



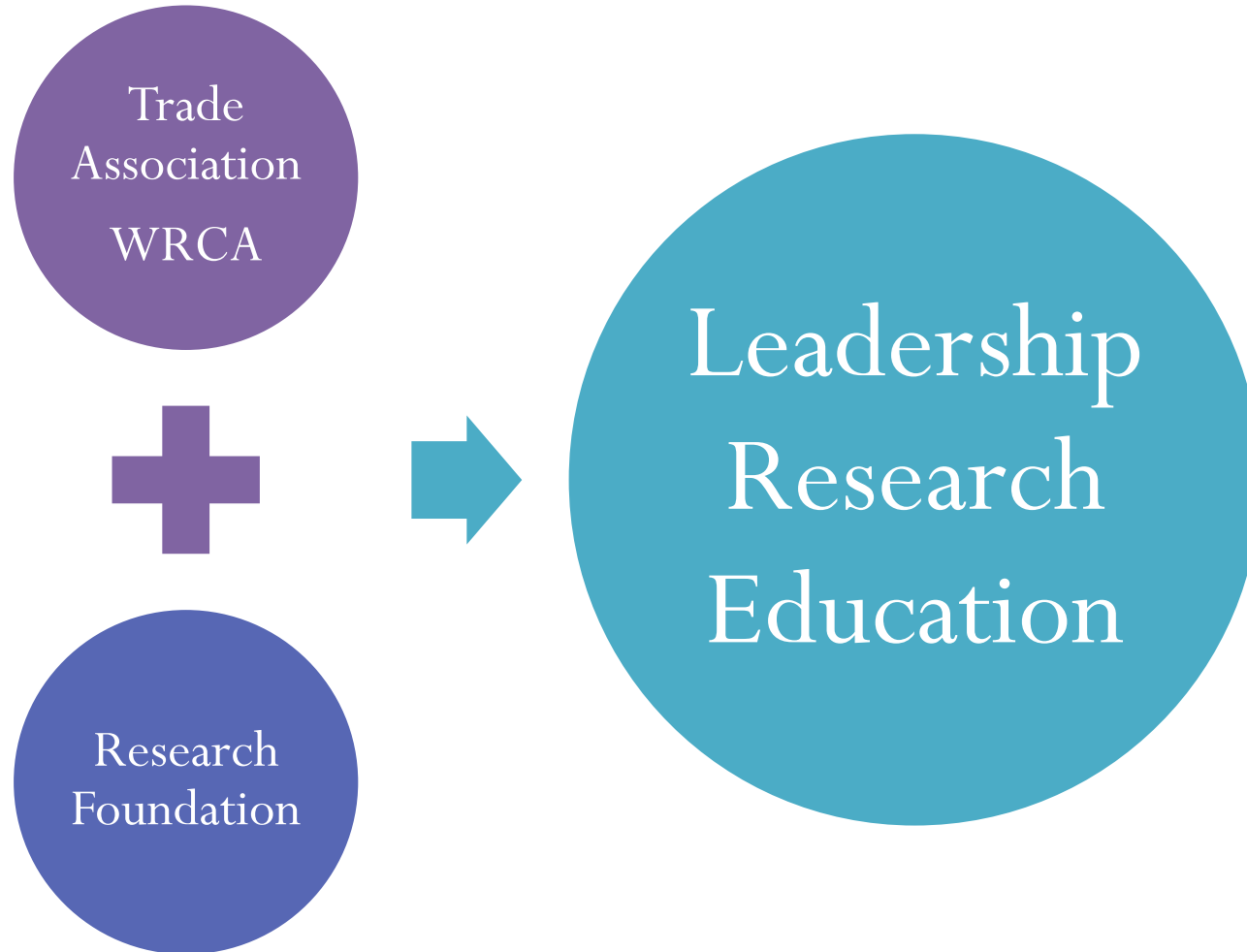
# Direct Potable Reuse Research & Public Policy

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Jennifer West  
Managing Director  
WaterReuse California



# The WaterReuse Story: Who We Are, What We Do





WATERREUSE



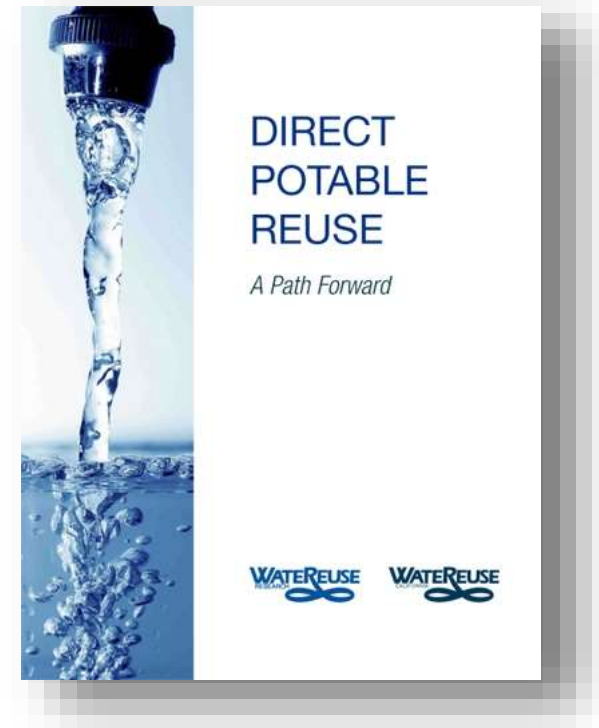
# The Direct Potable Reuse (DPR) Initiative

An Overview



# DPR Initiative

- **Partnership of WRRF and WRCA**
- **Goals**
  - Rigorous research (WRRF)
  - Stakeholder awareness & acceptance (WRCA)
  - Regulations for DPR (SWRCB DDW)
- **US \$6 million raised**
- **Research priorities center around potable reuse as a supply solution to water scarcity/availability across the US -- CA, TX, NM, AZ, CO, GA, etc.**





# DPR Interactions

◆ = Meeting  
▶ = Deadline

Advisory Panel:

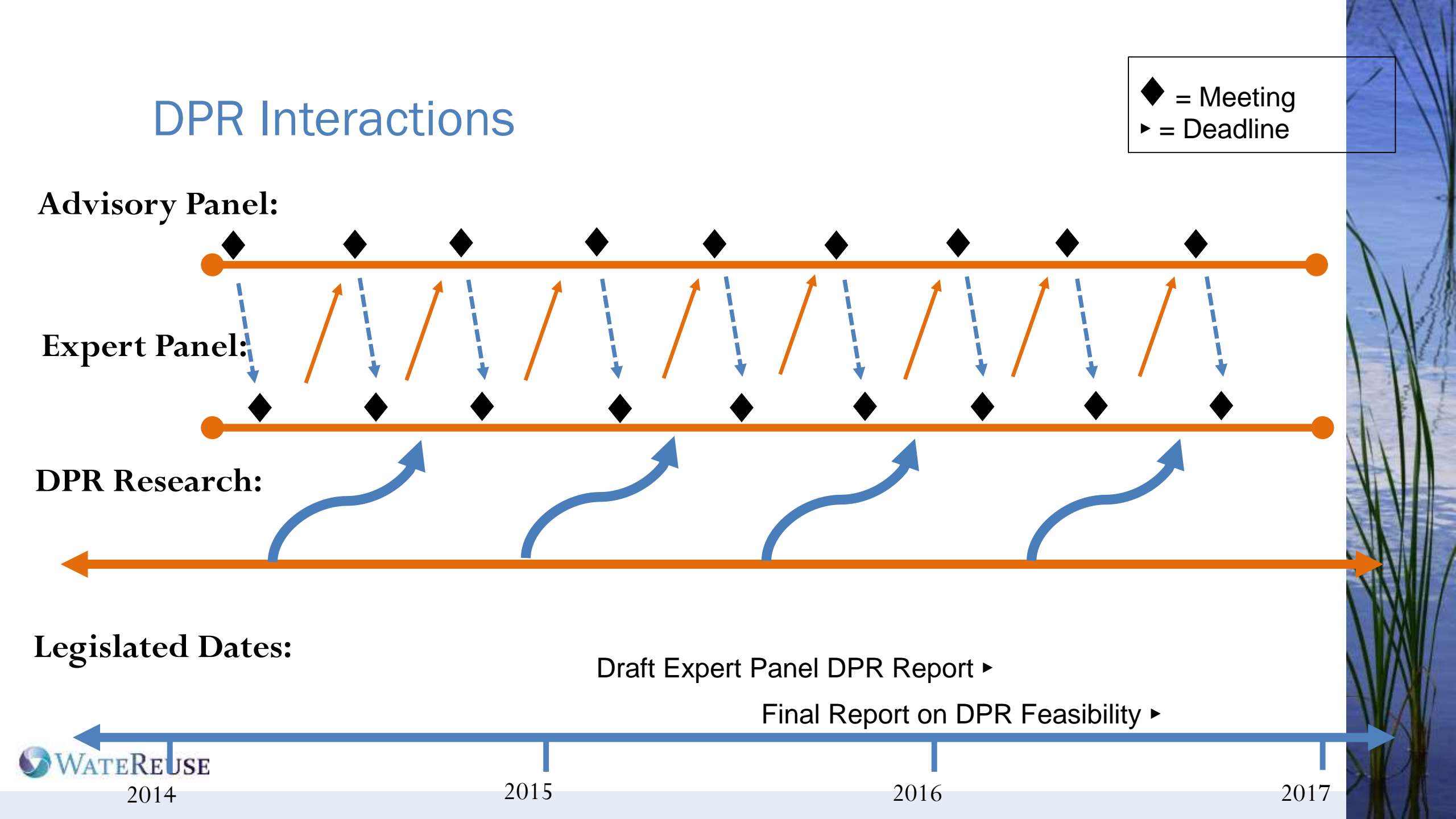
Expert Panel:

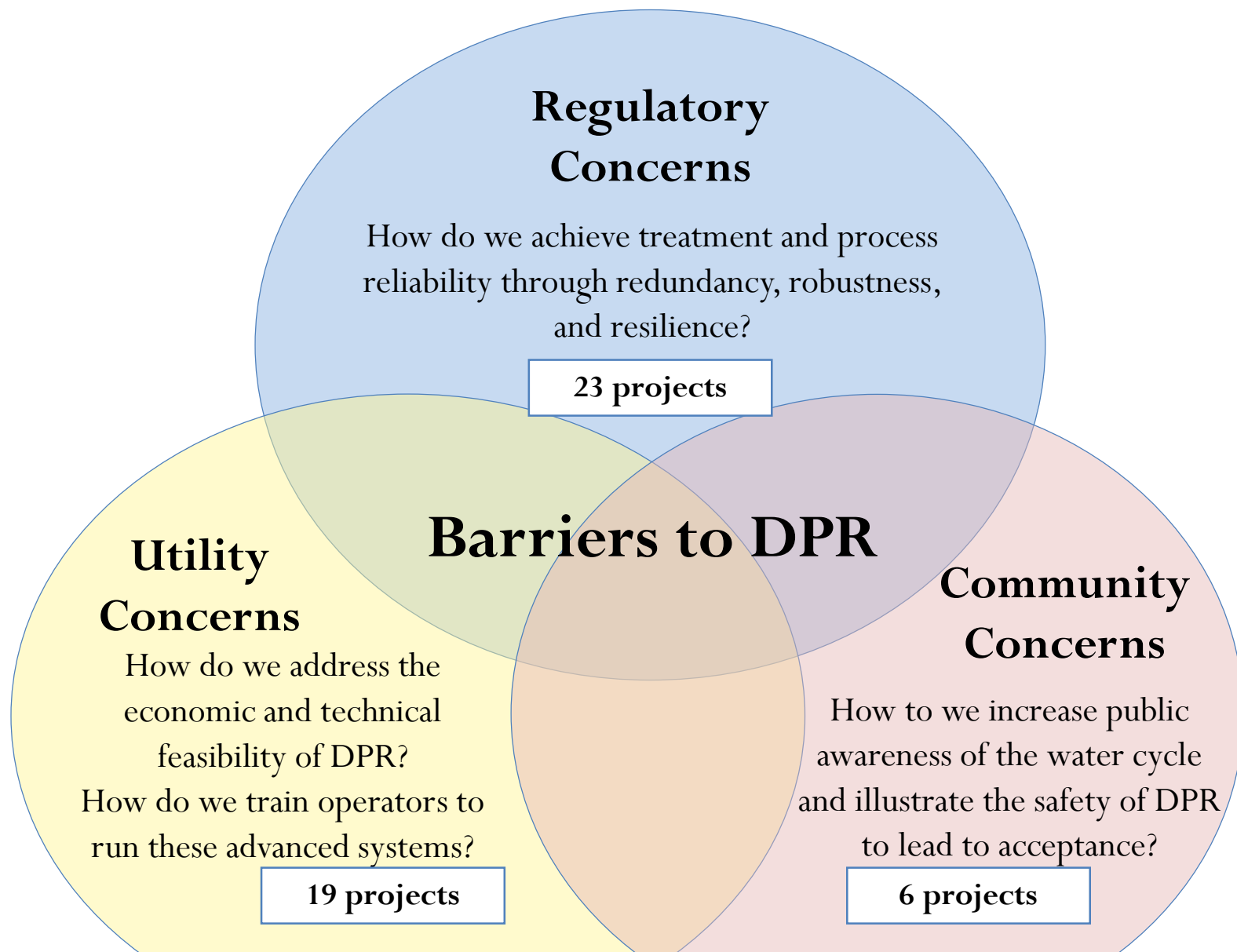
DPR Research:

Legislated Dates:

Draft Expert Panel DPR Report ▶

Final Report on DPR Feasibility ▶





*WRRF DPR research program worth over \$20M is underway to address these concerns & illustrate the feasibility of DPR*



# Research is currently addressing these questions

Research Area	Number of WRRF Projects
DPR vs. Alternatives, Economics	4
Evaluation of Potential DPR Trains	14
Demonstration of Reliable, Redundant Treatment Performance	19
Critical Control Points	5
Pathogens: Surrogates, Credits	16
Pathogens: Rapid/Continuous Monitoring	10
Failure and Resiliency	10
Public Perception and Acceptance	3
CEC Removal and Risk	9
Operations Training, Framework	5
Source Control	2
<i>Projects can cover multiples areas of research</i>	

# New Release: Framework for DPR



**WATERREUSE**



American Water Works  
Association

Purpose: To provide an overview of the key elements that make up a DPR program and a framework for assessing the specific topics and issues that need to be addressed in the development of future DPR Guidelines.



# Organization of the DPR Framework

Chapters 1 - 4

Introduction

What is DPR?

Key Components of a Successful/Sustainable DPR Program

Public Health Protection

Chapters 5 - 8

Source Control

Wastewater Treatment

Advanced Water Treatment

Purified & Finished Water Management

Chapters 9 - 13

Monitoring and Instrumentation Requirements

Residuals Management

Facility Operation

Public Outreach

Future Developments



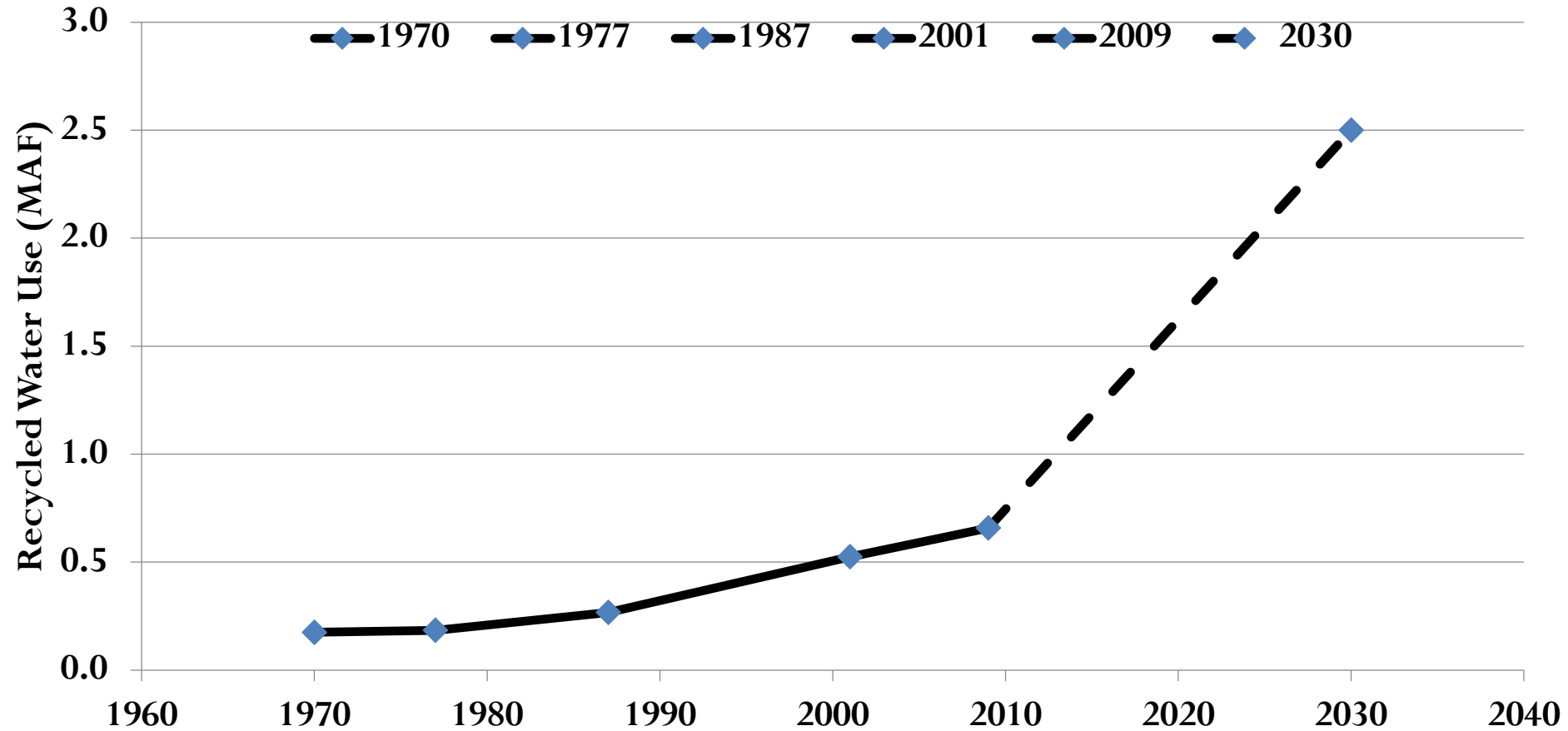
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# DPR Public Policy in California



# State Goal Requires More Recycling



# SB 163 (Hertzberg) Ban Ocean Discharges

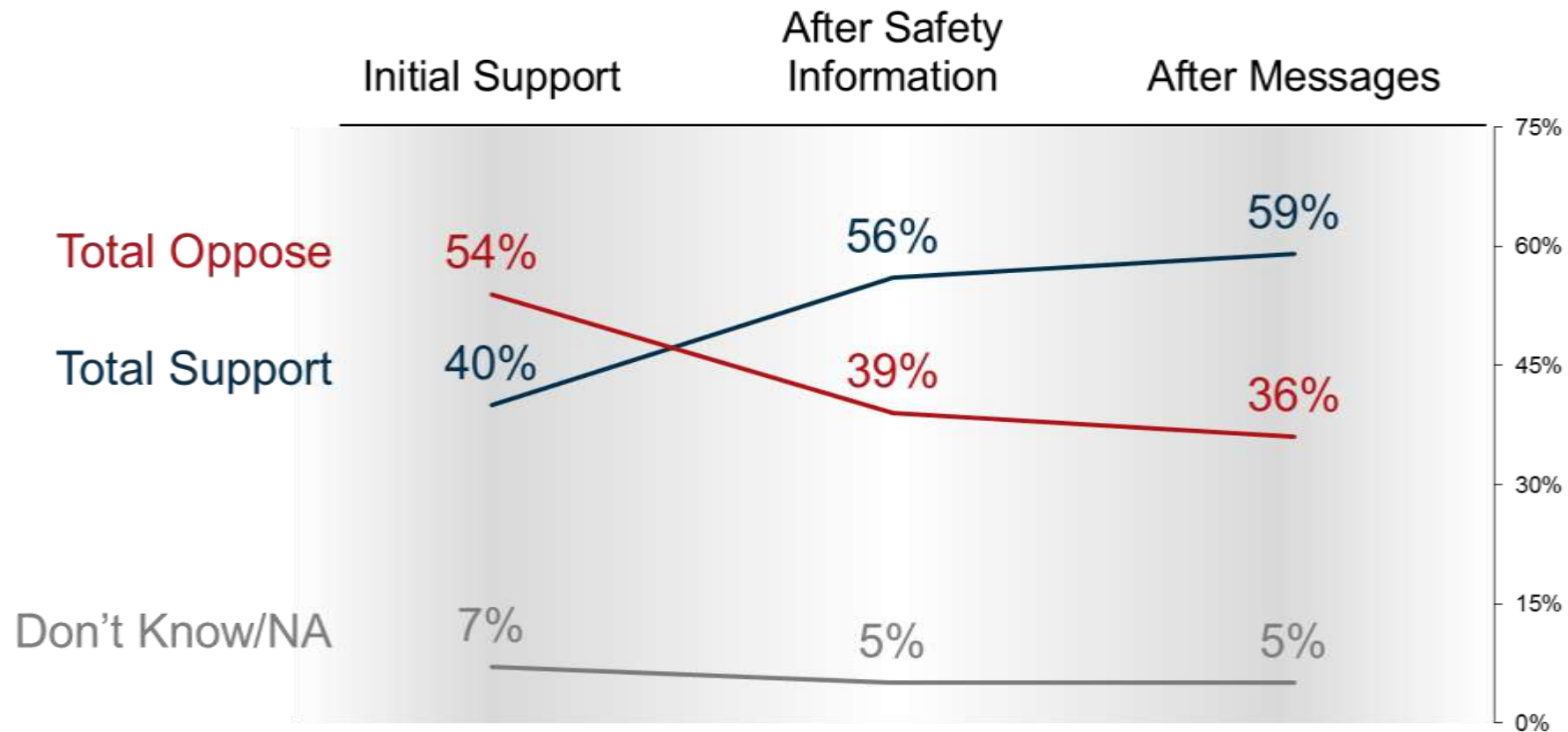
- Requires total ban of ocean discharge by 2036 – 50% reduction by 2026.
- Requires agencies to beneficially reuse the water.
- Need IPR, SWA AND DPR regulations in place to make this work.
- Need massive funding and more public acceptance.





# Though they are initially opposed, voters quickly become more comfortable with direct potable reuse after information about safety.

*Do you support or oppose direct reuse of recycled water in your community for all household purposes, including drinking?*



# Bottling Purified Advanced Treated Water

- Not everyone can make it to OCWD.
- WRCA considering co-sponsoring this with OCWD and OCSAN.
- For educational purposes only – not for sale!



# CONCLUSIONS

- DPR will be a safe, new water supply for CA.
- Multiple solutions must be pursued
  - Non-potable reuse
  - Indirect potable reuse
- Need to ensure public health protection through research - regulations
- Public acceptance is critical



Contact Information:  
**Jennifer West**  
WaterReuse California  
Jwest@watereuse.org  
(916) 669-8401

