

Indirect Potable Reuse and Direct Potable Reuse As a Drought Resistant Option

Drought Response Workshop

November 6, 2012

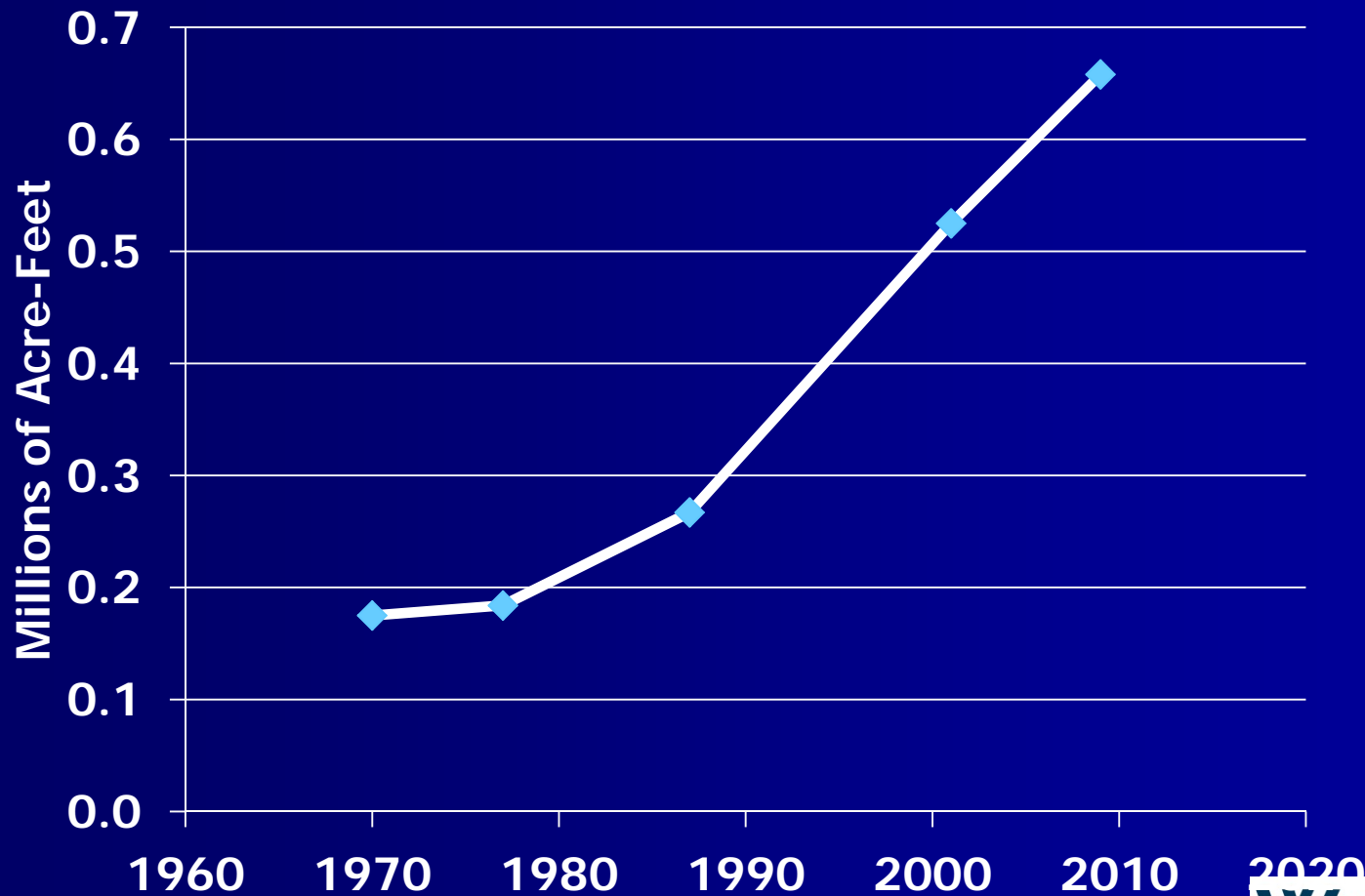
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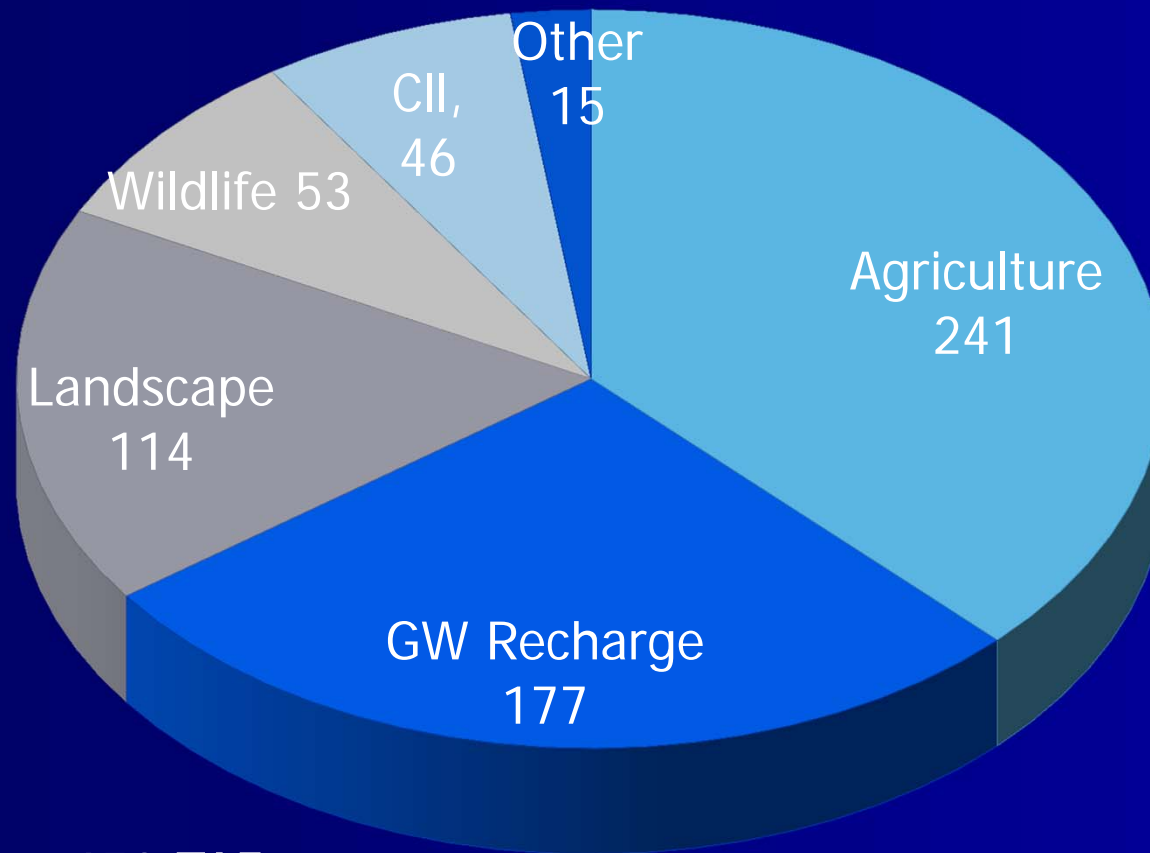
Overview

- Current status of reuse in California
- Potable reuse
 - Defined
 - Benefits (in addition to drought-proof)
- What WateReuse is doing to increase potable reuse options

Recycled Water Use Trend In California – 2009 Survey



Recycling in California: 2009 data in TAF



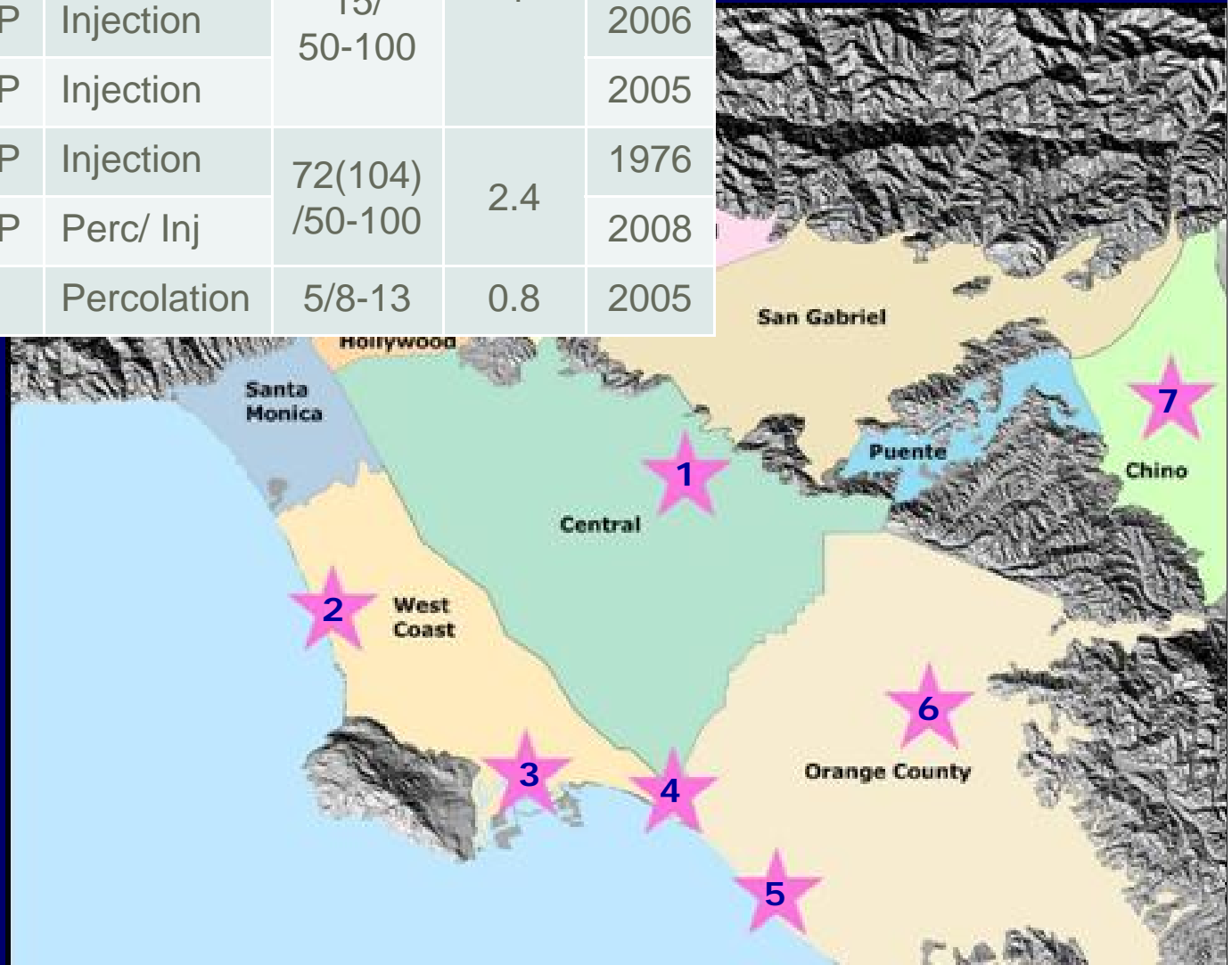
Total = 650 TAF

Types of Potable Reuse

- Groundwater recharge
 - Percolation – ATPW or tertiary
 - Injection – ATPW only
- Surface water augmentation – ATPW only?
- Raw water augmentation – ATPW+
- Finished water augmentation – ATPW++

	Project	Treatment	Recharge Method	RW Vol. TAFY/%	Pop (million)	Start Year
1	Montebello	Tertiary	Percolation	50/35	4	1962
2	West Coast	RO+AOP	Injection	15/ 50-100		1994
3	Dmngz Gap	RO+AOP	Injection			2006
4	Alamitos	RO+AOP	Injection			2005
5	OC Talbert	RO+AOP	Injection	72(104) /50-100	2.4	1976
6	OC Anaheim	RO+AOP	Perc/ Inj		2008	
7	Chino Basin	Tertiary	Percolation	5/8-13	0.8	2005

Current IPR Projects

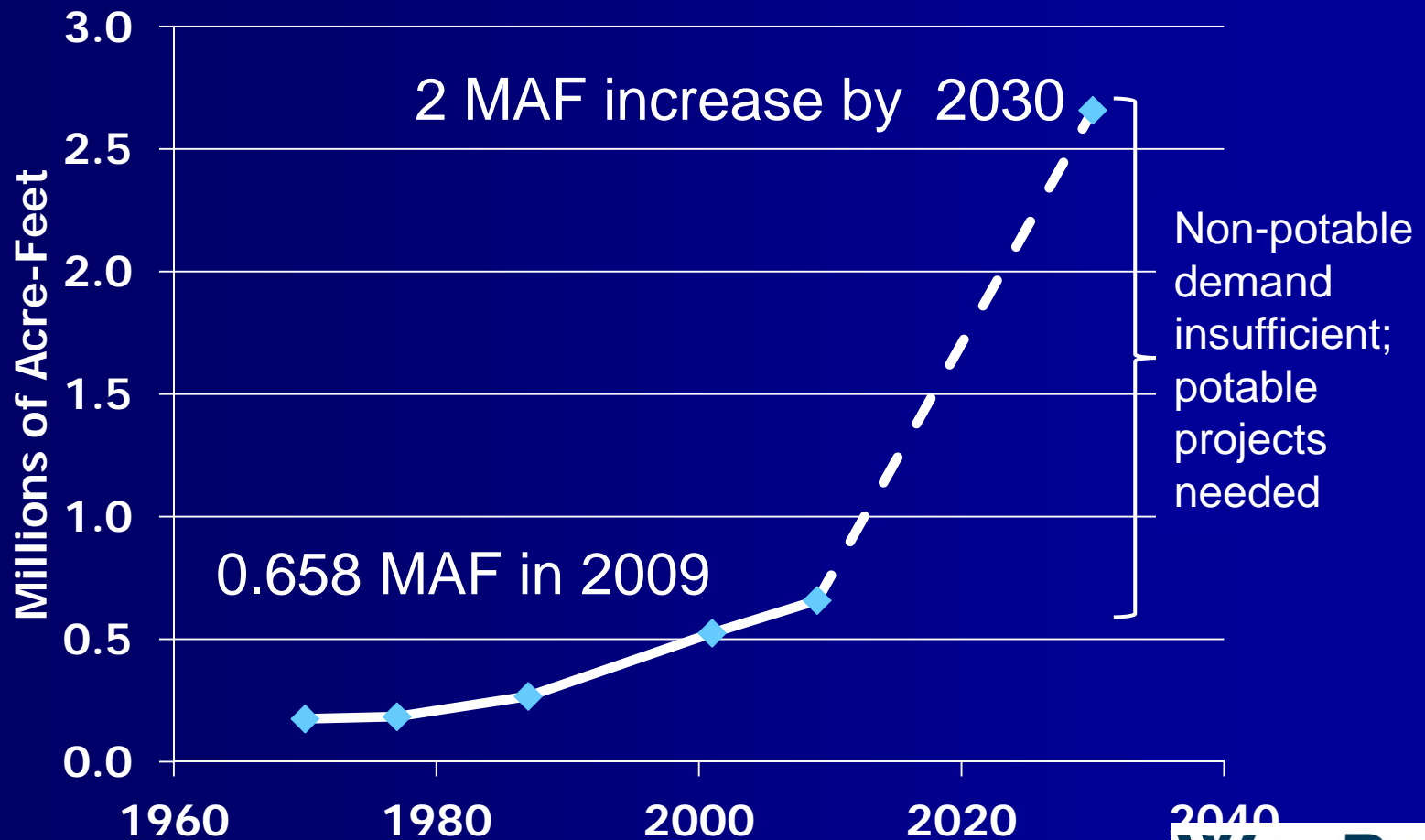


California Water Facts (all values MAF/Yr)

■ Urban water use	9
■ Agricultural water use	<u>34</u>
■ Total water use (current)	43
■ Recycled water use	0.65
■ WW Discharge to ocean	3.5
■ 2050 incremental demand:	-2.0 to +8*

*3 growth scenarios in 2009 California Water Plan, including estimated effect of climate change

California's recycling goal can't be met with non-potable projects alone



Potable Reuse Drivers

- Declining supplies/reliability
 - In-stream demand increasing: -30% Bay-Delta flows
 - 1.5 MAF less snow pack
 - 1-2 MAF groundwater overdraft
 - Seismic vulnerabilities



Potable Reuse Drivers

- Declining supplies/reliability
- Increasing demand
 - State Water Plan
 - -2 MAF
 - +2 MAF
 - +6 MAF



Potable Reuse Drivers

- Declining supplies/reliability
- Increasing demand
- Limits on existing recycling opportunities
 - Current allowable IPR opportunities limited
 - Cost of non-potable reuse



Cost benefit of potable reuse: City of Riverside 10 TAFY Case Study

Project	Miles of Pipe	Capital Cost (\$millions)	Avg User Bill Increase ^a (\$/month)
Purple Pipe	172	\$550	\$42
Potable Reuse	6	\$95	\$9

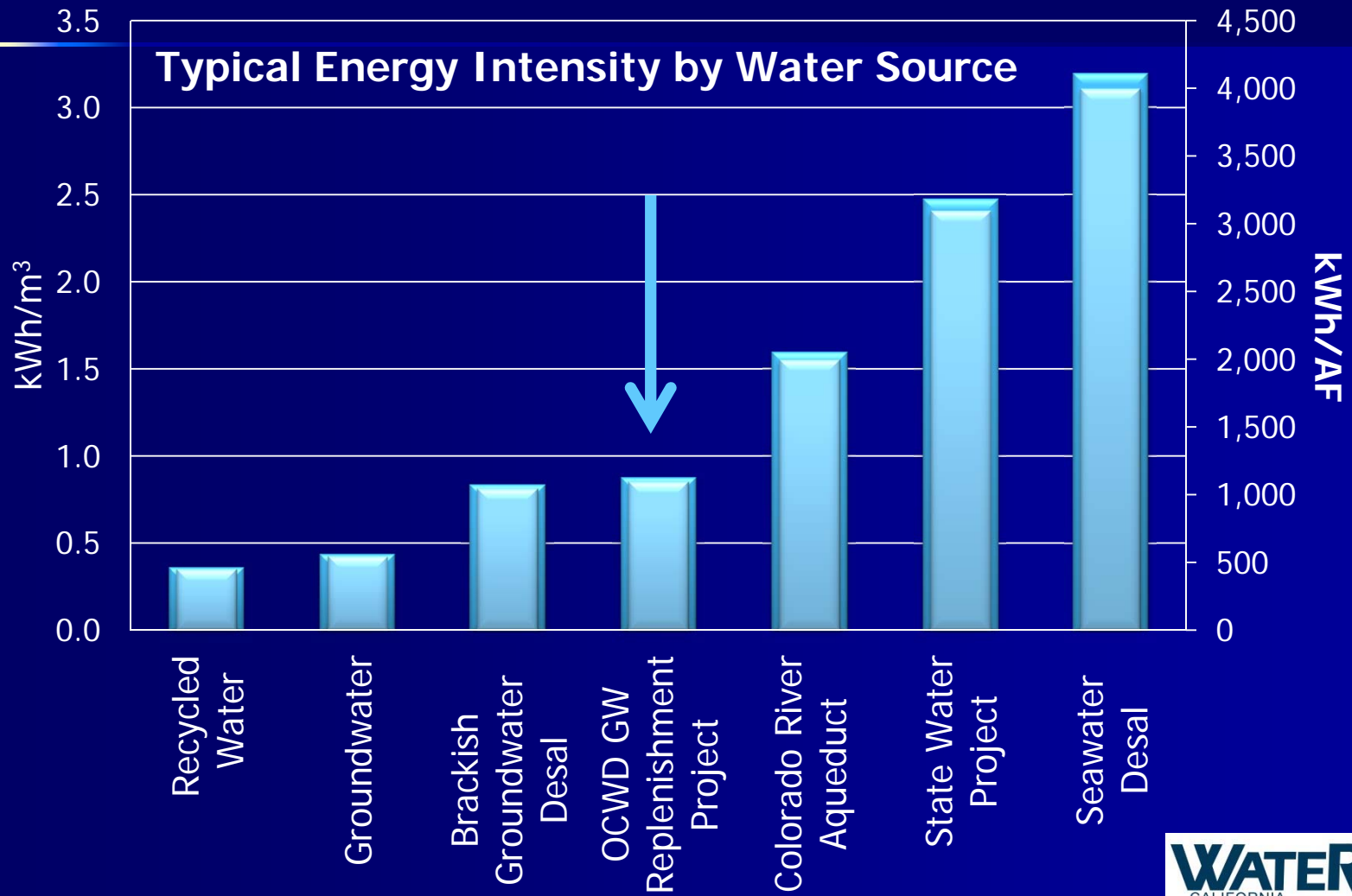
^a Current average water bill:\$35/month

Potable Reuse Drivers

- Declining supplies/reliability
- Increasing demand
- Limits on existing recycling opportunities (logistics and cost)
- Energy conservation & GHG reduction



Energy Conservation Benefits of Potable Reuse



Source: Pacific Institute analysis regarding SDCWA data



What is being done to develop PR in California?

- State's Recycled Water Policy

http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2009/rs2009_0011.pdf

- Groundwater recharge regulations

<http://www.cdph.ca.gov/healthinfo/environhealth/water/pages/waterrecycling.aspx>

- WaterReuse PR Development Program

<http://www.watereuse.org/sections/california/direct-potable>

- Statutory reform – SB 918, AB 2398

<http://www.watereuse.org/sections/california>

- Regulatory update

DPR Research Needs (NAS, "Path Forward")

- Develop Engineered Buffers
- Enhance the Performance and Reliability of Treatment Systems (WRRF 11-10)
- Treatment Equivalency (WRRF 11-02)
- Enhanced Monitoring Methods for Direct Potable Reuse (WRRF 11-01)
- Blending Requirements

DPR Study Plan

Public Acceptance Tasks

- Develop Appropriate Terminology
- Survey Stakeholders
- Develop Messages
- Develop a Communications Strategy
- Implement the Communications Strategy

Potable Reuse Development Program

- \$6 million in three years
 - Member agencies
 - Engineers
 - Foundations
- Fund
 - Research
 - DPH expert panels
 - Education and outreach

Barriers to Additional Recycling: Non-potable

- Inconsistent law (H&S and Water Code)
 - spill reporting
 - incidental runoff regulation
- Title 17/22 obsolete elements. Examples
 - Allow hose bibbs
 - Allow dual plumbed condos
- Storage pond overflow prohibition

Barriers to Additional Recycling: Potable

- Water Board regulation of projects with no Basin Plan nexus and/or minimal water quality impacts
- Current law (SB 918) does not distinguish between types of DPR: *raw* and *treated* water augmentation

Status of Legislation

- 70-page bill, five amendments
- State Assembly
 - Committees: 8-1 and 9-1 votes
 - Floor: 54-10
- State Senate
 - Senate Committee staff review negative
 - Bill withdrawn June 6
- Bi-cameral committee established to develop bill for 2013 session

Contact Information

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AB 2398

- Simplify and consolidate code
- Recycled water a water resource, not a waste
- Recognize advanced treatment
- Fee structure
- Preserve existing protections, penalties