-9 (below) summarizes the residential water use presented in **Table 4-8** and compares with projections incorporating different application of the UWUO provisions for residential outdoor water use. That is, current regulations restrict the total area allowed in the calculation for residential outdoor landscaping. Specifically, 20% of the area deemed "Irrigable Not-Irrigated" (INI) by the State may be considered when annually calculating the District's Urban Water Use Objectives. For comparison purposes, **Table 4-9** also displays projected demands if the outdoor usage allowance applied to 100% of residential customers' "irrigable" areas.

TABLE 4-9: UWUO COMPARISON TO RETAIL RESIDENTIAL PROJECTIONS (VALUES IN ACRE-FEET)

Customer Class	2030	2035	2040	2045	2050
Projected Residential Water Use	9,415	7,898	7,261	7,444	7,621
UWUO Residential Water Use w/ 100% Irrigable Area (estimated)	13,281	10,892	9,813	9,944	10,077

Note: SJWD Retail projections for Residential water use only.

As seen from the table above, the District's projected demands, as well as performance against the UWUO standards differ significantly between the current regulations and if allowance was made for efficient watering of 100% of irrigable areas. Based on the projections developed for the "UWUO Residential Outdoor Water Use w/ 100% Irrigable Area (estimated)" category, the potential impact on projected demands results in differences ranging from about 2,500-4,000 acre-feet when using the different approaches. The previous water use projections included in **Table 4-9** may be revised in future UWMPs depending on the outcome of pending litigation regarding the UWUO regulations for outdoor residential water use. For purposes of future retail (and subsequently wholesale) demand projections, the District presents total retail and wholesale demands for both approaches.

4.4.4. FORECAST OF WHOLESALE WATER USE

Wholesale customers' use is provided in **Table 4-10** below. This information was provided by the Orange Vale Water Company, Citrus Heights Water District, City of Folsom (Ashland), and Fair Oaks Water District and incorporated into this UWMP.

TABLE 4-10: WHOLESALE SYSTEM WATER USE FORECAST (VALUES IN ACRE-FEET)

Retail Entity	2030	2035	2040	2045	2050
Citrus Heights Water District	11,054	11,374	11,691	12,006	12,322
City of Folsom (Ashland)	1,164	1,172	1,180	1,180	1,180
Fair Oaks Water District	8,652	8,769	8,887	9,007	9,129
Orange Vale Water Company	3,827	3,852	3,877	3,902	3,925
Total	**24,697**	**25,167**	**25,635**	**26,095**	**26,556**

4.4.5. Summary of Projected Water Use

This section provides the summary of forecasted wholesale water use over the UWMP planning horizon. Based upon the estimated water use of the existing and new customers, the District anticipates a continued increase in potable water use over the planning horizon. **Table 4-11** presents the resulting customer water use forecast. Values in the table have been rounded to the nearest 10 acre-feet to recognize the approximate nature of this forecast. **Table 4-12** displays the summary of projected water use assuming the UWUO calculation allows for 100% INI to be included, again with values rounded to the nearest 10 acre-feet. This information will be used to evaluate the District's water system reliability in Chapter 5.

Table 4-11: Summary of Projected Water Use with Current UWUO Restrictions on Outdoor Residential Water Use (values in Acre-Feet)

	2030	2035	2040	2045	2050
SJWD Retail	11,250	9,690	9,060	9,280	9,470
SJWD WCAs	24,700	25,170	25,640	26,100	26,560
SJWD Wholesale Total	**35,950**	**34,860**	**34,700**	**35,380**	**36,030**

Note: SJWD Retail projections include all retail uses with current UWUO restriction, not only residential use as shown in Table 4-9.

Table 4-12: Summary of Projected Water Use with Revised UWUO Restrictions (i.e., 100% INI) on Outdoor Residential Water Use (values in Acre-Feet)

	2030	2035	2040	2045	2050
SJWD Retail	15,270	12,800	11,720	11,880	12,020
SJWD WCAs	24,700	25,170	25,640	26,100	26,560
SJWD Wholesale Total	**39,970**	**37,970**	**37,360**	**37,980**	**38,580**

Note: SJWD Retail projections include all retail uses with revised UWUO restriction, not only residential use as shown in Table 4-9.

It is noted, the WCA projections in **Table 4-12** do not change from those in **Table 4-11**. This is because the 100% INI UWUO criterion was not applied to them as they were to SJWD Retail residential demand projections (see **Table 4-9**). Consequently, the "SJWD Wholesale Total" displayed in **Table 4-12** understates what the actual total would be if 100% of irrigable areas were part of the outdoor UWUO calculations for the WCAs. Note, though, those expected

increases would likely not be on a par with SJWD's, as it provides retail service to customers who generally have larger lots with more irrigable area than the majority of WCA customers.

4.4.6. Adjusting Water Use Forecasts for Single-Dry and Multiple Dry Conditions

The demand forecasts presented in the prior subsection represent expected water needs under normal hydrologic conditions. To accurately forecast potential maximum future water use, the forecasted normal-year water uses must be modified to reflect anticipated increases in demand during drier conditions.

Conservative modifications to the normal year water use forecast to more likely reflect use conditions during drier and dry years are warranted to help adequately address water service reliability in Chapter 5. The following single-dry year adjustments are used in this 2025 UWMP:

- Single dry year: Landscape irrigation needs would increase to reflect the generalized earlier start of the landscape irrigation season due to limited rainfall in the single driest year. Since this increase only applies to the outdoor portion of a customer's forecast use, an adjustment factor of 5% is applied to the total normal-year forecasts to conservatively reflect the expected increase in demand for water for landscaping. This adjustment reflects rudimentary relationships between historic use variances and other conditions and is meant only to highlight the anticipated increase in demands for purposes of District planning.
- Multiple dry years: During multiple dry years, demands are also expected to increase similarly to the single dry year. For multiple dry year conditions, the single dry year increase of 5% is held in each of the subsequent years. This is representative of an "unconstrained demand" as should be represented when evaluating whether WSCP actions may be warranted.

4.4.7. Climate Change Conditions

Incorporating climate change analysis into a water use analysis will assist the District in understanding potential effects on long-term reliability, which in turn allows the District to proactively begin planning appropriate responses. For example, hotter and drier weather may lead to an increased demand in landscape irrigation, especially during spring and fall months, increasing the pressure on water supplies.

This potential is reflected in the consideration of the single dry year increase of 5% that is used for the water service reliability analysis, as discussed previously. Whether the elevated single dry year water forecast becomes more akin to "normal" demand will become more

apparent in the future as the District continues to assess monthly water use trends throughout its service area.

4.5. Forecasting Water Use for the Drought Risk Assessment (DRA)

An important component of the UWMP is the required preparation of a five-year Drought Risk Assessment (DRA) using a supplier-defined hypothetical drought condition occurring from 2026 through 2030. This drought condition is meant to allow suppliers to test the resiliency of their water supply portfolio and their Water Shortage Contingency Plan (WSCP) actions to meet severe conditions if warranted.

Per DWR guidance, this DRA estimates expected water use for the next five years without applying new demand management actions, i.e., "unconstrained demand". Unconstrained demand is water demand absent any water supply restrictions and without any WSCP demand reduction actions. Water conservation programs, currently implemented or planned for implementation, are incorporated into the estimated water use values for projected water use during the 2026-2030 period.

Total estimated water use for 2026, for example, is developed by modifying the water use representation for 2025 conditions taking into consideration the anticipated factors affecting water use, with each subsequent year further adjusted, as appropriate. Adjustments year-to-year reflect several factors the District anticipates may occur, including increases from growth. To make these adjustments, the difference in annual water use between the 2025 condition and the forecast potable use in 2030 is prorated equally across each of the years 2026 through 2030, so that the same 2030 forecast water use is consistent.

With an initial annual estimate, each year is further adjusted to reflect anticipated increases in the unconstrained demand during a single dry year. As noted previously, this is reflected by applying a 5% increase to the total potable water use forecast. The resulting forecast use for 2026 through 2030 is shown in **Table 4-13**. Note that the retail projections included in **Table 4-13** include an overall reduction in water loss pursuant to CWC §10608.34 (as described in Section 4.1 above), resulting in annual decreases in overall water loss. As previously stated, the DRA demands for SJWD Retail are obtained from **Table 4-8** (with adjustment) and represent demands associated with the current UWUO restrictions on outdoor water use in **Table 4-13**, while **Table 4-14** provides the retail DRA under the 100% INI approach (adjusted from **Table 4-12**).

TABLE 4-13: FORECAST "UNCONSTRAINED" DRA WATER USE FOR 2026 THROUGH 2030 WITH CURRENT UWUO RESTRICTIONS ON OUTDOOR RESIDENTIAL WATER USE (VALUES IN ACRE-FEET)

	2026	2027	2028	2029	2030
SJWD Retail	12,113	12,037	11,961	11,884	11,808
SJWD WCAs	25,151	25,346	25,541	25,737	25,932
SJWD Wholesale Total	**37,264**	**37,383**	**37,502**	**37,621**	**37,740**

TABLE 4-14: FORECAST "UNCONSTRAINED" DRA WATER USE FOR 2026 THROUGH 2030 WITH REVISED UWUO RESTRICTIONS ON OUTDOOR RESIDENTIAL WATER USE (VALUES IN ACRE-FEET)

	2026	2027	2028	2029	2030
SJWD Retail	12,958	13,726	14,494	15,262	16,030
SJWD WCAs	25,151	25,346	25,541	25,737	25,932
SJWD Wholesale Total	**38,108**	**39,072**	**40,035**	**40,999**	**41,962**

4.6. PROJECTING DISADVANTAGED COMMUNITY WATER USE

Pursuant to CWC §10631.1, retail suppliers are required to include the projected water use for lower income households in 2025 UWMPs. Per California Health and Safety Code §50079.5, a lower income household has an income below 80 percent of area median income, adjusted for family size. Per California Health and Safety Code §50079.5(c), the State of California constitutes the "area" to be applied in UWMPs. The annual median income for the State was derived from 2024 U.S. Census Bureau data and determined to be about $100,149.[48] Therefore, 80% of this is estimated to be about $80,119 per year. According to the detailed data, approximately 21% of the households in the District's service area earn at or below this 80th-percentile income.[49]

For purposes of estimating their future water needs, 21% of the total single-family and multi-family connections are presumed to represent disadvantaged households by this definition. However, no areas within the District's retail service area are identified as disadvantaged when applying community specific criteria per California law[50]. Nevertheless, applying this condition to the forecast retail water use for the entire District results in the estimates

[48] https://censusreporter.org/profiles/04000US06-california/

[49] https://censusreporter.org/profiles/16000US0630693-granite-bay-ca/

[50] More information on SB 535 Disadvantaged Communities can be found at https://oehha.ca.gov/calenviroscreen/sb535

provided in **Table 4-15**. For purposes of this reporting table, the District uses demands associated with the current UWUO regulations as presented in **Table 4-8**.

TABLE 4-15: ESTIMATED LOW-INCOME WATER USE FORECAST (ACRE-FEET)

Year	2030	2035	2040	2045	2050
Total Retail Demand	11,246	9,690	9,062	9,280	9,470
Low Income Use	1,999	1,677	1,542	1,581	1,618
% of Total Potable	18%	17%	17%	17%	17%

CHAPTER 5
WATER SERVICE RELIABILITY

This chapter provides the District's water system reliability findings as required under CWC §10635 and provides reliability information that the District may use in completing an annual supply and demand assessment pursuant to CWC §10632.1.

Assessing water service reliability is a fundamental purpose of the District's 2025 UWMP. Water service reliability reflects the District's ability to meet the water needs of its customers under varying conditions. The District's 2025 UWMP considers the reliability of meeting retail system customer water use and potential WCA needs by analyzing plausible hydrological variability, regulatory variability, climate conditions, and other factors that impact the District's water supply and its customers' water uses. The reliability assessment looks beyond past experience and considers what could be reasonably foreseen in the future. This chapter synthesizes the detailed data included in Chapters 3 and 4 and provides a rational basis for future decision-making related to supply management, demand management, and project development. This chapter presents two system reliability findings:

- **Five Year Drought Risk Assessment:** The 2026 through 2030 Drought Risk Assessment (DRA) for the District's service area.
- **Long-Term Service Reliability:** The reliability findings for a normal year, single dry year, and five consecutive dry years in five-year increments through 2050.

As discussed in Chapter 4, the District's projected retail demands are influenced by the UWUO regulations on residential outdoor water use and their implementation. Projected demands previously presented incorporate both UWUO implementation scenarios (UWUO Scenarios):

1. "20% INI" –20% of "Irrigable Not-Irrigated" (INI) residential outdoor landscape area to be included in the calculation of the District's annual Urban Water Use Objective (UWUO) in accordance with current regulations.

2. "100% INI" – 100% INI residential outdoor landscape area to be included in the calculation of the District's annual UWUO, to illustrate how applying a 100% "irrigable" UWUO criterion would impact demands.

For the purposes of this Chapter 5 (Water Service Reliability), the District utilizes the "100% INI" UWUO Scenario as representative unconstrained demand. The projections associated with

this scenario are approximately 2,700-4,200 acre-feet per year higher than the "20% INI" UWUO Scenario (under single dry and multi-dry year assumptions described in Section 4.4.6). Incorporating the higher demands from the 100% INI scenario allows for a more conservative approach when assessing water service reliability, while also identifying the constraint on the allowable level of residential outdoor demands imposed by the current UWUO regulation when compared to a 100% irrigable area allowance. The analysis demonstrates the District has reliable water supplies available to meet projected Retail and Wholesale system demands in its service area through 2050 under both UWUO scenarios.

5.1. Five Year Drought Risk Assessment

The DRA requires a methodical assessment of water supplies and water uses under an assumed drought period that lasts five consecutive years.

The District has ample water supplies to meet current and future Retail system customer and WCA water needs. With an array of highly reliable surface water assets that can be flexibly managed in a single year and across multiple years (see Chapter 3), the District can maintain high levels of service during drought conditions. Nevertheless, the District continues to encourage its Retail system customers and the WCAs to use water efficiently and continues to see lowering per-capita water use (see Chapter 4).

Although the District has sufficient supplies to meet its five consecutive dry year demands, other regulatory constraints, like a declaration of a drought emergency by the Governor, State mandated water use reductions, or State-ordered curtailment of water rights, could constrain the District's water service to its customers, despite having access to a relative abundance of available water rights and entitlements.

Table 5-1 below shows the District's DRA that integrates its supplies for 2025 through 2030 as described in Chapter 3, and reflects the dry year unconstrained Retail system and WCA water uses described in Chapter 4, specifically **Table 4-14**. As the table shows, the District has sufficient water assets available in all years to meet its wholesale water needs. It is noted, the figures in the following tables aim to provide an estimate of "unconstrained" demands per the DRA guidelines and actual demands are expected to be lower as demand management measures will be enhanced, resulting in a larger surplus between District supplies and retail and wholesale demands.

TABLE 5-1: FIVE YEAR DROUGHT RISK ASSESSMENT: WHOLESALE SYSTEM (VALUES IN ACRE-FEET)

	2026	2027	2028	2029	2030
Supply	46,750	45,500	44,250	44,250	45,500
Demand	38,108	39,072	40,035	40,999	41,962
Difference	8,642	6,428	4,215	3,251	3,538

While **Table 5-1** demonstrates sufficient water to meet wholesale needs if there was an extended drought over the next 5 years, **Table 5-2** demonstrates the retail equivalent DRA. However, because the District's overall water supplies are not explicitly earmarked for retail needs, the retail DRA simply indicates a supply that matches the forecast water use presented in **Table 4-14**. Also note that retail demands are included in the totals shown in **Table 5-1**.

TABLE 5-2: FIVE YEAR DROUGHT RISK ASSESSMENT: RETAIL SYSTEM (VALUES IN ACRE-FEET)

	2026	2027	2028	2029	2030
Supply	12,958	13,726	14,494	15,262	16,030
Demand	12,958	13,726	14,494	15,262	16,030
Difference	0	0	0	0	0

5.2. LONG TERM SERVICE RELIABILITY

The UWMPA directs urban water purveyors to analyze water supply reliability in a normal, single dry, and five consecutive dry years over a 20-year planning horizon. The 2025 UWMP Guidebook recommends extending that period to twenty-five (25) years to provide a guiding document for future land use and water supply planning through the next UWMP cycle. The following subsections describe the long-term water service reliability through a 25-year planning horizon for the Wholesale and Retail systems.

5.2.1. LONG TERM SERVICE RELIABILITY

The District's long term service reliability reflects the recommended 25-year planning horizon anticipating a normal, single dry, and five consecutive dry years from 2025 through 2050.

NORMAL AND SINGLE DRY CONDITIONS 2030-2050

The District's future Wholesale water supplies in normal and single dry conditions reflect the same conditions described for the DRA and as detailed in Chapter 3. Specifically, the District

has sufficient and reliable water supplies to meet forecasted Retail customer and WCA water needs through 2050 considering water use forecasts for both normal and dry conditions. The customer use information is detailed in Chapter 4 and reflected in the numbers shown in the tables below.

Table 5-3 shows the normal year and single dry year supplies and demands from 2025 through 2050 for the Wholesale System. **Table 5-4** displays the data for the Retail system. Both tables use the information presented in **Table 4-12** as the basis for developing the demand projections. Similar to the DRA, the Retail system's supplies are set equal to the forecast Retail customer forecast water use.

TABLE 5-3: WHOLESALE SYSTEM NORMAL AND SINGLE DRY YEAR WATER SUPPLY AND DEMAND THROUGH 2050 (VALUES IN ACRE-FEET)

Normal Year	2030	2035	2040	2045	2050
Supply	82,200	82,200	82,200	82,200	82,200
Demand[1]	39,970	37,970	37,360	37,980	38,580
Difference	42,230	44,230	44,840	44,220	43,620

Single Dry Year	2030	2035	2040	2045	2050
Supply	46,750	46,750	46,750	46,750	46,750
Demand[2]	41,970	39,860	39,220	39,870	40,500
Difference	4,780	6,890	7,530	6,880	6,250

[1]Normal Year demands from **Table 4-12** (unadjusted).

[2]Single Dry Year demands from **Table 4-12** and increased 5% as described in Section 4.4.6.

TABLE 5-4: RETAIL SYSTEM NORMAL AND SINGLE DRY YEAR WATER SUPPLY AND DEMAND THROUGH 2050 (VALUES IN ACRE-FEET)

Normal Year	2030	2035	2040	2045	2050
Supply	15,270	12,800	11,720	11,880	12,020
Demand[1]	15,270	12,800	11,720	11,880	12,020
Difference	0	0	0	0	0

Single Dry Year	2030	2035	2040	2045	2050
Supply	16,030	13,444	12,302	12,474	12,625
Demand[2]	16,030	13,444	12,302	12,474	12,625
Difference	0	0	0	0	0

[1]Normal Year demands from **Table 4-12** (unadjusted).

[2]Single Dry Year demands from **Table 4-12** and increased 5% as described in Section 4.4.6.

FIVE CONSECUTIVE DRY YEARS 2030-2050

As described in Chapter 3, some of the District's surface water supplies may have constraints in dry years, but are manageable over time such that, overall, the District's supplies are considered reliable. However, although the District has sufficient supplies to meet its five consecutive dry year demands, other regulatory constraints, like the declaration of a drought emergency by the Governor, State mandated water use reductions, or State-ordered curtailment of the District's water rights, could require the District to reduce water service to its customers.

The District also assumes that dry year Retail and WCA water use conditions would remain unconstrained during the dry years, causing a slight increase in the actual water need of the District's retail customers. This characterization of water demands provides a conservative estimation of demand conditions in a five-year drought scenario. Together, the supply availability as paired against the slightly increased demand conditions demonstrate that the District has sufficient supplies to meet five consecutive dry year conditions through 2050.

Table 5-5 below shows the annual water supply and demand conditions in five consecutive dry years from 2030 through 2050 for the Wholesale system.

Table 5-6 displays the results for the Retail system. Similar to the DRA, the Retail system's supplies are set equal to the forecast Retail customer "unconstrained" water use.

TABLE 5-5: WHOLESALE SYSTEM FIVE CONSECUTIVE DRY YEARS WATER SUPPLY AND DEMAND THROUGH 2050 (VALUES IN ACRE-FEET)

		2030	2035	2040	2045	2050
Year 1	Supply	46,750	46,750	46,750	46,750	46,750
	Demand	39,225	37,125	36,467	37,115	37,742
	Difference	7,525	9,625	10,283	9,635	9,008
Year 2	Supply	45,500	45,500	45,500	45,500	45,500
	Demand	38,805	36,993	36,597	37,241	37,868
	Difference	6,695	8,507	8,903	8,259	7,632
Year 3	Supply	44,250	44,250	44,250	44,250	44,250
	Demand	38,385	36,862	36,726	37,366	37,993
	Difference	5,865	7,388	7,524	6,884	6,257
Year 4	Supply	44,250	44,250	44,250	44,250	44,250
	Demand	37,965	36,730	36,856	37,491	38,119
	Difference	6,285	7,520	7,394	6,759	6,131
Year 5	Supply	45,500	45,500	45,500	45,500	45,500
	Demand	37,545	36,599	36,985	37,617	38,244
	Difference	7,955	8,901	8,515	7,883	7,256

TABLE 5-6: RETAIL SYSTEM FIVE CONSECUTIVE DRY YEARS WATER SUPPLY AND DEMAND THROUGH 2050 (VALUES IN ACRE-FEET)

		2030	2035	2040	2045	2050
Year 1	Supply	16,030	13,444	12,302	12,474	12,625
	Demand	16,030	13,444	12,302	12,474	12,625
	Difference	0	0	0	0	0
Year 2	Supply	15,513	13,216	12,336	12,504	12,655
	Demand	15,513	13,216	12,336	12,504	12,655
	Difference	0	0	0	0	0
Year 3	Supply	14,996	12,987	12,371	12,535	12,686
	Demand	14,996	12,987	12,371	12,535	12,686
	Difference	0	0	0	0	0
Year 4	Supply	14,478	12,759	12,405	12,565	12,716
	Demand	14,478	12,759	12,405	12,565	12,716
	Difference	0	0	0	0	0
Year 5	Supply	13,961	12,530	12,440	12,595	12,746
	Demand	13,961	12,530	12,440	12,595	12,746
	Difference	0	0	0	0	0

5.3. ANNUAL RELIABILITY ASSESSMENT

Each year, the District considers current supply and demand conditions and performs an annual water supply and demand assessment (Annual Assessment) pursuant to CWC §10632.1 to evaluate real time circumstances, which may differ from the projected DRA scenario. This assessment evaluates current water supply and use for a 12-month forecast from July through the following June. Procedures for conducting the Annual Assessment are contained in the District's Water Shortage Contingency Plan. The District has conducted the assessment as required by the CWC and will continue to provide a reliability assessment for current conditions regarding supplies and expected demands. Two scenarios are incorporated into the Annual Assessment:

- **Normal Year condition:** reflecting the availability of supplies under normal conditions and the estimate for "current" unconstrained demands.

- **Single-Dry Year condition:** reflecting the availability of supplies under a severe, single-dry year and elevated "current" unconstrained demands reflecting increased water use expected in a single dry year.

5.4. Water Supply Reliability Summary

The District's water supply portfolio is capable of meeting the water uses in its Wholesale and Retail service areas in normal, single dry, and five consecutive dry years from 2025 through 2050. Importantly, the demands presented in the various reliability assessments presented in this chapter are derived under the "100% INI" UWUO Scenario as these demands are larger than projected for the "20% INI" UWUO standard included in current regulations. Doing so produced a more conservative assessment of the District's capability to meet expected demands over the UWMP planning horizon.

CHAPTER 6
WATER SHORTAGE CONTINGENCY PLAN

SJWD's Wholesale System Water Shortage Contingency Plan (WSCP) is provided in Appendix A. SJWD's Retail System WSCP is provided in Appendix B.

The Retail System WSCP presents the District's response actions, as well as regulations on end uses that, when taken together, facilitate reduction in a retail supply-demand shortage condition should it occur.

The Wholesale System WSCP similarly provides the District's guidance on appropriate actions to be taken during various supply shortage conditions if they were to occur.

Key components of the WSCPs include:

- **Legal Authorities** – Explains the legal authorities relied on by SJWD to employ the WSCPs.
- **Water Supply Reliability Analysis** – Presents results from SJWD's near- and long-term reliability assessments included in this 2025 UWMP.
- **Water Supply and Demand Assessment Procedures** – Outlines the data and annual procedures SJWD will rely on to identify shortage conditions.
- **Water Shortage Stages** – Presents the shortage response actions to be employed during the four water shortage stages.
- **Communication Protocols** – Provides communication protocols SJWD will utilize for conveying WSCP messaging.
- **Financial Consequences of Enacting WSCP** – Presents the potential financial consequences and mitigation actions resulting from enactment of the WSCP.

APPENDIX A
WHOLESALE SYSTEM
WATER SHORTAGE CONTINGENCY PLAN

A.1. WHOLESALE SYSTEM WATER SHORTAGE CONTINGENCY PLAN

This Wholesale Water Shortage Contingency Plan (Wholesale WSCP) presents the San Juan Water District's (SJWD or District) plan and approach for identifying and mitigating various wholesale water shortage conditions should they arise. This Wholesale WSCP satisfies the requirements of California Water Code (CWC) §10632 and has been produced as part of SJWD's 2025 Urban Water Management Plan (UWMP) update, although SJWD's Wholesale WSCP and Retail WSCP can be amended, as needed, without the need to amend the UWMP. It is noted, the CWC does not prevent the District from taking actions not specifically contained in its WSCPs in response to supply shortage conditions.

The District maintains a companion Wholesale Surface Water Supply and Water Shortage Management Plan (WSMP) that provides additional detail specific to the District's implementation of its responsibilities to allocate water supplies pursuant to its Wholesale Water Supply Agreements with the Wholesale Customer Agencies (WCAs) – City of Folsom, Citrus Heights Water District, Fair Oaks Water District and Orangevale Water Company.

A.1.1. LEGAL AUTHORITIES

SJWD is organized under the Community Services District Law (California Government Code (CGC) §§61000-61250)[51] and is authorized to acquire and control waters for beneficial uses (CGC §61100 and CWC §71610). This authorization is, and has been, carried out consistent with Article X, Section 2, of the California Constitution, which declares and requires that water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use of water be prevented.

SJWD's power to enact and enforce water shortage contingency plans is found in CWC §71640, which authorizes SJWD to restrict the use of water it supplies during any threatened or existing water shortage, and to prohibit wastage of water during such periods. SJWD is

[51] The Community Services District Law states at §61100, "Within its boundaries, a district may,...Supply water for any beneficial uses, in the same manner as a municipal water district, formed pursuant to the Municipal Water District Law of 1911, Division 20 (commencing with Section 71000) of the Water Code."

authorized to prescribe and define by ordinance such restrictions, prohibitions and exclusions as SJWD determines to be necessary (CWC §71641). SJWD's findings as related to its adopted restrictions, prohibitions and exclusions continue unchanged unless and until a contrary finding is made by the SJWD Board by resolution or ordinance (CWC §71642).

The aforementioned powers derived from SJWD's organizing statutes are in addition to general powers granted to water distributors in CWC §§350-359 and §§375-378. CWC §350 authorizes the governing body of a distributor of a public water supply to declare a water shortage emergency 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 there would be insufficient water for human consumption, sanitation, and fire protection. Upon a finding of such an emergency condition, the distributor can adopt such regulations and restrictions on the delivery and consumption of water as will conserve the water supply for the greatest public benefit, with particular regard to domestic use, sanitation, and fire protection (CWC §353). The regulations and restrictions remain in force and effect until the supply of water available for distribution within such area has been replenished or augmented, and restrictions may include the right to deny new service connections and discontinue service for willful violations (CWC §355 and §356).

SJWD's Board of Directors (Board) has also ratified other policies, rules, and plans to identify and manage supply-shortage conditions and initiate appropriate response actions. SJWD's WSMP aims to address situations when available wholesale supplies are insufficient to meet all WCA wholesale demands, including those of SJWD's Retail customers. The WSMP was originally developed in 2008, recently updated, and the revised WSMP was adopted by the District's Board of Directors on April 28, 2021.

If conditions warrant, SJWD will coordinate with any city or county within which it provides water supply services for the possible proclamation of a "local emergency" pursuant to the California Emergency Services Act (see CGC §8558).

A.1.2. Water Supply Reliability Analysis

As part of SJWD's UWMP, reliability planning was conducted to evaluate the SJWD's ability to meet wholesale demands. Two separate efforts were conducted to characterize both long- and near-term reliability scenarios. A *Water Reliability Assessment* incorporating analyses of a normal water year, a single dry year, and a drought lasting five consecutive years, has been conducted to evaluate the District's long-term supply/demand balance over the next 25 years, in five-year increments. A *Drought Risk Assessment* has also been conducted which assumes the occurrence of a drought over the next five years, and provides an assessment of the District's near-term reliability.

Results of both *Assessments* identified above are presented in detail in the District's 2025 UWMP and conclude SJWD has sufficient wholesale supplies through 2050 to meet demands under the normal, single dry year, and five-year drought conditions. Similarly, the District's *Drought Risk Assessment* demonstrated SJWD would be able to access and deliver sufficient supplies to meet expected wholesale demands during a drought occurring over the next five consecutive years (2026-2030). It is noted that regulatory and/or State emergency declarations have in the past required the District to conserve significant amounts of water notwithstanding having sufficient supplies available to meet higher customer demands. This could occur again in the future, with SJWD having to make a supply shortage stage declaration pursuant to this WSCP, triggered by external regulatory requirements rather than its actual water supply availability.

A.1.3. Annual Wholesale Water Supply and Demand Assessment Procedures

The District conducts an *Annual Wholesale Supply and Demand Assessment* to help inform water resources management decisions for the coming year. The analysis incorporates numerous data sources and evaluation criteria to project probable demands and supply availability, as well as coordination with the WCAs.

The *Annual Wholesale Water Supply and Demand Assessment* process is a collaborative effort conducted in consultation with the WCAs. The District may modify this process based on available data, significant events, process restrictions, or other external factors that may impact the process. Pursuant to the WSMP, and this WSCP, the Board maintains exclusive purview to make a shortage declaration.

The general procedure for developing the annual wholesale water supply/demand assessment is as follows:

1. Compile existing weather data and available forecasts.
2. The projected dry year supply availability is based on the District's Single Dry Year supply availability as detailed in its 2025 UWMP (approximately 46,750 acre-feet). SJWD may modify this supply availability based on conditions at the time of the assessment.
3. Receive and review unconstrained demand projections for SJWD Retail and the WCAs.
4. Assess available wholesale supply based on projections for current year and dry year scenarios.

5. Identify and incorporate any applicable constraints (infrastructure, regulatory, etc.) regarding accessibility of supply, as well as delivery thereof.
6. Compare projected wholesale supplies with anticipated wholesale demands.
7. Develop, analyze, and propose water resource management strategies to address the projected demand to supply comparison, including reference to the water shortage stages identified in the District's Retail WSCP as well as coordination with the WCA's respective WSCPs.
8. *Annual Wholesale Water Supply and Demand Assessment* (and proposed conservation stage declaration, if applicable) presented to the SJWD Board of Directors.

The general proposed timeline is as follows:

- Begin assessment by District staff and WCAs – February
- Present assessment to Board of Directors – April
- Submit to State per CWC §10632.1 – No later than July 1

A.1.4. Water Shortage Stages

The District's WSCP includes operational criteria for a "Normal Water Supply" condition as well as for four water shortage stages. Results from the *Annual Wholesale Water Supply and Demand Assessment* are presented to the Board to determine if a respective shortage stage needs to be declared. The WSMP provides procedures and process for SJWD actions and supply delivery reductions based on each respective WCA's past supply deliveries and other factors. The percent reduction of supply deliveries will be determined for each respective WCA and under each respective declared shortage condition. The five supply stages are:

Normal Water Supply: No restrictions on supply availability

Stage 1 – Alert: Up to 10 percent supply shortage

Stage 2 – Warning: Up to 25 percent supply shortage

Stage 3 – Crisis: Up to 50 percent supply shortage

Stage 4 – Emergency: Over 50 percent supply shortage

The stages presented in this Wholesale WSCP differ from the State-identified shortage levels of 10, 20, 30, 40, 50, and greater than 50 percent shortage. Pursuant to CWC §10632(a)(3)(B),

Table A-1 cross-references this Wholesale WSCP's shortage levels to the State-identified levels. SJWD supply characteristics and reliability are better suited for the existing four drought stages identifying 10, 25, 50, and >50 percent supply shortages.

TABLE A-1: CORRESPONDING SHORTAGE LEVELS

State Mandated Shortage Levels	SJWD WSCP Stages	
Stage 1: 0 – 10%	Stage 1 – Alert	0 – 10%
Stage 2: 10 – 20%	Stage 2 – Warning	10 – 25%
Stage 3: 20 – 30%	Stage 2 – Warning Stage 3 – Crisis	10 – 25% 25 – 50%
Stage 4: 30 – 40%	Stage 3 – Crisis	25 – 50%
Stage 5: 40 – 50%	Stage 3 – Crisis	25 – 50%
Stage 6: >50%	Stage 4 – Emergency	>50%

A.1.5. COMMUNICATION PROTOCOLS

Communication protocols for the Wholesale WSCP include outreach and notification to the WCAs and customers and entities within the District upon a change in stage declaration. Such communication will be delivered by direct-mail, electronic mail, District website, and media outlets. Other regional agencies, including the Regional Water Authority (RWA), will be notified of the initiation of the identified shortage stage and subsequent Wholesale WSCP stage declarations.

SJWD will coordinate with its WCAs, Placer County Water Agency (PCWA), Sacramento Suburban Water District (SSWD), the City of Folsom, as well as the counties of Placer and Sacramento, if anticipated water supplies and demands necessitate the declaration of a local emergency.

A.1.6. FINANCIAL CONSEQUENCES OF WSCP

Decreased revenues and increased costs are expected during water shortage conditions. Assuming a reduction in sales commensurate with a particular WSCP stage declaration, a decrease in total revenues in the range of 3 to 10 percent may be expected. Over time, the District has implemented a wholesale rate structure that is less dependent on volumetric-based deliveries with revenues for wholesale deliveries being more dependent on fixed charges.

Public outreach and regional coordination efforts are expected to increase total costs to the District when operating under a water shortage condition. These additional efforts become prioritized for current staff, and other normal work efforts and projects are likely to be delayed or reassigned. If conditions warrant, the District may need to hire additional staff or seek assistance through third-party service providers.

Although wholesale water deliveries decreased overall during the last drought (FY 2019-20 through FY 2021-22), various factors and actions resulted in water rate revenue only declining approximately 4.7 percent during those Fiscal Years.

Expenses affected by a drought include the cost of purchased water, power costs to pump water, and water efficiency program costs. Water purchase costs can fluctuate significantly depending on the year. Power costs will decrease with less pumping and treatment. Water efficiency program costs increase due to the need to amplify conservation messaging throughout the Wholesale system service area.

Historically, savings resulting from reduced costs of purchased water and energy have been greater than the costs associated with increasing the District's conservation program efforts. For example, during the last drought the cost of purchased water fell, chemical costs fell and water efficiency program costs increased. Taken together, reflecting the different scales of these expense categories, the District experienced a net decrease in their combined costs. Ultimately, these savings partially mitigated the impact of the rate revenue reduction over the same period.

Most of the District's operating expenses are fixed, meaning the costs of maintaining and operating the system do not change much based upon more or less water flowing through the distribution system for delivery. Variable costs, which are closely related to the amount of water delivered, include power for the water treatment plan, chemicals for water treatment, as well as the actual cost of water.

As a consequence of the District recently applying rate increases to the fixed component of the rate, future droughts should have less impact on revenues than that seen in previous droughts.

SJWD maintains financial reserves that can be used to buffer potential revenue impacts of reduced wholesale and retail water sales during a WSCP stage declaration, should it be prudent to do so. These reserves are a tool that can be used by the District to maintain more stable rates during times of imbalanced revenues and expenses that may be caused by reduced water usage during dry periods. In addition to utilizing financial reserves, the District

may enact a range of financial management actions depending on the specific situation that could include:

- Enact Drought Rate structure (Stage 2 and higher)
- Capital project deferment
- Operational and maintenance expense deferment

A.1.7. Plan Adoption, Submittal, and Availability

The Wholesale and Retail WSCPs (including subsequent updates) shall be adopted in accordance with standard District procedures, including requirements for public participation (public hearing), and approval by the SJWD Board of Directors. Upon adoption, the WSCPs will be submitted to DWR within 30 days. The adopted WSCPs will be available on the District's website, as well as at the District office.

APPENDIX B
RETAIL SYSTEM
WATER SHORTAGE CONTINGENCY PLAN

B.1. Retail System Water Shortage Contingency Plan

This Water Shortage Contingency Plan (WSCP) presents San Juan Water District's (SJWD or District) plan and approach for identifying and mitigating various water shortage conditions should they arise. This WSCP satisfies the requirements of California Water Code (CWC) §10632 and has been produced as part of SJWD's 2025 Urban Water Management Plan (UWMP) update, although the WSCP can be amended, as needed, without the need to amend the UWMP. It is noted, the CWC does not prevent the District from taking actions not specifically contained in its WSCP in response to supply shortage conditions.

B.1.1. Legal Authorities

SJWD is organized under the Community Services District Law (California Government Code (CGC) §§61000-61250)[52] and is authorized to acquire and control waters for beneficial uses (CGC §61100 and CWC §71610). This authorization is, and has been, carried out consistent with Article X, Section 2, of the California Constitution, which declares and requires that water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use of water be prevented.

SJWD's power to enact and enforce water shortage contingency plans is found in CWC §71640, which authorizes SJWD to restrict the use of water it supplies during any threatened or existing water shortage, and to prohibit wastage of water during such periods. SJWD is authorized to prescribe and define by ordinance such restrictions, prohibitions and exclusions as SJWD determines to be necessary (CWC §71641). SJWD's findings as related to its adopted restrictions, prohibitions and exclusions continue unchanged unless and until a contrary finding is made by the SJWD Board by resolution or ordinance (CWC §71642).

The aforementioned powers derived from SJWD's organizing statutes are in addition to general powers granted to water distributors in CWC §§350-359 and §§375-378. CWC §350

[52] The Community Services District Law states at §61100, "Within its boundaries, a district may,...Supply water for any beneficial uses, in the same manner as a municipal water district, formed pursuant to the Municipal Water District Law of 1911, Division 20 (commencing with Section 71000) of the Water Code."

authorizes the governing body of a distributor of a public water supply to declare a water shortage emergency 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 there would be insufficient water for human consumption, sanitation, and fire protection. Upon a finding of such an emergency condition, the distributor can adopt such regulations and restrictions on the delivery and consumption of water as will conserve the water supply for the greatest public benefit, with particular regard to domestic use, sanitation, and fire protection (CWC §353). The regulations and restrictions remain in force and effect until the supply of water available for distribution within such area has been replenished or augmented, and restrictions may include the right to deny new service connections and discontinue service for willful violations (CWC §355 and §356).

The District's Board has adopted its UWMP and WSCPs in Resolutions 26-XX [to be updated upon adoption] and 26-XX [to be updated upon adoption], respectively. The two Resolutions authorize the implementation and enforcement of this WSCP, which is included in the 2025 UWMP.

SJWD also coordinates with any city or county within which it provides water supply services for the possible proclamation of a "local emergency" pursuant to the California Emergency Services Act (see CGC §8558).

B.1.2. Water Supply Reliability Analysis

As part of SJWD's UWMP, reliability planning was conducted to evaluate the District's ability to meet demands. Two separate efforts were conducted to characterize both long- and near-term reliability scenarios. The Water Reliability Assessment is conducted for a normal year, single dry year, and a drought lasting five consecutive years, and is used to evaluate long-term supplies with demands over the next 25 years, in five-year increments. The Drought Risk Assessment assumes the occurrence of a drought over the next five years and aims to assess the District's near-term reliability.

Results from the Water Reliability Assessment indicate SJWD has ample supplies through 2050 to meet demands under the normal, single dry year, and five-year drought conditions. Similarly, the District's Drought Risk Assessment indicates sufficient supplies to meet expected demands during an assumed drought occurring in the next five consecutive years (2026-2030).

B.1.3. Annual Water Supply and Demand Assessment Procedures

The District conducts an annual analysis of supply and demand projections to help inform water resources management decisions for the coming year. The analysis incorporates

numerous data sources and evaluation criteria to project probable demands and supply availability for the coming year, including:

- Projected weather conditions
    - Precipitation versus historical
    - Snow survey results
- Projected Unconstrained Demand
    - Production versus historic on monthly basis
    - New customer growth
    - Identify artificially supplied water features separate from swimming pools and parks
    - Water Use Objective Reports
- Projected Supply Availability
    - Folsom Lake level
    - Folsom Lake projected inflow
    - USBR forecasts
    - SJWD supply projections
    - Antelope pump back availability
    - PCWA supply availability
- Regulatory conditions and mandates

The general procedure for developing the annual water supply/demand assessment is listed below. The District may modify this process based on available data, significant events, process restrictions, or other external factors that may impact the process.

1. Compile existing weather data and available forecasts.
2. The projected dry year supply availability is based on the District's Single Dry Year wholesale supply availability as detailed in its 2025 UWMP (approximately 46,750 acre-feet) The District may modify this supply availability based on conditions as the time of the assessment.
3. Estimate unconstrained District demands based on recent and representative customer use data. Development of unconstrained demand will incorporate recent use patterns (unit factors for each customer type) and anticipated customer growth.

4. Assess available supply based on projections for current year and dry year scenarios.
5. Identify and incorporate any applicable constraints (infrastructure, regulatory, etc.) regarding accessibility of supply.
6. Compare projected supplies with anticipated District demands.
7. Develop, analyze, and propose water resource management strategies to address the projected demand to supply comparison, including reference to the water shortage stages identified in this WSCP.
8. Annual Water Supply and Demand Assessment (and proposed conservation stage declaration, if applicable) presented to the SJWD Board of Directors for concurrence.

The general proposed timeline is as follows:

- Begin assessment by District staff – March/April
- Present assessment to Board of Directors – May
- Submit to State per CWC §10632.1 – No later than July 1

B.1.4. Water Shortage Stages

The following subsections and tables present information on the District's supply scenarios, including Normal Water Supply and four water shortage stages. Results from the *Annual Water Supply and Demand Assessment* are used to determine if a respective shortage stage needs to be declared. No provisions of this WSCP shall apply to fire hydrants, fire mains, fire sprinkler lines or other equipment used solely for fire protection purposes. Nor shall any provisions apply to any hospital, health care or convalescent facility or any other type of facility where the health and welfare would be affected by restrictions on water used, nor shall it apply to veterinary hospitals. Such facilities are encouraged to conserve water to the extent possible. However, this WSCP does apply to the outdoor grounds, yards, and parking areas of these facilities.

Normal Water Supply

Under Normal Water Supply conditions, the District's water supply and distribution system is expected to be able to meet all the water demands of its customers in the immediate future. Regulations for Normal Water Supply are applicable to all stages and include the following:

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.

2. Water shall be confined to the customer's property and shall not be allowed to run off to adjoining properties or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.
3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.
4. Leaking customer pipes or faulty sprinklers shall be repaired within five working days or less if warranted by the severity of the problem.
5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof.
6. Washing streets, parking lots, driveways, sidewalks, or buildings, except as necessary for health, esthetic or sanitary purposes, is prohibited.
7. Customers are encouraged to take advantage of the District's water conservation programs and rebates.
8. Restaurants shall serve water only upon request.

TABLE B-1: STAGE 1 - ALERT

10% Supply Shortage
Actions and regulations in place under Normal Water Supply conditions, plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 10 percent gap between supplies and demands.
District Actions • Increase drought awareness through additional public outreach measures that notify public and customers of declared stage, requirements, and available conservation program support. • Leak repair on District mains and laterals receives higher priority. • Standard rates in effect. • Increased monitoring of customer use. • Accelerate applicable infrastructure repairs and improvements.
Customer Actions • Reduce total water use by 10% compared to normal use. Contact the District or visit sjwd.org for tips and techniques to reduce indoor and outdoor water use. • Leaking customer pipes or faulty sprinklers shall be repaired within two working days or less if warranted by the severity of the problem. • Outdoor irrigation is limited to three days per week. Odd addresses, streetscapes, and medians shall limit watering to Tuesdays, Thursdays, and Saturdays; even addresses shall limit watering to Wednesdays, Fridays, and Sundays. • Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations. • Users of construction meters and fire hydrant meters will be monitored for efficient water use.

TABLE B-2: STAGE 2 - WARNING

25% Supply Shortage
Actions and regulations in place under preceding stages, plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 25 percent gap between supplies and demands.
District Actions • Increase drought awareness through additional public outreach measures that notify public and customers of declared stage, requirements, and available conservation program support. • Decrease system flushing frequency. • Implement Drought Rates consistent with Proposition 218 and California law. • Implement water waste patrols and enforcement efforts to identify and address excessive or non-compliant water use.
Customer Actions • Reduce total water use by 25% compared to normal use. Contact the District or visit sjwd.org for tips and techniques to reduce indoor and outdoor water use. • Leaking customer pipes or faulty sprinklers shall be repaired within 24 hours or less if warranted by the severity of the problem. • Outdoor irrigation is limited to two days per week on the assigned day, and shall be confined to customer's property. Odd addresses, streetscapes, and medians shall limit watering to Tuesdays and Saturdays; even addresses shall limit watering to Wednesdays and Sundays. No irrigation is permitted on Mondays, Thursdays and Fridays. Irrigation should be limited to the minimal amount of water necessary to keep plants and trees alive. • Application of potable water to outdoor landscapes during and within 24 hours after measurable rainfall is prohibited.

TABLE B-3: STAGE 3 - CRISIS

50% Supply Shortage
Actions and regulations in place under preceding stages, plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 50 percent gap between supplies and demands.
District Actions • Increase drought awareness through additional public outreach measures that notify public and customers of declared stage, requirements, and available conservation program support. • No commitments will be made to provide service for new water service connections. • Increase water waste patrols and enforcement efforts to identify and address excessive or non-compliant water use.
Customer Actions • Reduce total water use by 50% compared to normal use. Contact the District or visit sjwd.org for tips and techniques to reduce indoor and outdoor water use. • Leaking customer pipes or faulty sprinklers shall be repaired immediately. Water service will be suspended until repairs are made. • Outdoor irrigation is limited to one day per week on the assigned day, and shall be confined to customer's property. Even number addresses may irrigate only on Tuesdays and odd number addresses may irrigate only on Wednesdays. • Application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall is prohibited. • Water for flow testing and construction purposes from fire hydrants and blow-offs using District water supplies is prohibited. Prohibited uses include, but not limited to, dust control, compaction, or trench jetting. Use of regulatory compliant reclaimed water for construction purposes is encouraged. Reclaimed water is not currently available within the District's service area and would need to be obtained elsewhere. • Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations or unless specifically authorized by the District. • Installation of new turf, lawn, and/or landscaping is prohibited until the District moves to a Stage 2 or less. • Automobiles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water. • *Special Water Feature Distinction* – No potable water from the District's system shall be used to fill or refill swimming pools, artificial lakes, ponds or streams. Water use for ornamental ponds, artificial lakes, and/or fountains is prohibited.

TABLE B-4: STAGE 4 - EMERGENCY

Greater than 50% Supply Shortage
Actions and regulations from preceding stages plus those listed below. Actions will be identified to address each specific shortage situation to eliminate the gap between supplies and demands.
District Actions • Increase drought awareness through additional public outreach measures that notify public and customers of declared stage, requirements, and available conservation program support. • Health and safety use of water only. • Declare Water Shortage Emergency in accordance with Section 350 of Division 1, Chapter 3 Water Shortage Emergencies of the California Water Code.
Customer Actions • Health and safety use of water only. • No outdoor irrigation is allowed.

B.1.5. CROSS-REFERENCE TO STATE MANDATED WATER SHORTAGE LEVELS

The stages presented in this WSCP differ, consistent with DWR guidance, from the State identified shortage levels of 10, 20, 30, 40, 50, and greater than 50 percent shortage. Pursuant to CWC §10632(a)(3)(B), **Table B-5** cross-references this WSCP's shortage levels to the State identified levels above. SJWD supply characteristics and reliability are better suited for the existing four drought stages identifying 10, 25, 50, and >50 percent supply shortages.

TABLE B-5: CORRESPONDING SHORTAGE LEVELS

State Mandated Shortage Levels	SJWD WSCP Stages	
Stage 1: 0 – 10%	Stage 1 – Alert	0 – 10%
Stage 2: 10 – 20%	Stage 2 – Warning	10 – 25%
Stage 3: 20 – 30%	Stage 2 – Warning Stage 3 – Crisis	10 – 25% 25 – 50%
Stage 4: 30 – 40%	Stage 3 – Crisis	25 – 50%
Stage 5: 40 – 50%	Stage 3 – Crisis	25 – 50%
Stage 6: >50%	Stage 4 – Emergency	>50%

B.1.6. Enforcement and Variances

Water conservation enforcement measures for all stages, including Normal Water Supply, are outlined in District Amended Ordinance 23000 (District Water Conservation Program), found at the following link: https://www.sjwd.org/code-of-ordinances

The sequence of notification, discontinuance of service and progressive reconnect fees are as follows:

A. Notify Customer of water waste condition in writing offering District "irrigation auditor" and/or Master Gardener service, use of resource library, etc., to help correct the situation, and follow up with one-on-one contact over a two-week period.

B. After the two-week period, if the correction is not made a second letter will be sent giving specific date for correction and notice that the District will, after that date, terminate service until a reconnection fee is paid and the correction is made.

The reconnect fee shall be progressive by violation (failure to correct or eliminate water waste condition). See the District's Schedule of Rates, Charges, Fees, and Deposits for the progressive reconnect fee amounts. The District may issue a variance pursuant to Ordinance Number 7000 (Modification of Code Requirements), found at the following link: https://www.sjwd.org/code-of-ordinances

Upon a customer's filing of a petition for variance, the Board of Directors will review the petition, and may grant or deny such petition. Any variance shall be effective only upon such Board approval, which shall set forth the terms and condition thereof. Each waiver or modification provided by the variance shall be limited to the Person and property identified in the petition.

B.1.7. Communication Protocols

Communication protocols for the WSCP include public outreach and notification to customers and entities within the District upon a change in stage declaration. Information shall include and describe the appropriate shortage response actions for the declared stage. Such communication will be delivered by direct-mail, District website, and media outlets. Other regional agencies, including the District's Wholesale Customer Agencies (City of Folsom, Citrus Heights Water District, Fair Oaks Water District and Orangevale Water Company) and the Regional Water Authority (RWA), will be notified of the initiation of the identified shortage stage and subsequent WSCP stage declarations.

SJWD will coordinate with its WCAs, Placer County Water Agency (PCWA), Sacramento Suburban Water District (SSWD), the City of Folsom, as well as the counties of Placer and

Sacramento, if anticipated water supplies and demands necessitate the declaration of a local emergency.

B.1.8. Financial Consequences of WSCP

Decreased revenues and increased costs are expected during water shortage conditions and enhanced enforcement of prohibitions against excessive residential water use during a drought (compliance with Chapter 3.3, Division 1 of the CWC). Assuming a reduction in sales commensurate with the particular WSCP stage declaration, an estimated decrease in total revenues in the range of 3 – 15 percent may be expected.[53]

Additional monitoring, public outreach, and enforcement is expected to increase total costs to the District when operating under a water shortage condition. These additional efforts become prioritized for current staff, and other normal work efforts and projects are likely to be delayed or reassigned. If conditions warrant the District may need to hire additional staff or seek assistance through third-party service providers.

Expenses affected by a drought include the cost of purchased water, power costs to pump water, and water efficiency program costs. Water purchase and power costs decrease during a drought as there is simply less water purchased and pumped. Water efficiency program costs increase due to the need to amplify conservation messaging to our customers and incentivizing increased conservation by providing additional rebates.

Historically, savings resulting from reduced costs of purchased water and energy have been greater than the costs associated with increasing our conservation program efforts. For example, during the last drought (2021-2022) the cost of purchased water fell (despite wholesale rate increases), power costs fell and water efficiency program costs increased slightly due to increased professional services and supply costs. Taken together, reflecting the different scales of these three expense categories, the District experienced a decrease in their combined costs[54]. Ultimately, these savings partially mitigated the impact of the rate revenue reduction over the same period.

Most of the District's operating expenses are fixed, meaning the costs of maintaining and operating the system do not change much based upon more or less water flowing through the distribution system for delivery. Variable costs, which are closely related to the amount of water delivered, include power for the pump stations as well as the actual cost of water.

[53] Estimated based on 2025 retail deliveries and rate structures.

[54] Adopted Budget Fiscal Year 2025-2026: https://www.sjwd.org/district-budget#docaccess-1eacf209d5aaad73fc82eab83957d479ecc1b1f45018b76b3774451ab29e78d9

Operating expenses fluctuated but mostly increased during the last drought years. Most of the increases were due to increased materials and supplies costs during drier year conditions. Operating costs decreased as the drought ended.

SJWD maintains financial reserves that can be used to buffer potential revenue impacts of reduced water sales during a WSCP stage declaration, should it be prudent to do so. These reserves are a tool that can be used by the District to maintain more stable rates during times of imbalanced revenues and expenses that may be caused by reduced water usage during dry periods. In addition to utilizing financial reserves, the District may enact a range of financial management actions depending on the specific situation that could include:

- Enact Drought Rate structure (Stage 2 and higher)
- Capital project deferment
- Operational and maintenance expense deferment

B.1.9. Monitoring and Reporting

The District will monitor customer use through real-time metering. Data collected from the real-time meters allows close tracking of water demands during a declared shortage stage. The ability to track performance metrics allows refinement and enhancement of the WSCP by providing valuable data, including information on customer use and system loss. Real-time monitoring also offers insight regarding the efficacy of a declared shortage stage and associated shortage response actions.

Reporting on the implementation of the WSCP will be provided by District staff at regularly scheduled Board meetings. District staff will update the Board (and public) on the Water Conservation Program, including information on the performance of the declared shortage stage.

The District will also report information to the State regarding implementation of this WSCP as required.

B.1.10. Response Action Estimates

The following table presents the individual estimated demand savings of each response action. Actual savings will likely vary greatly based on external influences, shortage stage level, and general customer understanding of drought severity. It is assumed the savings estimates are not necessarily additive, but when implemented together as a program with all the actions in each respective stage, they are intended and estimated to eliminate each stage's identified supply to demand shortage gap.

TABLE B-6: SHORTAGE RESPONSE ACTION MEASURE ESTIMATES

Stage	Shortage Response Actions	Potential Shortage Gap Reduction
1+	District – Increase drought awareness through additional public outreach measures that notify pubic and customers of declared stage, requirements, and available conservation program support.	3-5%
1+	District – Leak repair on District mains and laterals receives higher priority.	0-2%
1+	District – Increased monitoring of customer use.	0-3%
1+	District – Accelerate applicable infrastructure repairs and improvements.	0-3%
1	Customer – Reduce total water use by 10%.	Up to 10%
1	Customer – Leaking pipes or faulty sprinklers shall be repaired within two working days or less if warranted by the severity of the problem.	0-1%
1	Customer – Outdoor irrigation is limited to three times per week. Odd addresses, streetscapes, and medians shall limit watering to Tuesdays, Thursdays, and Saturdays; even addresses shall limit watering to Wednesdays, Fridays, and Sundays.	3-5%
1+	Customer – Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	0-1%
1+	Customer – Users of construction meters and fire hydrant meters will be monitored for efficient water use.	0-2%
2+	District – Decrease system flushing frequency.	1-2%
2+	District – Implement Drought Rate consistent with Proposition 218 and California law.	8-12%
2+	District – Implement water waste/use patrols.	0-2%
2	Customer – Reduce total water use by 25%.	Up to 25%
2	Customer – Leaking customer popes or faulty sprinklers shall be repaired within 24 hours or less if warranted by the severity of the problem.	0-1%
2	Customer – Outdoor irrigation is limited to two days per week. Odd addresses, streetscapes, and medians shall limit watering to Tuesday, and Saturday; even addresses shall limit watering to Wednesdays and Sundays. No irrigation is permitted on Mondays, Thursdays, and Fridays. Irrigation should be limited to the minimal amount of water to keep plans and trees alive.	5-20%
2	Customer – Application of potable water to outdoor landscapes during and within 24 hours after measurable rainfall is prohibited.	1-2%
2+	Customer – Restaurants shall serve water only upon request.	0-1%
3+	District – No commitments will be made to provide service for new water service connections.	1-2%
3+	District – Increase water waste/use patrols.	0-2%

Stage	Shortage Response Actions	Potential Shortage Gap Reduction
3	Customer – Reduce total water use by 50%.	Up to 50%
3+	Customer – Leaking customer pipes or faulty sprinklers shall be repaired immediately. Water service will be suspended until repairs are made.	0-1%
3	Customer – Outdoor irrigation is limited to one day per week on the assigned day, and shall be confined to customer's property. Even number addresses may irrigate only on Tuesdays and odd number addresses may irrigate only on Wednesdays.	20-40%
3	Customer – Application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall is prohibited.	1-2%
3	Customer – Water for flow testing and construction purposes from fire hydrants and blow-offs using District water supplies is prohibited.	0-1%
3	Customer – Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations or unless specifically authorized by the District.	0-2%
3+	Customer – Installation of new turf, lawn, and/or landscaping is prohibited until the District moves to a Stage 2 or less.	0-3%
3+	Customer – Automobiles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water.	0-1%
3+	Customer – No potable water from the District's system shall be used to fill or refill swimming pools, artificial lakes, ponds or streams. Water use for ornamental ponds, artificial lakes, and/or fountains is prohibited.	0-1%
4	District – Health and safety use of water only.	2-4%
4	District – Declare Water Shortage Emergency in accordance with Section 350 of Division 1, Chapter 3 Water Shortage Emergencies of the California Water Code.	Varies
4	Customer – Health and safety use of water only.	At least 50%
4	Customer – No outdoor irrigation is allowed.	15-25%

B.1.11. WSCP Refinement Procedures

The District's WSCP is an adaptive plan that allows for active refinement to respond to particular shortage conditions. The general procedures for refinement are presented below.

1. For each shortage response action, compare expected results with actual shortage response and identify any shortfall or over achievement.
2. Revise expected reduction for a specific shortage response action based on updated information.

3. Assess the aggregate expected reductions (from revised shortage response actions) for each shortage stage.

4. Revise stage declaration or modify stage shortage response actions to better balance demands with supplies.

The procedures presented above aim ensure an adaptive WSCP that is able to be relied upon under various and changing circumstances.

B.1.12. Plan Adoption, Submittal, and Availability

The WSCP (including subsequent updates) shall be adopted in accordance with standard District procedures, including requirements for public participation (public hearing), and approval by the SJWD Board of Directors. Upon adoption, the WSCP will be provided to the City of Folsom, Placer and Sacramento counties, and submitted to DWR within 30 days. The adopted WSCP will be available on the District's website, as well as at the District office.

B.1.13. Seismic Risk Assessment and Mitigation Plan

California Water Code §10632.5 requires urban water suppliers to include a seismic risk assessment and mitigation plan as part of their Urban Water Management Plan. This requirement may be met by submitting the most recently adopted Local Hazard Mitigation Plan or Multi-Jurisdictional Hazard Mitigation Plan prepared under the federal Disaster Mitigation Act of 2000, provided the plan addresses seismic hazards relevant to the supplier's service area.

SJWD satisfies this requirement by submitting the Sacramento County Multi-Jurisdictional Local Hazard Mitigation Plan. Sacramento County, together with the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, Isleton, and Rancho Cordova, as well as numerous special districts, completed an update to the countywide LHMP in 2021. The 2021 plan includes a comprehensive assessment of earthquake hazards and liquefaction potential within Sacramento County, including the SJWD service area.

According to the hazard assessment in the 2021 LHMP, earthquake and liquefaction probability is categorized as occasional (between 1-10% chance of occurrence in next years). The overall significance of both hazards is rated as low, indicating minimal projected impacts on District facilities and infrastructure. Communities with a FEMA-approved LHMP remain eligible for FEMA pre- and post-disaster mitigation grant funding and benefit from reduced flood insurance premiums through the National Flood Insurance Program Community Rating System.

Sacramento County has initiated a new LHMP update process, beginning in late 2025, to develop the 2026 Multi-Jurisdictional LHMP. This update will include revised hazard identification, updated risk assessments, and a reprioritization of mitigation actions and projects for all participating jurisdictions. Once adopted, SJWD will incorporate the Sacramento County 2026 LHMP into its planning documents and will submit the most recent adopted LHMP as part of future UWMP updates.

Placer County is currently in the process updating its Multi-Jurisdictional Hazard Mitigation Plan. Information from the March 2026 public review draft provides similar assessments regarding earthquake and other hazards specific to the District's service area. (Annex T) Per the Placer County Multi-Jurisdictional Hazard Mitigation Plan, the probability of a significant earthquake affecting the retail service area is occasional and the significance classified as high (widespread potential impact).

The District will continue to monitor seismic hazard information and incorporate mitigation actions identified into its capital improvement planning, asset management, and emergency response procedures.

Copies of the Sacramento County Multi-Jurisdictional LHMP and Placer County Multi-Jurisdiction Hazard Mitigation Plan can be accessed at the following locations:

Sacramento County:
https://waterresources.saccounty.gov/us/en/stormready/hazards/mitigation-plan.html#gsc.tab=0

Placer County:
https://www.placer.ca.gov/1381/Local-Hazard-Mitigation-Plan

APPENDIX C
ADOPTING RESOLUTIONS

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