

Joint Session on Water Supply 3 Issues for Discussion

- **Issue # 1 ~ Water Supply Outlook**
- **Issue # 2 ~ Water Conservation**
- **Issue # 3 ~ Recycled Water**



Issue #1

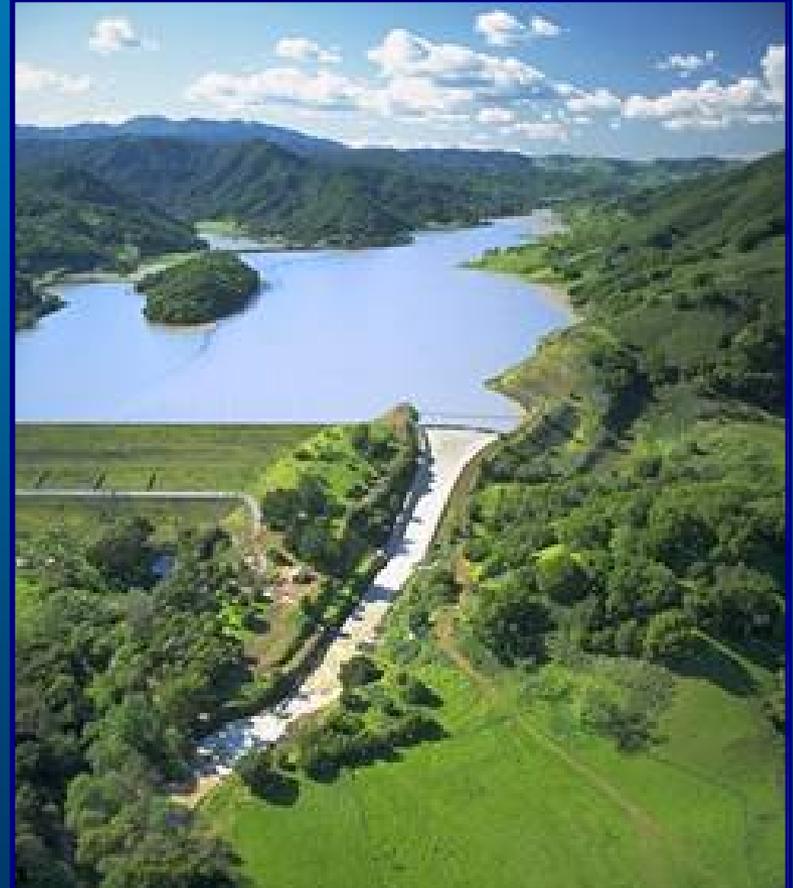


Water Supply Outlook

Our diverse water supply portfolio



imported Sierra water



local reservoirs and groundwater



recycled water



We tap 3 imported water systems

Lake Oroville water ...



1 State Water Project (since 1965)

travels in South Bay Aqueduct



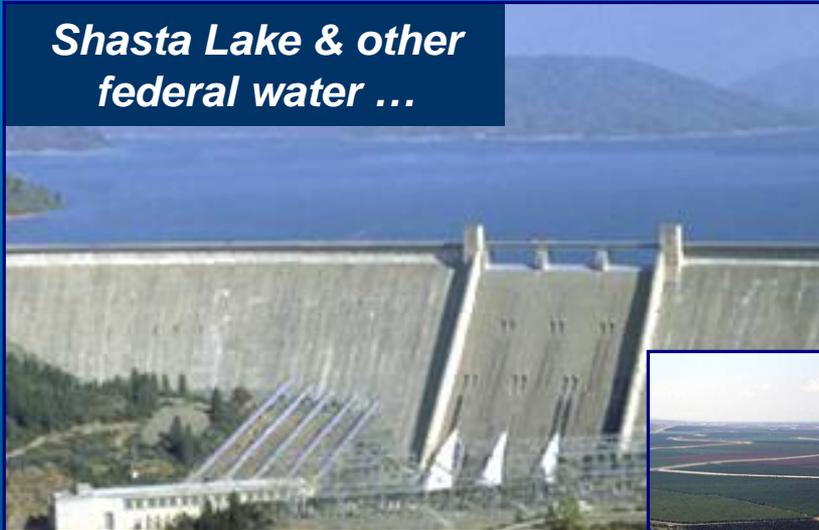
... to SCVWD plant



Photo courtesy of California Department of Water Resources

We tap 3 imported water systems

Shasta Lake & other federal water ...



... travels in Delta-Mendota Canal ...



... to San Luis Reservoir and pumped to valley.

2 Federal Central Valley Project (since 1987)

Photo courtesy of US Bureau of Reclamation



We tap 3 imported water systems

3

SFPUC Hetch Hetchy

(individual city contracts since 1950s)



Hetch Hetchy Dam near Yosemite

All state & federal water flows through the Delta





Delta Risks to Water Supply

Pumping restrictions



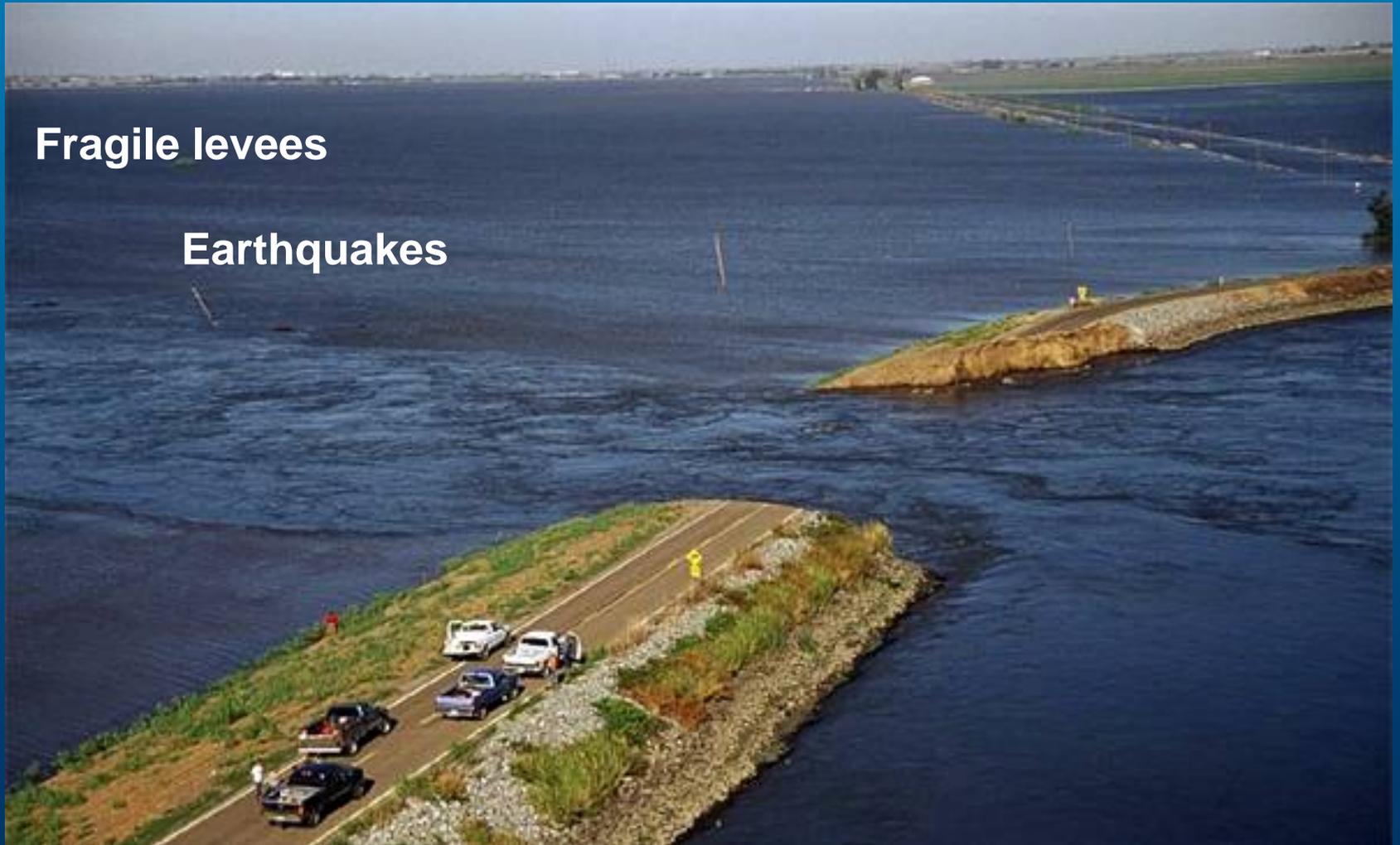
Degraded water quality

Photos courtesy of US Bureau of Reclamation

Delta Risks to Water Supply

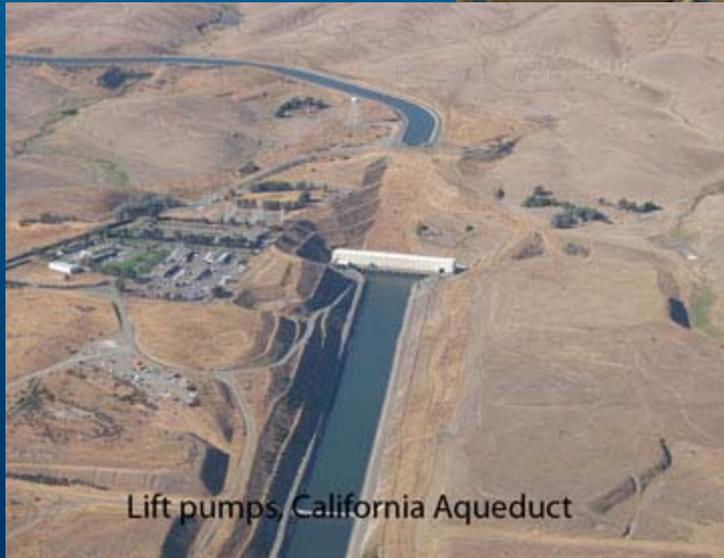
Fragile levees

Earthquakes



Delta Risks to Water Supply

Aging
conveyance
system

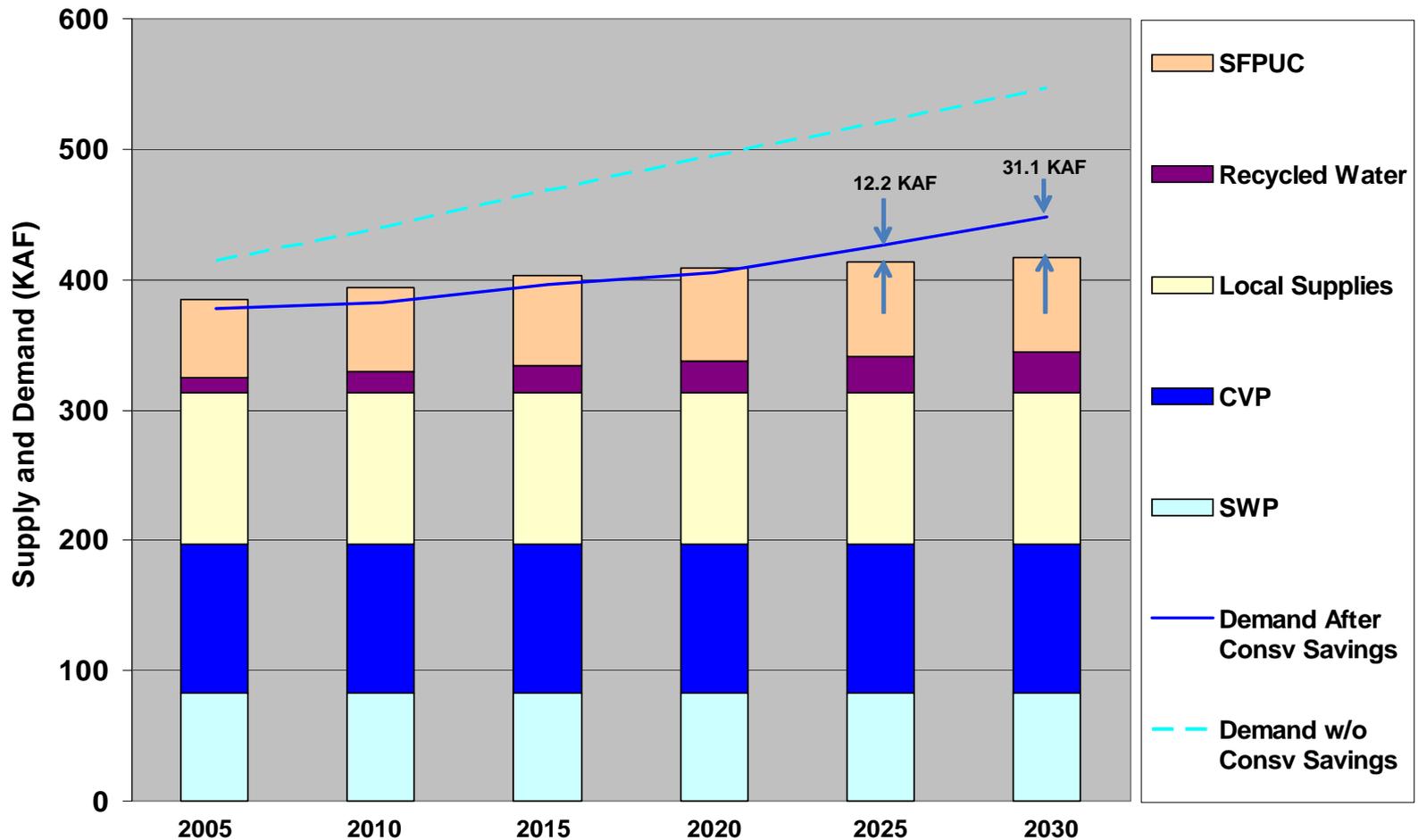


Lift pumps, California Aqueduct

Photos courtesy of US Bureau of Reclamation

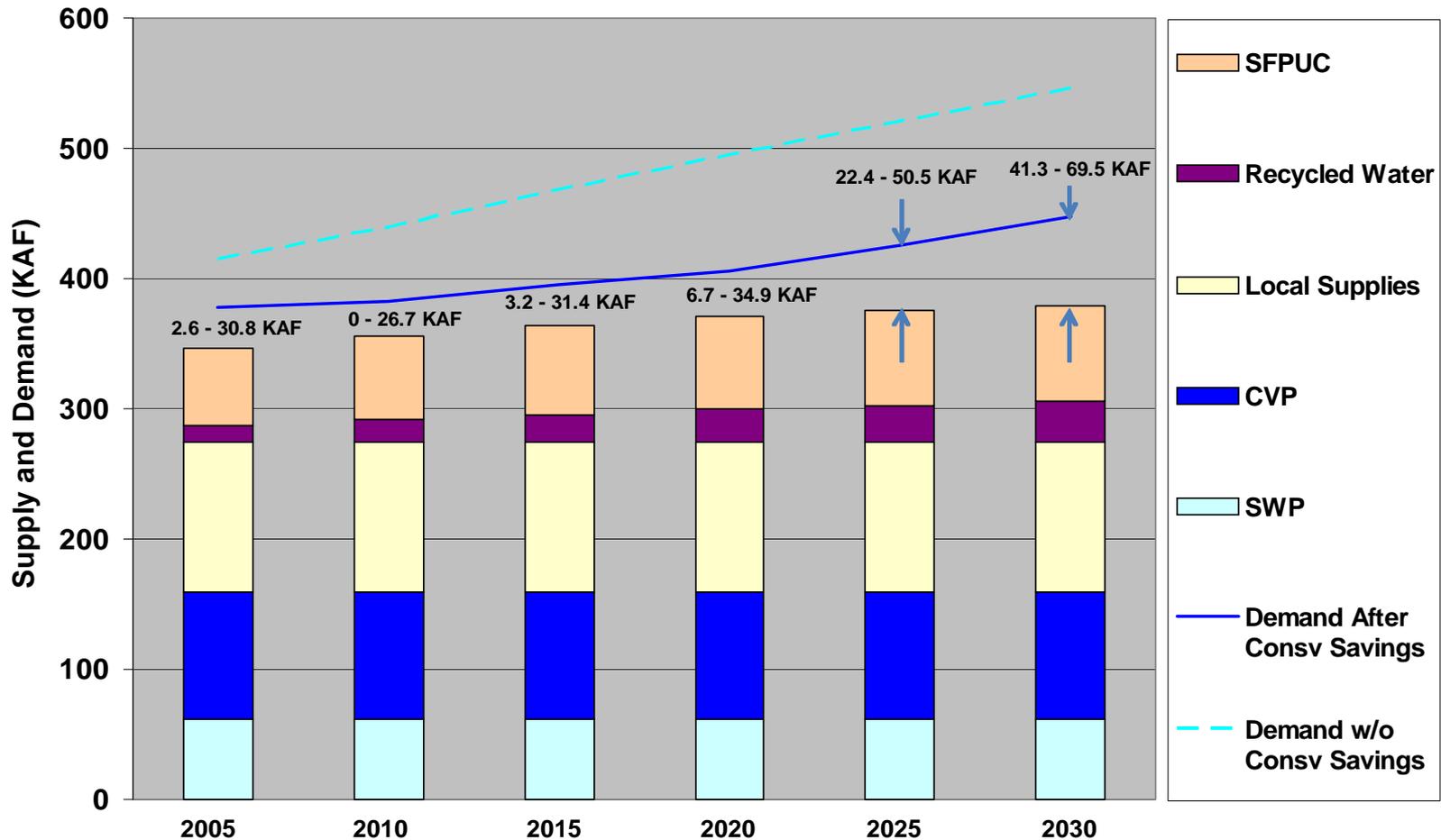
Water Supply Outlook ~ Normal Year

Normal Year Scenario



Water Supply Outlook ~ With Pumping Restrictions

Normal Year With Delta Pumping Restrictions





Climate change ~ potential impacts





Long Term Challenges

- **earthquakes**
- **infrastructure vulnerability**
- **mounting regulations – water quality, environmental, and dam safety**
- **Hetch Hetchy contract negotiations**
- **climate change**
- **costs**

ACTIONS we should take today

- **Asset Management**
- **Public education**
- **10% voluntary conservation**
- **Expand recycled water**
- **Contingency plans**
- **Water banking**
- **Optimize system operations**
- **Support Delta capital projects (e.g. State Water Bond)**





State Water Bond

GOVERNOR'S PROPOSAL:

Potential grants for Water Conservation, Water Recycling and other water supply projects

Status: stalled



NEW WATER BOND (MACHADO) PROPOSAL:

Potential grants for Delta fix, water supply and water use efficiency

Status: introduced March 2008 to re-start negotiations



Climate Change Response

AB 32 Global Warming Solutions Act

- Reduce greenhouse gases to 1990 levels by 2020
- City & District to quantify greenhouse gas emissions for water supply



Ongoing priorities & focus

- **Public education**
- **Increase water use efficiency**
- **Continue investment in local resources**
- **Advocate for pertinent legislation and Delta solutions**
- **Increase regional coordination**
- **Coordinate on land use decisions related to Water Supply Assessments**

Where should we focus for the long-term?

- **Protect existing supplies and infrastructure (Baseline)**
- **Solve Delta problems**
- **Advocate for a “smarter” water delivery system**
- **Continue investment in local resources**
- **Increase water use efficiency**
- **Advocate for pertinent legislation**
- **Increase regional coordination**



Issue #2



Water Conservation

Anderson Reservoir in year four of 1987-1992 drought



Issue #2

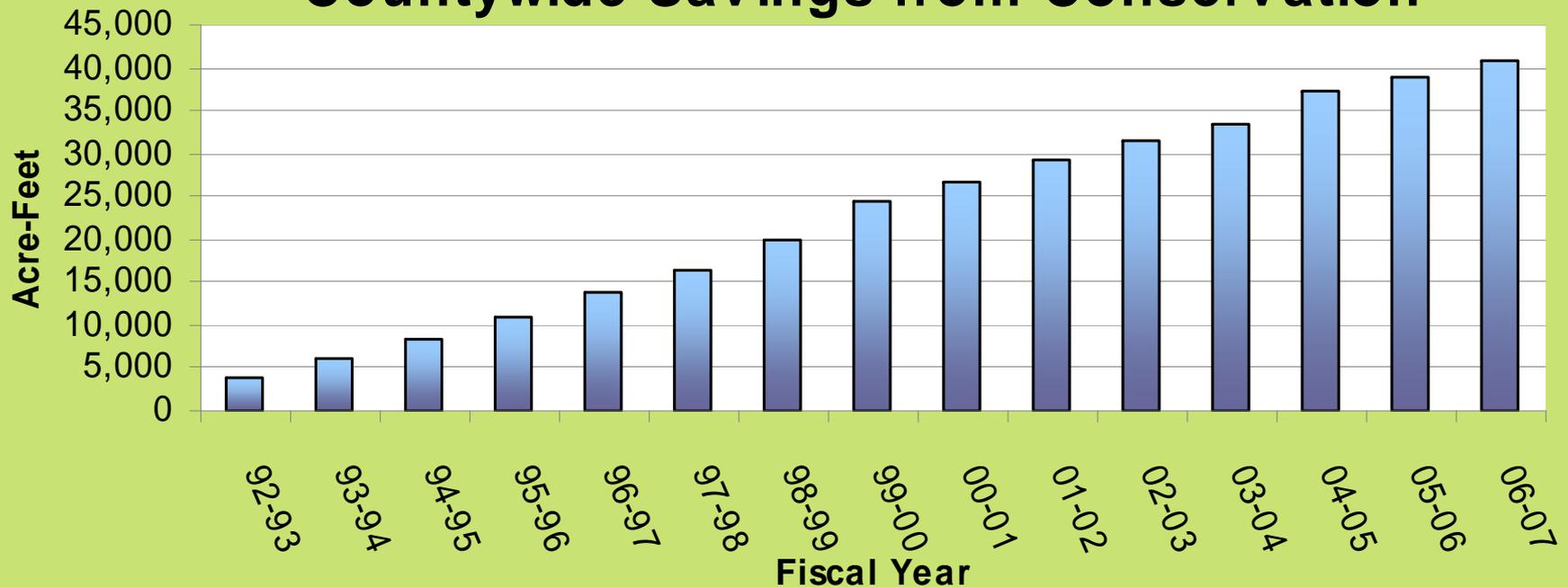


2007 Water Conservation

Countywide: 41,000 acre feet per year

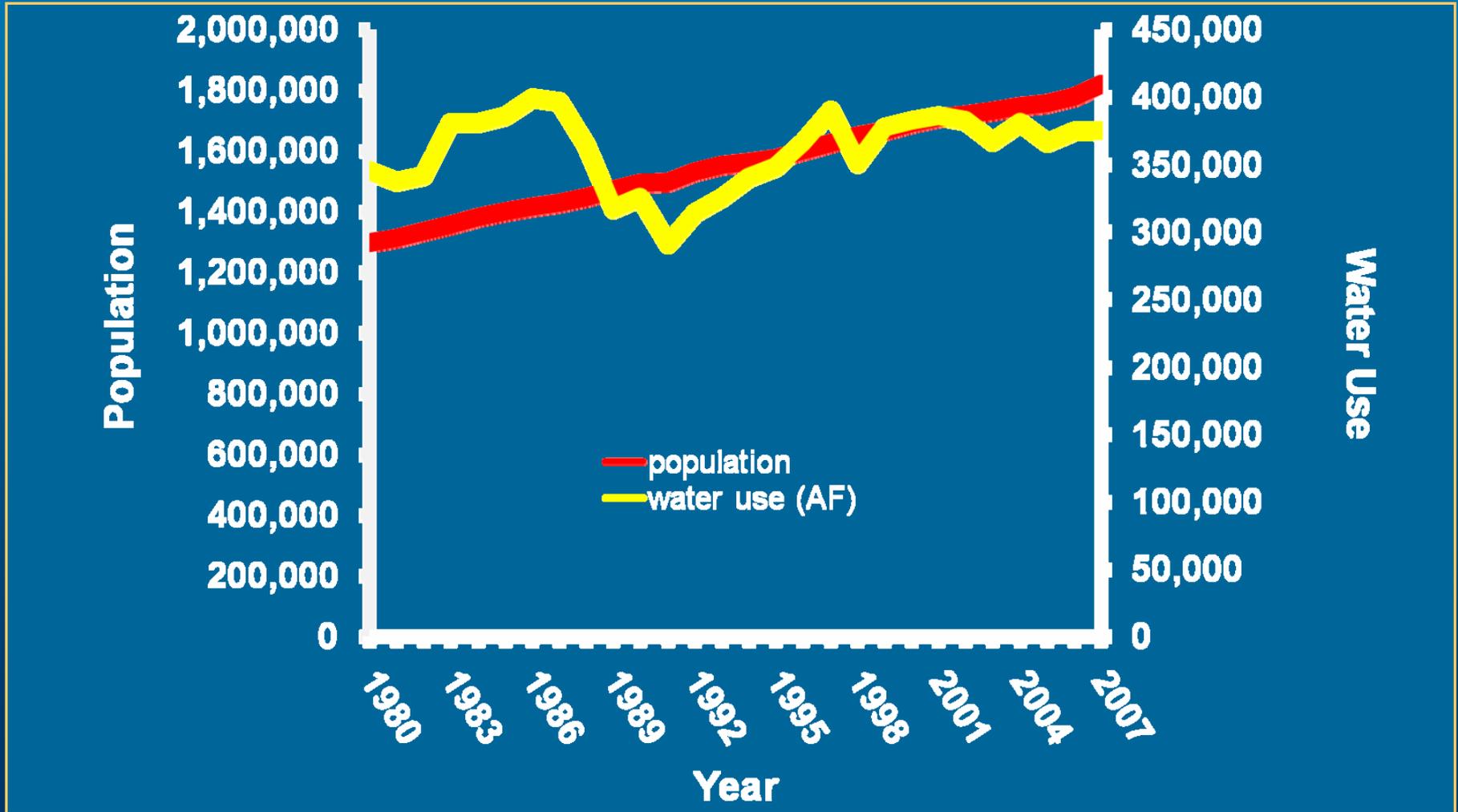
San José: 20,000 acre feet per year

Countywide Savings from Conservation



Population & Water Use

Santa Clara County





Saving water saves energy

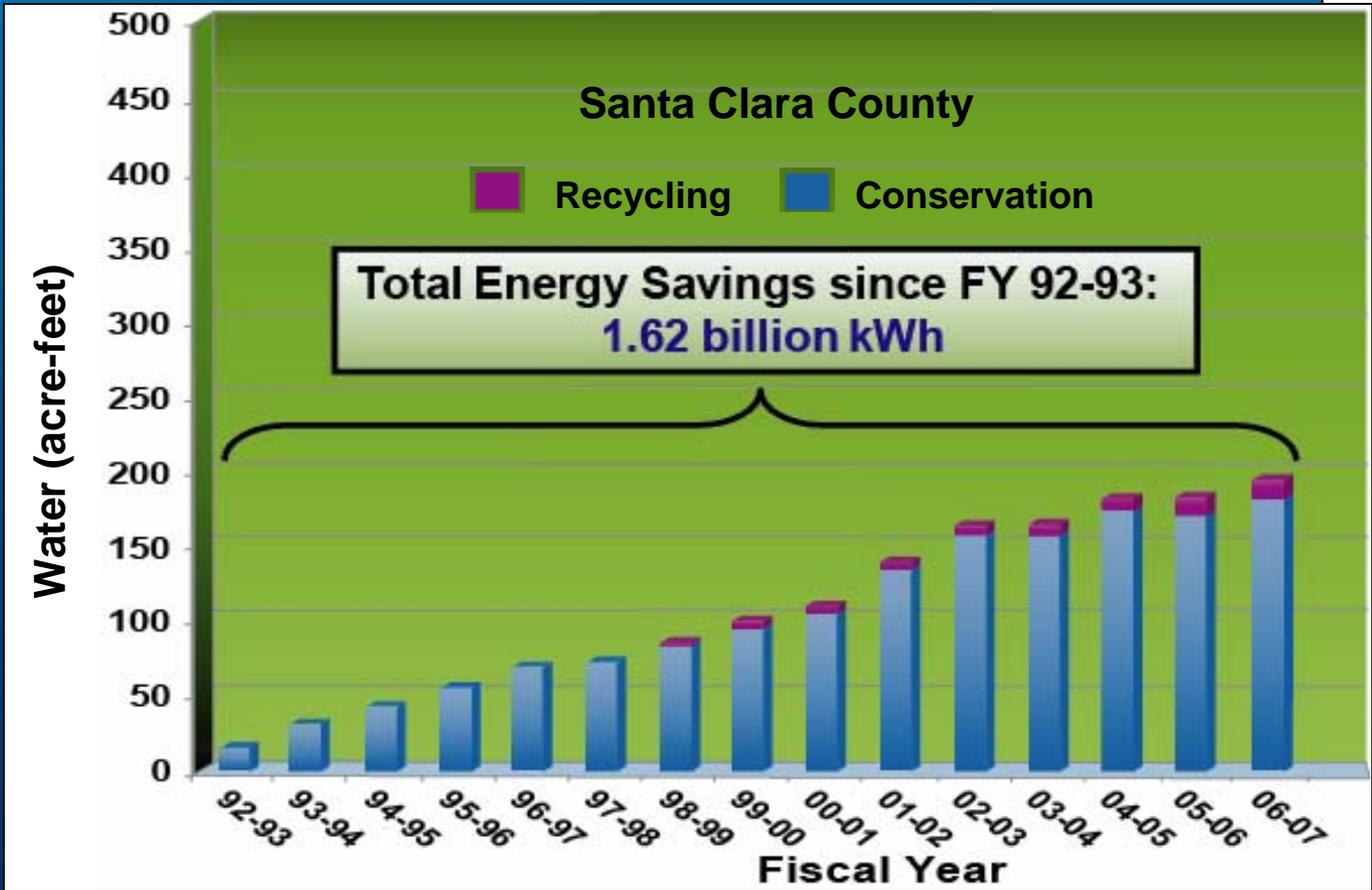
Cumulative energy savings since FY92-93 could power 236,000 households for one year

From *Watts* to *Water*



Climate Change Response through Saving Water, Saving Energy, and Reducing Air Pollution

Santa Clara Valley Water District 





Water Conservation Goals

Long Term Target (by 2030)

acre-feet per year

- **100,000 countywide**
- **50,000 in San José**



Conservation Program Overview

- **10 Residential programs**
- **10 Commercial programs**
- **2 Agricultural programs**



US EPA Award in 2007





Conservation Programs ~ Residential



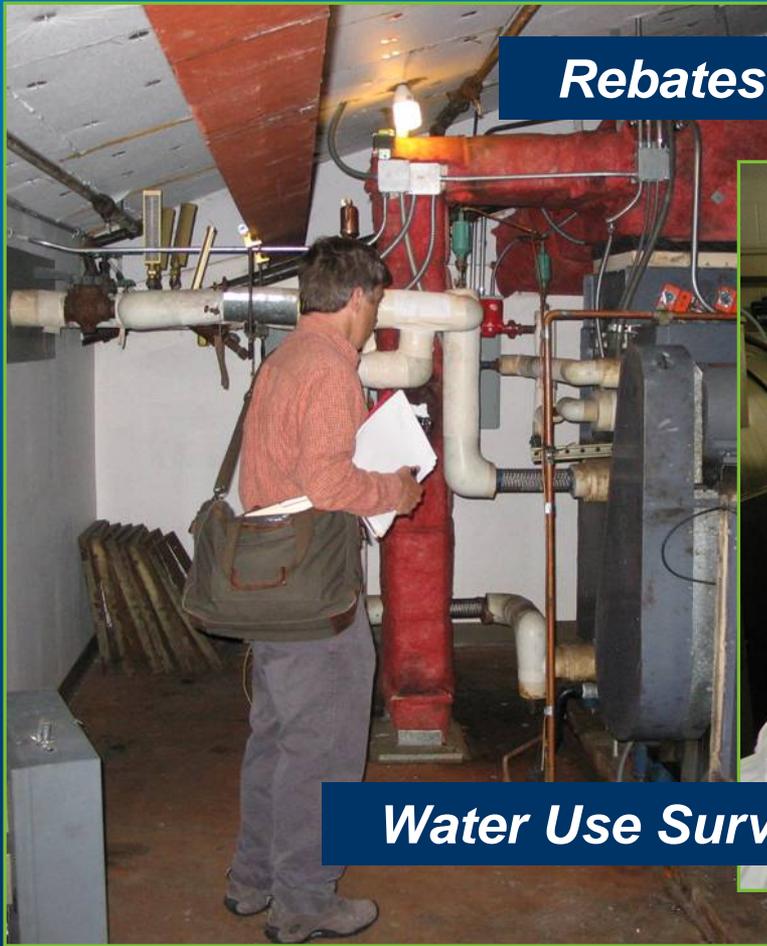
Water Wise House Calls



Clothes Washer Rebates

Conservation Programs ~ Commercial

Rebates for Water Efficient Technologies



Water Use Surveys



Conservation Programs ~ Agricultural



Mobile Lab for Irrigation Efficiency



California Irrigation Management Information System



Possible Policies & Ordinances

- **New landscape ordinance by 2010**
- **Revised building design guidelines**
- **Retrofit on Resale, Water Demand Mitigation and other ordinances being considered**

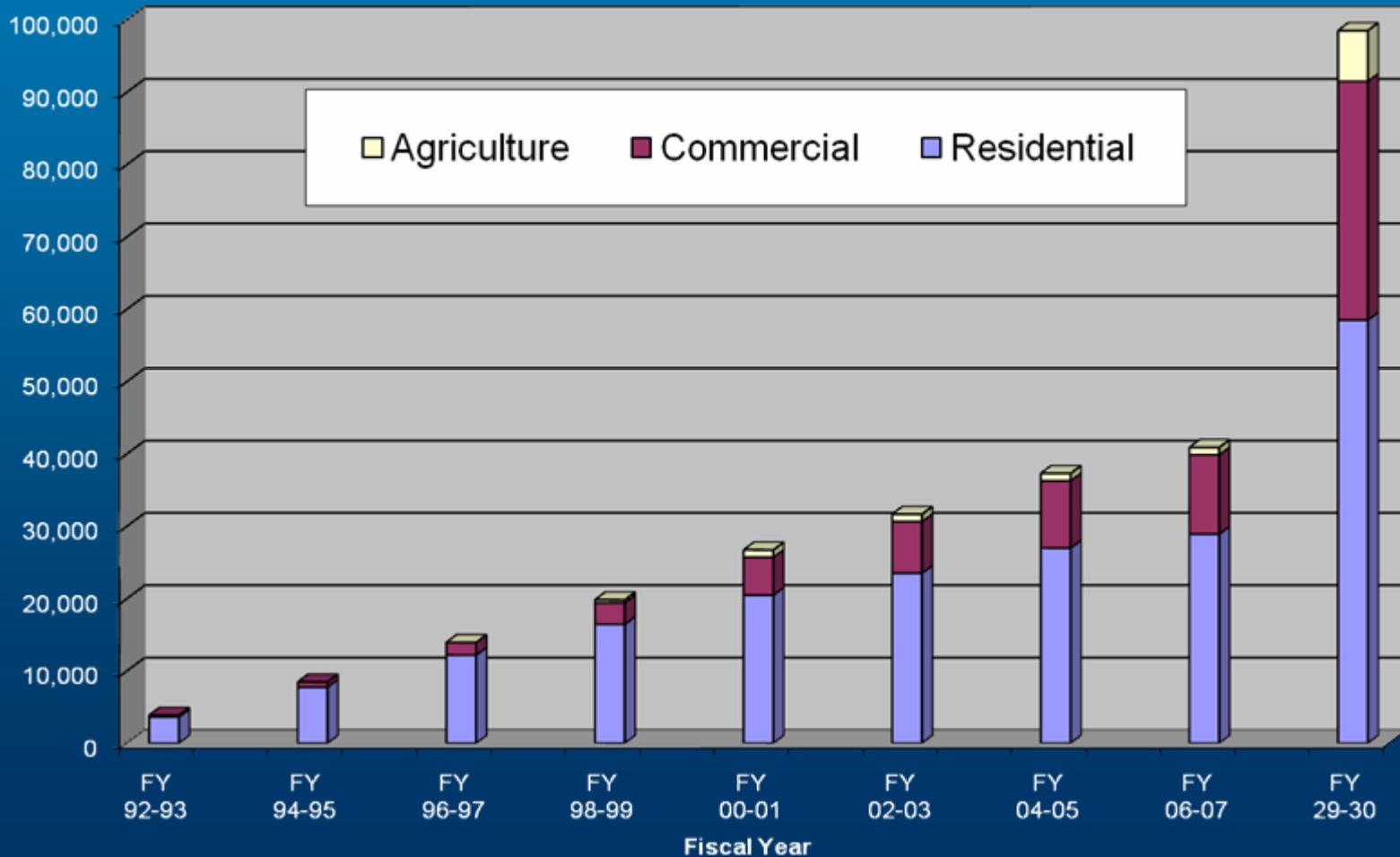


Public Education & Outreach



Water Conservation Goals 2030

Conservation Savings
(acre-feet per year)





Priorities to Achieve Our Conservation Goals

- **Expand outreach/education**
- **Continue existing programs**
- **Support new water efficient technologies**
- **Adopt water efficiency policies and ordinances**
- **Secure funding**

Issue #3



Recycled Water



Recycled water goals



By 2022:

Recycle or beneficially reuse 100% of our wastewater

40 mgd (45,000 AF/year)



Board Ends Policy

By 2020:

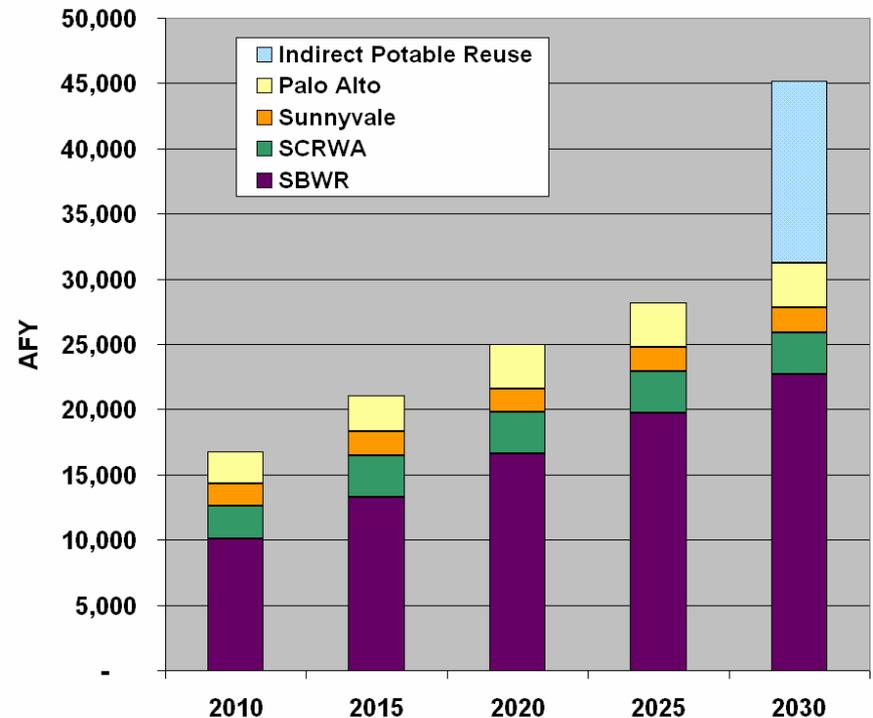
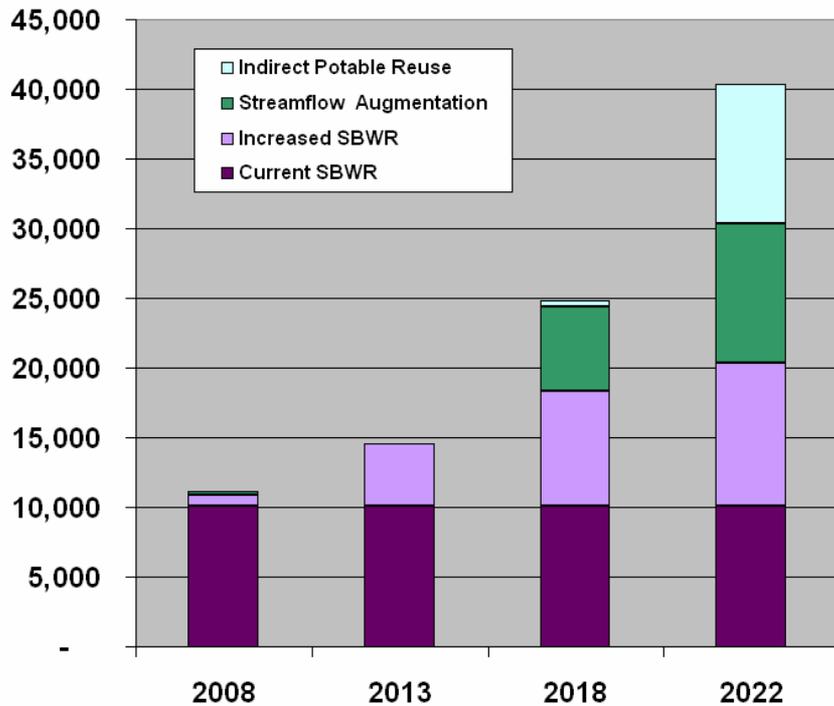
10% of total water use will be recycled water

37.5 mgd (42,000 AF/year)

Components of water reuse goals

SBWR Water Reuse Goals

County-wide Water Reuse Goals





Overview ~ Current water recycling activities

- **South Bay Water Recycling expansion**
- **facilities for expanding water reuse**
- **community outreach**
- **stream flow augmentation study**
- **rates, ordinances and fees**



System expansion

SBWR statistics

- 109 miles of pipeline 
- 12 miles of new extensions 
- 9.5 MG storage 
- 14.4 MGD last two summers
- 10,000 AF/Year delivered in 2007
- 21 billion gallons delivered since 1997





Facilities for expanding water reuse



Conversion of cooling towers



Car washes



Dual plumbing in high rise buildings



Community outreach

recycled water = safe, sustainable supply



***Guadalupe Gardens
Community Project***

Managing salinity



- water softener rebates
- zero discharge study
- BMPs for redwood tree irrigation





Stream Flow Augmentation Feasibility





Rates, ordinances & fees

- **Developer funding of pipeline extensions and system improvements**
- **Dual-plumbing & cooling use for developments**
- **Set rates to maintain fiscal health and encourage recycled water use**



Prior direction from Board & Council

2003

- Identify opportunities and costs for improved water quality to maximize recycled water uses

2006

- Identify opportunities for Groundwater Recharge Reuse (GWRR)
- Develop long term recycled water partnership agreement

2007

- Form Joint District/TPAC/Council Committee

Greater usability, reliability with advanced treatment

ARWT = Advanced Recycled Water Treatment

- Reduced salinity, chemicals enables expanded uses of recycled water
- Demonstrate reliability of ARWT
- Evaluate brine removal for groundwater recharge
- Joint funding (district, city, private & public grants)



Why should we build ARWT now?

Resulting better quality water will ...

- Expand uses of recycled water
- Enable stream flow augmentation
- Give us a headstart on 10-15 years needed for groundwater recharge projects

ARWT potential funding

Date	Size	Planning, CEQA & Design Costs	Construction Costs	Potential Funding Sources
2007/08	MF 10 MGD RO 8 MGD UV 10 MGD	\$3.68M	\$49M	<ul style="list-style-type: none">• \$13M City• \$3M state grant• \$5.5M WRDA• \$8.25M federal*• Explore potential development fees

Note: *Federal grant (Miller Bill) passed the house and is scheduled for Senate hearing

Proposed ARWT site



Forging a long-term recycled water relationship

- Long-term agreement
- Formalize cooperative relationship (+25 yrs)
- Joint commitment to District / City goals
- Adaptable to respond to future issues





New Joint Recycled Water Advisory Committee

Purpose ~

Ad hoc committee to guide the negotiations toward a long term agreement

Membership ~

- **SCVWD (3 members)**
- **City of San Jose (2 members)**
- **City of Santa Clara (1 member)**

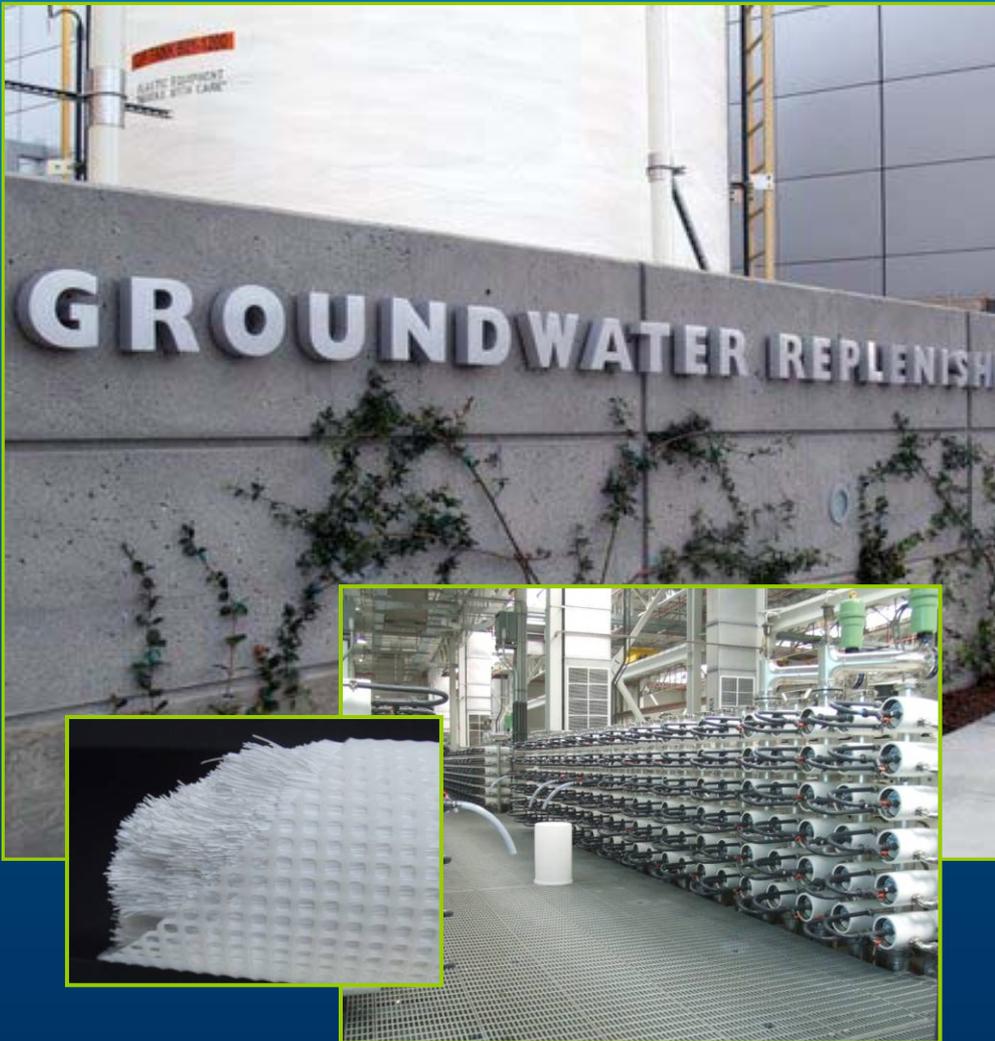


Increased public support for indirect potable reuse

- **San Diego: reservoir augmentation**
- **OCWD: groundwater recharge**
- **Gwynette County, Georgia: reservoir augmentation**
- **Singapore: high-purity industrial and reservoir augmentation**
- **Queensland (Brisbane area): industrial use and reservoir augmentation**

Groundwater Replenishment Project

(Orange County Water District)



World's largest potable reuse facility purifies water with ...

- microfiltration
- reverse osmosis
- UV disinfection

Produces 70 million gallons daily for groundwater recharge

Community Recycled Water Task Force



Will help to ~

- increase public participation
- build support for expanded uses
- explore indirect potable recharge

Priorities for next steps?

- **Policy on indirect recharge reuse**
- **Stream flow augmentation**
- **Recycled water long term agreement
(using ad hoc Joint Advisory Committee)**

