

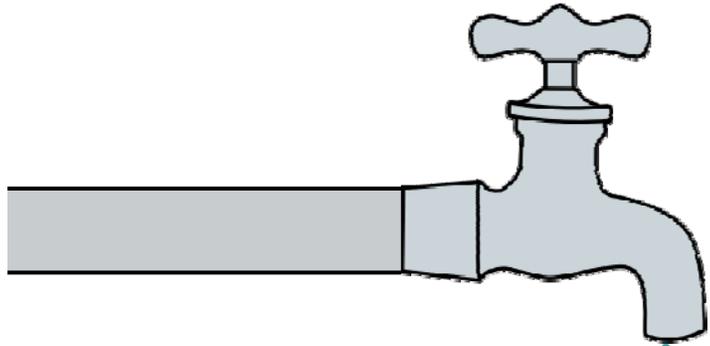
Overview of State Water Board Activities

Recycled Water Research Needs Workshop

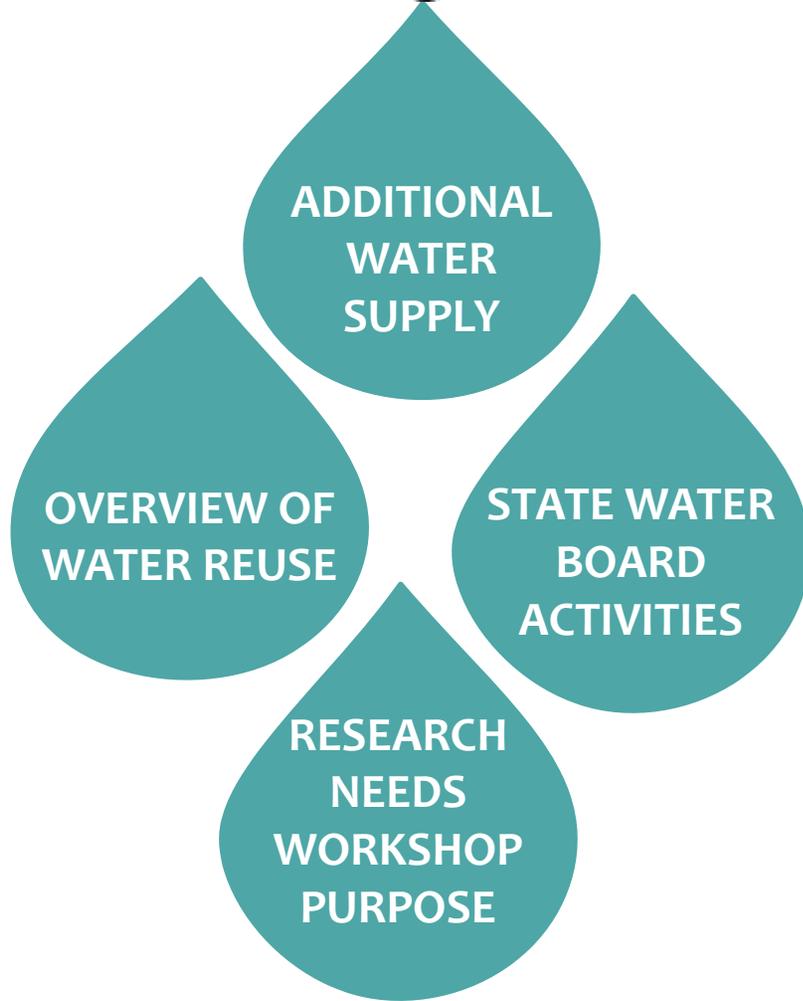
29 October 2014
Costa Mesa, California

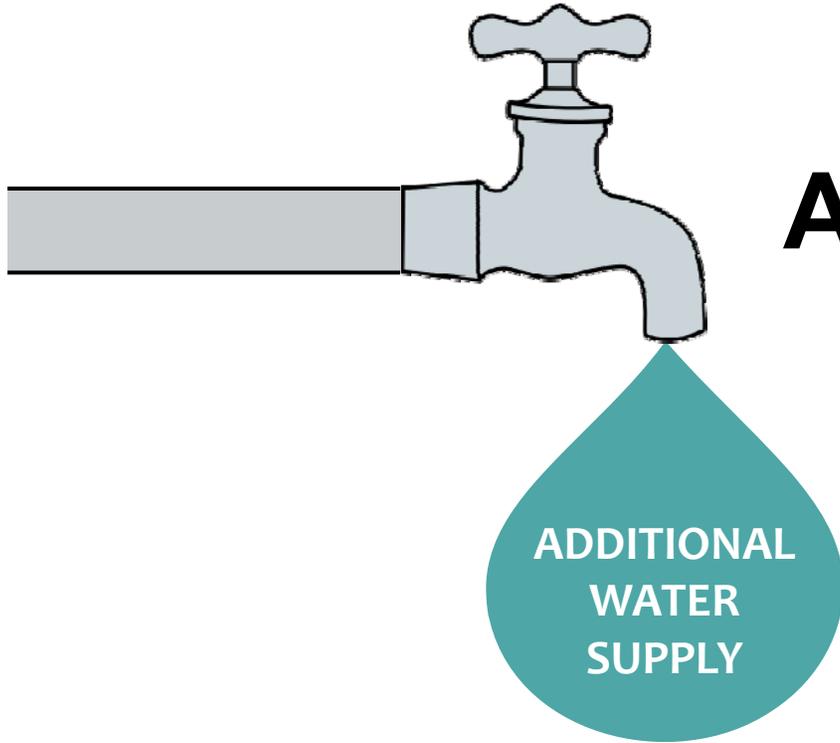


Jonathan Bishop
Chief Deputy Director
State Water Resources Control Board



OUTLINE





ADDITIONAL WATER SUPPLY

- 2013 California Water Plan
- Safe Drinking Water Plan

2013 California Water Plan



2013 California Water Plan

Municipal Recycled Water

- Currently satisfies 7% of State's annual water demand
- Benefits:
 - Increases local supplies
 - Supports drought preparedness
 - Supports climate change mitigation and adaptation strategies
 - Provides environmental benefits
 - Reduces energy consumption



2013 California Water Plan

Urban Stormwater Runoff Management

- Methods for recharging groundwater:
 - Roof runoff drain to vegetated areas
 - Draining runoff from parking lots, driveways, and walkways into landscaped areas with permeable soils
 - Using dry wells and permeable surfaces
 - Collecting and routing stormwater runoff to basins

October 6, 2014 Draft Safe Drinking Water Plan for California

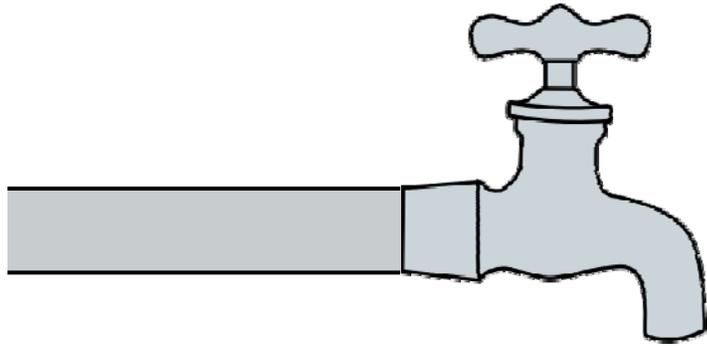
- Recognizes alternative or supplemental sources of drinking water which may be used to augment drinking water supplies:
 - Recycled Water (indirect & direct potable reuse)
 - Desalination

The screenshot shows the website for the California Environmental Protection Agency (CA.GOV) State Water Resources Control Board. The page features a navigation menu with links for Home, About Us, Public Notices, Board Info, Board Decisions, Water Issues, Publications/Forms, and Press Room. A green banner reads "Welcome to the State Water Resources Control Board". The main content area includes a profile for the Office of Governor Edmund G. Brown Jr. with a "Visit his Website" link, and a profile for Board Chair Felicia Marcus with a "Visit the Water Board Members Page" link. The page title is "Safe Drinking Water Plan for California", updated on October 6, 2014. A section titled "About the Safe Drinking Water Plan" states: "With the transition of the Drinking Water Program from the California Department of Public Health to the State Water Resources Control Board, the Board now has the primary enforcement authority (primacy) to enforce federal and state regulatory oversight of about 8,000 public water systems throughout the state."

State Water Board's Overarching Goals

- Increase Water Supplies
- Protect Public Health
- Protect Water Quality
- Ensure Adequate Flows for Fish & Wildlife





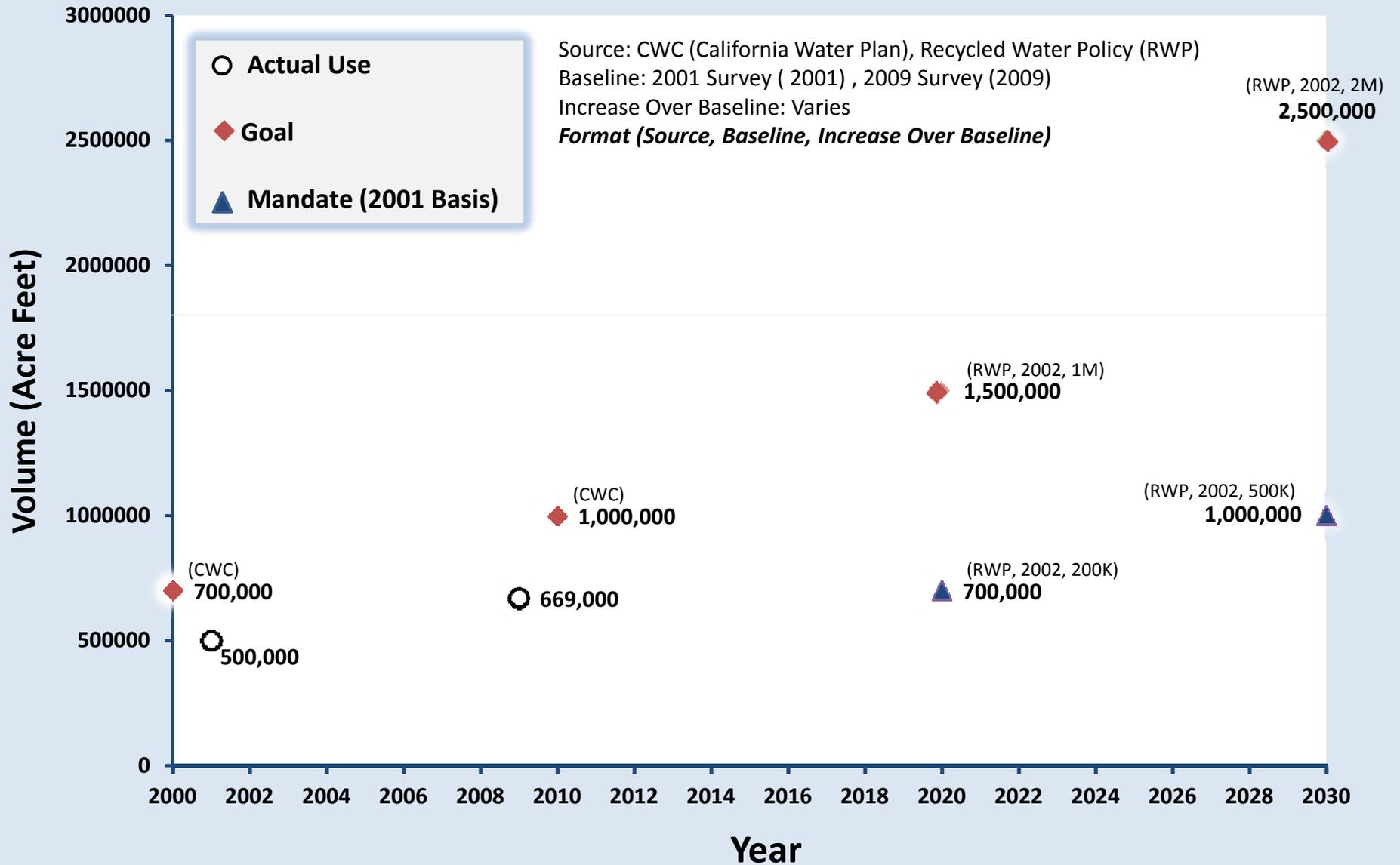
OVERVIEW OF WATER REUSE

ADDITIONAL
WATER
SUPPLY

OVERVIEW OF
WATER REUSE

- Trends in recycled water use
- Stormwater capture and use

Recycled Water Use and Goals



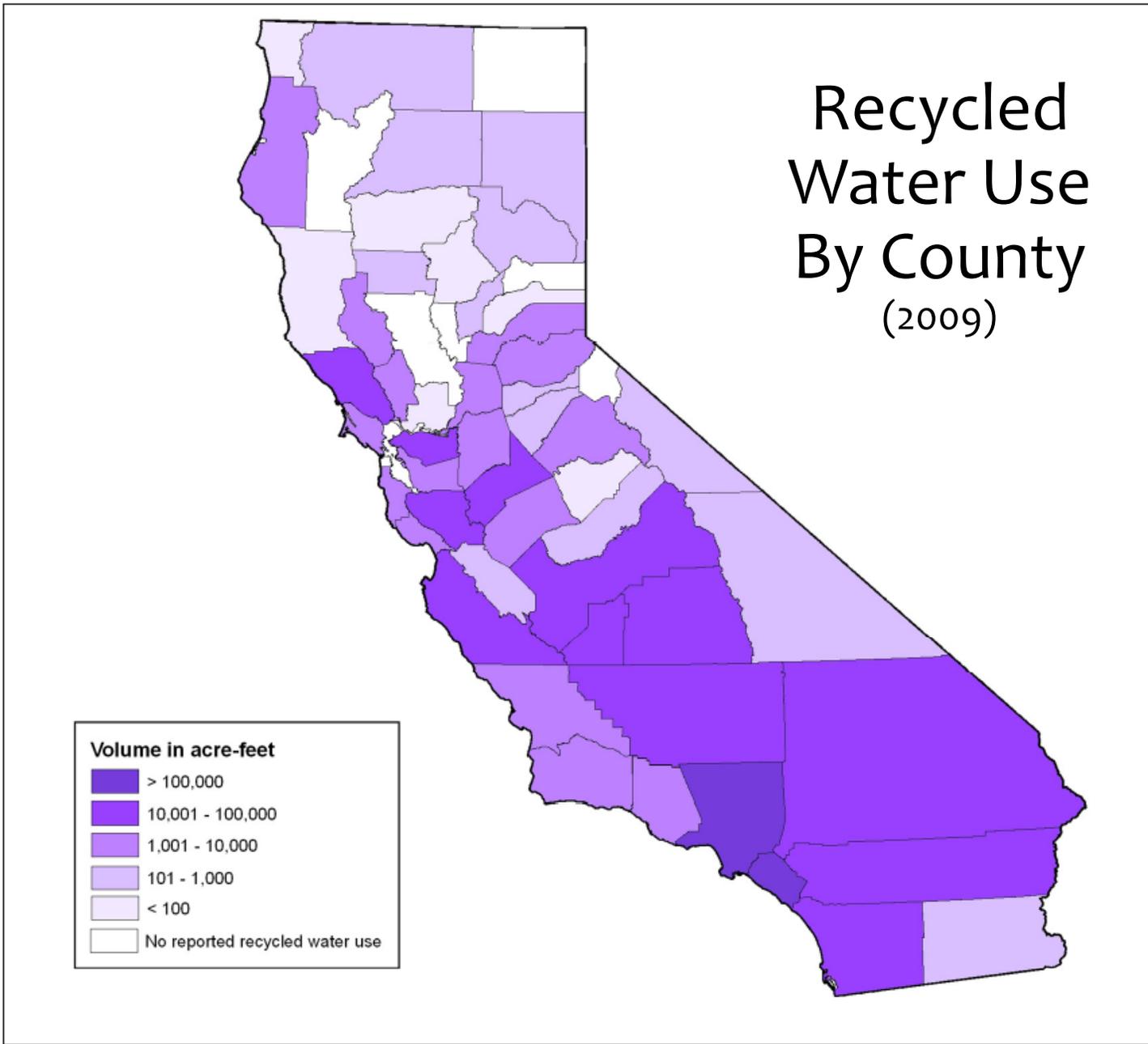


Image: State Water Resources Control Board, Division of Financial Assistance

Increased Recycled Water Use

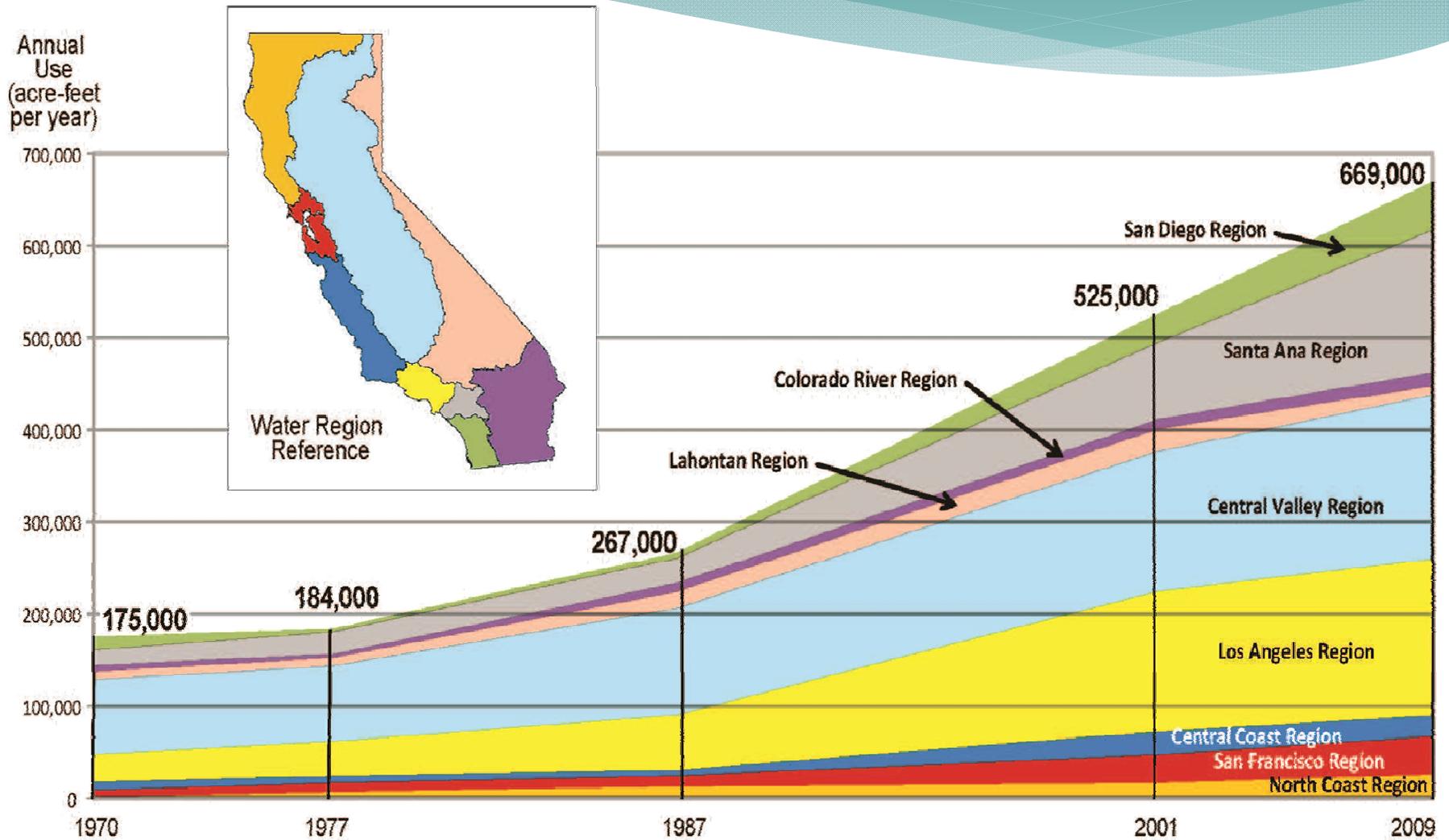


Image: State Water Resources Control Board, Division of Financial Assistance, Municipal Wastewater Recycling Survey

Low Impact Development (LID)

LID Provides Many Environmental and Economic Benefits

- **Improved Water Quality.** Stormwater runoff can pick up pollutants such as oil, bacteria, sediments, metals, hydrocarbons and some nutrients from impervious surfaces and discharge these to surface waters. Using LID practices will reduce pollutant-laden stormwater. Better water quality increases property values and reduces clean-up costs.
- **Reduced Number of Costly Flooding Events.** On ditches and drains to divert runoff to local waterways. Flooding occurs when large volumes of stormwater enter waterways. Holistically incorporating LID practices reduces stormwater runoff and decreases costly flooding.
- **Restored Aquatic Habitat.** Rapidly moving stormwater erodes stream banks and scours stream channels, obliterating aquatic life. Using LID practices reduces the amount of stormwater reaching a surface water system and helps to maintain natural stream channel functions and habitat.
- **Improved Groundwater Recharge.** Runoff that is quickly shunted through ditches and drains into surface waters cannot soak into the ground. LID practices retain more rainfall on-site, allowing it to enter the ground and be filtered by soil as it seeps down to the water table.
- **Enhanced Neighborhood Beauty.** Traditional stormwater management infrastructure includes unsightly pipes, outfalls, concrete channels and fenced basins. Using LID broadly can increase property values and enhance communities by making them more beautiful, sustainable and wildlife friendly.

In addition, each ¼-acre of hardscape in Los Angeles has the potential to collect 100,000 gallons of rainwater per year.⁷ A separate study by the Natural Resource Defense Council from January 2009⁸ found that an increased use of LID practices throughout residential and commercial properties in L.A. County would promote groundwater recharge and water capture and reuse, reducing the county's dependence on distant sources of water. This increased use of LID would result in the savings of 74,600–152,500 acre-feet of imported water per year by 2030. Based on current per capita water usage in the City of Los Angeles, this is equivalent to the water consumption of 456,300–929,700 people.⁹ Moreover,

Green Infrastructure for Los Angeles: Addressing Urban Runoff and Water Supply through Low Impact Development

USEPA – Fact Sheet



Vegetated Swales



Stormwater Planters



Rain Gardens



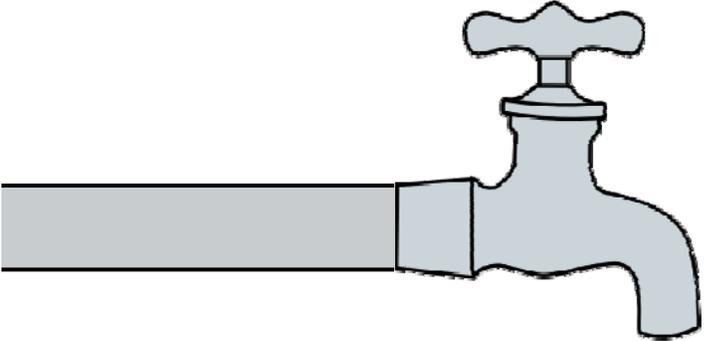
Pervious Paving



Rainwater Harvesting

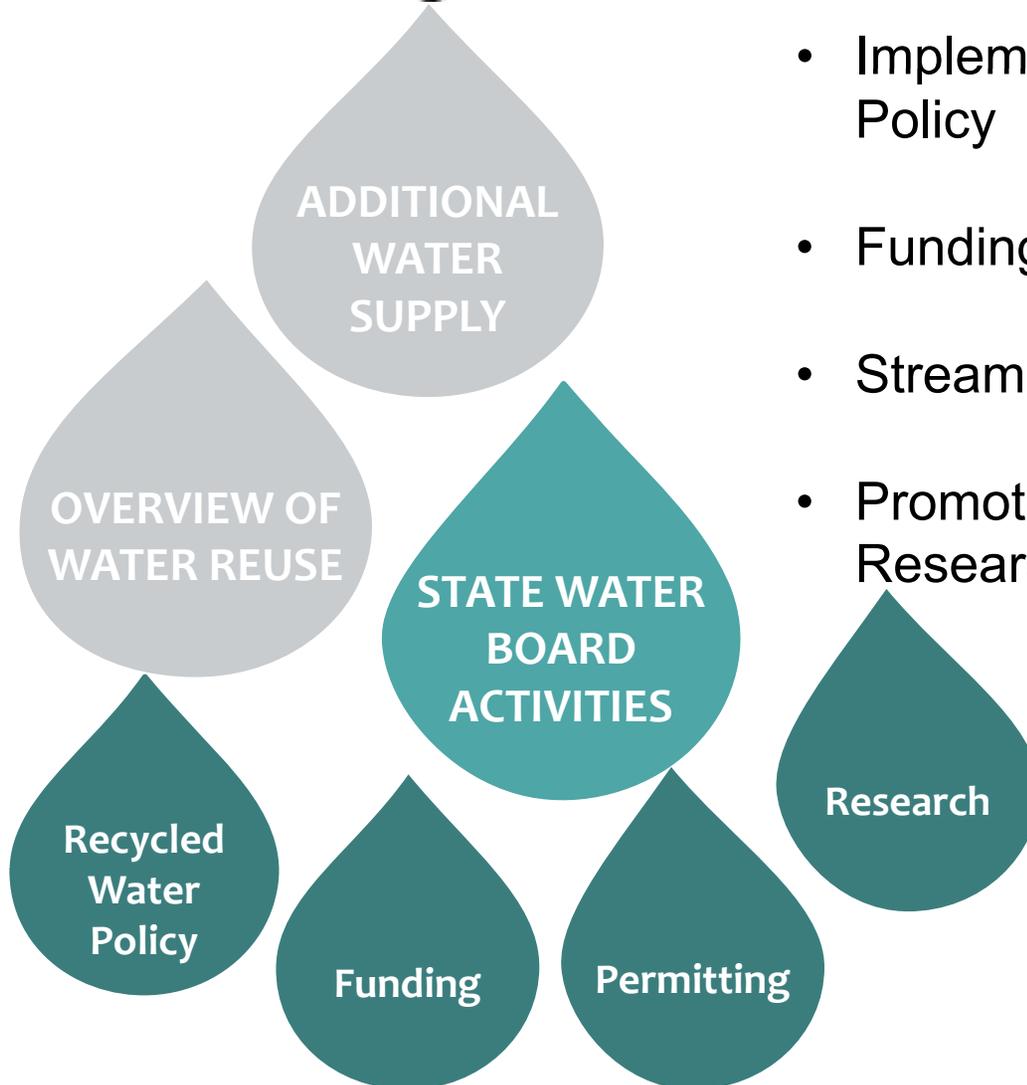


Water-wise Landscapes



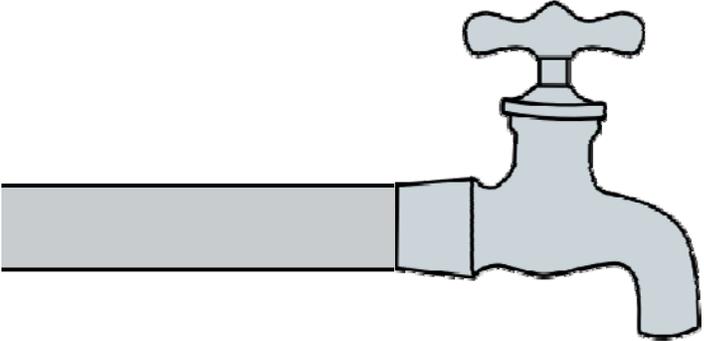
STATE WATER BOARD ACTIVITIES

- Implementing Recycled Water Policy
- Funding recycled water projects
- Streamlining Permitting Process
- Promoting and Supporting Research



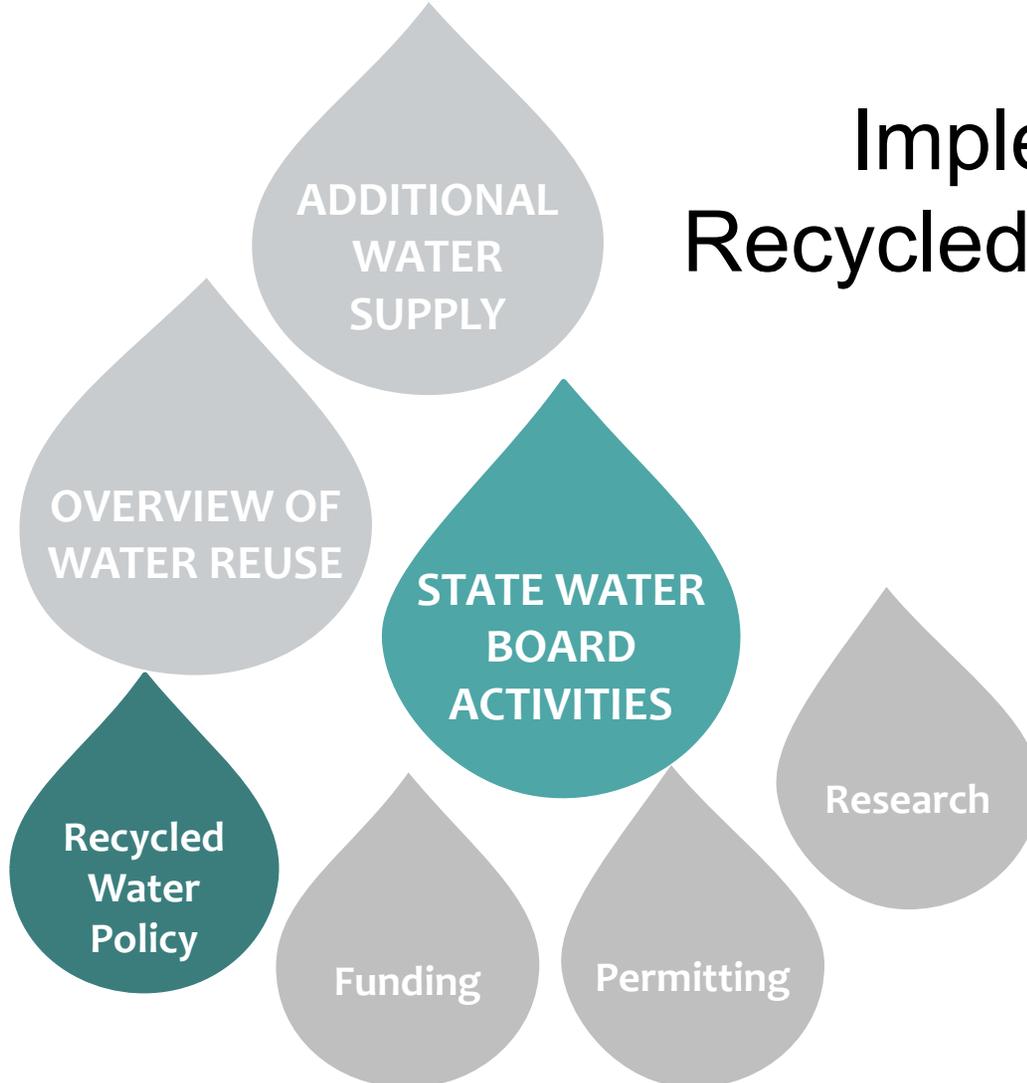
California Department of Public Health Drinking Water Program Transfer

- Governor's initiative
- Integrated water quality protection
- Coordinated funding for drinking water and wastewater programs
- Effective July 1, 2014



STATE WATER BOARD ACTIVITIES

Implementing Recycled Water Policy



Recycled Water Policy Goals

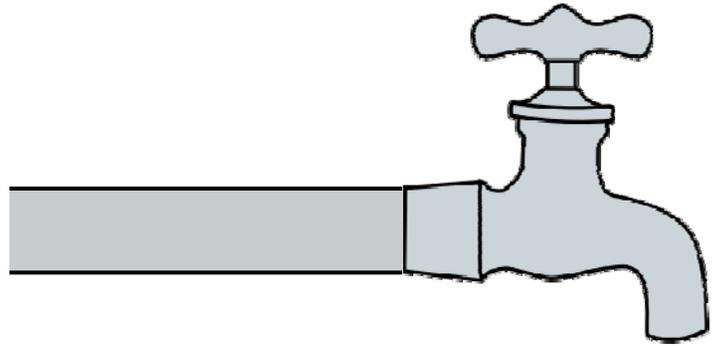
- Increase the use of recycled water
- Streamline permitting of recycled water projects
- Maintain the quality of groundwater supplies

Recycled Water Policy

- Use of recycled water
- Landscape irrigation & groundwater recharge use
- Investigation for constituents of emerging concern (CECs)
- Amended for monitoring of CECs (2013)

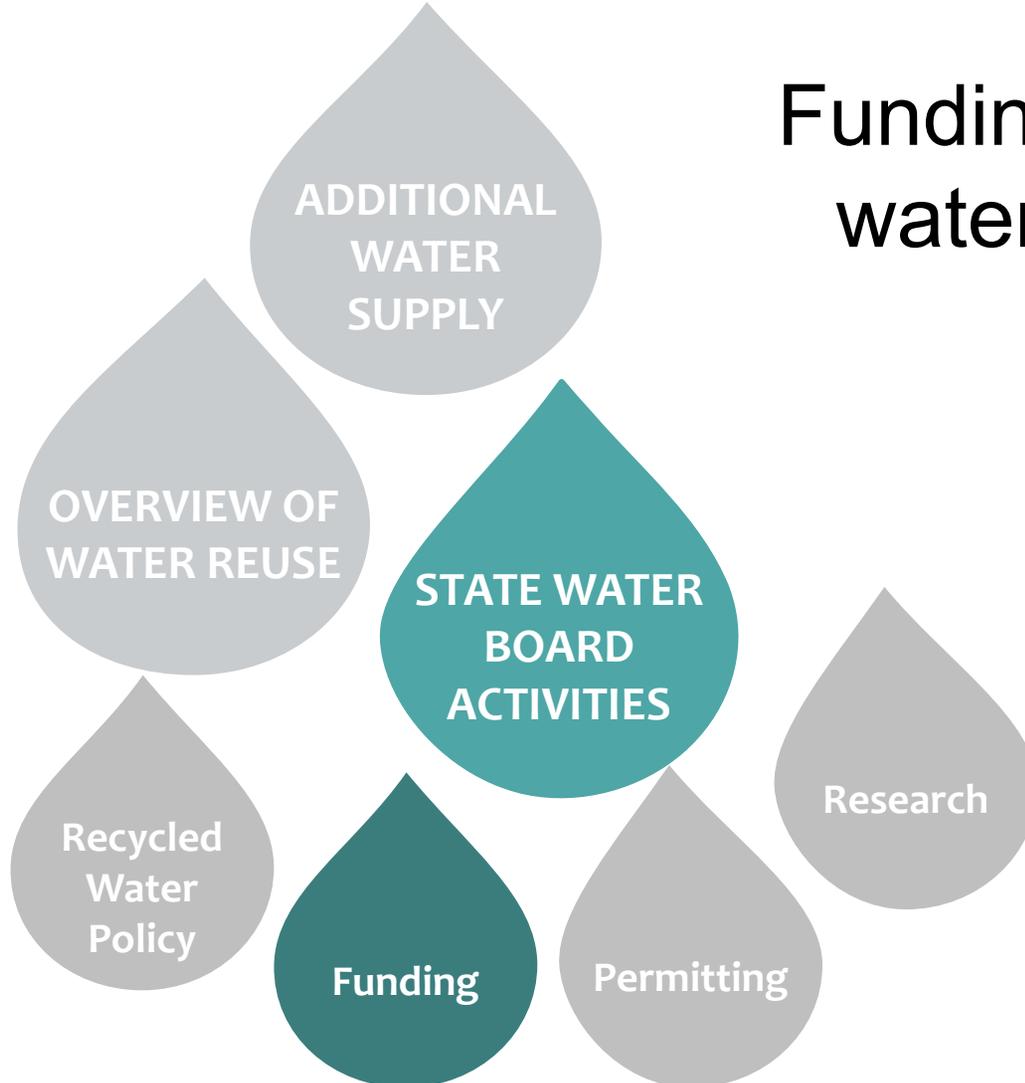
Recycled Water Policy CEC Research

- Monitoring Strategies for CECs in California's Aquatic Ecosystems
- Development of Bioanalytical Techniques for Monitoring of CECs in Recycled Water Applications



STATE WATER BOARD ACTIVITIES

Funding recycled
water projects



Integrated Regional Water Management Grant Program

- Provided \$190 million funding to Water Board
- Funded recycled water projects
- 38,000 acre-feet of recycled water

17
PROJECTS
COMPLETED

\$53M
PROP 50
GRANT FUNDS

\$38M
LOCAL MATCHING
FUNDS

Water Recycling Funding Program

- Provided Over \$1.3 billion total funding
- Funded recycled water projects
- 396,000 acre-feet of recycled water proposed
- \$4M for support of recycled water research (Prop 13)

234
PROJECTS
COMPLETED

\$1B
CWSRF
FUNDS

\$292M
BOND
FUNDS

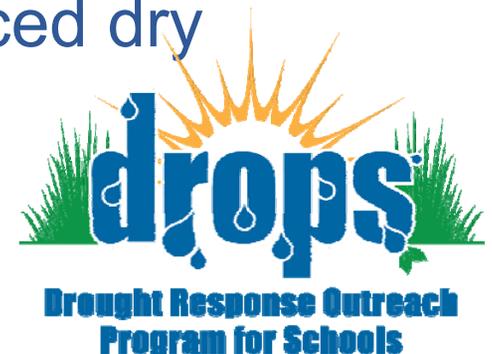
CWSRF = Clean Water State Revolving Fund

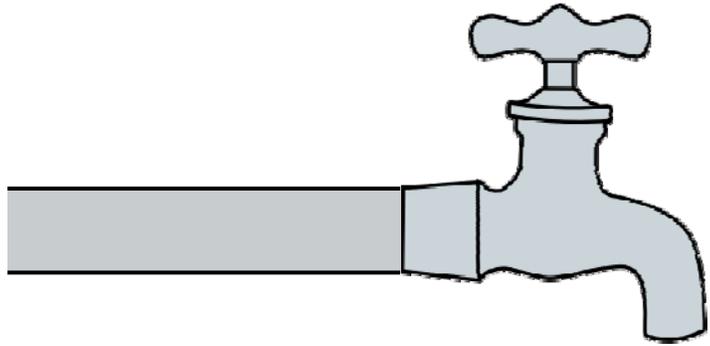
Water Recycling Funding Program

- State Water Board approved \$800 million in 1 percent loans for water recycling projects
- Future Funding – Water Quality, Supply and Infrastructure Improvement Act of 2014 (AB 1471)
 - Regional Water Reliability - \$810 million
 - Water Recycling - \$725 million

Stormwater LID Funding Program

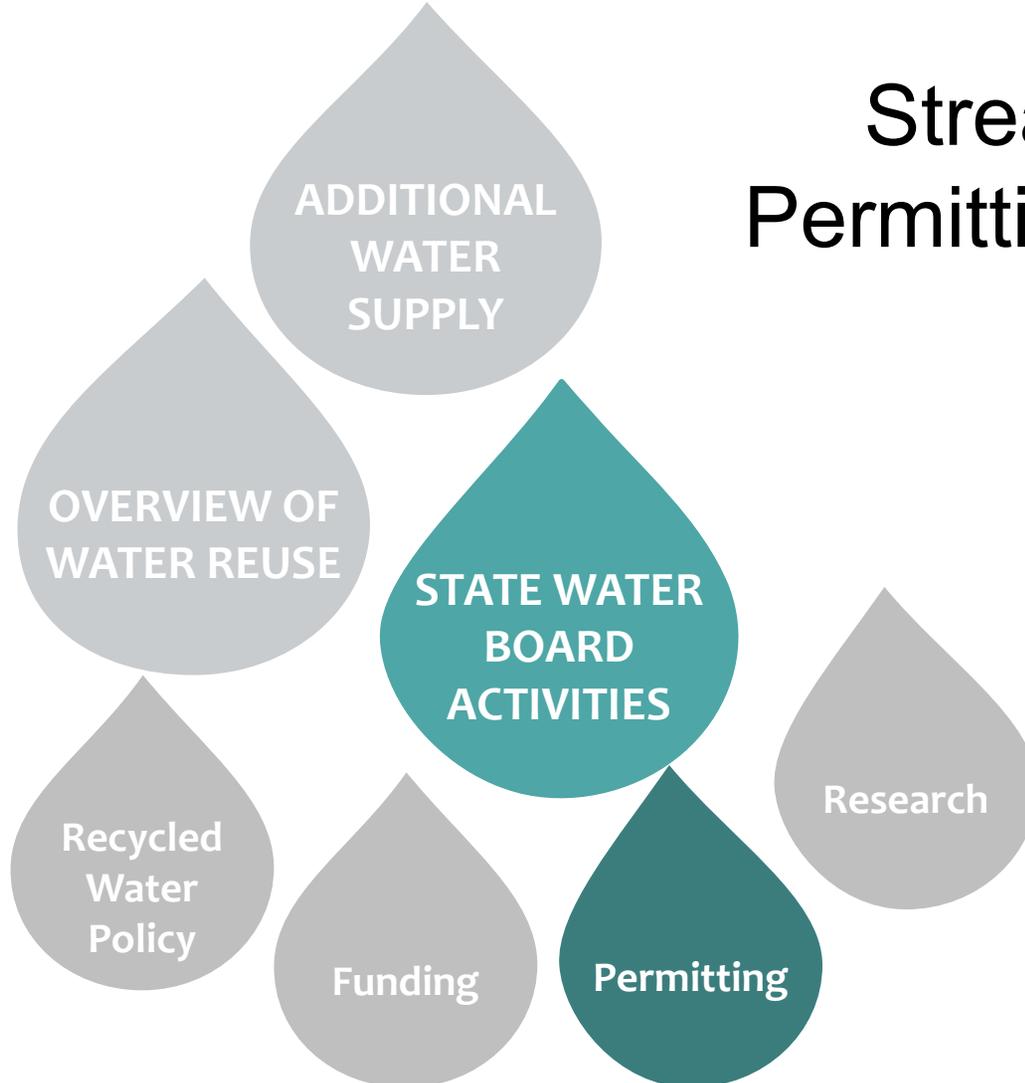
- **Proposition 84 Stormwater Grant Program - \$82M** used to provide matching grants to local public agencies for the reduction and prevention of storm water contamination of rivers, lakes, and streams.
- **Drought Response Outreach Program for Schools (DROPS) - \$26M** for projects that reduce stormwater pollution and provide multiple benefits including water conservation, water supply augmentation, energy savings, increased awareness of water resource sustainability, and reduced dry weather runoff.





STATE WATER BOARD ACTIVITIES

Streamlining
Permitting Process



General Permit for Recycled Water Use

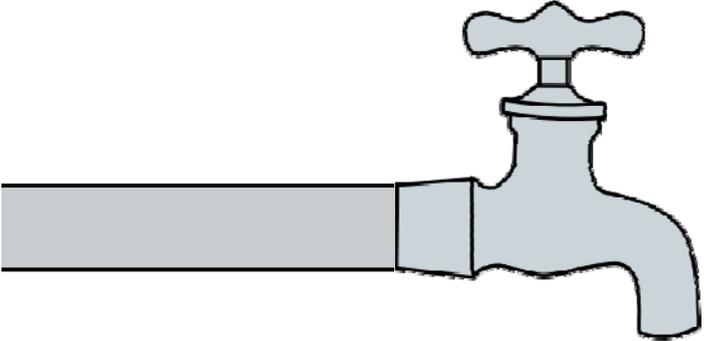
- January 17, 2014 – Governor Brown declares drought state of emergency
- April 25, 2014 – Governor's continued drought proclamation
- June 03, 2014 – Adopted General Waste Discharge Requirements for Recycled Water Use

General Permit for Recycled Water Use

- Coverage limited to treated municipal wastewater for non-potable uses
- Establishes standard conditions for the use of recycled water
- Enrolls producers, distributors, and users
- Provides alternative to individual water reclamation requirements or master reclamation permits

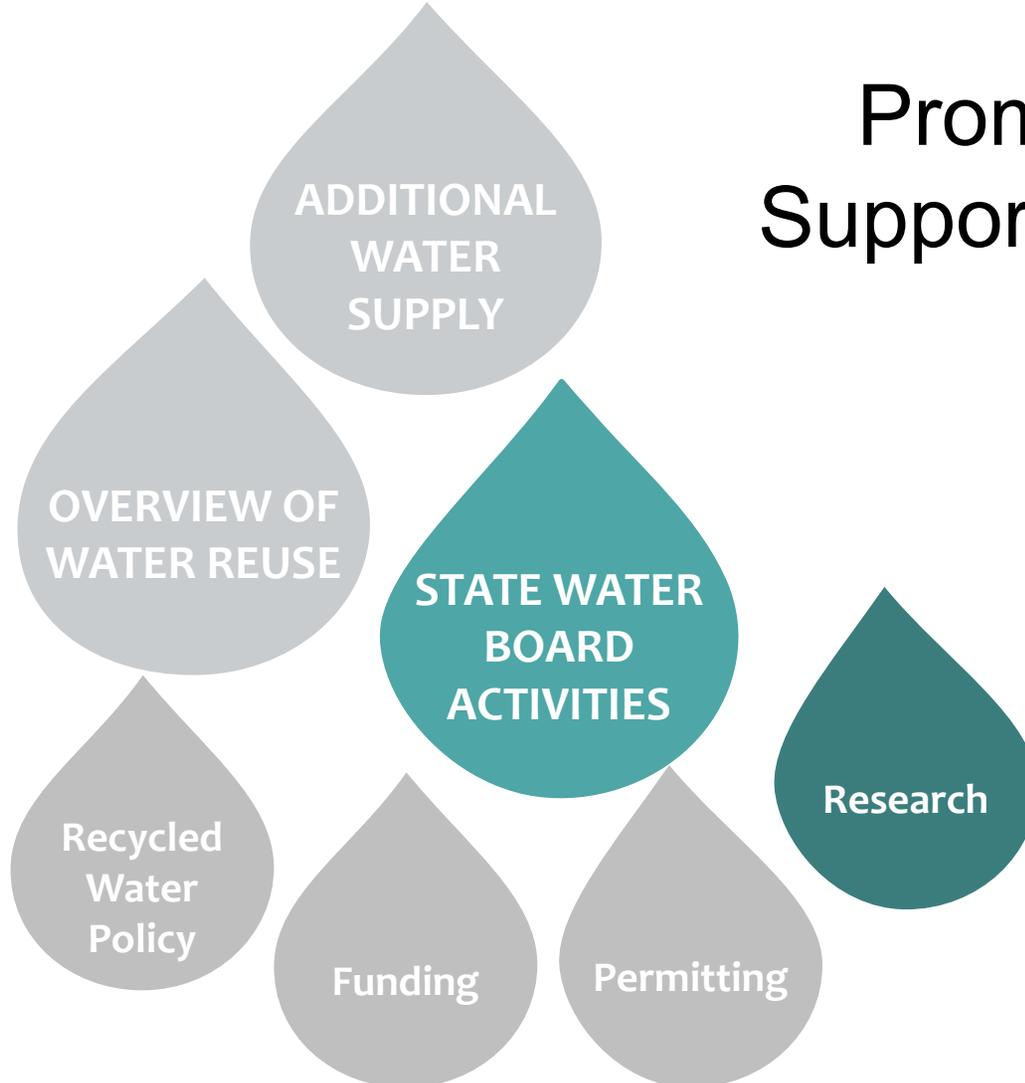
California Water Code Section 13563

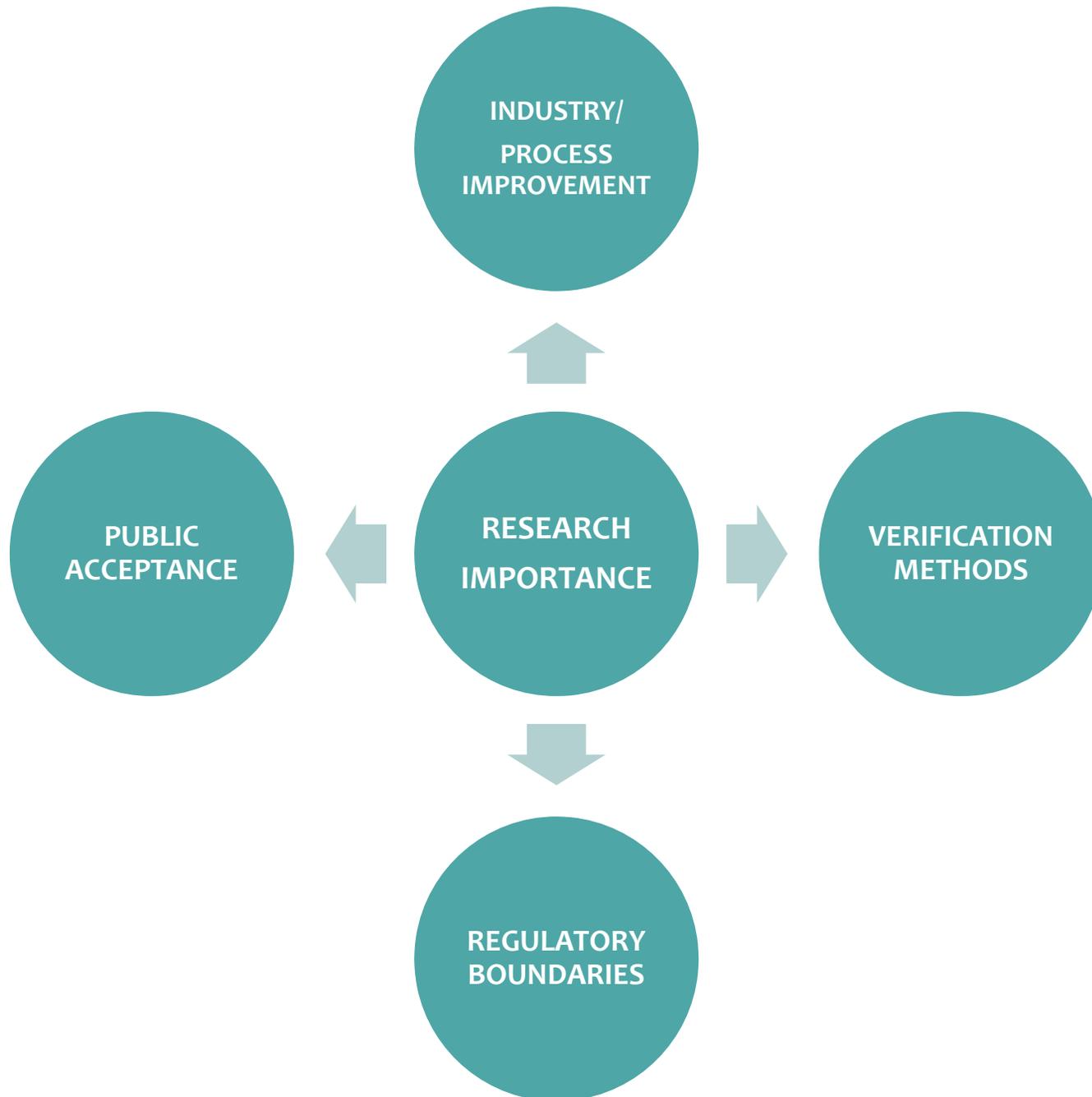
- Directs DDW by December 31, 2016:
 - Investigate feasibility of developing uniform recycling criteria for **direct potable reuse**
 - Adopt water recycling criteria for **surface water augmentation**
 - Convene expert panel
 - Advisory Panel



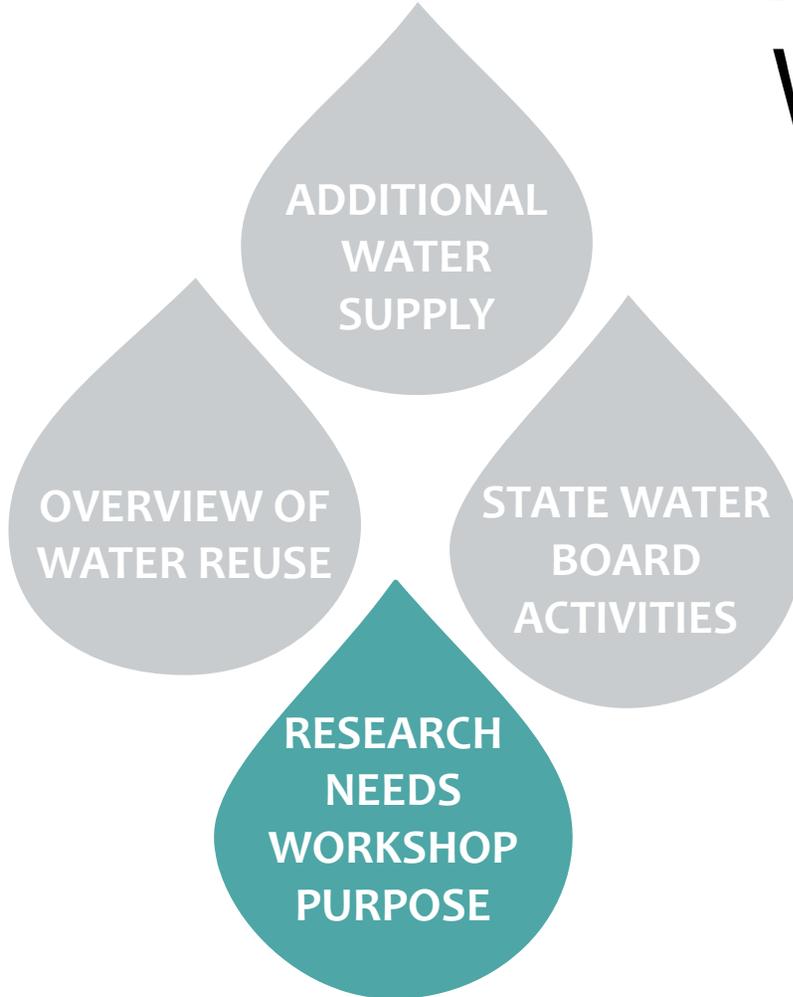
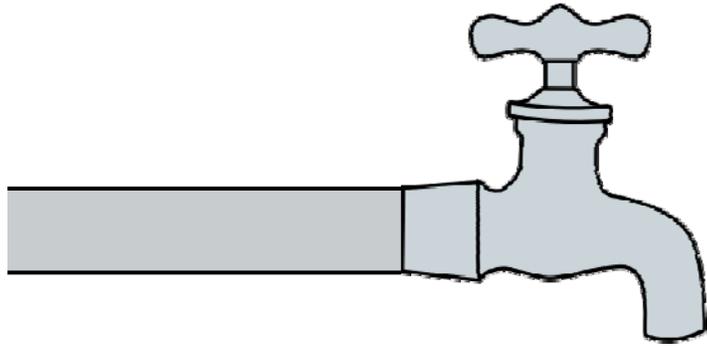
STATE WATER BOARD ACTIVITIES

Promote and
Support Research



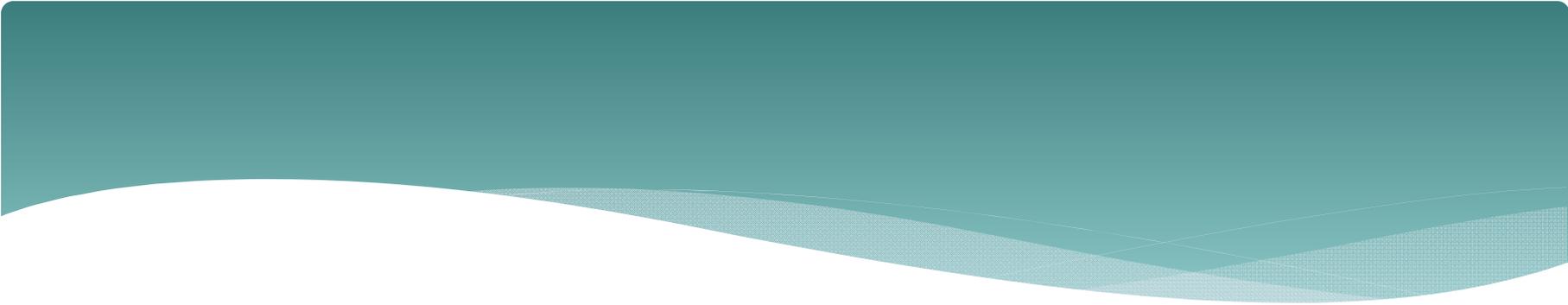


RECYCLED WATER RESEARCH NEEDS WORKSHOP



Research Needs Workshop Objectives

- 1) Provide a forum to discuss and identify research needs for the State Water Board.
- 2) Review the state of the science and research needs for water programs.
- 3) Facilitate discussion of State Board research needs through participation in Breakout Sessions.



End