

# Water Study Session

## June 6, 2017



# Presentation Overview:

## **Bay Area Water Supply and Conservation Agency**

- CEO/General Manager– Nicole Sandkulla

## **Santa Clara Valley Water District**

- Board Member - Richard Santos
- Chief Operating Officer - Jim Fiedler

## **City of Sunnyvale**

- Assistant City Manager - Kent Steffens



# Major Water Supply Issues and Challenges Facing BAWSCA and Its Member Agencies



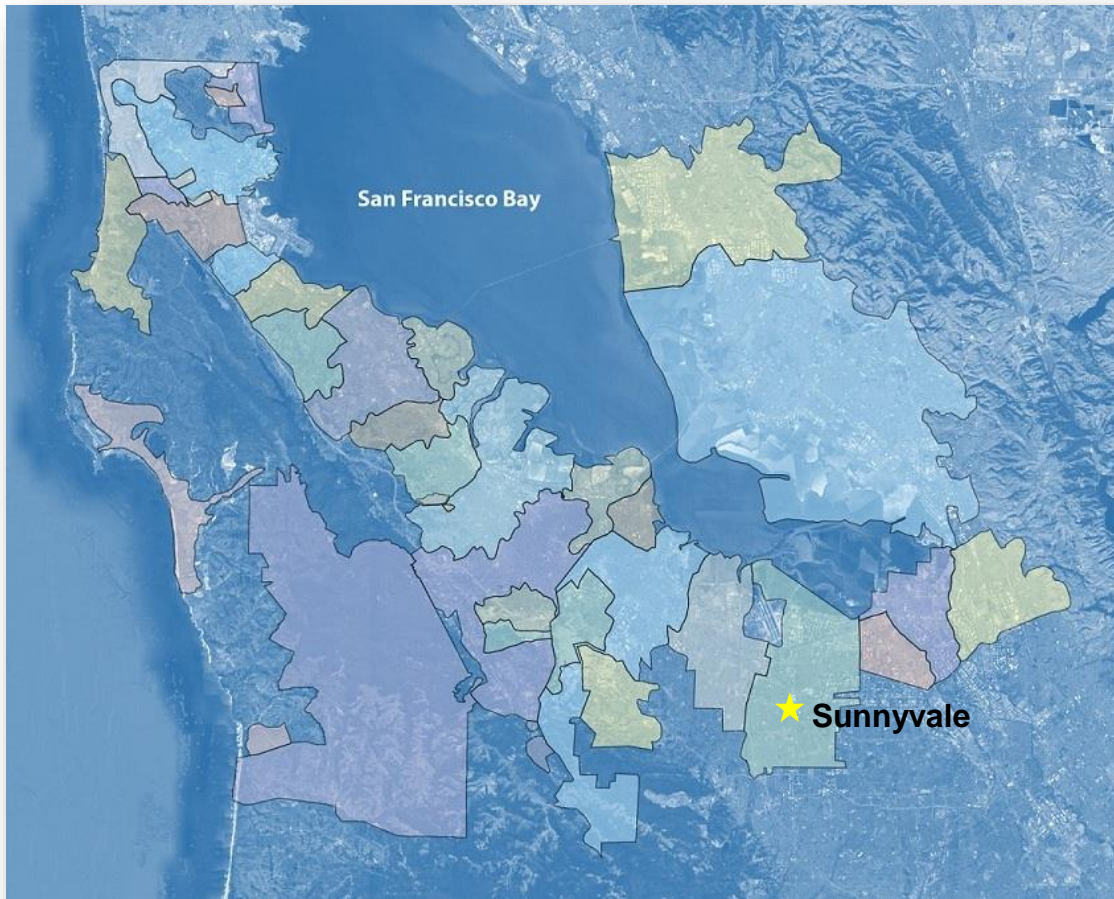
Nicole Sandkulla  
CEO/General Manager  
BAWSCA

June 6, 2017



# BAWSCA

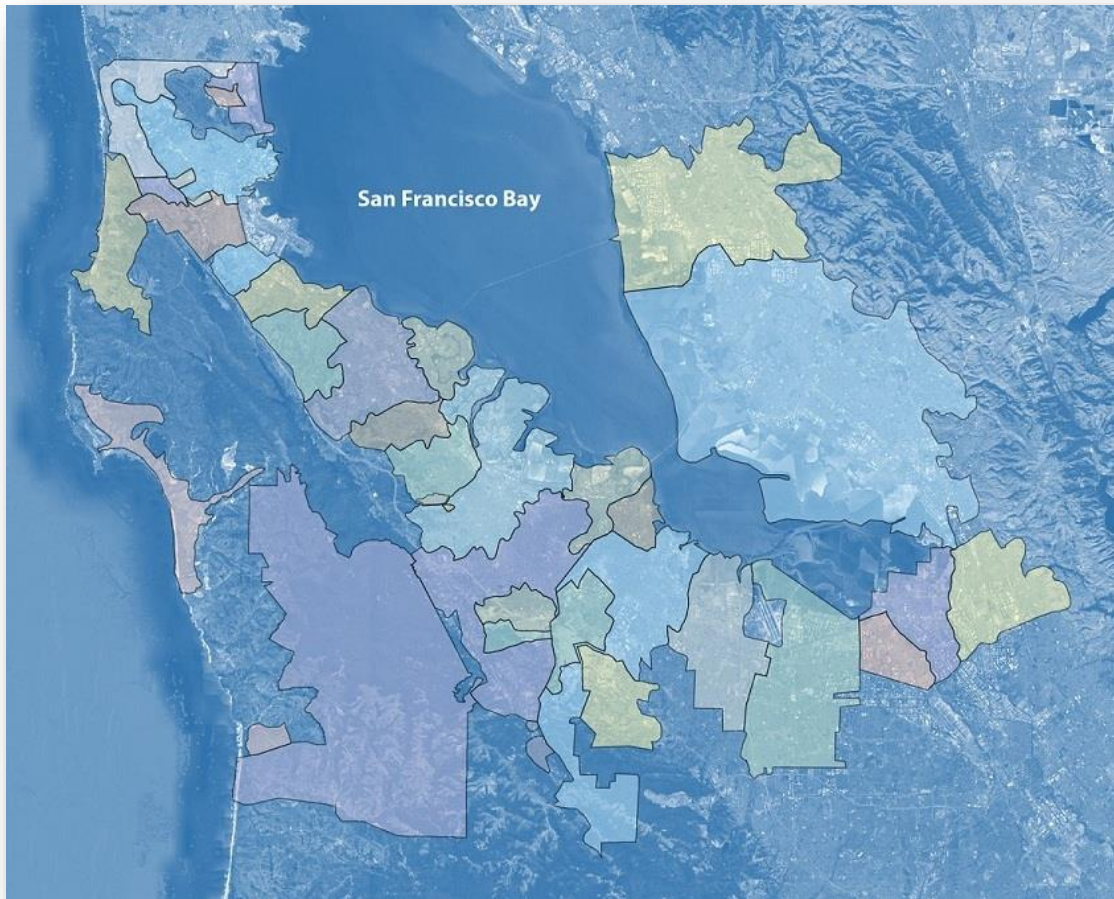
## *Bay Area Water Supply & Conservation Agency*



Special District representing the interests of:

- 26 water suppliers in San Mateo, Santa Clara, and Alameda Counties
- 1.8 million residents, over 40,000 businesses, and countless community organizations
- All rely on the San Francisco Regional Water System

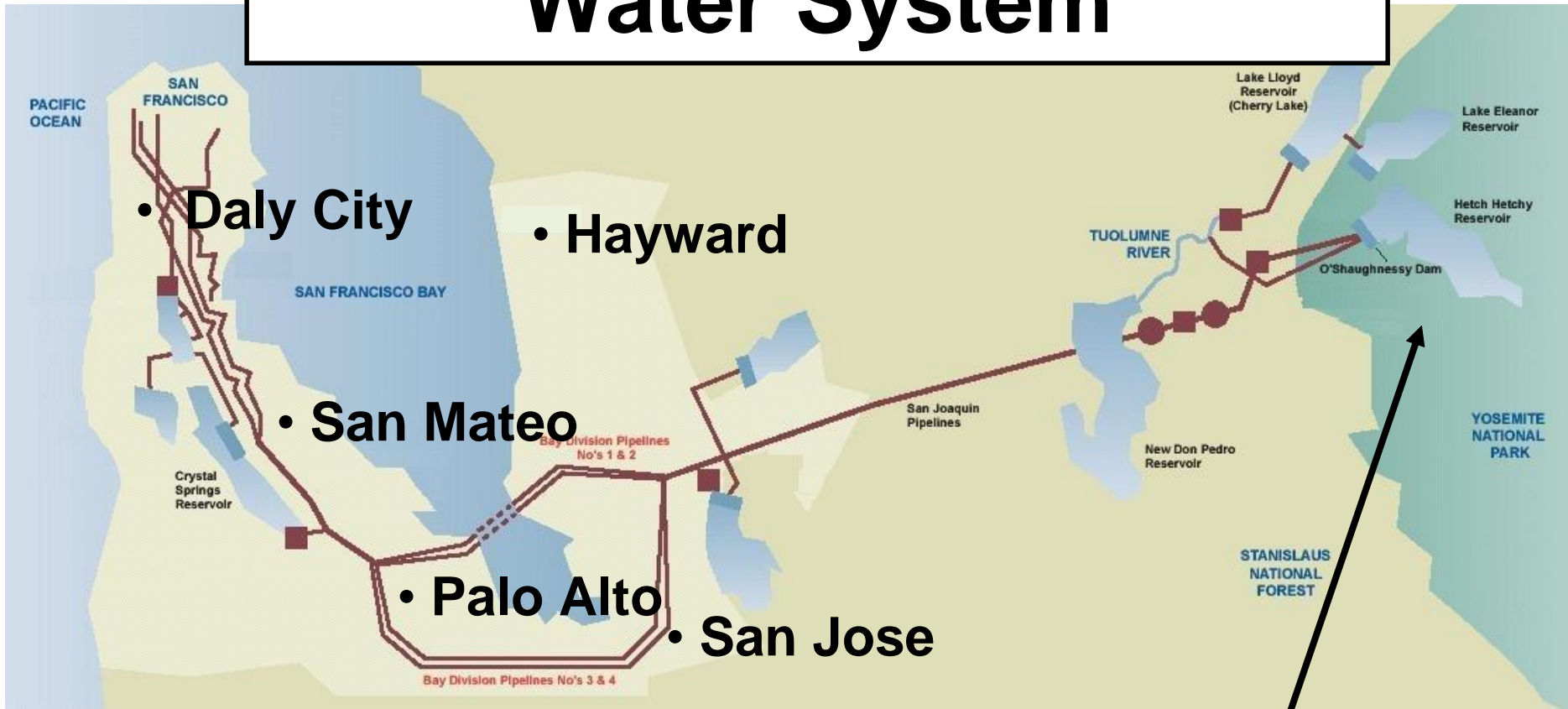
# Major Water Supply Issues and Challenges Facing BAWSCA



1. State's 2016 Bay Delta Plan Update and potential impact on water supply from Tuolumne River
2. Efforts by others to drain Hetch Hetchy Reservoir or tear down the dam



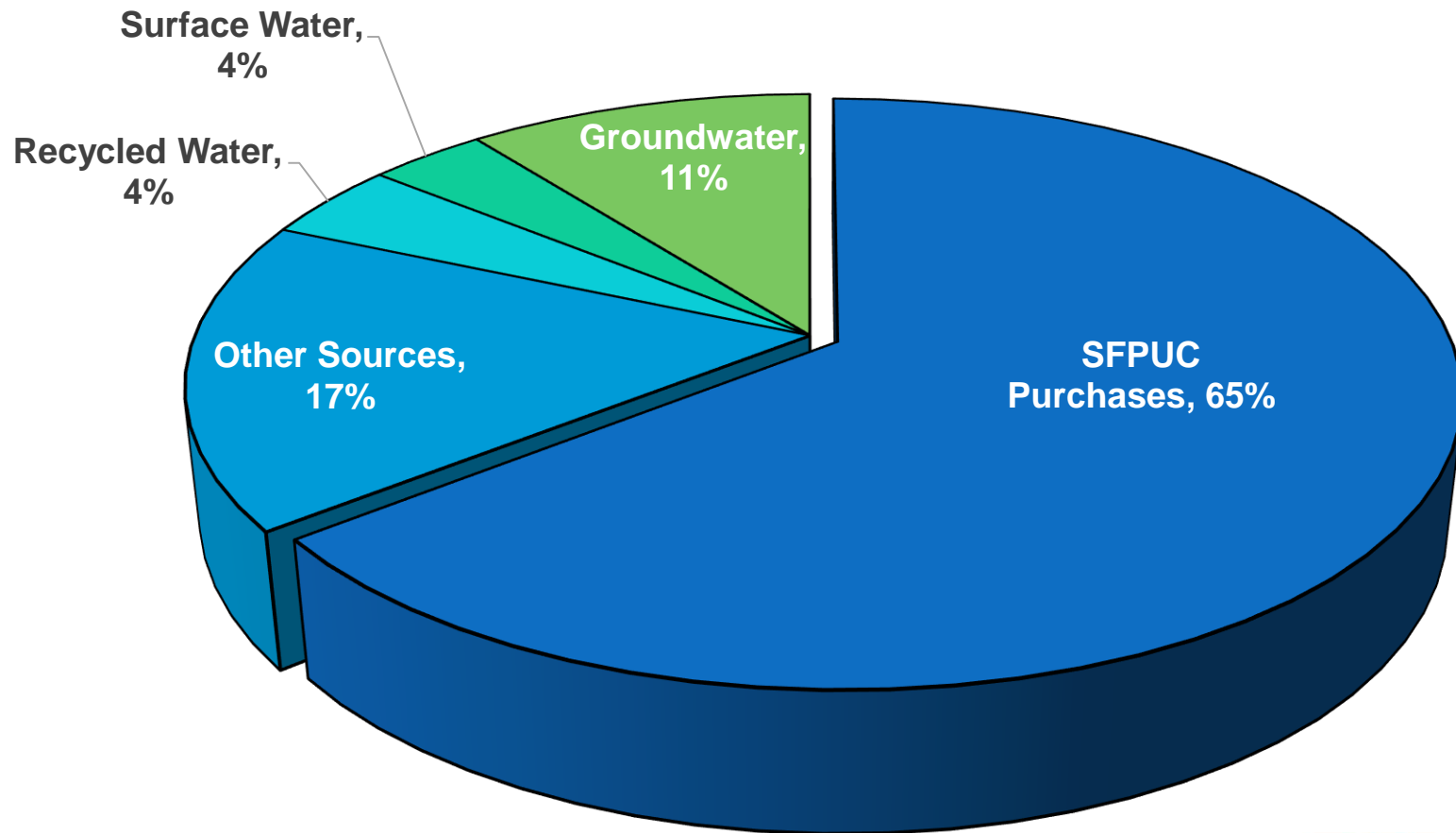
# San Francisco Regional Water System



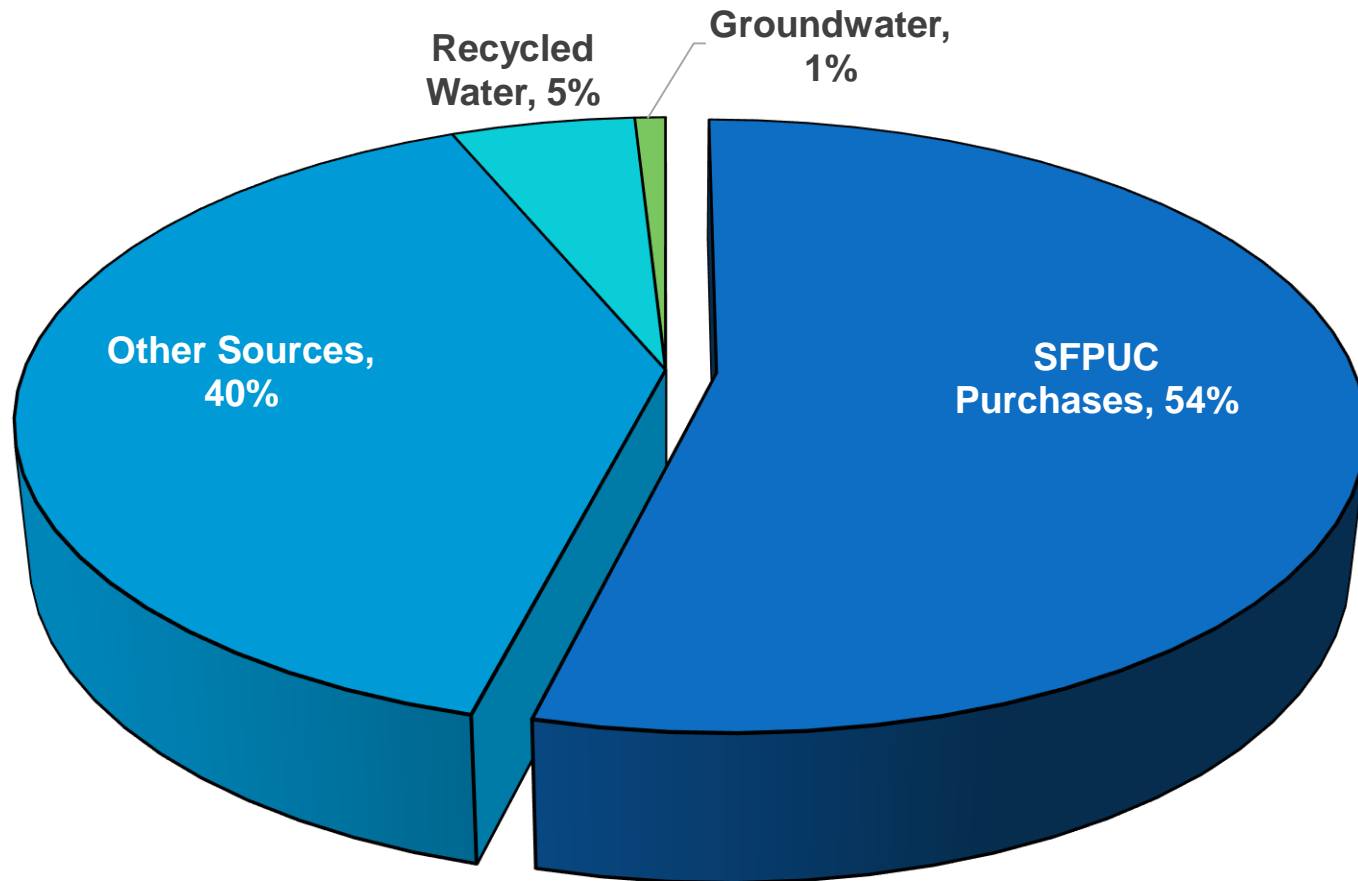
15% Supply From East Bay  
and Peninsula Watersheds

85% Supply From  
Tuolumne Watershed

# BAWSCA Agencies Rely on Regional Water System for 2/3<sup>rd</sup>s of Supply



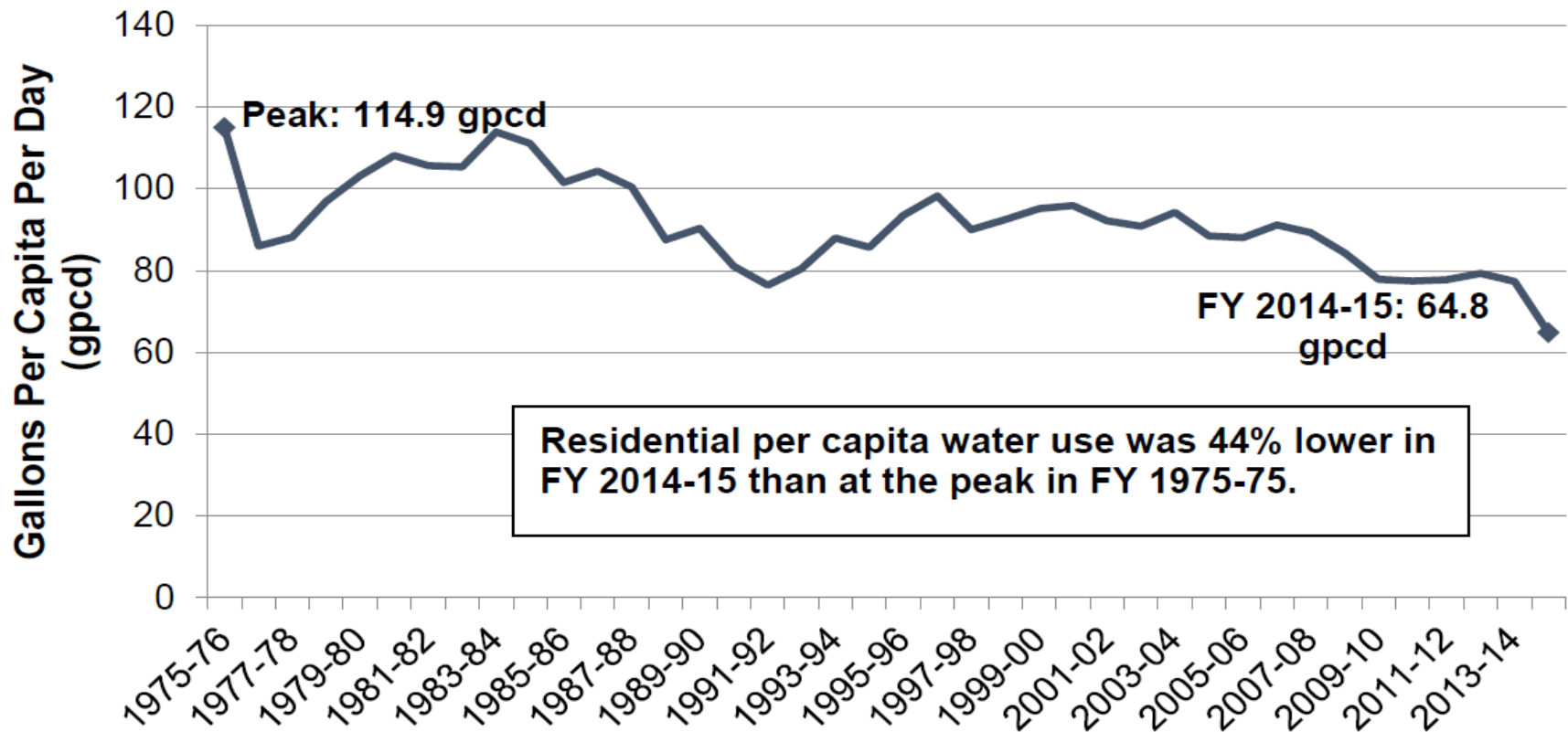
# Sunnyvale Relies on Regional Water System for Over 50% of Supply



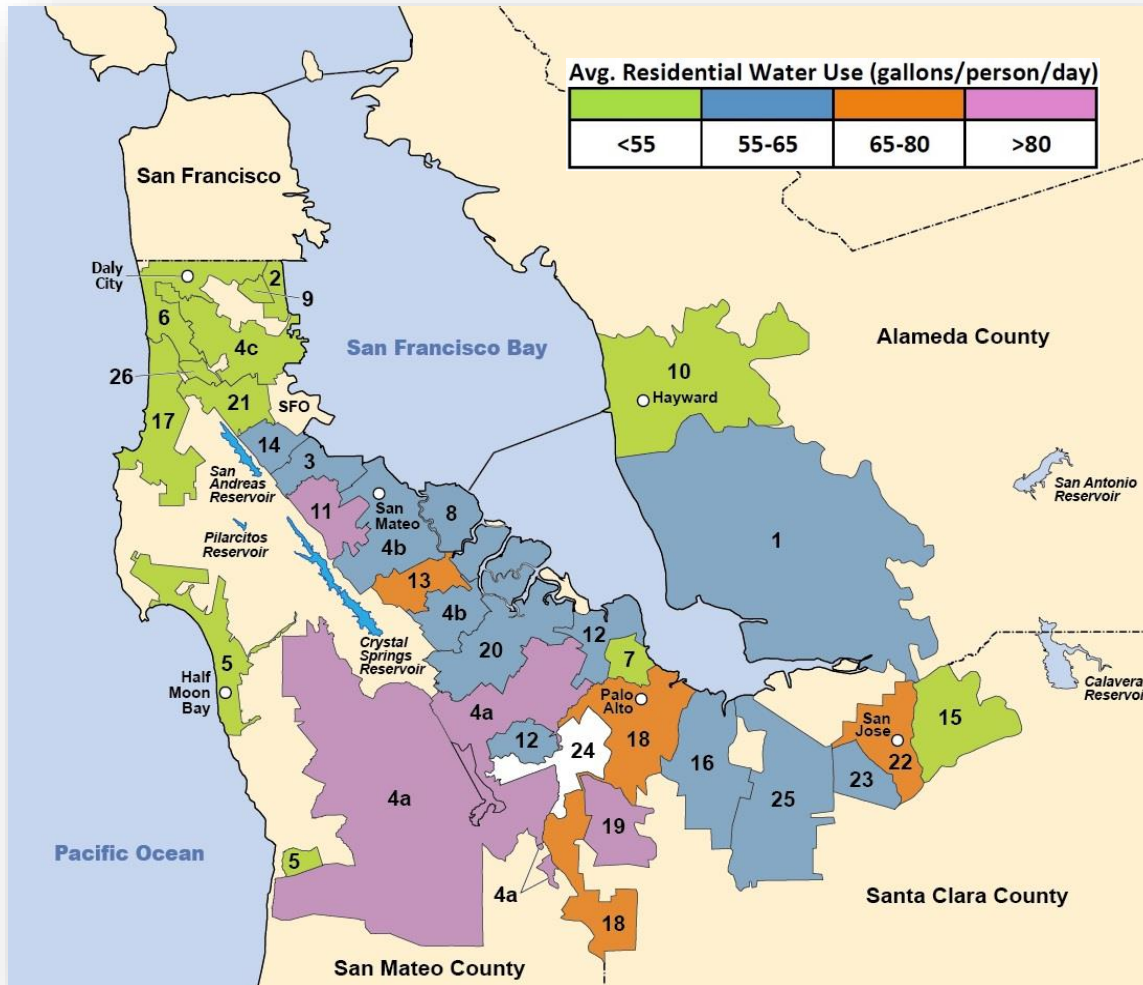


# Conservation Investments Reduce Per Capita Water Use

BAWSCA Residential Per Capita Water Use – 1975 to 2015



# Average BAWSCA Residential Customer Used 60 Gallons per Day During Drought



BAWSCA Member Agencies	
Agency Name	Agency Number
Alameda CWD	1
Brisbane	2
Burlingame	3
CWS - Bear Gulch	4a
CWS - Mid Peninsula	4b
CWS - South SF	4c
Coastside County WD	5
Daly City	6
East Palo Alto WD	7
Estero MID	8
GVMID	9
Hayward	10
Hillsborough	11
Menlo Park	12
Mid-Peninsula WD	13
Millbrae	14
Millpitas	15
Mountain View	16
North Coast WD	17
Palo Alto	18
Purissima Hills WD	19
Redwood City	20
San Bruno	21
San Jose MWS-North	22
Santa Clara	23
Stanford University	24
Sunnyvale	25
Westborough WD	26

# State Updating the 2006 Bay-Delta Plan

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- SWRCB establishes water quality objectives to protect beneficial uses of water in Bay-Delta through its Water Quality Control Plan for the SF Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan)
- SWRCB proposing to update two elements of 2006 Bay-Delta Plan:
  - San Joaquin River flow objectives to protect fish and wildlife
  - Southern Delta salinity objectives
- SWRCB released its original draft CEQA document (SED) for the Bay-Delta Plan update in 2012
- A Recirculated Draft SED released in September 2016
- BAWSCA and its agencies submitted comments in March identifying potential significant impacts of proposed action

# State Board's 2016 Revised Proposal

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- SWRCB proposal requires 40% of unimpaired flow be released every year into Lower Tuolumne River from Feb-June
- Since 1971, unimpaired flow February-June averaged 32%
  - wet years it has been 60%+; dry years it has been 10% or less
- Proposal includes “adaptive implementation” with flows ranging from 30%-50% of unimpaired flow depending on conditions
- Includes a framework for voluntary agreements that meet or exceed the proposed objectives to protect fish and wildlife
- At the same time, the SWRCB is working on a similar proposal for the Sacramento River

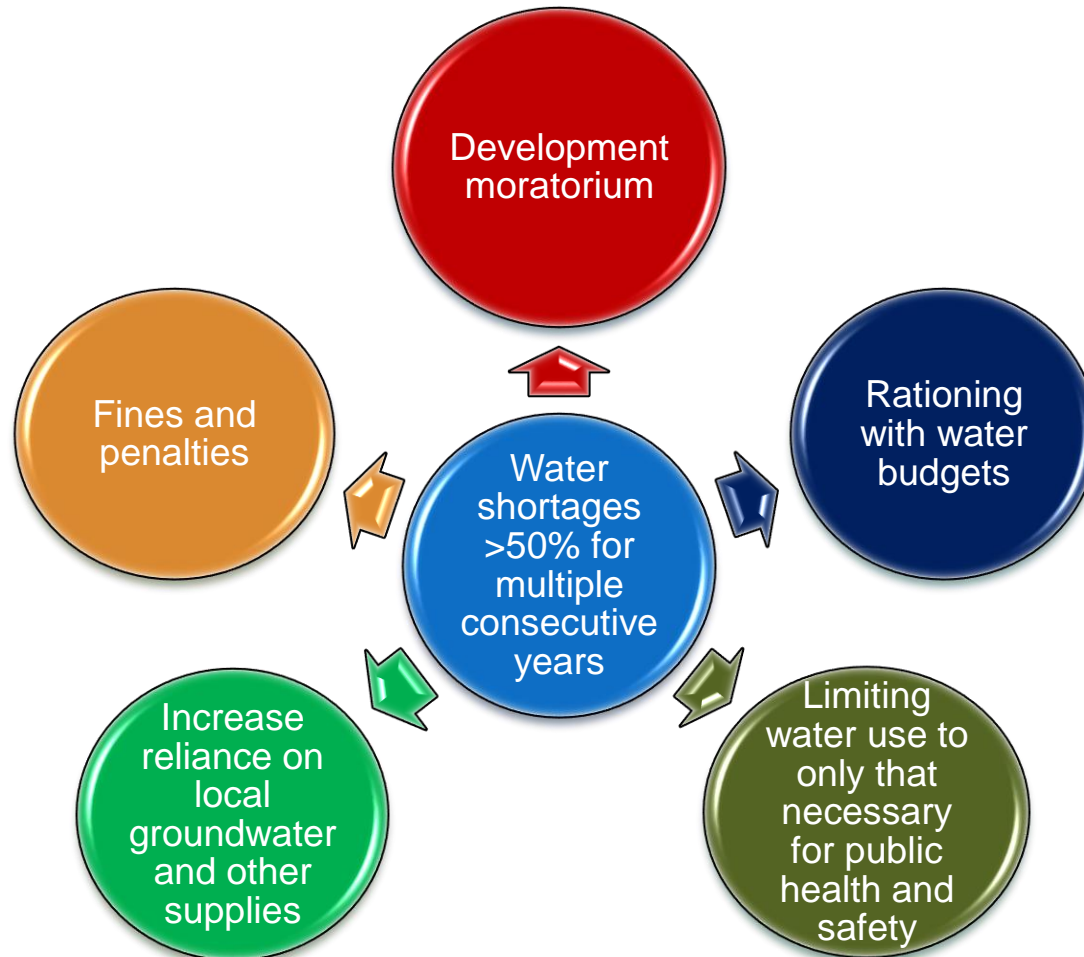


# Potential Impacts of 2016 Proposal on SF Regional Water System

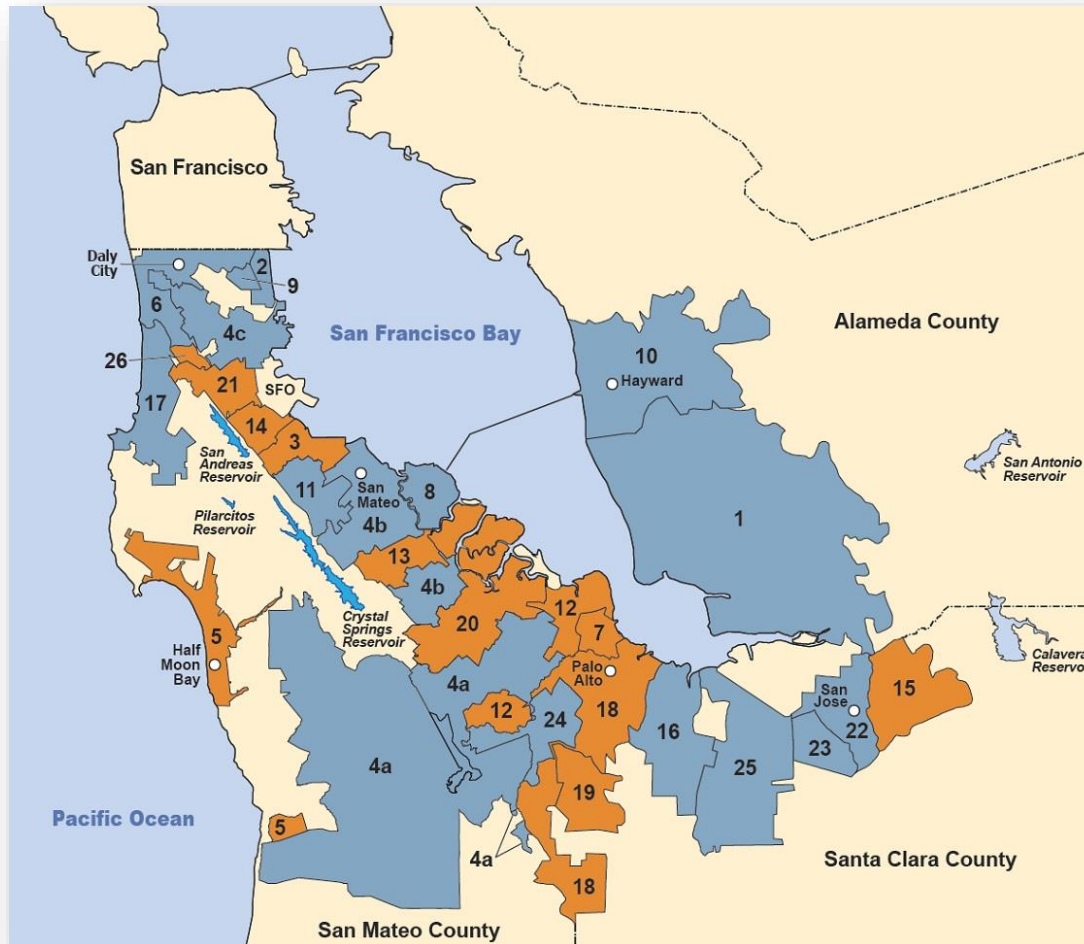
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- 20-30% rationing even at current “drought” water demand
  - Even at 175 MGD (FY 2016 deliveries under State-mandated rationing), further rationing of 20-32% would be necessary
- 40-50% rationing at normal or contract level water demands
  - Rationing in multiple dry years would be as high as 50% at demands from 223 MGD to 265 MGD
- The number of dry year shortages would double or triple
  - Existing system projected to have shortages 1 in 10 years
  - Occurrences of dry year shortages would double in the 175 and 223 MGD scenarios and triple in the 265 MGD scenario

# What Would BAWSCA Agencies Do in Response to Severe Shortages?



# 12 Agencies Identified Development Moratorium as Possible Action



- Burlingame
- Coastside
- East Palo Alto
- Menlo Park
- Mid-Peninsula
- Millbrae
- Milpitas
- Palo Alto
- Purissima Hills
- Redwood City
- San Bruno
- Westborough

# BAWSCA Actions in Response to State Board Proposal

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- BAWSCA supports the objective of the Bay Delta Plan to establish water quality regulations to protect human, fish and wildlife uses of the Bay Delta
- BAWSCA coordinated review of State's proposal with SFPUC and BAWSCA agencies
  - Identify impacts to Regional Water System
  - Identify impacts to local systems
- BAWSCA is supporting the Governor's call for voluntary settlement agreements and is committed to working with stakeholders and others to develop that shared solution



# BAWSCA Comments on Draft SED Support Better Path Forward

- BAWSCA submitted a detailed comment letter on Draft SED
- Draft SED is inadequate to support proposed State Board action
  - It fails to adequately identify and analyze the water supply, environmental, economic and other impacts of its action on this region
- BAWSCA supports SFPUC Alternative presented in comment letter
  - Provides benefits for Tuolumne River needed to restore and sustain the long-term health of the Bay Delta without having to mandate the unimpaired flow releases contemplated in the SED
  - Smart, functional flows with serious commitment to other non-flow measures
- BAWSCA expressed continued support for negotiated settlements
- BAWSCA is committed to working with other stakeholders to protect water quality in the Bay-Delta for humans, fish, and other wildlife

# Efforts By Others to Drain Hetch Hetchy Reservoir

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- Group named “Restore Hetch Hetchy” (RHH) wants to change operation of Regional Water System by draining Hetch Hetchy Reservoir
- RHH’s goal is to restore Hetch Hetchy Valley, a public policy issue debated for more than 100 years
- BAWSCA opposes any effort to drain the Reservoir unless and until:
  - an equally reliable alternative water storage and supply is implemented
  - with enforceable agreements to meet water customer needs

# Lawsuit Filed by Restore Hetch Hetchy to Force Action by SF

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- April 2015: RHH filed lawsuit
- Requesting Court to order SF to prepare a plan detailing a reasonable alternative method of diversion of Tuolumne River water
- Alleged unreasonable diversion of water under Art. X, Sec. 2
- SF is named Defendant; BAWSCA named as Real Party in Interest and Defendant
- April 2016: Court ruled in favor of demurrer filed by SF
- RHH has filed an appeal; parties awaiting hearing scheduling
- BAWSCA will vigorously defend and protect interests of water customers in this effort



Jensen, 2011





# Recent Drought Summary and Water Supply Outlook

June 6, 2017



Santa Clara Valley  
Water District

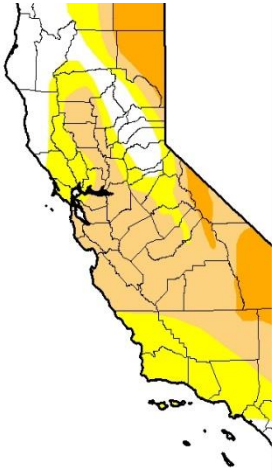


# 2012 to 2017 Drought Conditions

Our local 2014 to 2016 drought was preceded by drying conditions across the state:

## U.S. DROUGHT MONITOR

May 2012



June 2013



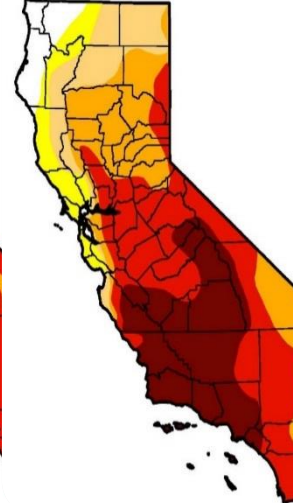
July 2014



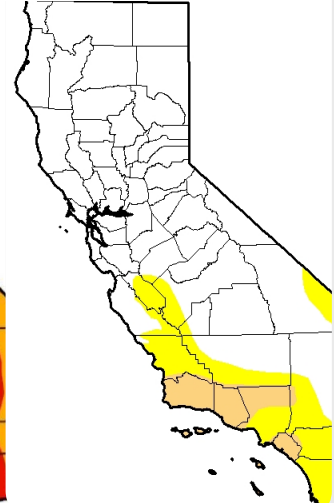
May 2015



May 2016



Mar 2017



D0 Abnormal Dry

D1 Moderate Drought

D2 Severe Drought

D3 Extreme Drought

D4 Exceptional Drought

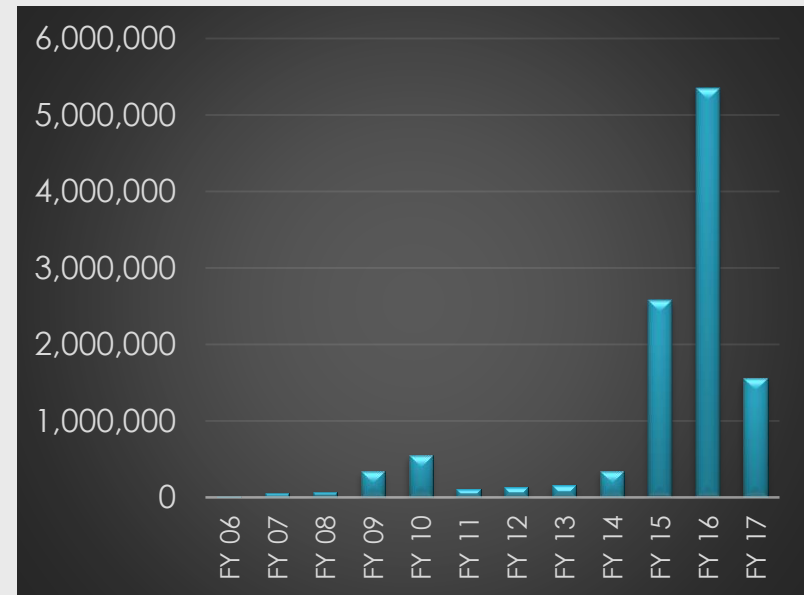
# 2014 to 2017 Water Use Reductions

- **February 2014**, Board called for 20% water use reductions compared to 2013 usage.
- **March 2015**, Board called for 30% water use reductions and recommended mandatory measures, including a two-day-a-week outdoor irrigation schedule.
- **June 2016**, Board lowered the call for water use reductions to 20 percent and relaxed call for outdoor irrigation from two to three days a week.
- **January 2017**, Board called for continued 20% reductions and removed the call for retailers to implement mandatory measures.
- **June 13, 2017**, the Board will consider adopting a 'Making Water Conservation a Way of Life' Resolution

# Successful Drought Response

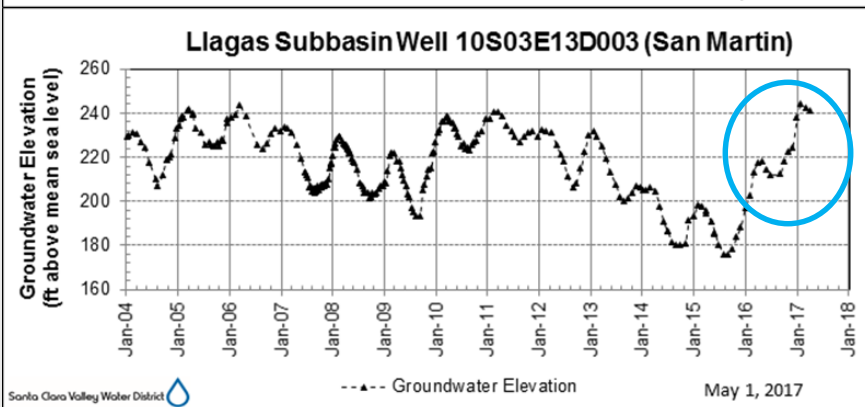
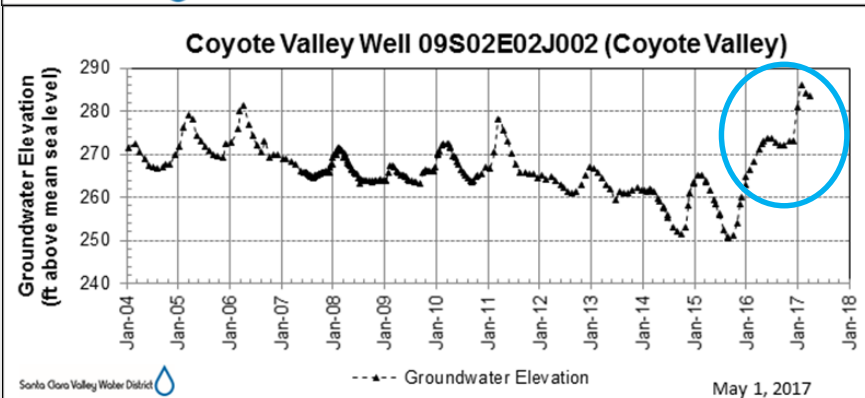
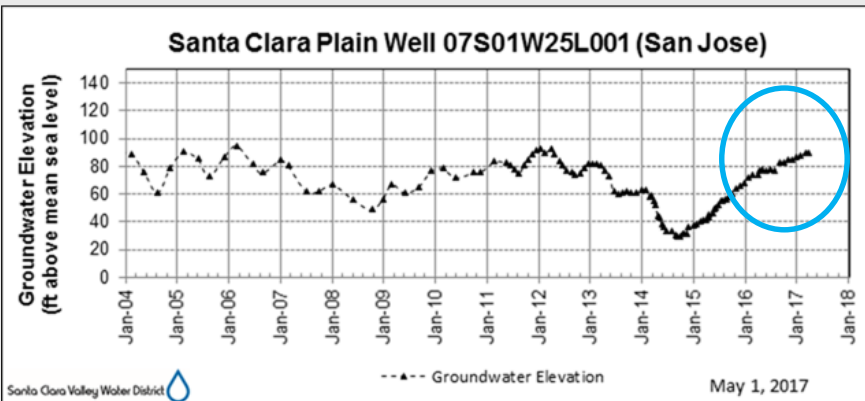
- Countywide retailers reduced water use 27% in 2015 and 28% in 2016. Reductions continue in 2017 with 28% through April.
- Over 10 million sq ft of turf removed, saving over 1,000 acre feet per year.
- Drought expenditures = \$46.4M (imported water purchases, turf conversion and irrigation equipment upgrades, etc).
- Over \$23.5M in landscape rebates issued.
- Water waste inspectors responded to nearly 10k reports.

Square Feet of Turf Removed

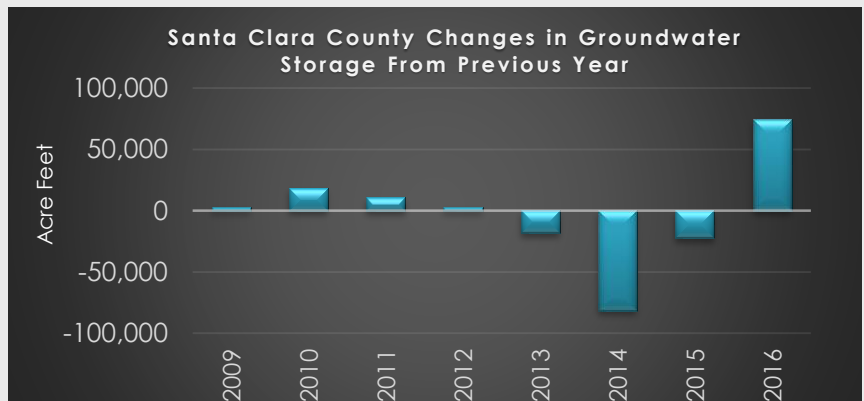




# Groundwater Conditions



- In 2014, falling groundwater levels prompted Board action, and continued Board/retailer actions in 2015-2016 helped groundwater storage recover
- By early 2017, groundwater elevations in key index wells recovered to pre-drought levels



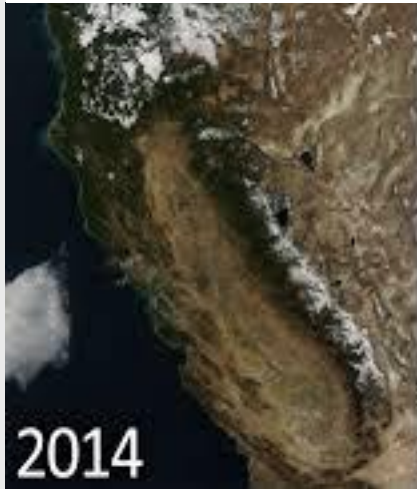
# Summary of Drought Response Achievements

- Successful implementation of District's and retailers' drought response strategies
- Continued high level of service despite water supply and water quality challenges
- Up to 28% water use reduction by the community
- Strong collaboration between District and water retailers
- Increased awareness of wise water use and water use efficiency

# 2017 Outlook and Moving Forward

Conditions have improved significantly ...

2014 Snowpack



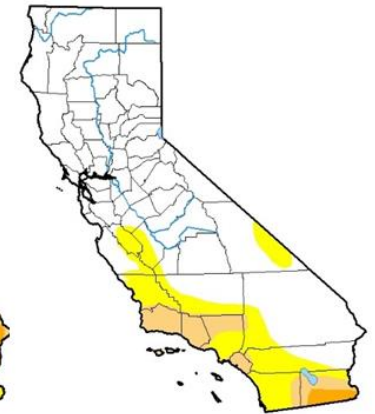
2017 Snowpack



U.S. Drought Monitor  
**California**  
March 2014



U.S. Drought Monitor  
**California**  
March 2017

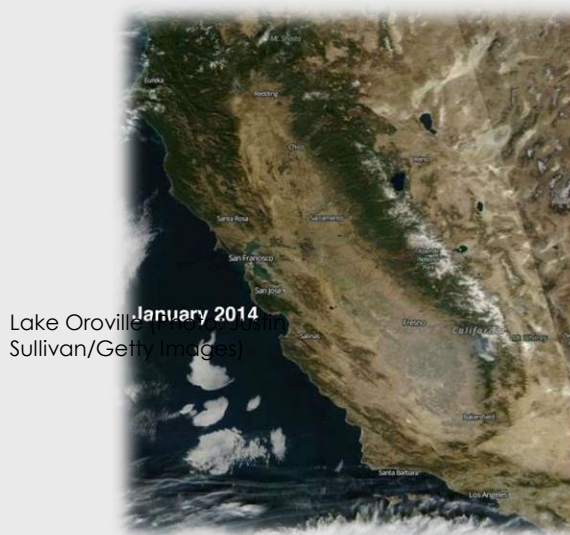


Groundwater  
recharge increased  
in 2016

# 2017 Outlook

85% State Water Project Allocation (85,000 AF)  
100% Central Valley Project Allocation (153,000 AF)  
Up to 74% Increase in deposits to Semitropic storage (~60,000 AF)

“Normal” End-of-Year Groundwater Storage





# Governor's Transition: Water Conservation a Way of Life

- Terminate Drought State of Emergency (except some counties)
- Rescinds Emergency Proclamation and Executive Orders
- Rescinds mandatory water use reductions and stress tests
- Keeps provisions in previous Order, such as: monthly reporting and water waste prohibitions

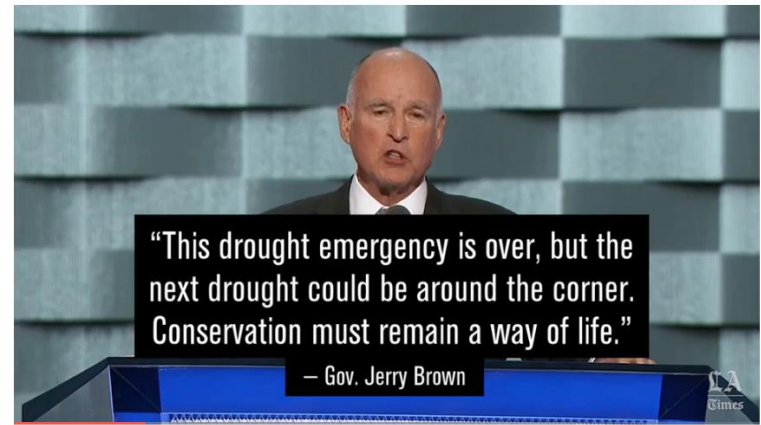
## Governor Declares End of Emergency Drought April 2017

OROVILLE, CA –  
AUGUST 19, 2014

OROVILLE, CA –  
APRIL 11, 2017



(Photo: Justin Sullivan/Getty Images)



(April 7, 2017; LA Times)



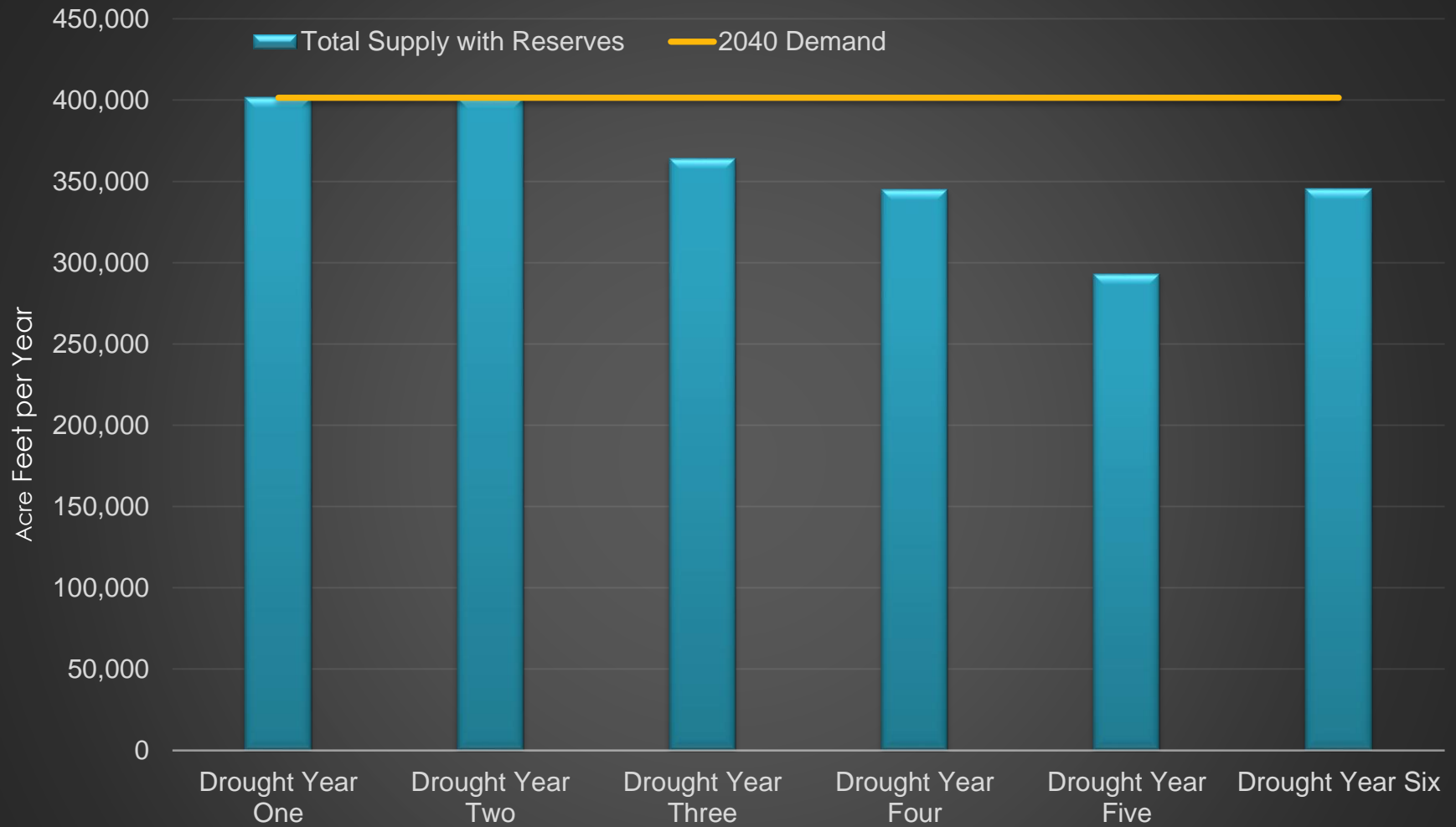
# District Water Supply Master Planning

## 2017 Master Plan Update:

- Portfolios of water supply alternatives
- Includes: Water Conservation, Purified Water, Storage, California Water Fix, and other alternatives



# Drought Years Are Our Greatest Challenge



# Water Supply Alternatives

- Storage, inside and outside county
- Additional groundwater recharge ponds
- Potable reuse
- Recycled water
- Conservation and demand management
- Onsite reuse
- Raw water pipelines
- Agricultural land fallowing
- Stormwater reuse
- Desalination
- Transfers/dry year options
- Additional water rights
- California WaterFix

# Recycled and Purified Water Efforts with Sunnyvale

## **Wolfe Road Pipeline Partnership**

- Provide recycled water to the new Apple Campus II by 2017



## **Executed MOU to evaluate water reuse alternatives**

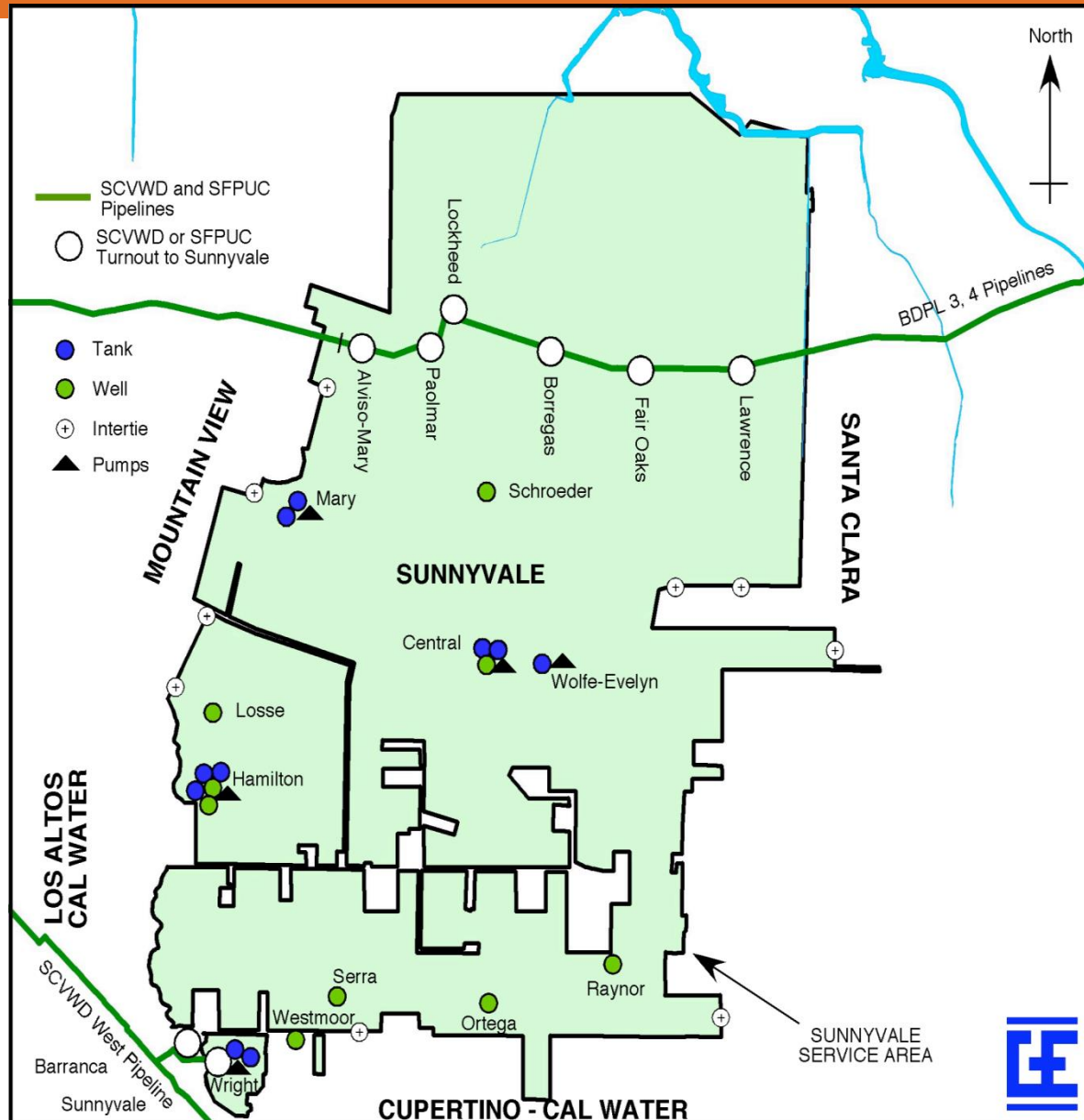
- Purified water production
- Conveyance
- Potential potable reuse

# Summary

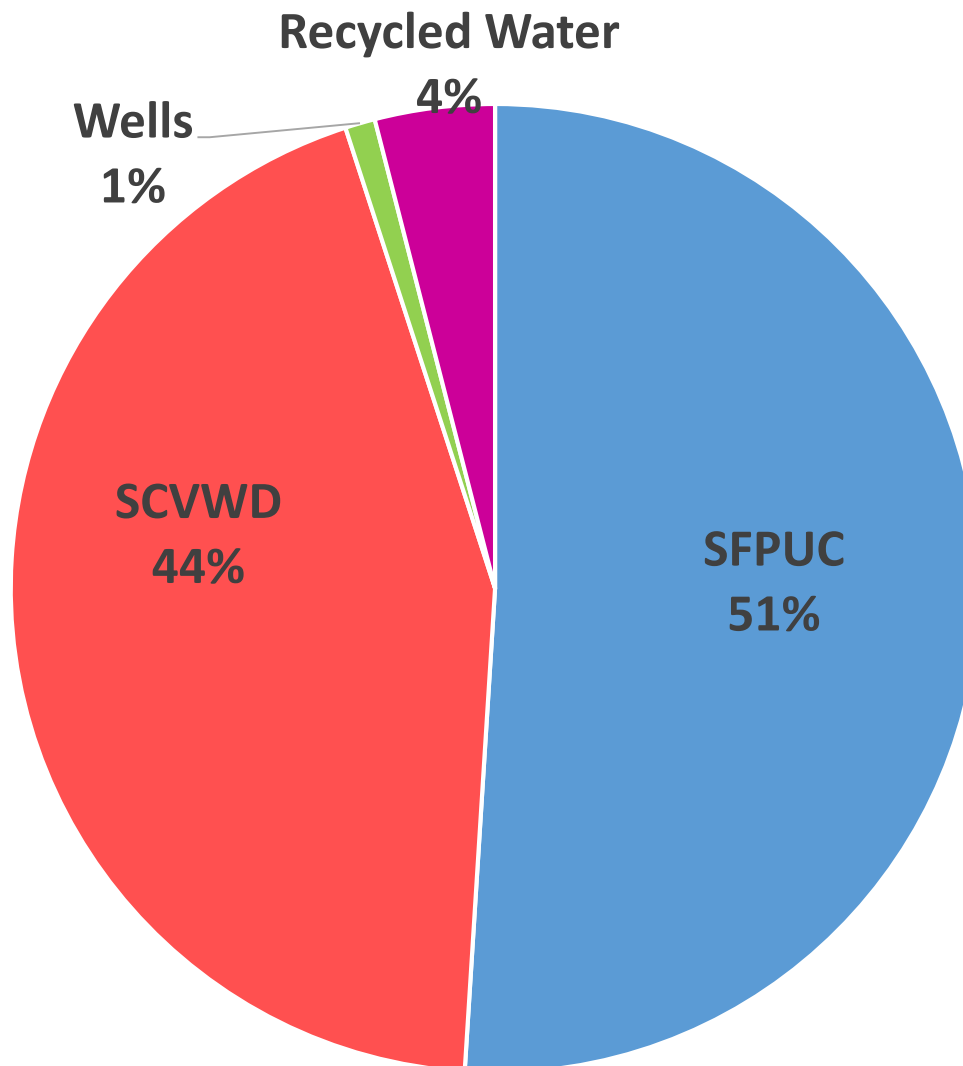
- Reoccurring droughts are our greatest water supply challenge
- However, our investments, water supply management, and diverse portfolio allow us to provide reliable water supply
- Additional investments will reduce future shortages and increase reliability
- Long-term water conservation programs and water reuse are key components
- Continued coordination with municipalities and communities remains essential



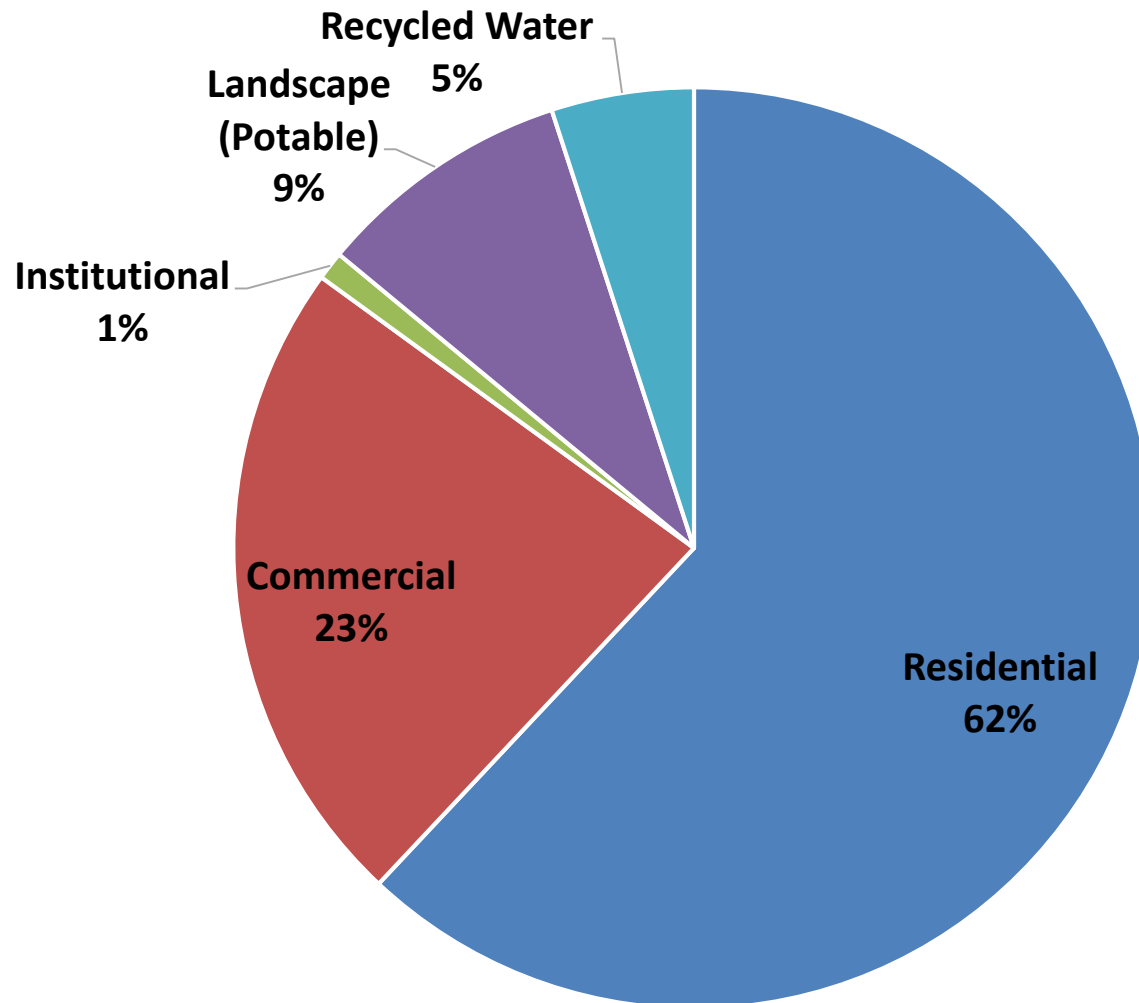
# Sunnyvale System with Facilities



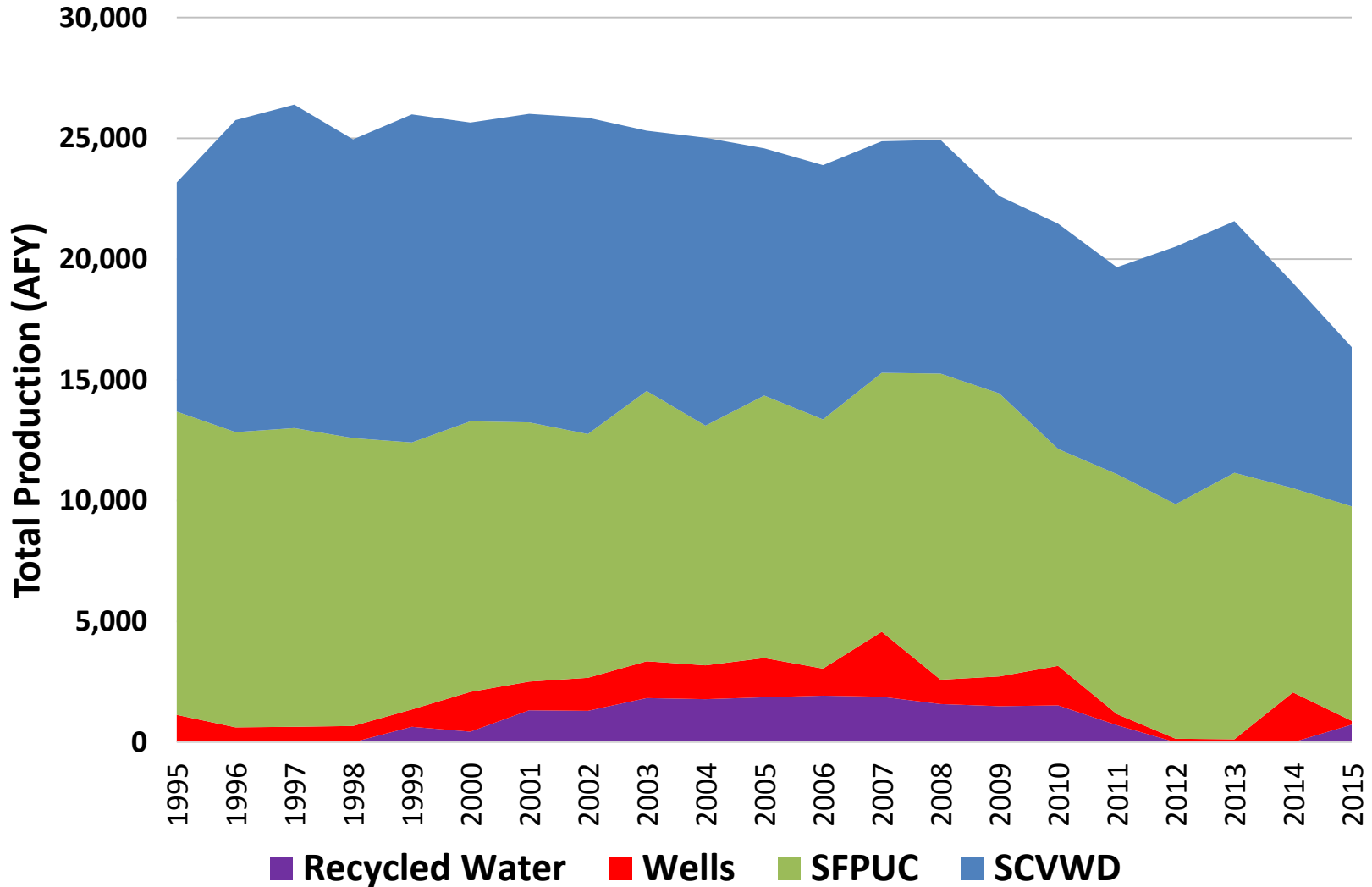
# 2016-SOURCES of SUPPLY



# 2016-Water Sales

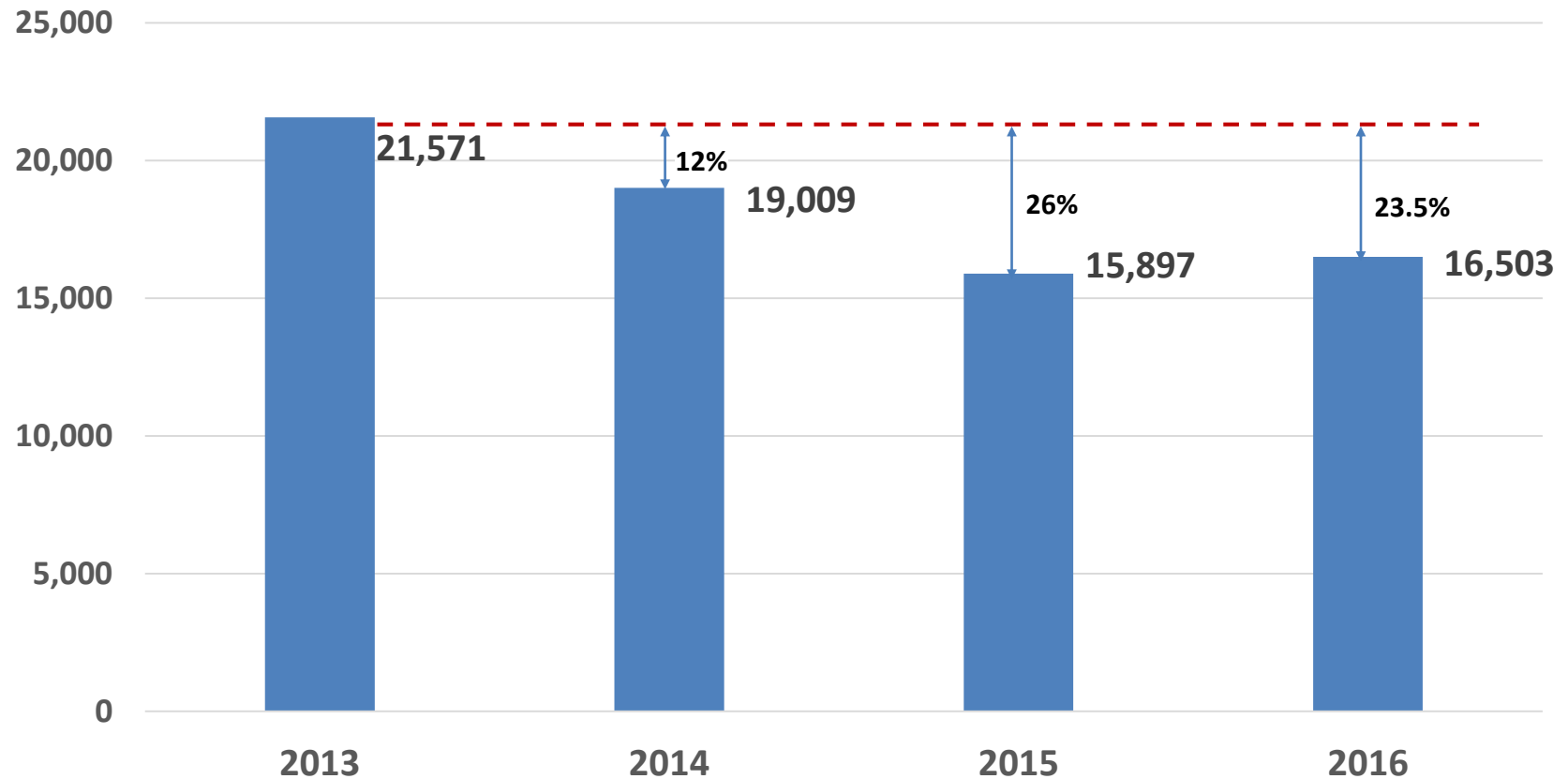


# HISTORICAL WATER SOURCES



# Sunnyvale's Response to the Drought

Acre Feet (AF) of Water Usage



% shown represents reduction from 2013 base year



# SBx7-7-Water Conservation Act

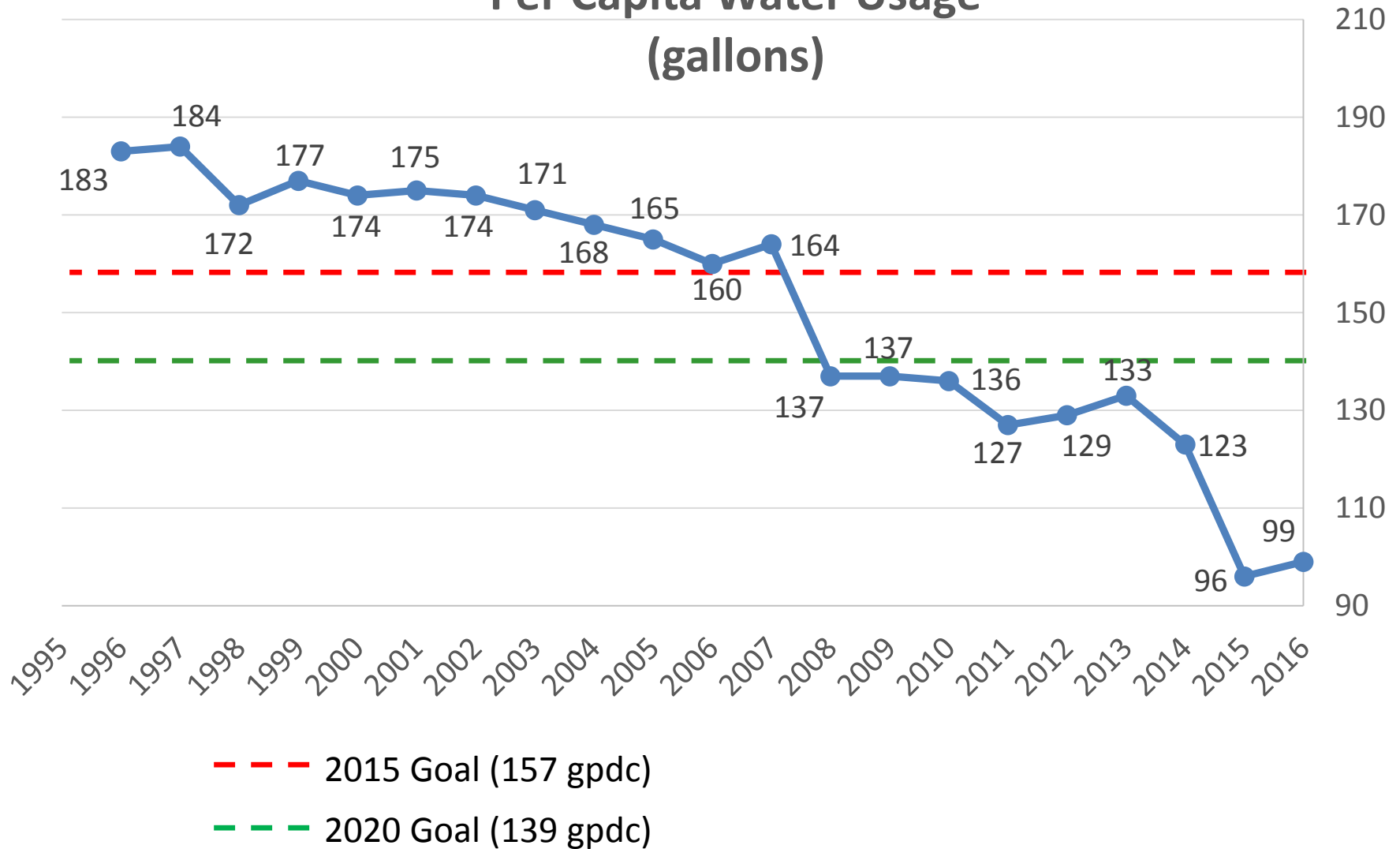


- Requires 20% water use reduction by 2020
- Uses 10-year ( 1995-2004) as baseline -174 gpcd
- 2015 reduction target 10%- 157 gpcd
- 2020 reduction target 20%- 139 gpcd
- Progress tracked by actual usage

# SBx7-7 COMPLIANCE



## Per Capita Water Usage (gallons)



# Permanent Water Use Restrictions:



- The use of broken or defective plumbing, sprinklers, watering or irrigation systems
- Using potable water in a manner where it floods premises and runoff into the street
- Using a hose to wash vehicles without shut off valve
- Using a hose to wash hard surfaces ( except for health & safety)
- Service of water to restaurants patrons without being requested
- Installation of single pass cooling process in new construction
- Sprinkler irrigation between 9 AM – 6 PM when daylight savings is in effect
- Irrigating for more than 15 minutes per day each station
- The application of potable water to outdoor landscapes while it is raining or within forty-eight hours after measurable rainfall (0.20 inches)
- The use of potable water to irrigate ornamental turf on public street medians.
- Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily.

# Additional Drought Restrictions

**Set to Expire July 1, 2017**

- Limiting irrigation to three days per week





# Questions?

