

Update on the State Water Board Division of Water Quality's Water Reuse Activities



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Outline

- \rightarrow Water reuse occurring in California
- \rightarrow Impediments to increased recycled water use
- \rightarrow Recycled Water Policy update
- \rightarrow Research efforts
 - \rightarrow CEC Panel
 - →Ag Reuse

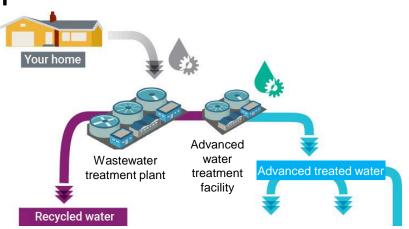
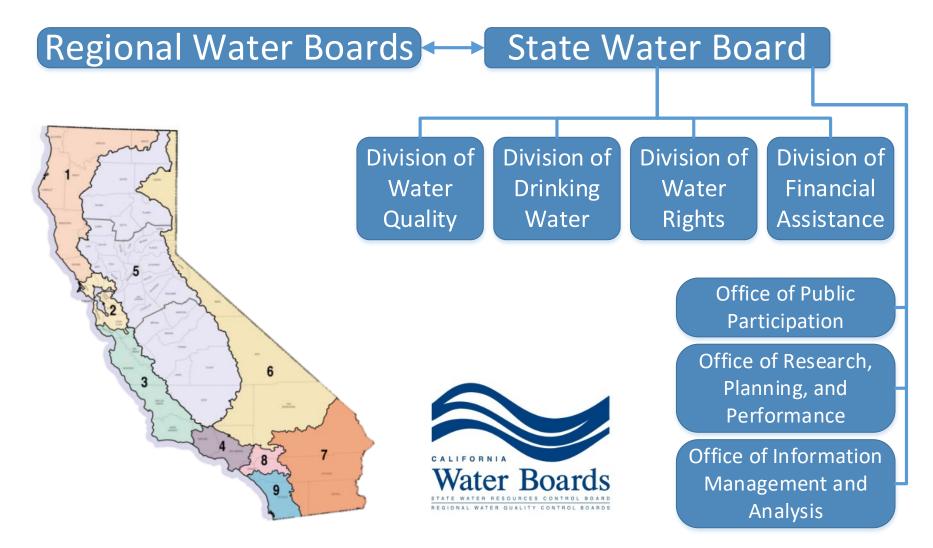


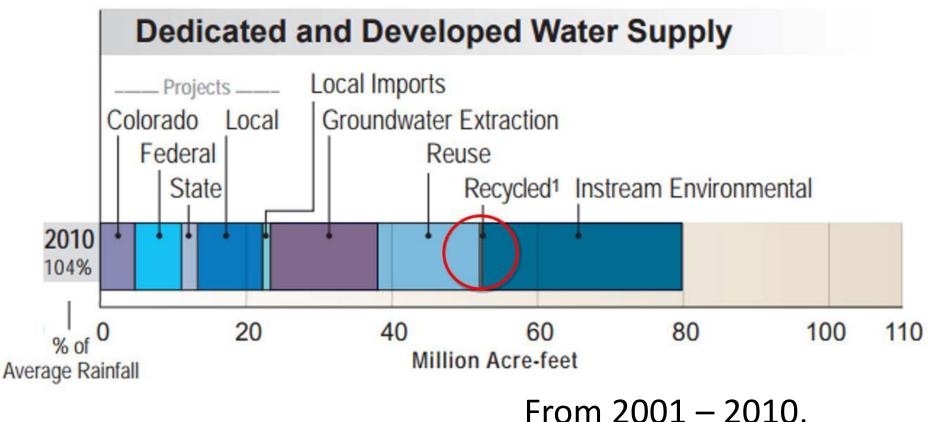
Image credit: San Diego County Water Authority

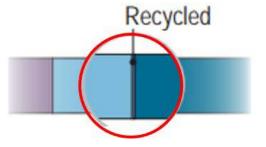
Recycled water = Reuse of municipal wastewater

Water Boards Roles and Responsibilities



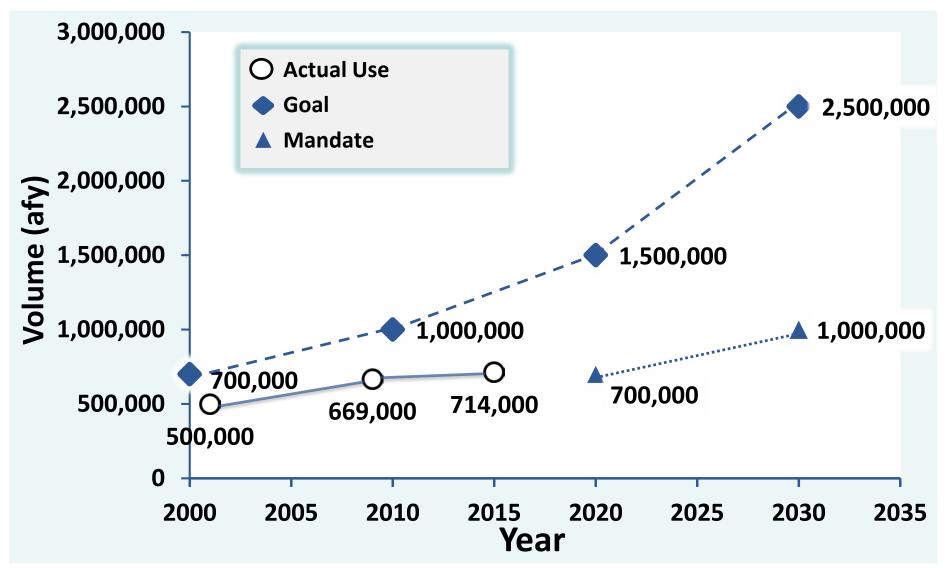
2010 California Water Supply Portfolio



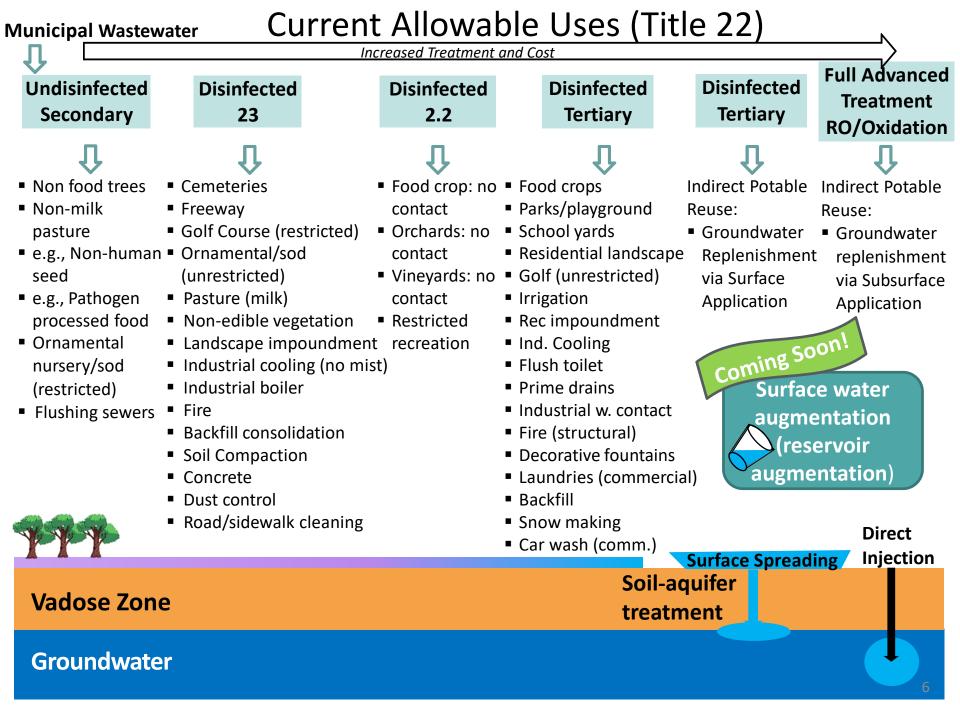


From 2001 – 2010, recycled municipal water varied from **0.2 to 0.7 million acre feet per year**

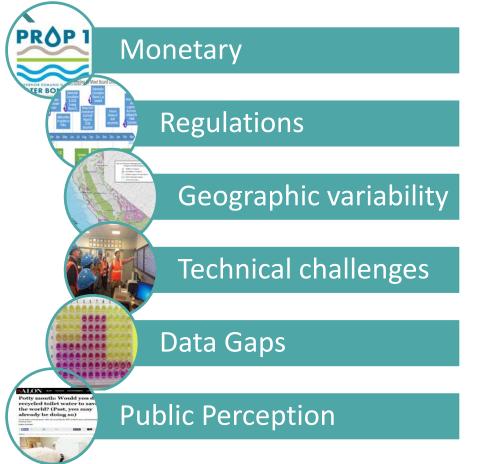
Recycled Water Use and Goals



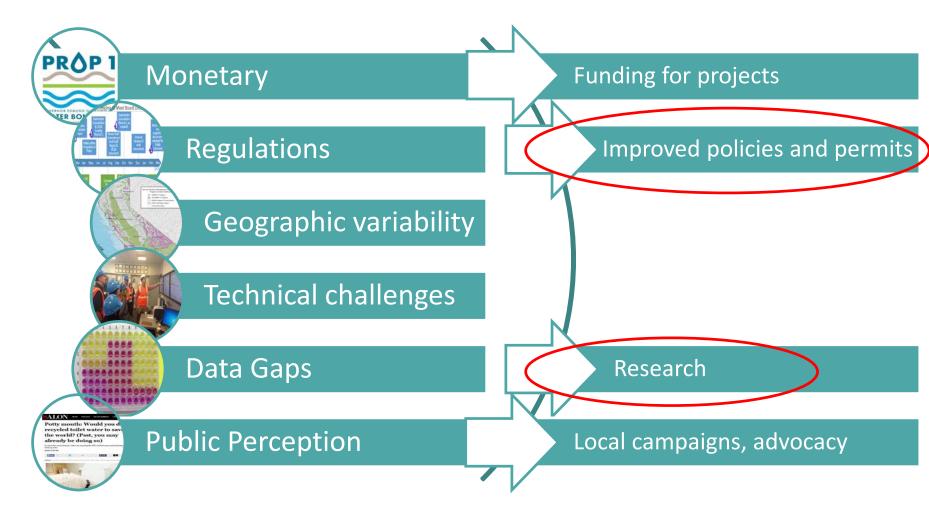
Source: CWC (California Water Plan), Recycled Water Policy (RWP) Baseline: 2001 Survey, 2009 Survey, 2015 Survey



Impediments to Water Recycling in California



Tools to overcome impediments

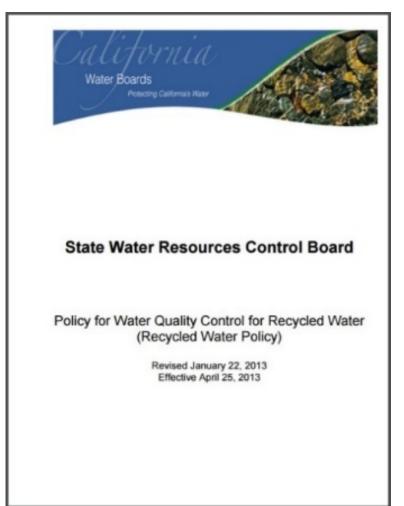


Recycled Water Policy Purpose

Promote the use of recycled water while protecting public health and water quality through consistent, streamlined permitting of recycled water projects

2009 Adopted

2013 Amended 2016 Resolution



Recycled Water Policy

Agency Roles & Responsibilities

Goals and Mandates Salt & Nutrient Management Plans & Groundwater Protection

Statewide permitting provisions for Landscape Irrigation & Groundwater Recharge

Monitoring for CECs & Priority Pollutants

Here's what we're updating

General clean-up

Revisit goals

Nexus with *SGMA, basin prioritization

Update monitoring requirements CECs & priority pollutants

Tracking reuse and reuse potential Consistency with new regulations, surface water augmentation

March 2018 Draft

*Sustainable Groundwater Management Act

Stay up-to-date and involved



- Calls with Regional Water Board staff
- Initial targeted stakeholder outreach
- Future: public meetings and public comment
- Email notifications

https://waterboards.ca.gov → Email
Subscriptions → Water Quality → Recycled
Water Policy/General Permit for Landscape
Irrigation



CEC Science Advisory Panel



Goals: Update 2010 recommendations for groundwater recharge and make recommendations for all Title 22 approved uses and surface water augmentation

Key questions for the Panel:

- What CECs should be monitored?
- What is known about **toxicology** of CECs?
- How are CECs affected by different **treatment methods**?
- What **possible indicators** might be used to represent different suites of CECs?
- What levels of CECs should trigger enhanced monitoring?
- What research is needed on potential human health impacts of **antibiotic resistant bacteria and genes** related to recycled water uses?



CEC Science Advisory Panel

Panel Schedule	
July 19 and 21, 2017	Panel Meeting #1, Costa Mesa, CA
December 15, 2017	Panel Meeting #2 1001 I Street, Klamath Room Sacramento, CA or Webcast
January 2018	Draft Report released for 30 day public comment
March 2018	Final Report

More info:

http://www.waterboards.ca.gov/water issues/programs/water recycling policy/ recycledwater_cec.shtml



Research Topic Areas

Research: Agricultural Use of Recycled Water Impediments and Incentives



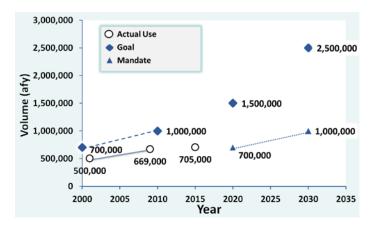
 Goal: Identify impediments and incentives to increase use of recycled water in agriculture

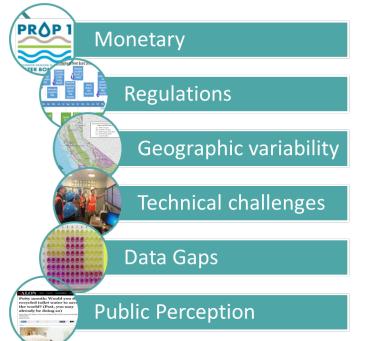
Impediments	Incentives
Water Quality	
Perceived Risks	
Technological	
Regulatory	
Economic and Financial	
Final report June 2	2018

(Sheikh et al., 2018)



Take Away







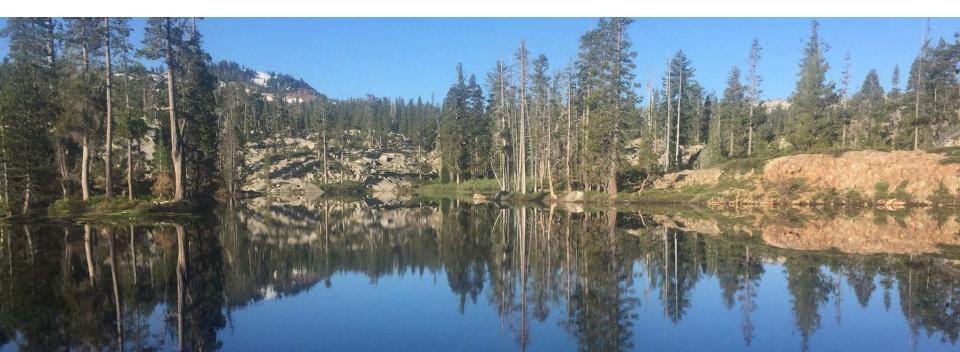




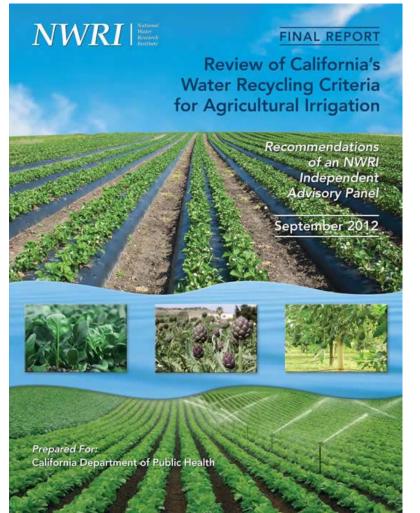
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Ag Reuse Panel



- Addressed risk of exposure and infection from waterborne pathogens due to the irrigation of a wide variety of food crops using recycled water
- "current agricultural practices that are consistent with the [Water Recycling Criteria] do not measurably increase public health risk, and that modifying the standards to make them more restrictive will not measurably improve public health"

Full Report Available Here: http://nwri-usa.org/cdph.ag.htm