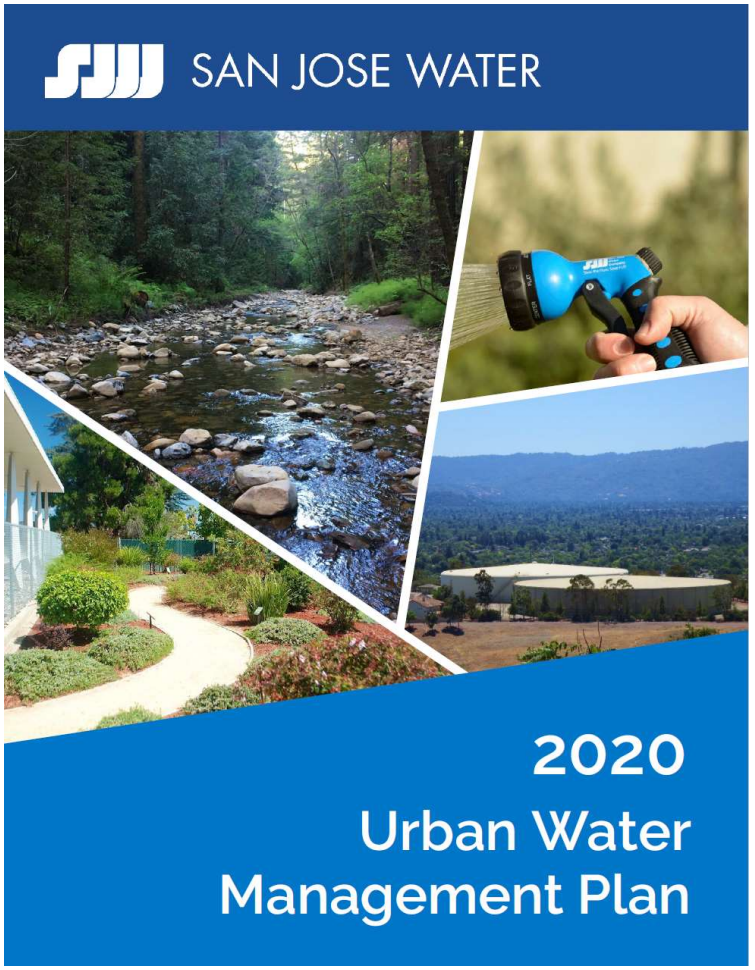
SAN JOSE WATER

2020 Urban Water Management Plan and Water Shortage Contingency Plan

June 11, 2021

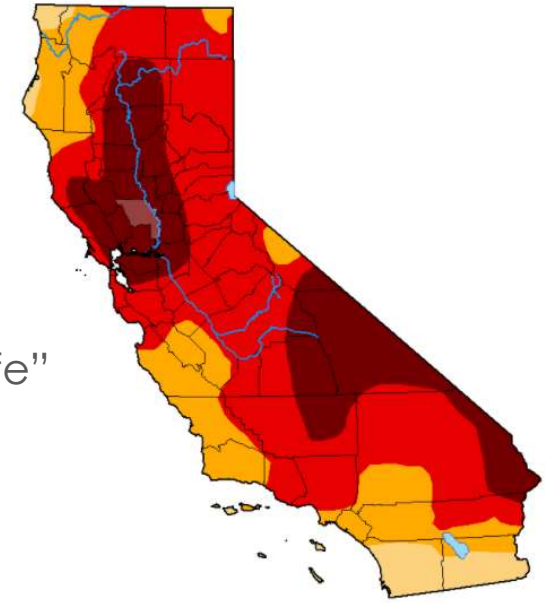
Introduction and Overview

- Urban Water Management Planning Act of 1983
- UWMP prepared every five years, due by July 1st to the State
- Prepared per Water Code requirements and guidelines from Department of Water Resources (DWR)
- Water resources planning document
  - Population/demand projections and water supply reliability analysis out to 2045
  - Water Shortage Contingency Plan
  - Water conservation measures



Major Legislative Updates

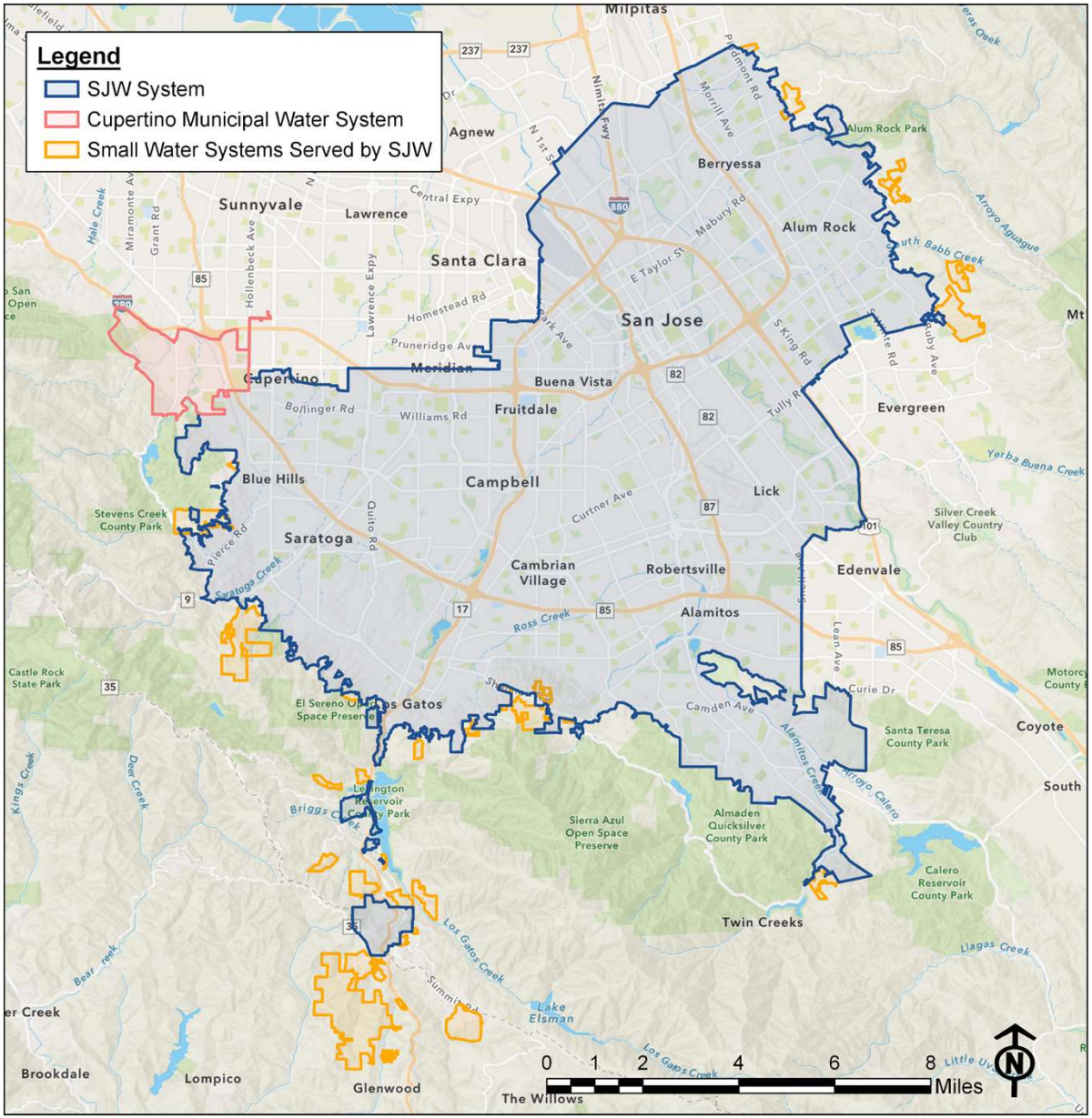
- Senate Bill (SB) x7-7
  - California Water Conservation Act of 2009
  - Statewide 20% reduction in urban water use by year 2020



- SB 606 and Assembly Bill (AB) 1668
  - "Making Water Conservation a California Way of Life"
  - Establish long-term urban water use efficiency standards
    - Indoor residential use
    - Outdoor residential use
    - Outdoor commercial, industrial, and institutional (CII) use
    - Water loss performance standards

Service Area

- Investor-owned utility regulated by the California Public Utilities Commission (CPUC)
- Service to approx. 1 million people (~230,000 active metered services)
- Lease agreement to operate the Cupertino Municipal Water System
- Service to other small water systems
- 145 square miles of total service area



Population Projections

- Baseline 2010 population estimate based on Census 2010 data
  - Census 2020 not available yet on the Census block level
- Population growth based on Association of Bay Area Governments (ABAG) Plan Bay Area 2040
  - ABAG Plan Bay Area 2050 currently in development

SJW Service Area Population Estimates					
2020	**2025**	**2030**	**2035**	**2040**	**2045**
997,817	1,069,633	1,127,593	1,191,337	1,261,145	1,335,044

ASSOCIATION OF BAY AREA GOVERNMENTS

METROPOLITAN TRANSPORTATION COMMISSION

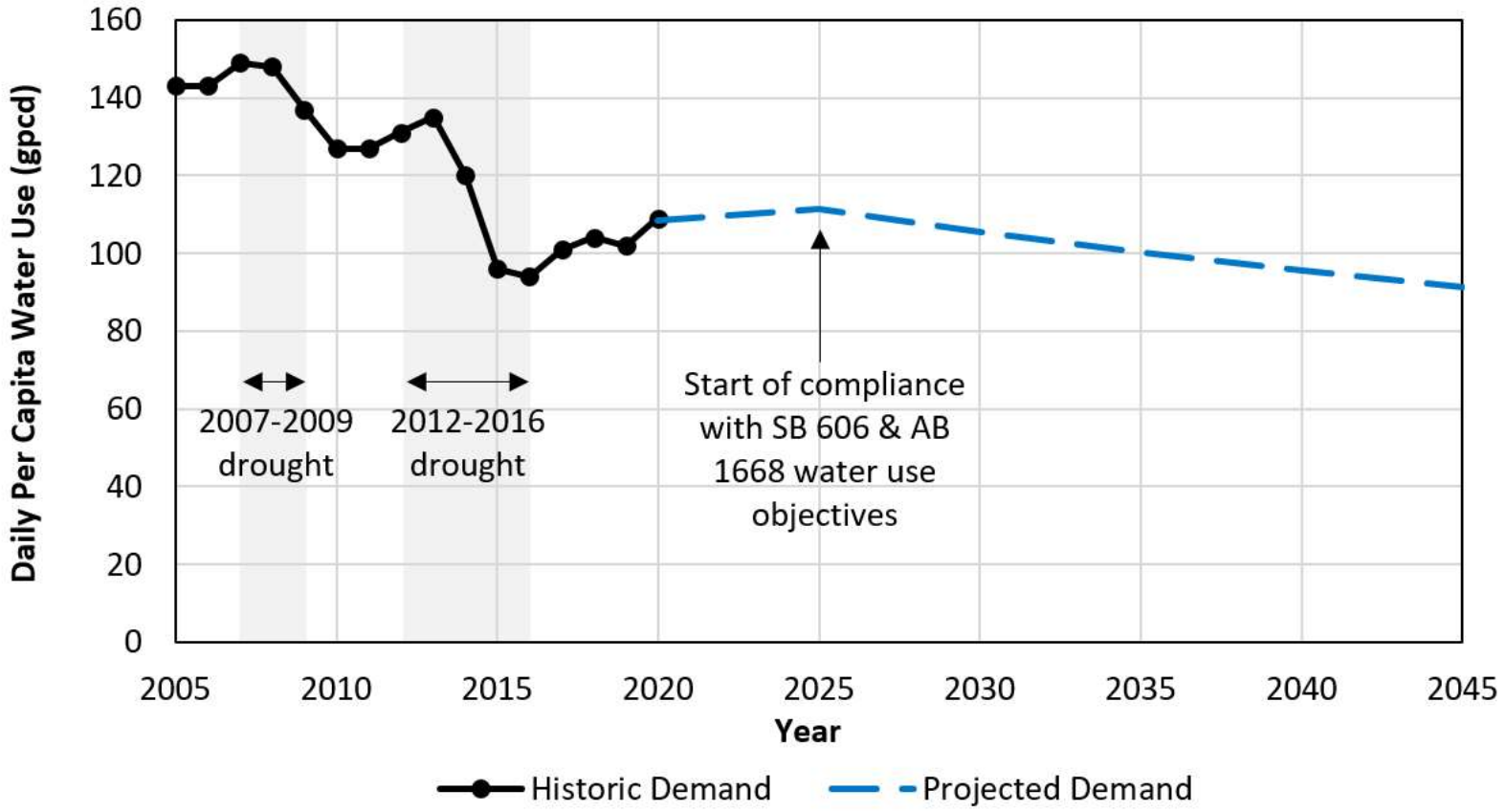
Plan BayArea 2040

Water Demand Projections

- Land use projections from ABAG
  - Similar growth across residential and commercial/industrial sectors
  - Majority of residential growth from multi-family residential
- Lower per capita water use from new high-efficiency multi-family residential units
- Historical water conservation trends
- Upcoming water conservation mandates
  - Latest draft indoor residential water use standard:
    55 gallons per capita per day (gpcd) until 2025, 47 gpcd until 2030, and 42 gpcd thereafter

Demand Projections

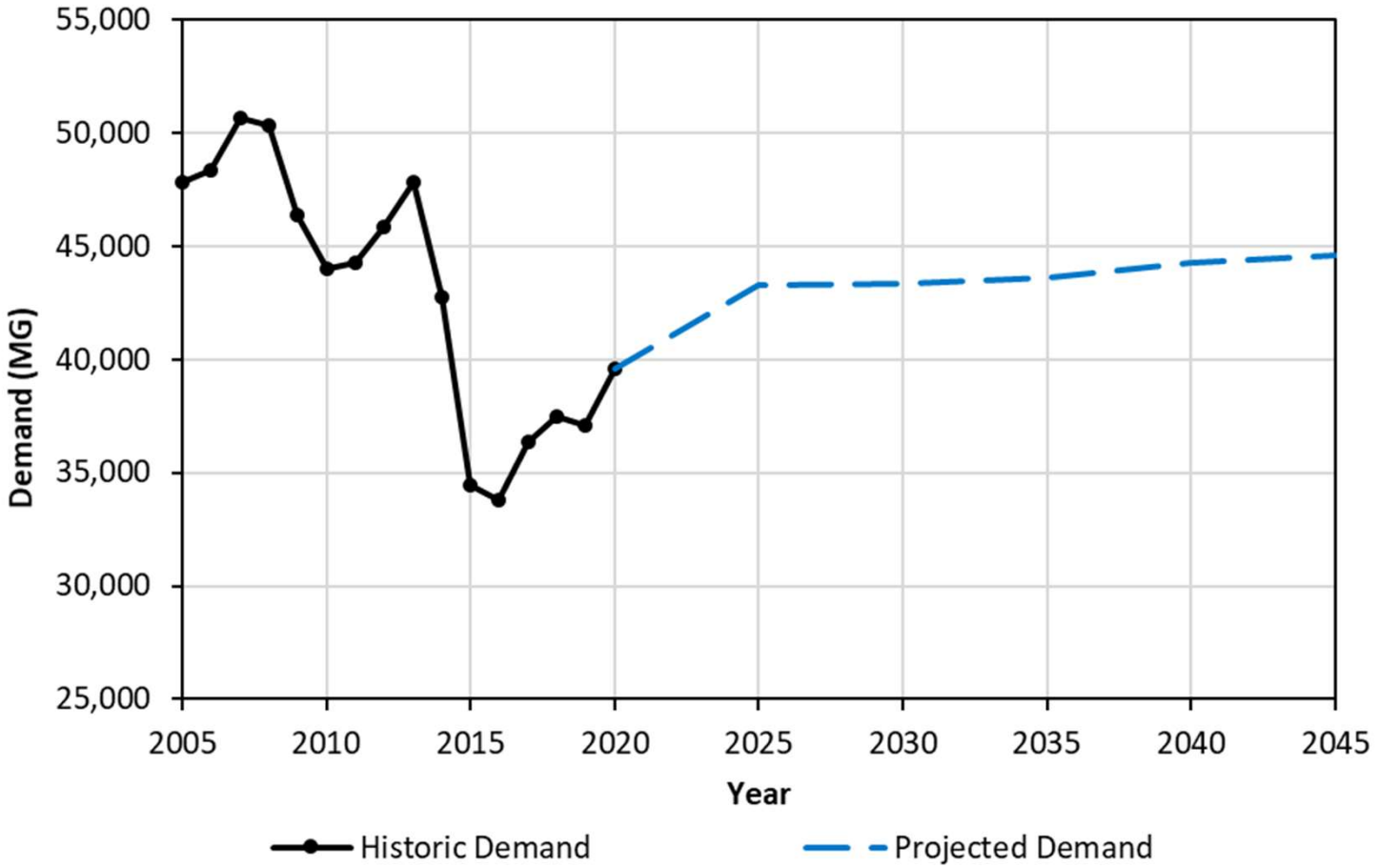
Demand Projections (gallons per capita per day)



*Excluding recycled water

Demand Projections

Demand Projections (million gallons)



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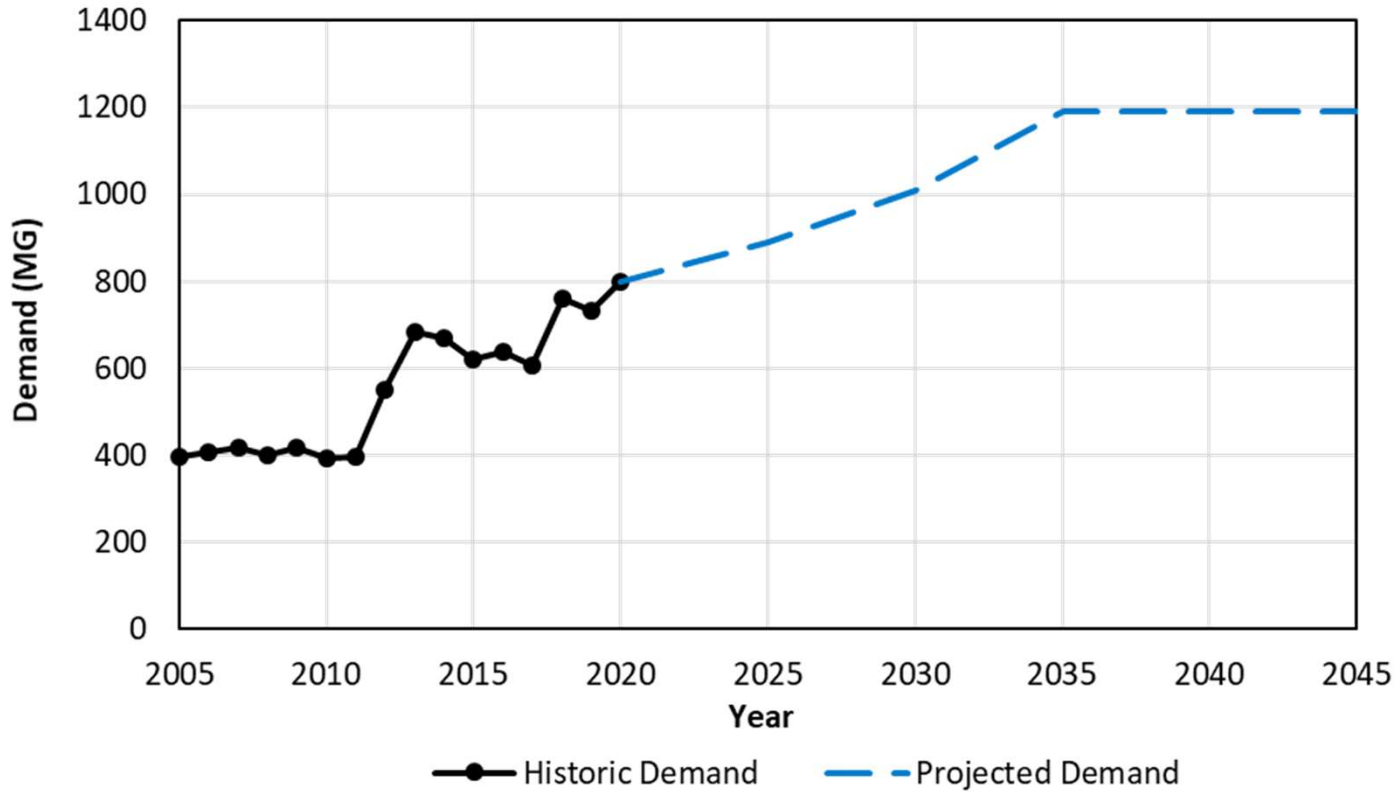
Recycled Water Projections

- 2021 – 2024: Sign up remaining customers on existing recycled water main alignments
- 2025 - 2035: Construct new recycled water main alignments

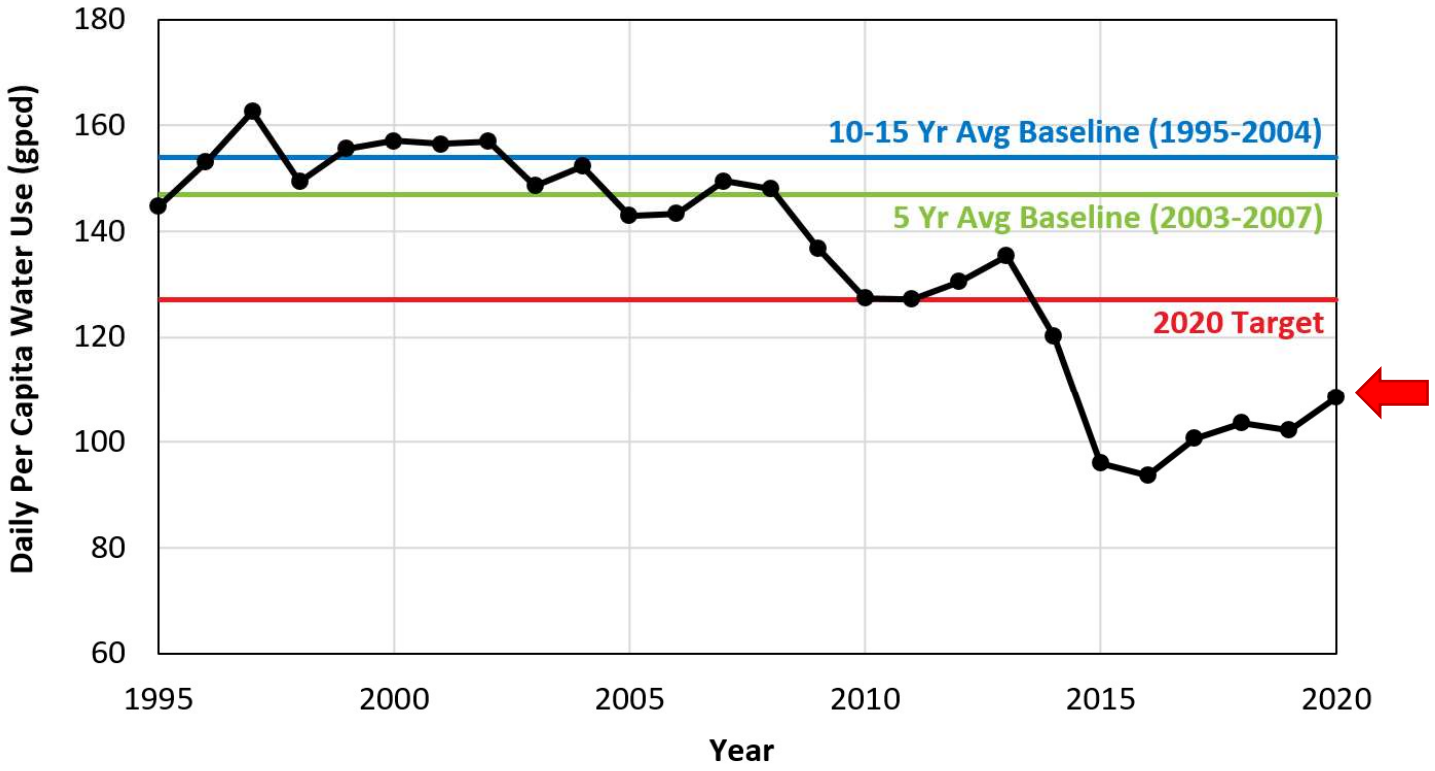


SB x7-7 Compliance

- Water suppliers required to reduce per capita water use 20% from the baseline by December 31, 2020
  - Baseline is a 10 or 15-year period of historical water use, depending on specific criteria defined by DWR
- Water suppliers required to calculate a 2020 water use target using one of four methodologies stipulated by DWR
  - Method 1 – 80% of the baseline per capita water use
  - Method 2 – Estimated per capita daily water use using the sum of performance standards (indoor residential water use, landscape area water use, and CII water uses)
  - Method 3 – 95% of the applicable State hydrologic region target
  - Method 4 – DWR-developed method which accounts for the highly diverse conditions of each agency's landscape and CII water needs and to give credit for past conservation efforts.
- Water suppliers also required to calculate historical water use for a 5-year baseline period
  - Lower of the calculated target and 95% of the 5-year baseline water use is taken as the final 2020 target

SB x7-7 Compliance

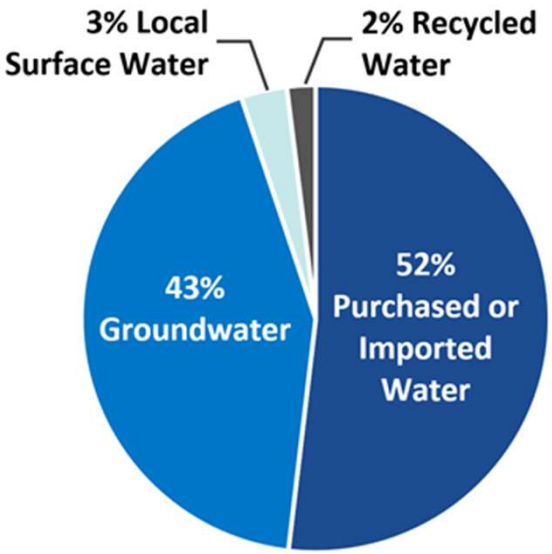
- SJW's 2020 water use target was calculated in the 2015 UWMP. Same target was used for the 2020 UWMP.
- SJW is in compliance with its 2020 water use target



*Excluding recycled water

Sources of Supply

- Potable supplies
  - Purchased, or imported, treated surface water from Valley Water (wholesaler)
  - Groundwater from the Santa Clara Subbasin
  - Surface water from local watersheds
- Non-potable supplies
  - Recycled water from South Bay Water Recycling (wholesaler)



SJW Sources of Supply in 2020

Purchased Water

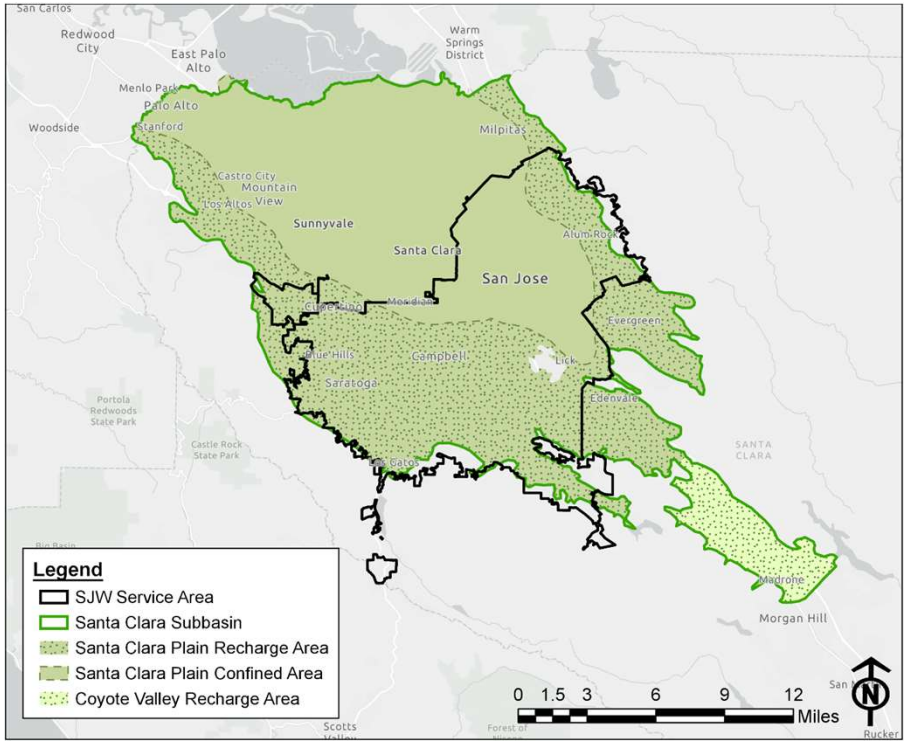
- On average, makes up over half of SJW's total water supply
- SJW has a master contract with Valley Water for purchased water (rolling three-year delivery schedule)
- Originates from several sources
  - Valley Water's local reservoirs
  - From the Sacramento-San Joaquin Delta (Delta) through the State Water Project (SWP) and the Central Valley Project (CVP)
- Treated at Valley Water's water treatment plants (WTPs)
  - Rinconada, Penitencia and Santa Teresa
- Water is piped into SJW's system at various turnout locations

Valley Water Anderson Reservoir

Valley Water Rinconada WTP

Groundwater

- On average, makes up 30% - 40% of SJW's total water supply
- SJW draws water from the Santa Clara Subbasin
- Valley Water is the designated Groundwater Sustainability Agency
  - Recharges aquifers artificially through recharge ponds
- SJW coordinates with Valley Water and other basin stakeholders on pumping operations



Santa Clara Subbasin

SJW 17th Street Station Well

Surface Water

- On average, makes up less than 10% of SJW's total water supply
- SJW has water rights in Saratoga Creek, Los Gatos Creek, and associated watersheds
- SJW diverts streamflow through intakes and also stores water in surface water reservoirs to be released in drier months

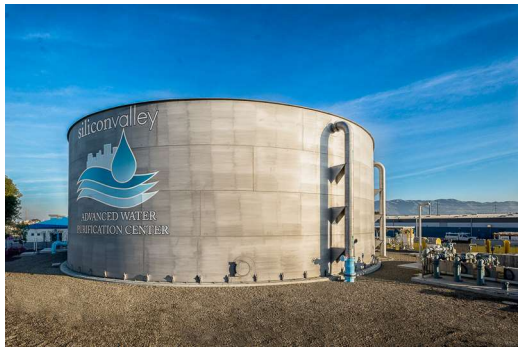
SJW Montevina WTP

SJW Lake Elsman

Recycled Water

- Growing source of supply (2% of SJW's total water supply in 2020)
- Sewage is collected and treated at the San José/Santa Clara Regional Wastewater Facility (SJ/SC RWF)
- Treated to tertiary standards
  - Used by South Bay Water Recycling (SBWR) to produce recycled water
- Blended with advanced-treated water from Valley Water's Silicon Valley Advanced Water Purification Center (SVAWPC)
  - Blending improves the quality of recycled water

SJ/SC RWF



Valley Water SVAWPC

City of Santa Clara
The Center of What's Possible

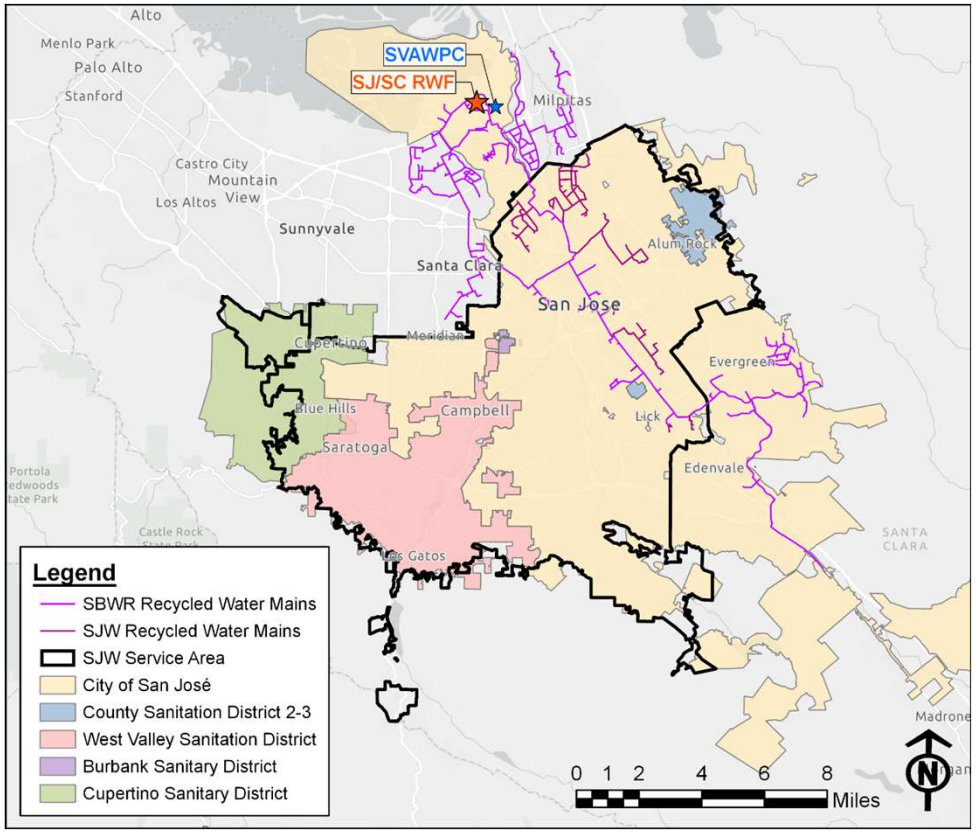
CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Valley Water

SOUTH BAY
WATER RECYCLING

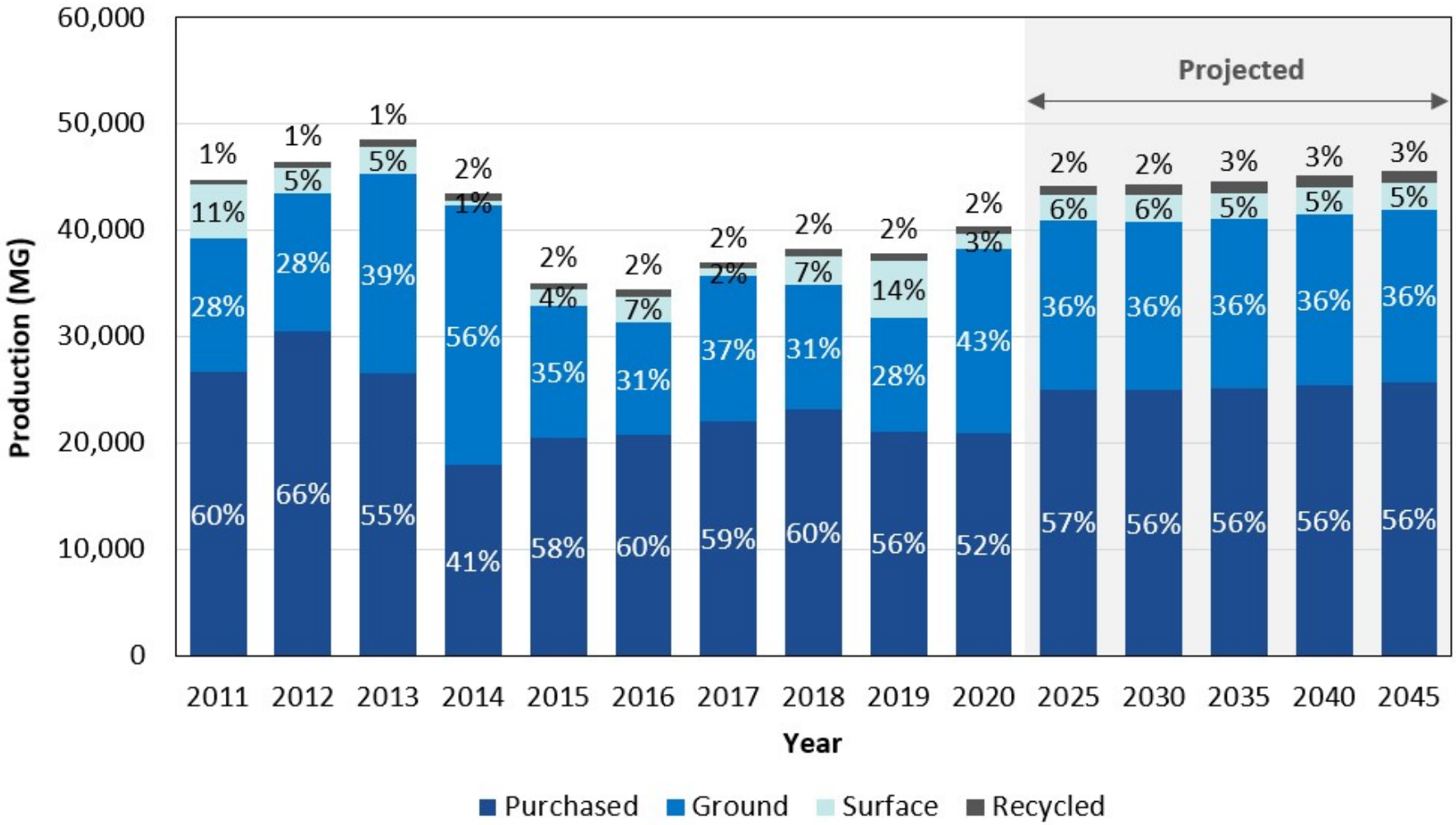
Recycled Water

- Majority of SJW's recycled water is used for landscape irrigation
- Other uses:
  - Agricultural irrigation
  - Golf course irrigation
  - Commercial use (toilet/urinal flushing)
  - Industrial use (cooling towers)



Wastewater/Recycled Water System for SJW

System Supply Projections



Water Supply Reliability Analysis

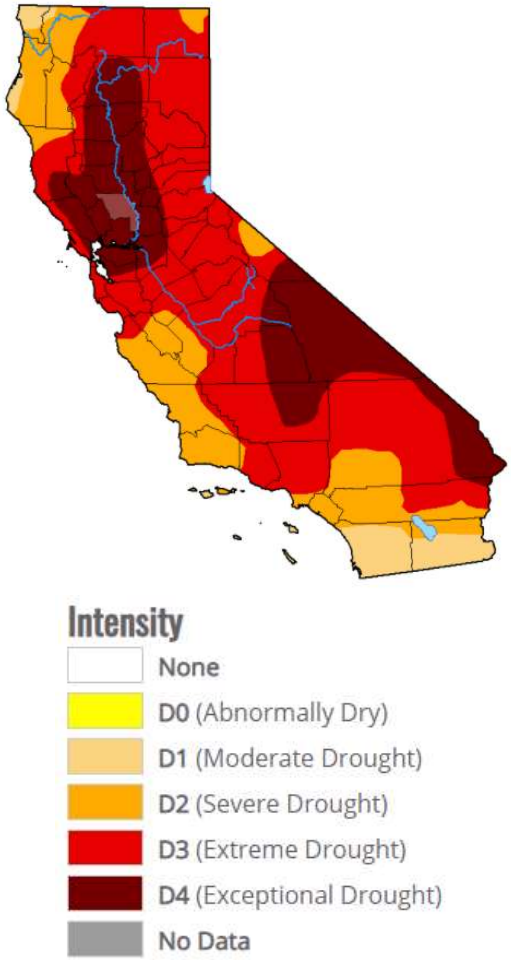
- Long-term reliability over 2025-2045
  - Average Year
  - Single Dry Year
  - Five Consecutive Dry Year
- Short-term reliability
  - Drought Risk Analysis (2021-2025)
- Valley Water showing in their UWMP that they are able to meet retailers' demands in all these scenarios

Caveats to Analysis

- Assumes that recommended projects from Valley Water's Water Supply Master Plan (WSMP) are implemented
  - Uncertainty with projected project benefits
- Assumes higher imported water deliveries than may be available
  - DWR dataset does not account for future environmental regulations nor the most recent and more severe 2012-2016 drought
- UWMP should be interpreted as providing a more optimistic picture
- Valley Water will continue to use their WSMP and annual Monitoring and Assessment Program (MAP) for water supply planning

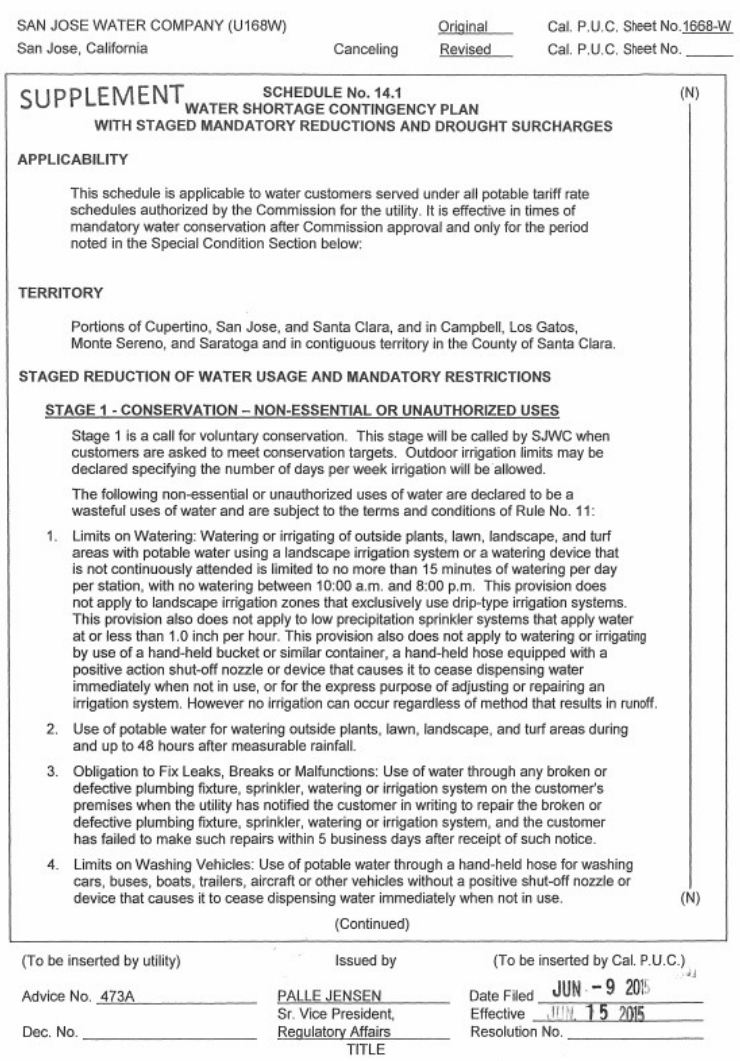
Current Drought Conditions

- Santa Clara County is in Extreme Drought conditions based on the latest U.S. Drought Monitor Report
- April 21 – Governor Newsom issued drought proclamation for Mendocino and Sonoma counties
- May 10 – Drought proclamation expanded to 41 counties
  - No drought proclamation for Santa Clara County yet
- June 9 – Valley Water Board passed resolution to call for water use reduction of 15% from a 2019 baseline



Water Shortage Contingency Plan

- Water Shortage Contingency Plan (WSCP) provides a structured plan for dealing with water shortage
- Schedule 14.1 and Rule 14.1 documents filed with the CPUC
  - Last filed with the CPUC in 2015



SAN JOSE WATER COMPANY (U168W) — Original — Cal. P.U.C. Sheet No. 1668-W
San Jose, California — Canceling — Revised — Cal. P.U.C. Sheet No. _____

SUPPLEMENT SCHEDULE No. 14.1 (N)
WATER SHORTAGE CONTINGENCY PLAN
WITH STAGED MANDATORY REDUCTIONS AND DROUGHT SURCHARGES

APPLICABILITY

This schedule is applicable to water customers served under all potable tariff rate schedules authorized by the Commission for the utility. It is effective in times of mandatory water conservation after Commission approval and only for the period noted in the Special Condition Section below:

TERRITORY

Portions of Cupertino, San Jose, and Santa Clara, and in Campbell, Los Gatos, Monte Sereno, and Saratoga and in contiguous territory in the County of Santa Clara.

STAGED REDUCTION OF WATER USAGE AND MANDATORY RESTRICTIONS

STAGE 1 - CONSERVATION – NON-ESSENTIAL OR UNAUTHORIZED USES

Stage 1 is a call for voluntary conservation. This stage will be called by SJWC when customers are asked to meet conservation targets. Outdoor irrigation limits may be declared specifying the number of days per week irrigation will be allowed.

The following non-essential or unauthorized uses of water are declared to be a wasteful uses of water and are subject to the terms and conditions of Rule No. 11:

1. Limits on Watering: Watering or irrigating of outside plants, lawn, landscape, and turf areas with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than 15 minutes of watering per day per station, with no watering between 10:00 a.m. and 8:00 p.m. This provision does not apply to landscape irrigation zones that exclusively use drip-type irrigation systems. This provision also does not apply to low precipitation sprinkler systems that apply water at or less than 1.0 inch per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive action shut-off nozzle or device that causes it to cease dispensing water immediately when not in use, or for the express purpose of adjusting or repairing an irrigation system. However no irrigation can occur regardless of method that results in runoff.
2. Use of potable water for watering outside plants, lawn, landscape, and turf areas during and up to 48 hours after measurable rainfall.
3. Obligation to Fix Leaks, Breaks or Malfunctions: Use of water through any broken or defective plumbing fixture, sprinkler, watering or irrigation system on the customer's premises when the utility has notified the customer in writing to repair the broken or defective plumbing fixture, sprinkler, watering or irrigation system, and the customer has failed to make such repairs within 5 business days after receipt of such notice.
4. Limits on Washing Vehicles: Use of potable water through a hand-held hose for washing cars, buses, boats, trailers, aircraft or other vehicles without a positive shut-off nozzle or device that causes it to cease dispensing water immediately when not in use. (N)

(Continued)

(To be inserted by utility) — Issued by — (To be inserted by Cal. P.U.C.)
Advice No. 473A — PALLE JENSEN — Date Filed JUN - 9 2015
Sr. Vice President, — Effective JUN 15 2015
Dec. No. _____ — Regulatory Affairs — Resolution No. _____
TITLE

Water Shortage Stages

Current

SJW WSCP Water Shortage Stages		
Stage	Percent Supply Reduction	Water Supply Condition
1	Up to 10%	Voluntary conservation
2	Up to 20%	Water reduction needed
3	Up to 40%	Critical water reduction needed
4	Greater than 40%	Emergency water reduction

Revised

SJW WSCP Water Shortage Levels		
Stage	Percent Supply Reduction	Water Supply Condition
1	Up to 10%	Normal
2	Up to 20%	Alert
3	Up to 30%	Severe
4	Up to 40%	Critical
5	Greater than 40%	Emergency

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

Water Shortage Stages

SJW WSCP Water Shortage Stages		
Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	Voluntary conservation. Outdoor irrigation limits and non-essential or unauthorized uses of water may be declared.
2	Up to 20%	Voluntary conservation. Watering days limited to 3 days per week.
3	Up to 30%	Mandatory conservation. Watering days limited to 2 days per week. Drought rate structures and surcharges may go into effect, if required and authorized by the CPUC
4	Up to 40%	Mandatory conservation. Watering days limited to 1 day per week.
5	Greater than 40%	Mandatory conservation. No watering days. Flow restrictor devices may be installed to ensure compliance.

Water Conservation Programs

- Bill inserts
- Water conservation literature
- Website content
- Public events
- School education kits
- Demonstration gardens
- CATCH program
- CII water audits
- Large landscape survey
- Valley Water rebate programs
  - CII water conservation projects
  - Turf grass removal
  - High-efficiency irrigation equipment upgrades
  - Rain barrel/cistern installations
  - Graywater laundry-to-landscape systems

Water Loss Reduction Programs

- SJW's average annual water loss rate is approx. 7%
  - National average is 14% (per U.S. Environmental Protection Agency)
- Acoustic leak detection sensors
  - Listen for potential leaks on water mains
- Main replacement program
  - Annual replacement of approx. 1% of water mains
- Advanced metering infrastructure (AMI)
  - Provide near real-time water use data and leak detection capabilities
  - Application for AMI submitted to CPUC at end of 2019
  - SJW in regulatory process to obtain CPUC approval

Acoustic Leak Detection Sensor

AMI Radio on Meter Box Lid

Next Steps

- Finalize plans
- Obtain Board approval/adoption of plans
- Submit plans to DWR by 7/1 deadline
- Final plans will be made available on SJW website

SAN JOSE WATER