

# Bay Area Water Supply and Conservation Agency



## Ensuring a Reliable Supply of High Quality Water at a Fair Price

Nicole Sandkulla  
CEO/General Manager  
BAWSCA

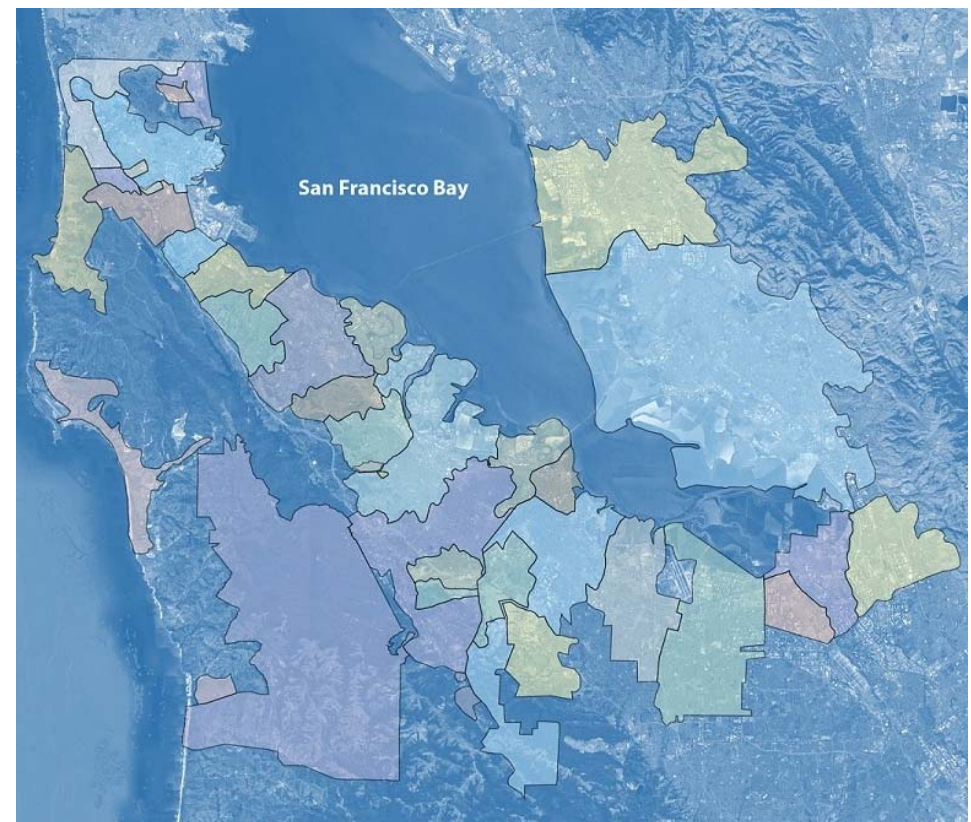
April 14, 2016

There's a **Drought on.** Turn the **Water Off.**

**BAWSCA**  
Bay Area Water Supply & Conservation Agency

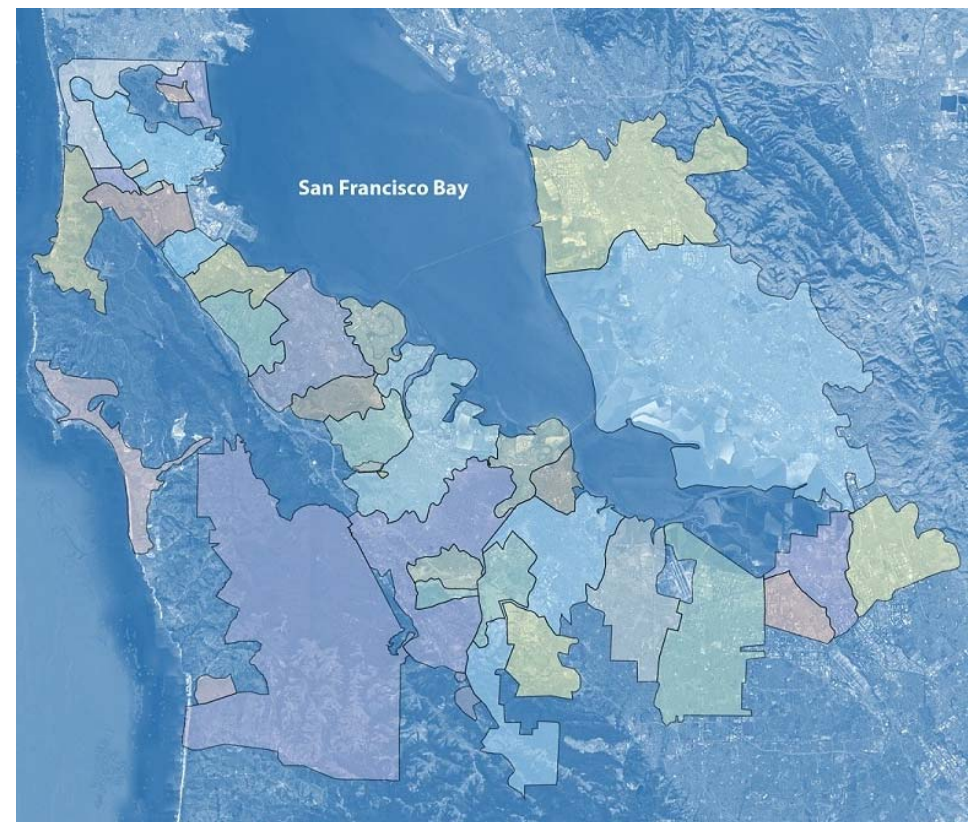
# 3 Key Presentation Messages

- What is BAWSCA?
- The system is being rebuilt at the insistence of the customers outside SF.
- BAWSCA's Strategy identifies appropriate water management actions that provide long-term water supply reliability for the region.



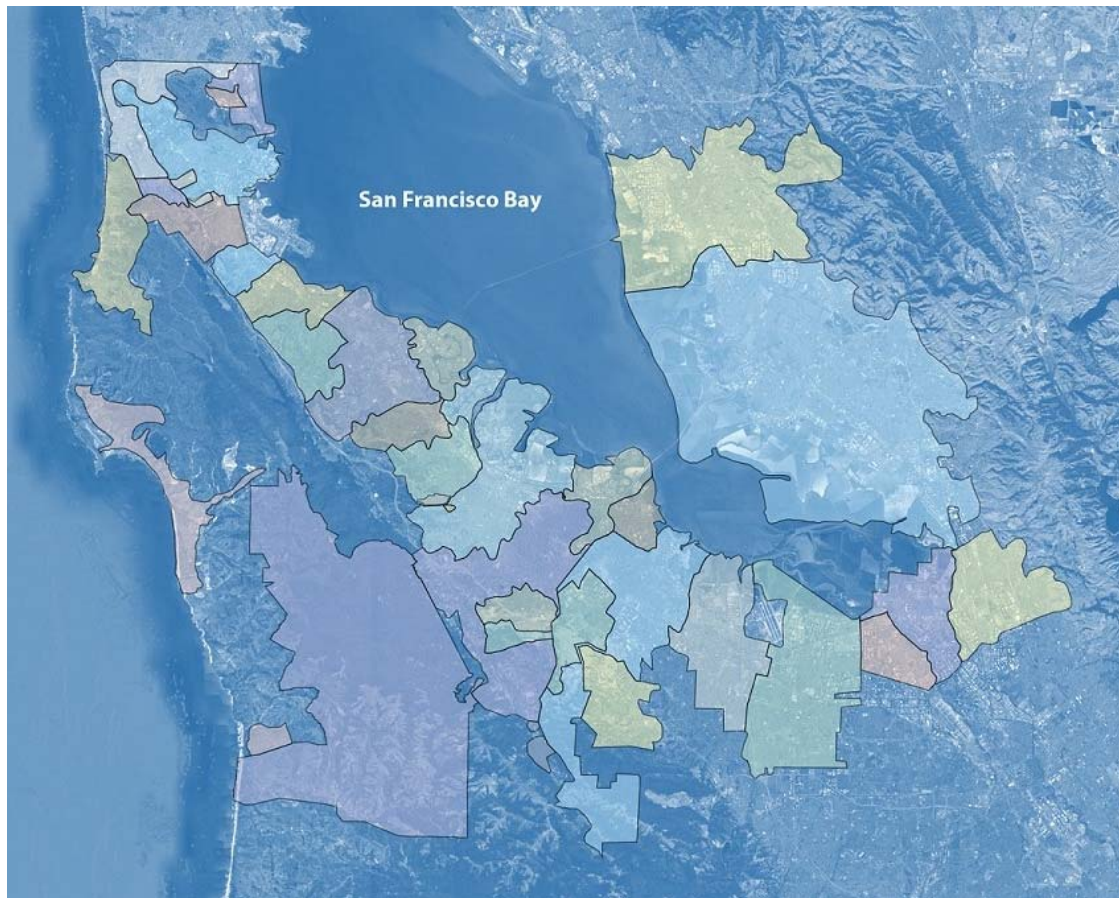
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# BAWSCA

## *Bay Area Water Supply & Conservation Agency*

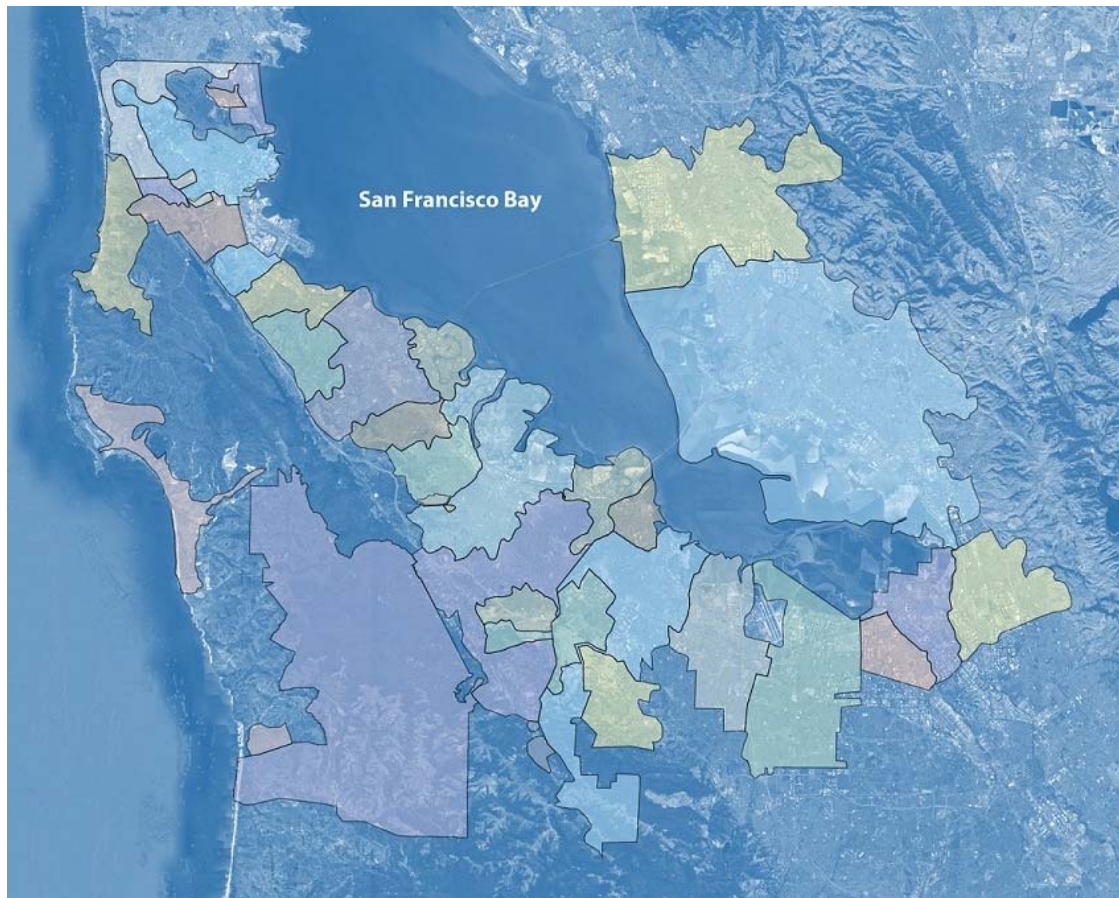


Special District representing the interests of:

- 26 water suppliers in San Mateo, Santa Clara, and Alameda Counties
- 1.7 million residents, over 30,000 businesses, and countless community organizations
- All rely on the San Francisco Regional Water System

# BAWSCA

*Bay Area Water Supply & Conservation Agency*



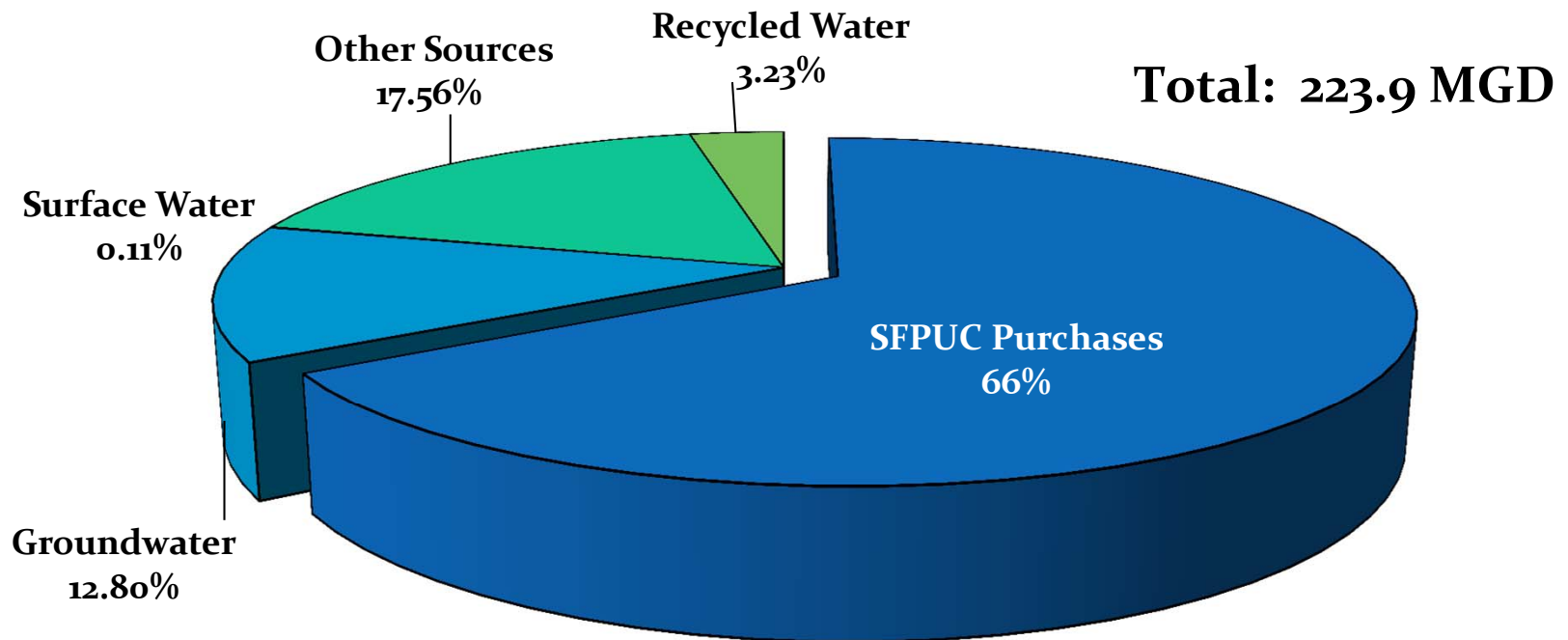
**BAWSCA's Goal:**  
Reliable Supply  
of High Quality  
Water at a Fair  
Price

# San Francisco Regional Water System



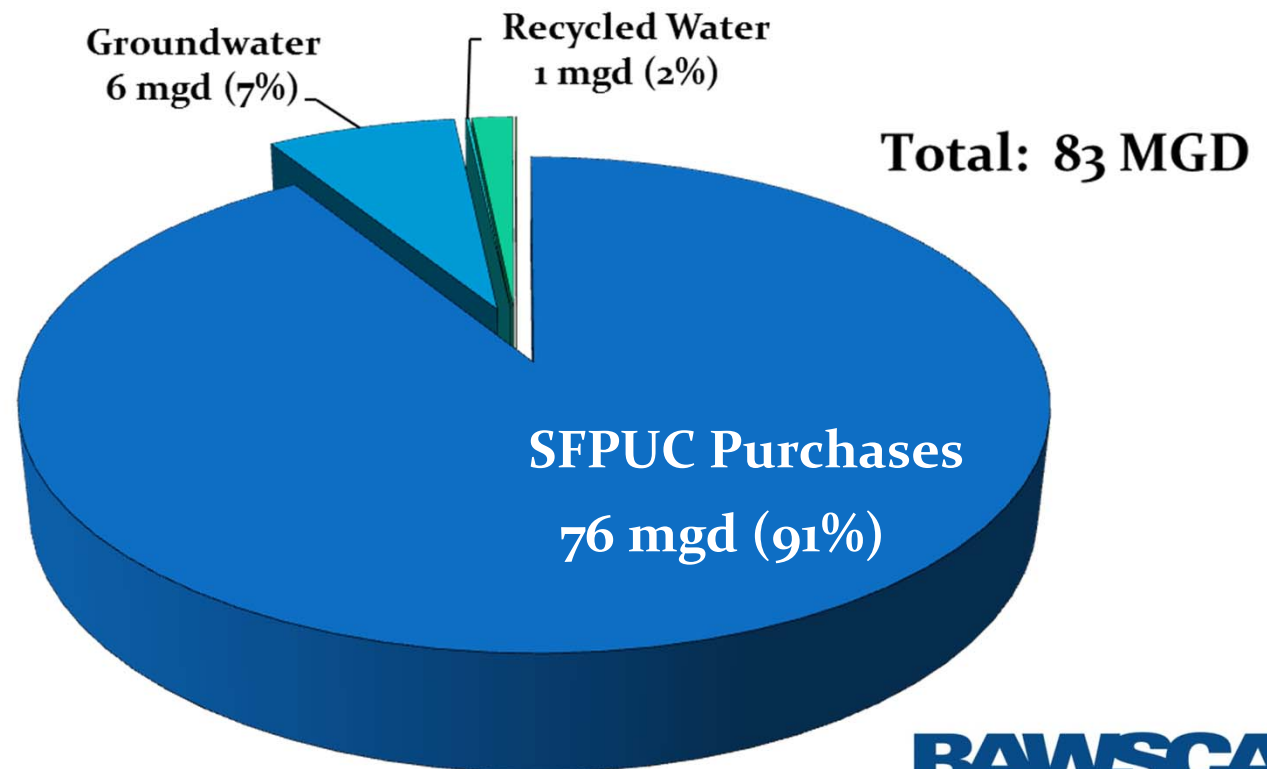
# The Communities Outside SF Rely on the System

BAWSCA agencies rely on the SF Regional Water System for two-thirds of their total water supplies



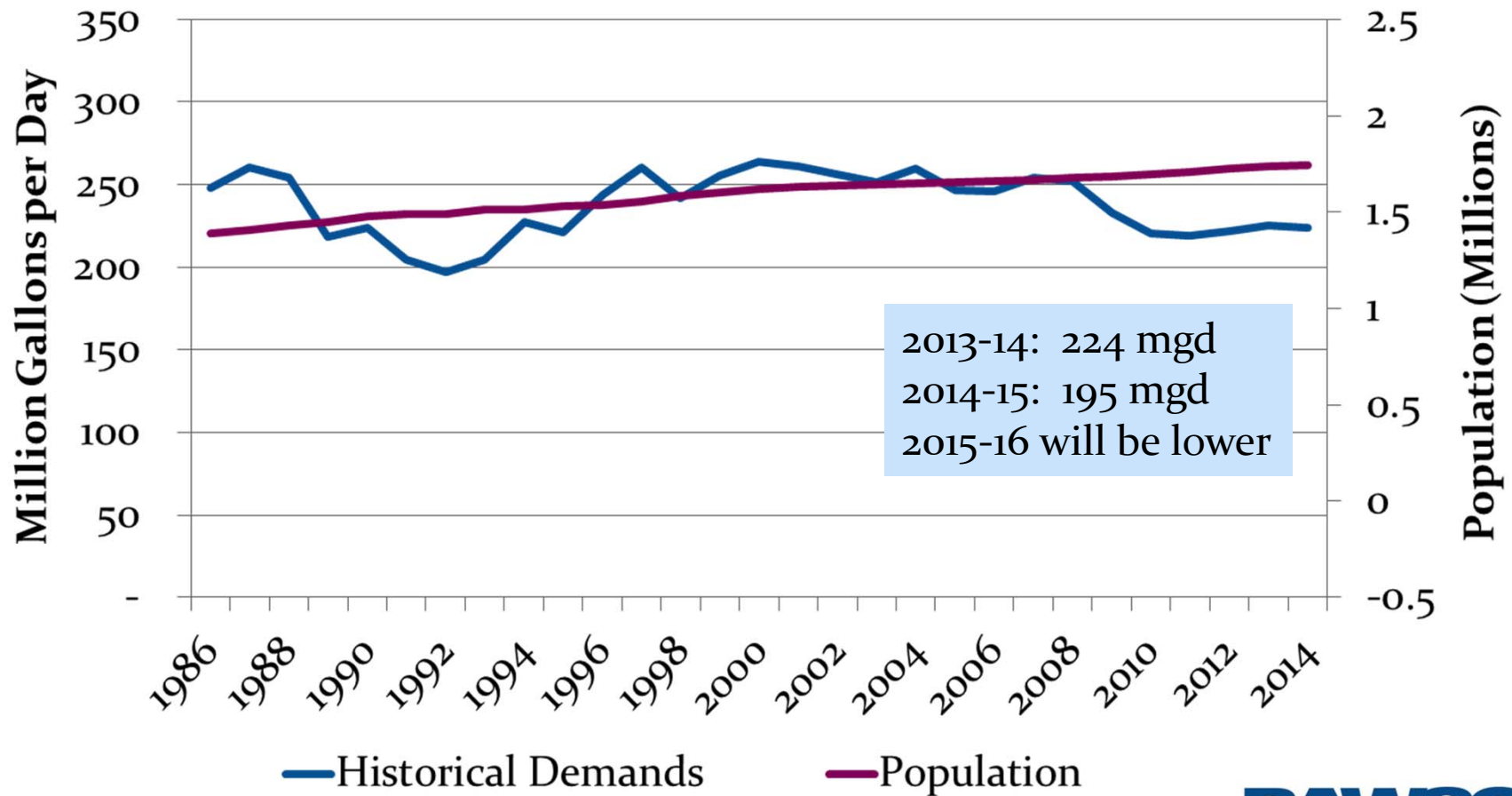
# San Mateo County Over 90% Reliant on the System

San Mateo BAWSCA agencies rely on the SF Regional Water System for 91% of their total water supplies





# 10% Less Water Used Today in Service Area Despite 25% More People



Source: BAWSCA FY 2013-14 Annual Survey

# Statewide Drought Declared ..... it is Continuing?

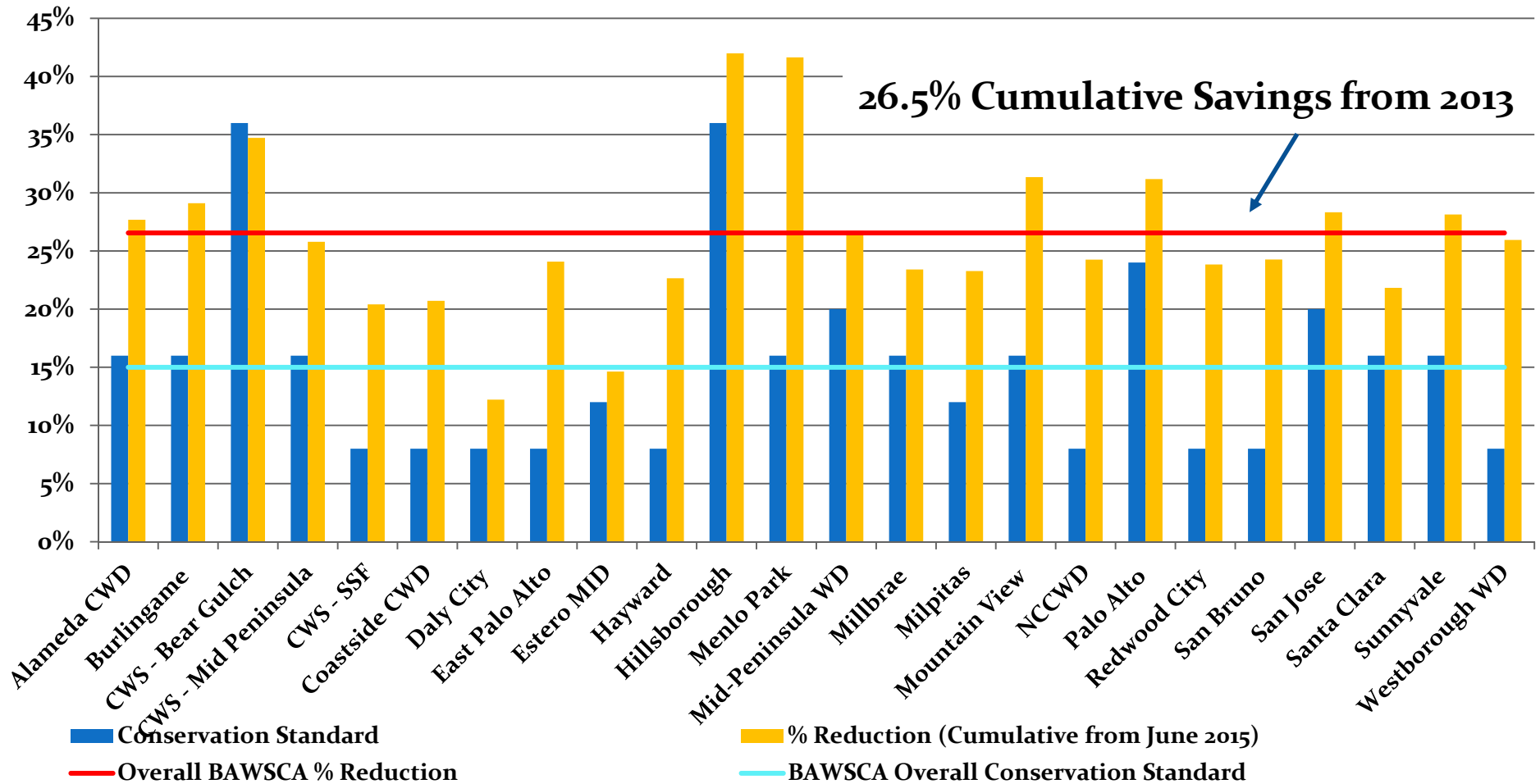
- Governor declared a drought in Jan. 2014 requiring 25% overall Statewide reductions
- State standards result in 15% overall cutback to BAWSCA agencies
- All water saved today available for tomorrow
- SF Regional Water System in good shape this year
- State discussing changes to regulations – action unclear



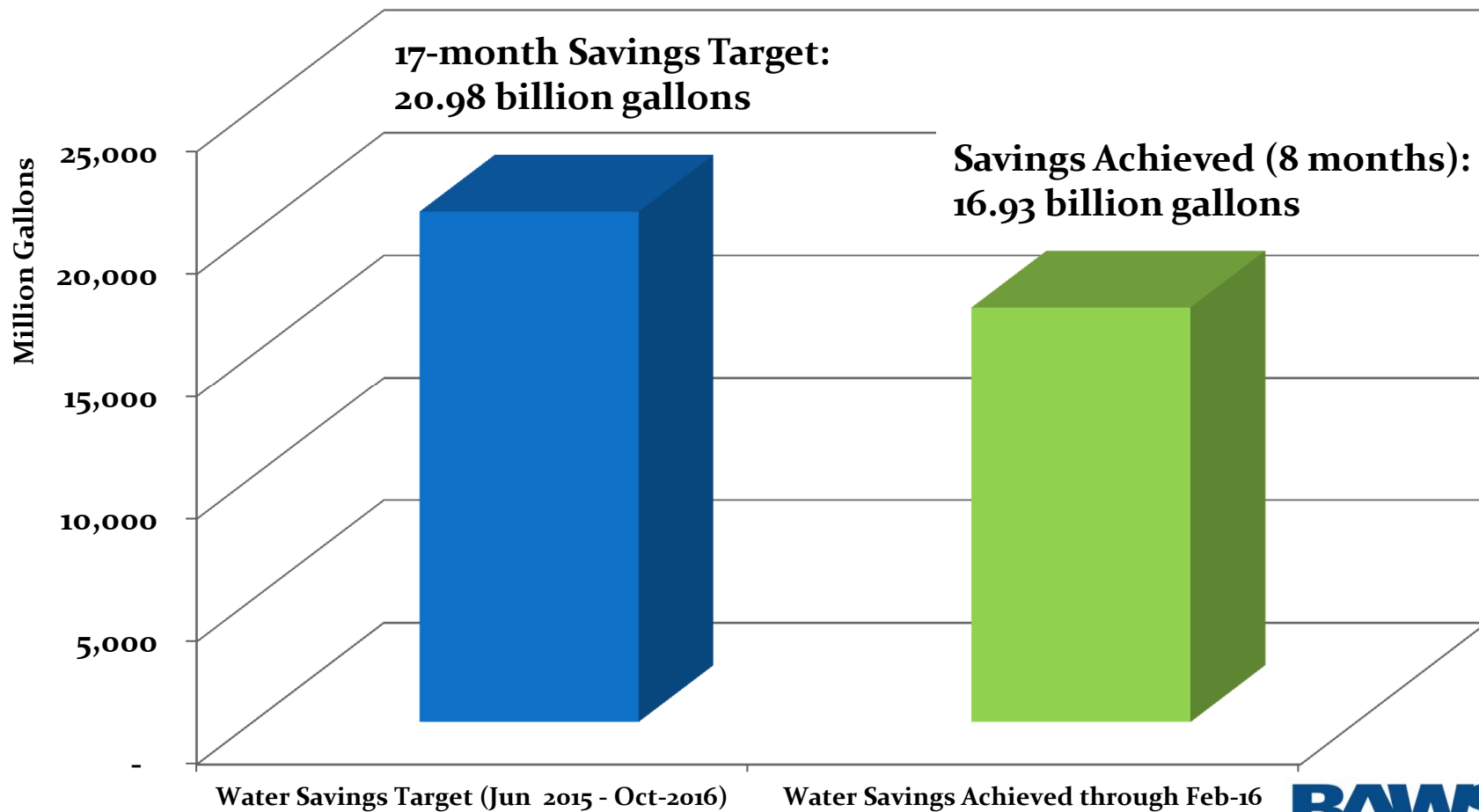
Californians Don't Waste.

**BAWSCA**  
Bay Area Water Supply & Conservation Agency

# Agencies Achieved 26.5% Cumulative Savings June 2015 through Feb. 2016



# Agencies Achieved 81% of Cumulative Savings Required Jun 2015-Oct 2016



# 3 Key Presentation Messages

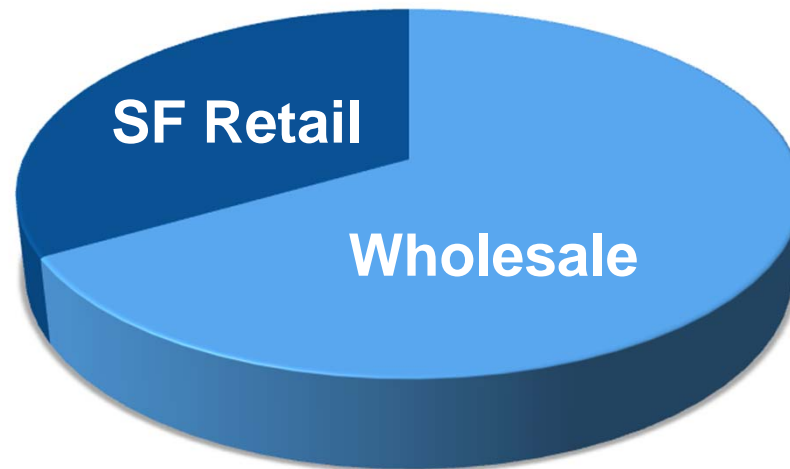
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# The System Relies on The Communities Outside SF

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- They purchase two-thirds of the water supplied by the Regional Water System



- And they pay two-thirds of the costs of the Regional Water System

# The Relationship is Mutually Beneficial

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- San Francisco depends on Wholesale water revenue to fund capital improvements and operations
- The Wholesale Customers have perpetual contractual rights to water from the System

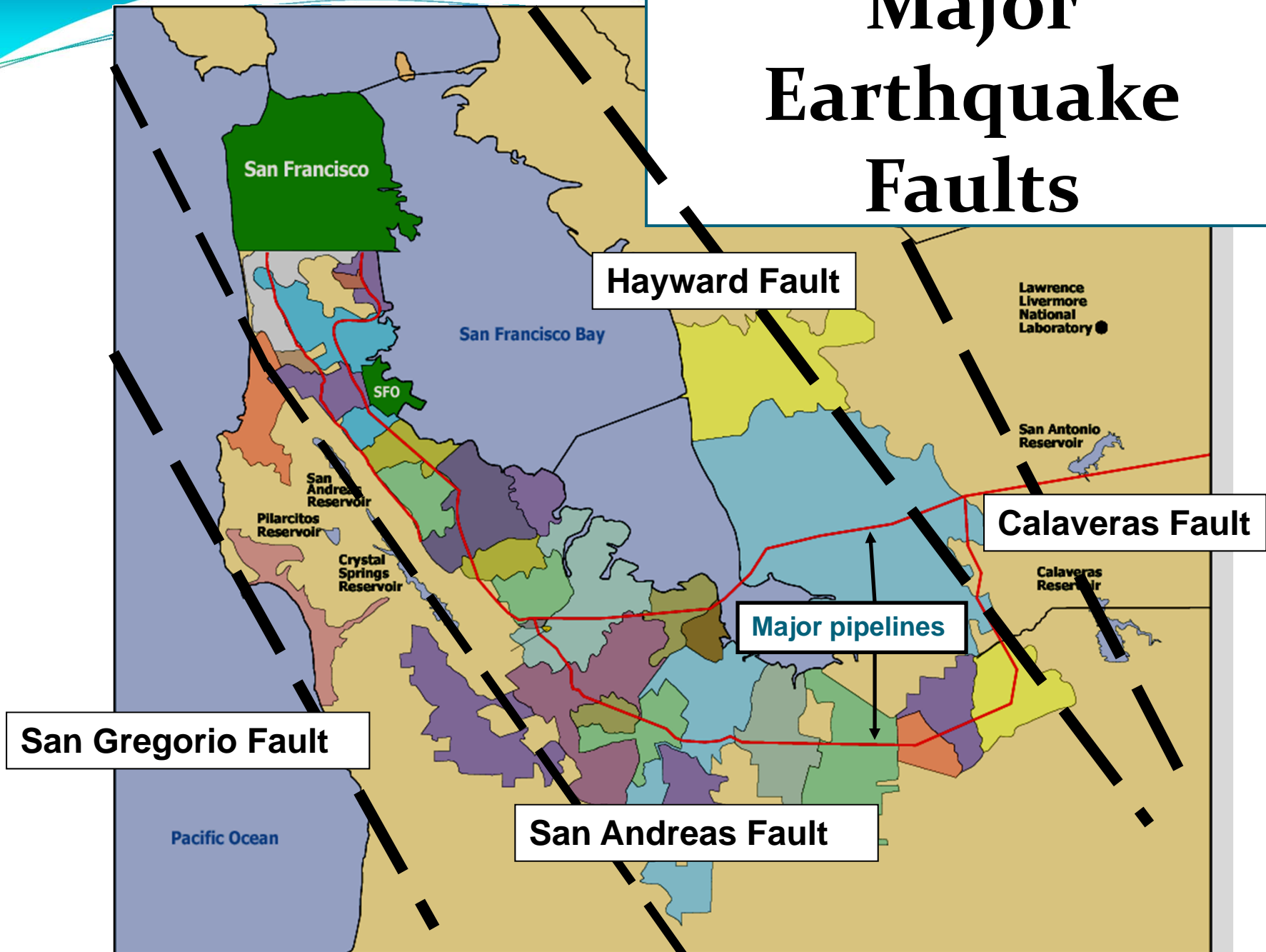


# The Relationship is Situational

- San Francisco policy makers respect the needs of the constituents who elect them
- We work well with San Francisco when we share common cause
- Sometimes the support of local public officials, businesses, labor leaders and legislators has been crucial



# Major Earthquake Faults



# **Original Pipelines Across the Bay Were Built with Old Methods and to Old Standards**



# All Facilities Have Aged



# Major Earthquake in Region Would be Devastating

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- 20 to 60 days without water from this system
- Public health and safety jeopardized
- Economic impacts of up to \$28 *billion*
- After six years of working with SF to rebuild the aging system, we went to the legislature for help in 2001

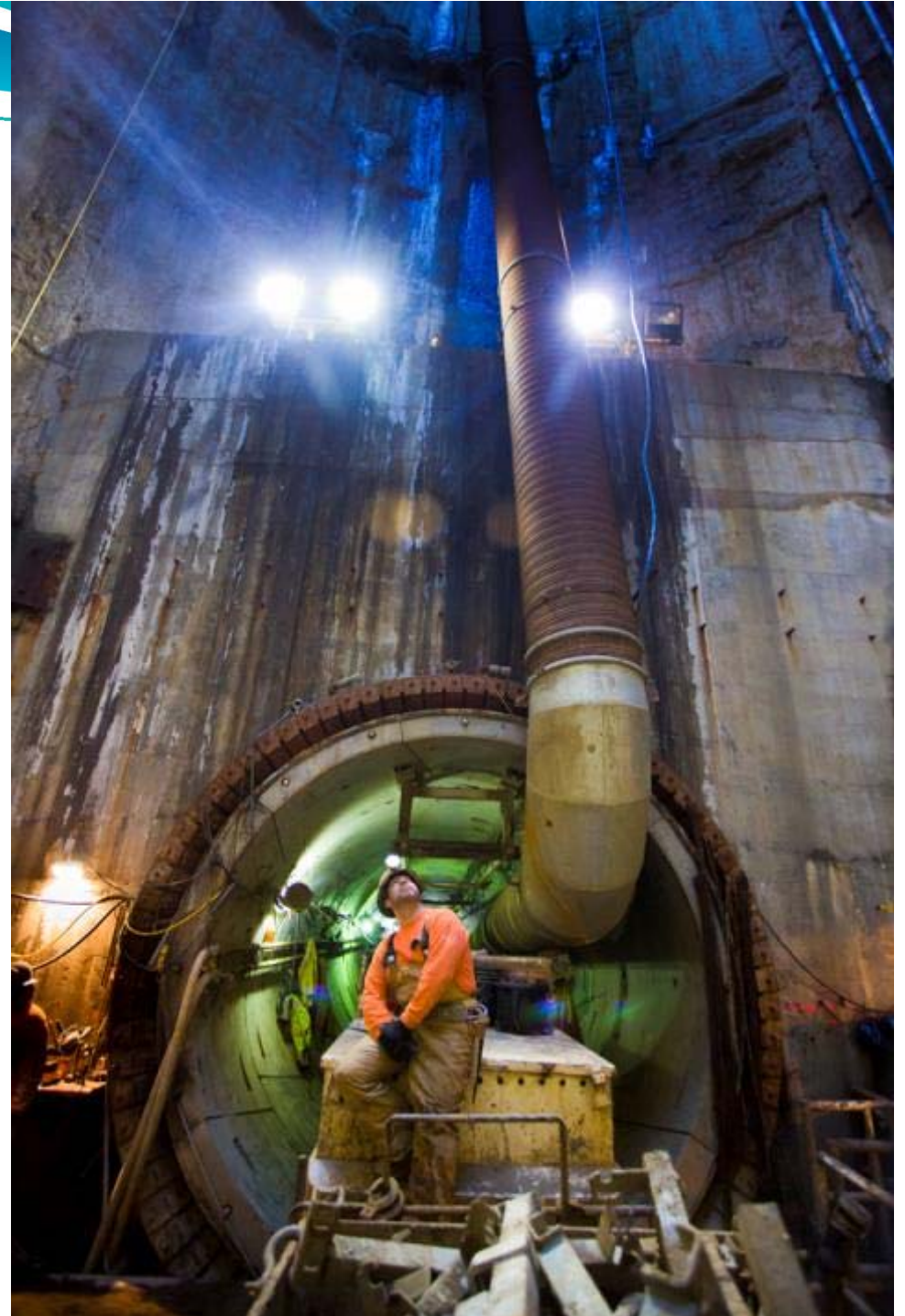
# Legislature Mandated SF Seismically Upgrade the Regional Water System

- 3 bills passed with overwhelming support in 2002
- March 2003: SF adopted a plan & schedule to fix system (Water System Improvement Program)
- Law provides State oversight of implementation:
  - SF must submit annual reports and notices of program changes to the Joint Legislative Audit Committee, State Seismic Commission, State Dept. of Health

# The Work is Now Being Performed

## San Francisco's Water System Improvement Program (WSIP)

- All projects scheduled to complete by Dec 2019
- \$4.845 billion locally funded
- 48 projects
- 91% complete as of 1/1/16
- SF's team of experts is doing an unprecedented job of completing this work



# Rebuilding the System to Ensure a Reliable Water Supply

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- WSIP designed to meet specific objectives
  - Water quality, seismic reliability, delivery reliability, water supply, sustainability, cost-effectiveness
- When WSIP completed, regional system will be able to meet the following seismic reliability objectives:
  - Deliver basic water service (229 mgd) to region within 24 hours after major earthquake
  - Restore facilities to meet average demand (300 mgd) within 30 days after major earthquake

# 3 Key Presentation Messages

- What is BAWSCA?
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# BAWSCA's Strategy

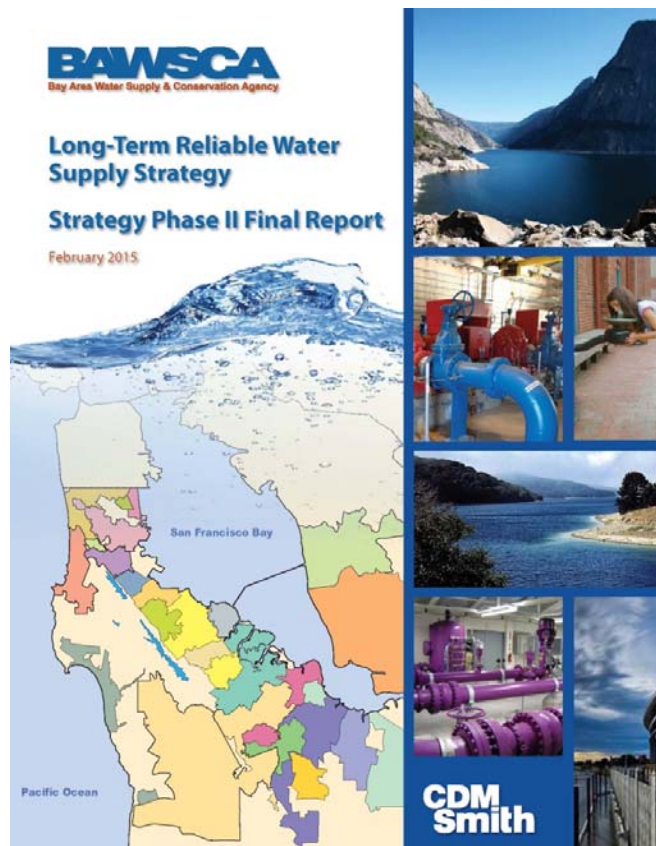
In 2009, BAWSCA embarked on the **Long-Term Reliable Water Supply Strategy** to:

- **Determine the Water Supply Problem**

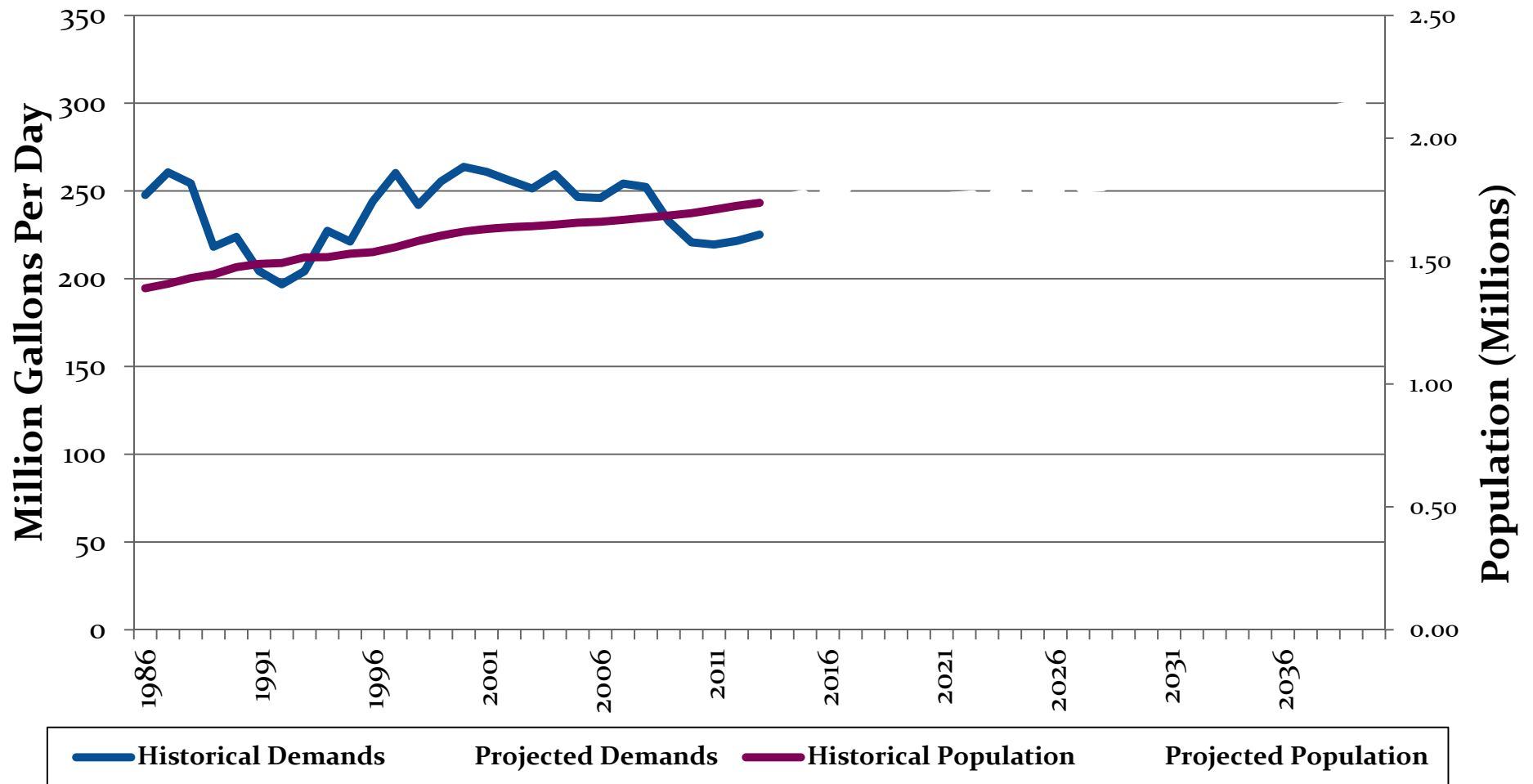
*When, where, and how much additional water is needed in normal years and dry years.*

- **Develop Solutions**

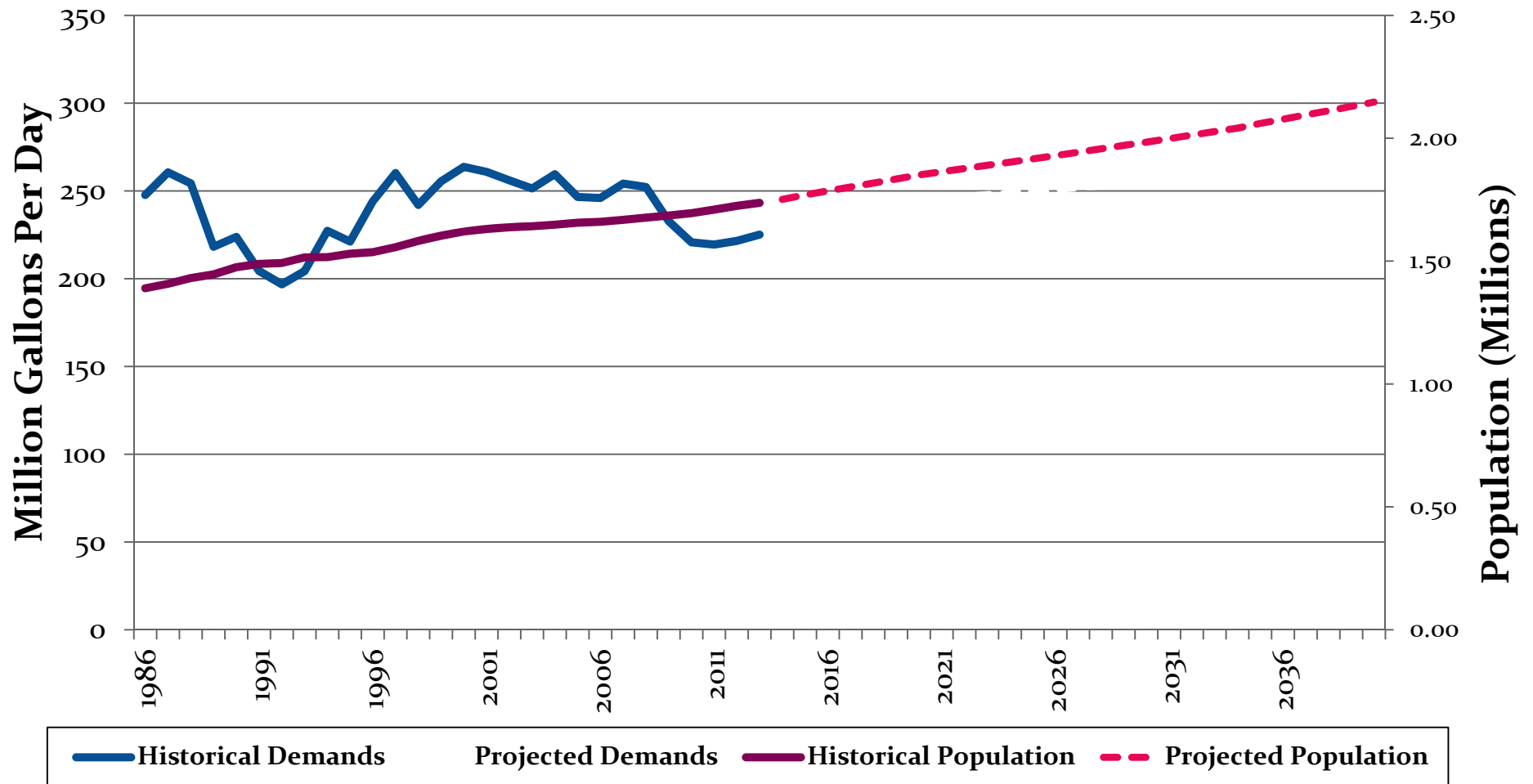
*Identify specific water supply management projects for implementation.*



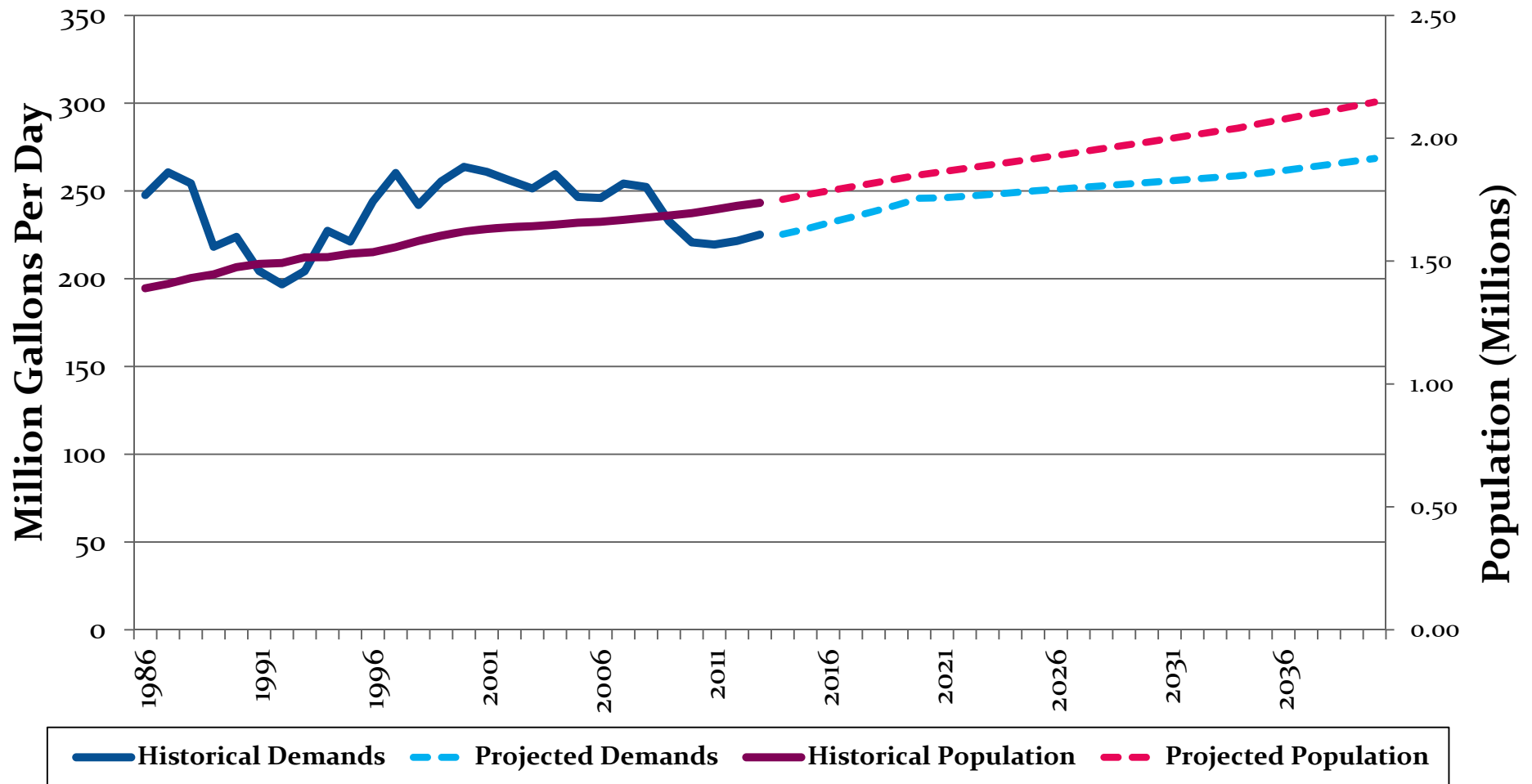
# Projected 27% Population Increase with a 20% Demand Increase



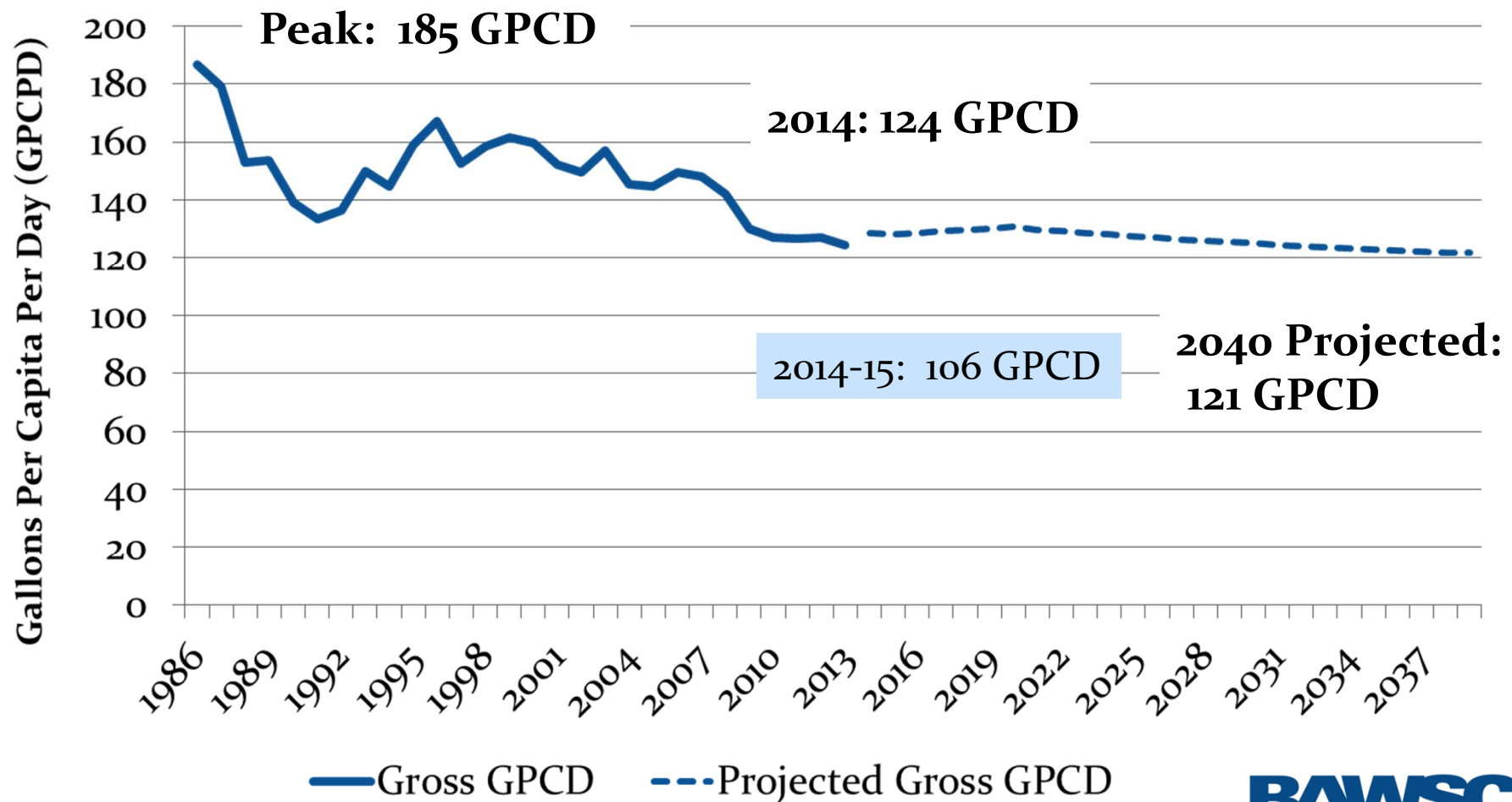
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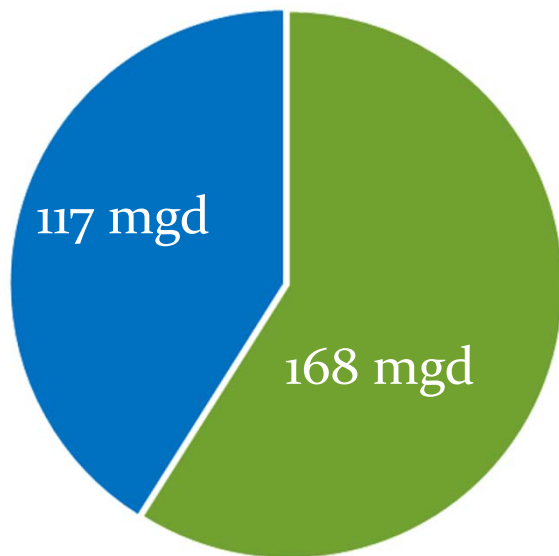
# Per Person Water Use in BAWSCA Service Area is Decreasing



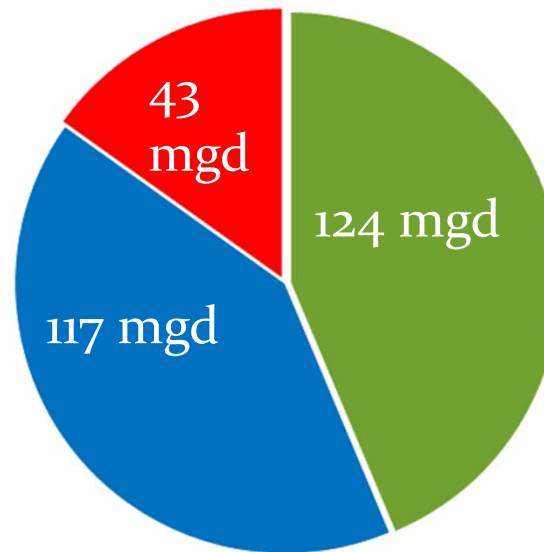
Source: BAWSCA Regional Demand and Conservation Projections Report (September 2014) and Annual Survey

# Demand Study Confirmed Need to Focus on Drought

2040 Supply Sources, Normal Year



2040 Supply Sources, Drought Year  
(20% System-wide Shortage)



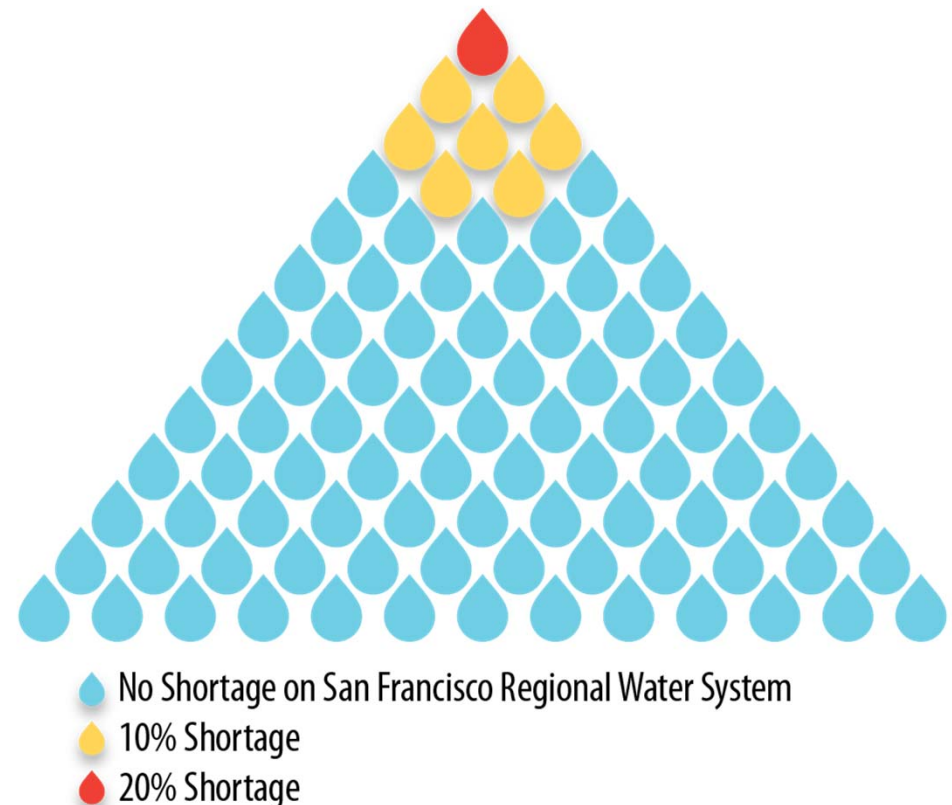
Anticipated  
SFPUC  
Purchases

Other  
Sources

Reliability  
Shortfall

# How Frequent are Droughts Anticipated on the SF RWS?

- System subject to cutbacks 1 in 11 years (assuming 2040 demands)
  - Using historical record
- Analysis informs decision-making
  - How often will supplemental supplies be needed?
  - Effective cost of a supply increases if only used during drought



# Strategy Included a Comprehensive Review of Supply Projects

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- **Phase I** – identified 65+ projects with potential regional benefits
- **Phase IIA** – refined list of projects to 17, identified near-term opportunities
- **Phase II Final** – presented refined project list of 10
  - Analysis of projects against multiple objectives

*Note: Agencies may have other supply projects, but did not want to include them in the Strategy*



# Five Project Types that Provide *Regional* Benefits Were Identified

- Recycled water
- Groundwater
- Desalination
- Water transfers
- Local capture and reuse



# **Diverse Set of Objectives Used to Evaluate Potential Projects**

## **Objectives**

**Increase Supply Reliability**

**Provide High Level of Water Quality**

**Minimize Cost of New Supplies**

**Reduce Potable Demand**

**Minimize Environmental Impacts of New Supplies**

**Increase Implementation Potential of New Supplies**

# Strategy Presented Key Findings and Recommended Actions

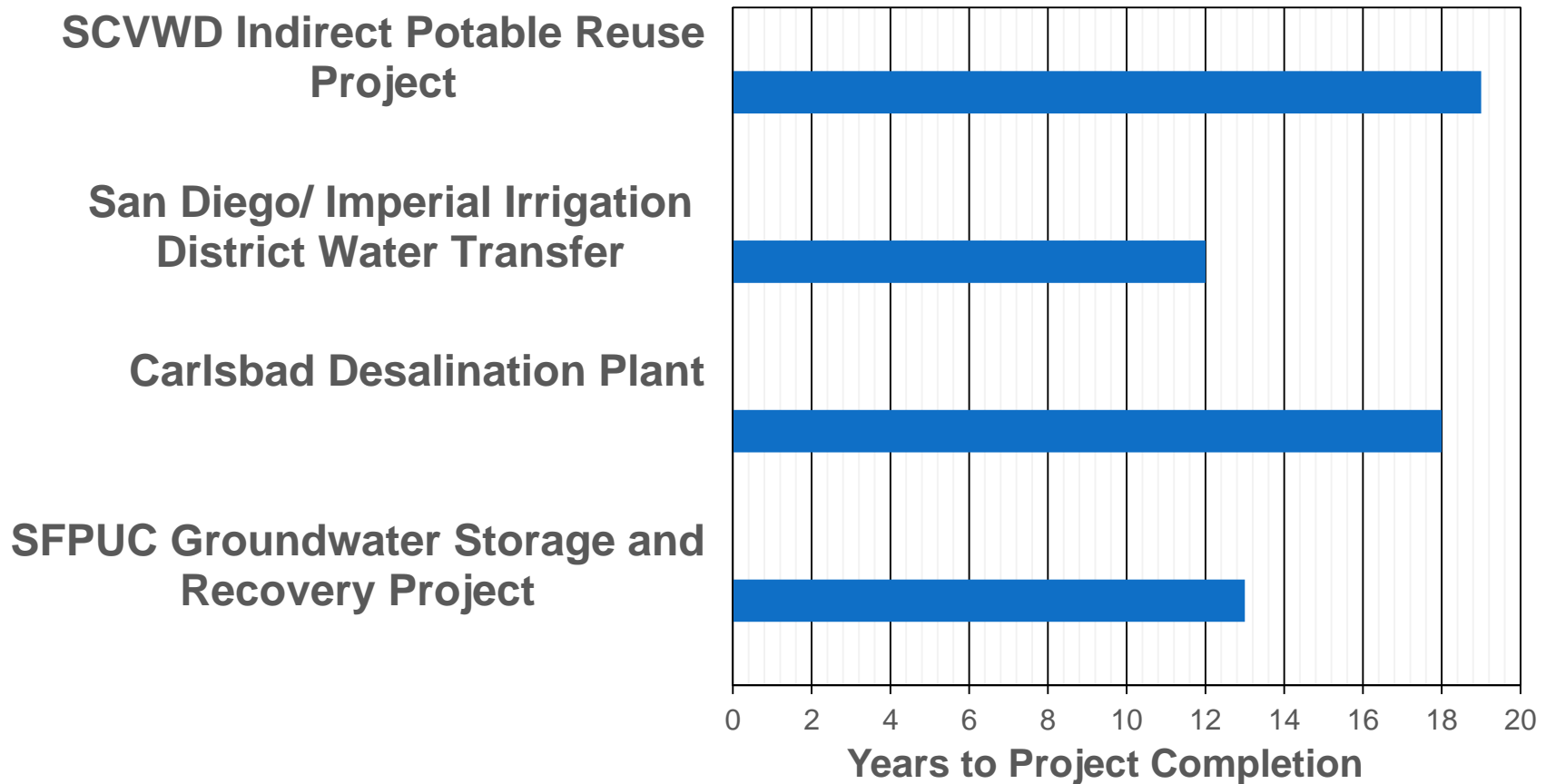
Key Finding	Recommended Action
<ul style="list-style-type: none"><li>• Water transfer are a high priority</li></ul>	<ul style="list-style-type: none"><li>• Continue to lead development of transfers for implementation</li><li>• Identify and evaluate water storage options</li></ul>
<ul style="list-style-type: none"><li>• Desalination needs a partner to be viable</li></ul>	<ul style="list-style-type: none"><li>• Facilitate partnerships to implement</li><li>• Pursue outside funding for further studies</li></ul>
<ul style="list-style-type: none"><li>• “Other Projects” like recycling, groundwater, etc. have limited dry year benefits</li></ul>	<ul style="list-style-type: none"><li>• Support member agency projects</li><li>• Participate in cooperative regional planning</li></ul>

# Implementation of Strategy is Under Way

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- Strategy recommended pursuing continued early planning and research on many of the projects
- No major capital investments required at this time
- Lower demands mean that decisions to invest in new supplies can be made more deliberately
- Water supply project implementation is a long process

# Development of New Water Supplies Takes Time



# Historic Drought has Increase Public Interest in Water

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- Public interest in water during drought is useful
  - Conservation programs being utilized
  - Potable reuse entered the discussion
  - Increased focus on local capture and reuse projects
    - Data on these types of projects was limited when completing the Strategy Report
    - BAWSCA participates actively in the on-site water reuse discussion in the region
  - The public is more engaged

# Potable Reuse Projects Gaining Traction

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- BAWSCA Strategy noted potential of potable reuse, but projects not far enough along to enable detailed analysis
- Multiple water and wastewater agencies taking steps to develop potable recycled water supplies
- Factors driving progress include:
  - Drought
  - Additional regulatory requirements on wastewater treatment plants
  - Change in public perception
  - Development of regulations governing potable reuse

# BAWSCA Initiated Groundwater Reliability Partnership

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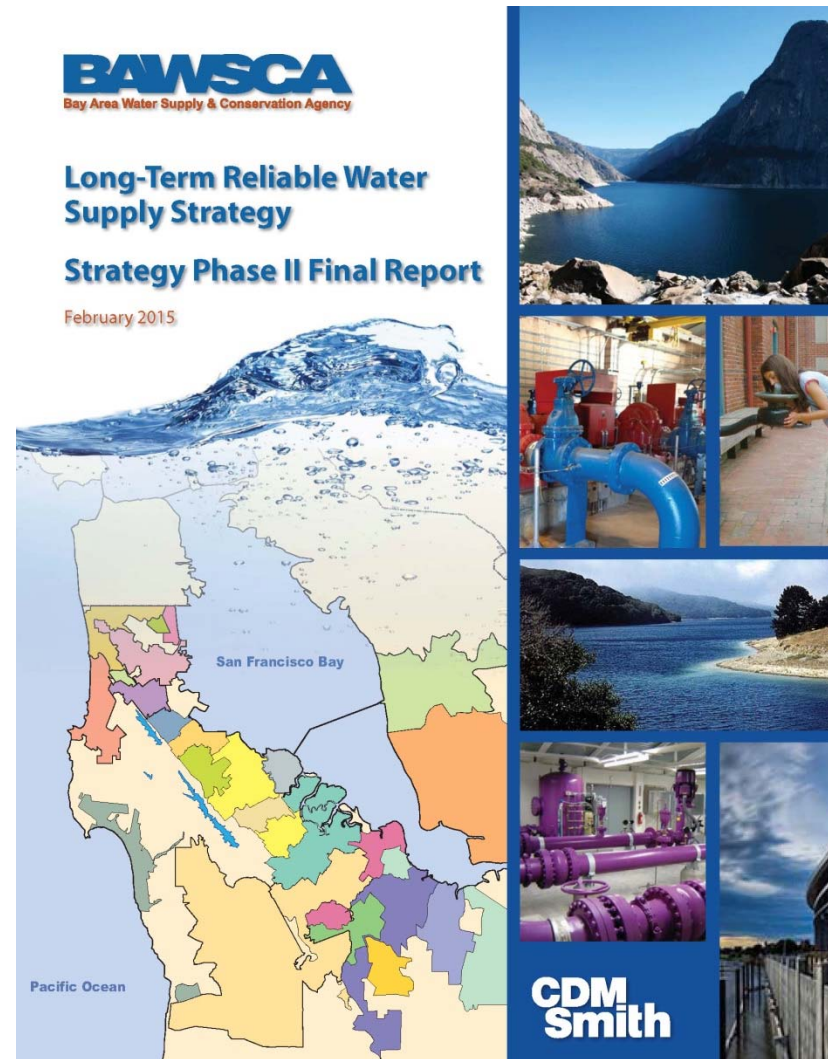
- Focus is current and future use of water supplies from San Mateo Plain Sub-Basin
  - Agencies increasing looking to BAWSCA for support
- Significant public interest in basin given drought and 2014 Sustainable Groundwater Management Act
- Goals of Partnership include:
  - Increase understanding of hydrology and geology
  - Provide a forum for sharing information
  - Collaborative approach to potential basin management



# **Drought Response Analysis will Inform Strategy Implementation**

- BAWSCA proposing analysis to evaluate:
  - What drove the demand reductions
  - Projected demand and supply need
  - Responsiveness and appropriateness of existing shortage provisions
  - Drought preparedness of member agencies and other regional suppliers
  - Qualitatively identify local economic impacts
- Host regional workshop on financial impacts of drought

- Strategy recommended actions being implemented today
- Regular reports provided to BAWSCA Board of Directors
- BAWSCA's goal remains *"A reliable supply of high quality water at a fair price"*
- Implementation of Strategy necessary to achieve goal



# Questions and Comments

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**Nicole Sandkulla**  
**Nsandkulla@BAWSCA.org**



## GARDENS GONE WILD

Use native, water-efficient plants. It's a DROUGHT.

**BAWSCA**  
Bay Area Water Supply & Conservation Agency

 Hetch Hetchy  
Regional Water System  
Services of the San Francisco Public Utilities Commission

[bawasca.org/DROUGHT](http://bawasca.org/DROUGHT)