



Communications COLLABORATIVE GROUP

Wednesday, April 28, 2021

10am – 11:30am

Virtual Meeting via Zoom

Thank you for joining!

Please use the chat box or raise your hand if you have any questions or technical issues.



 **WATERREUSE**
CALIFORNIA



Communications

COLLABORATIVE GROUP

Welcome



Melanie Mow Schumacher,
Soquel Creek Water District

| 4/28/2021



Executive Team



Rupam Soni,
Chair
Metropolitan
Water District
of Southern
California



**Patsy
Tennyson**
Katz and
Associates



Ben Glickstein
East Bay
Municipal Utility
District



Rebecca Rubin,
Vice -Chair
Soquel Creek Water
District



Gina Ayala
Orange
County Water
District



**Melanie Mow
Schumacher**
Soquel Creek
Water District




Who We Are

The WaterReuse California Communications Collaborative Group provides a forum to discuss and collaborate on potable water reuse communications.

The group is open to all WaterReuse California members and we welcome fellow colleagues to learn about current challenges facing reuse communications, discuss tools and resources, and network with one another.

<https://watereuse.org/sections/watereuse-california/communications-collaborative-group/>



The screenshot shows the website for the WaterReuse California Communications Collaborative Group. The header includes the WaterReuse logo and navigation links: About Us, Engage, Educate, Advocate, News, Become a Member, and State Section. The main content area features the group's logo and title, followed by a description: "The WaterReuse California Communications Collaborative Group provides a forum to discuss and collaborate on potable water reuse communications. The group is open to all WaterReuse California members. Learn about current challenges facing reuse communications, discuss tools and resources, and network with colleagues." Below this is a section titled "Updated Terminology Document" with a sub-description: "This updated document provides California public education and outreach professionals with a framework to discuss water reuse with the public and glossary to help navigate the technical terms frequently encountered: Updated Terminology Document - October 2019. It was approved by the boards of WaterReuse California and Association of California Water Agencies (ACWA)." A small image of the document cover is also visible.



Our Events

Event	Date	Type	Location
1-Kickoff	10/17/2018	Webinar/In-Person	Metropolitan Water District of Southern California
2	1/23/2019	Webinar/In-Person	Brown & Caldwell Walnut Creek Office
3	3/18/2019	Conference Session	WaterReuse California Conference, Anaheim
4	6/26/2019	Webinar	On-Line Only
5	1/29/2020	Webinar/In-Person and Tour	Monterey One Water
6	4/29/2020	Webinar	On-Line Only
7	8/19/2020	Webinar	On-Line Only
8	11/18/2020	Webinar	On-Line Only
9	4/28/21	Webinar	On-Line Only

Moving Towards Direct Potable Reuse – Communicating a Science Perspective

WaterReuse California Communications Collaborative Group

April 28, 2020

Kevin M. Hardy

Executive Director

National Water Research Institute





Approach

- Why me?
- How did we get here?
- Where are we in the process of adopting DPR regs in California?
- Where do we go from here?
- What's next?

My Journey



National Water Research Institute

- Founded 1991
- Joint Powers Agency & 501(c)(3)
- Research, Development or Implementation of projects related to:
 - Managing Water Resources
 - Enhancing Water Quality or Supply
 - Encouraging Water Conservation
 - Preventing or Remediating Degradation of Water Quality
 - Protecting the Beneficial Uses of Water Resources
 - Improving Public Awareness and Education with Respect to Water Resource Issues



IMPLEMENTATION OF DIRECT POTABLE REUSE

A GUIDE FOR CALIFORNIA WATER UTILITIES

FINAL | MARCH 2021



How did we get here?

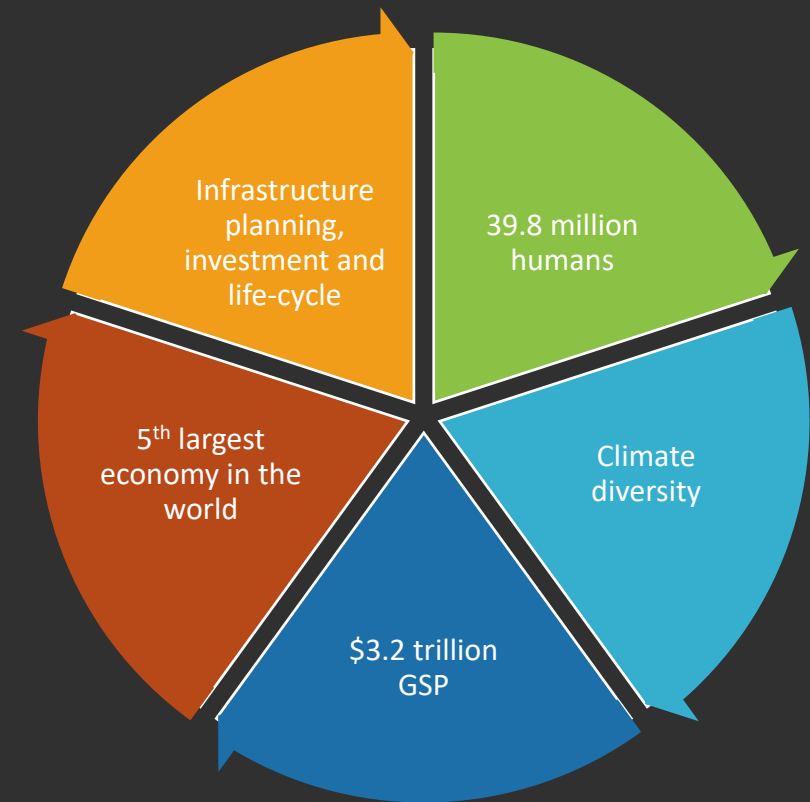


Table 1

Milestones for the development of non-potable water recycling practices in California

Year	Description of milestone
1890	Sewer farms in use in several California communities
1909	The City of Redondo Beach votes down a proposed sewer outflow to the ocean and instead insists that the City adopt the sewer farm model for reuse
1929	The City of Pomona begins using recycled water for the irrigation of lawns and gardens in a suburban, semi-rural home development area
1932	Golden Gate Park initiates recycling for filling ornamental lakes and landscape irrigation from a specially constructed water reclamation plant (which was terminated in 1981)
1943	Recycled water is first used at military installations to irrigate landscape in recreational areas
1961	The City of Santee uses recycled water to develop recreational lakes for fishing and boating, and studies an experimental swimming operation
1965	The City of Burbank begins using recycled water for power plant cooling
1977	The Irvine Ranch Water District initiates the first major residential landscape irrigation project with a dual water system delivering recycled water
1998	Monterey Regional Water Pollution Control Agency initiates the first project in California using tertiary-treated recycled water to irrigate food crops eaten raw

Table 2

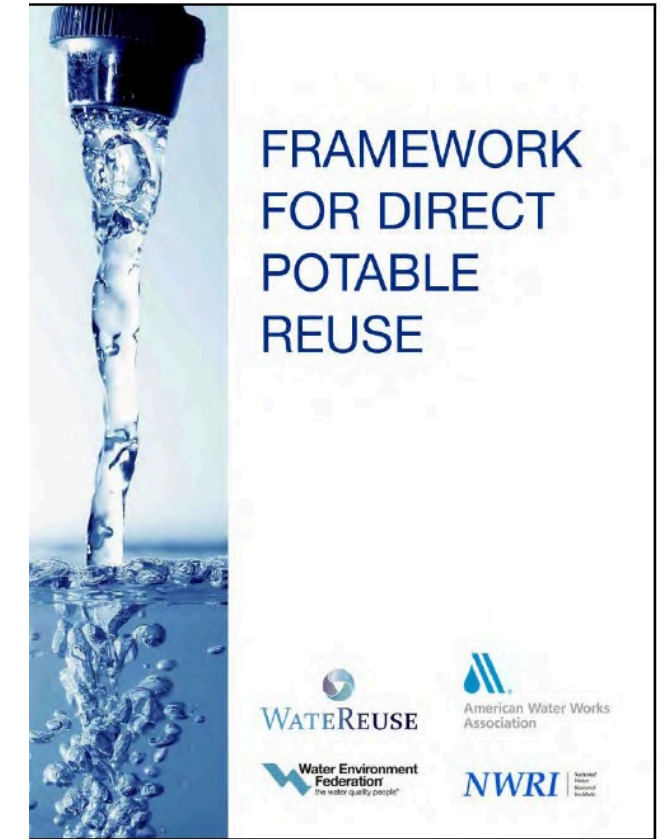
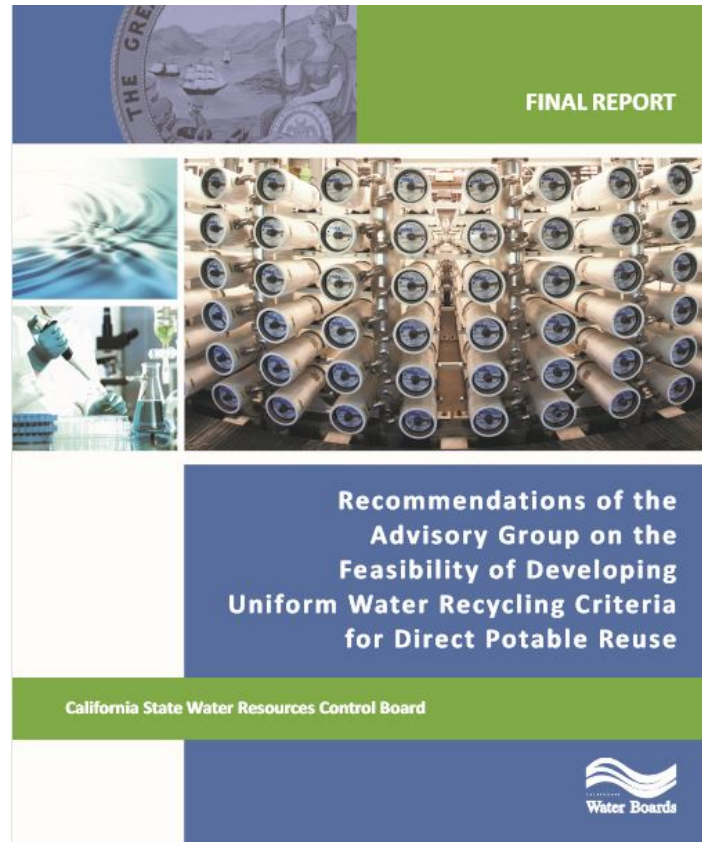
Summary of water recycling policies and regulations in California

Year	Recycling policies and regulations in California
1906	The California State Board of Health endorses septic tank effluent for crop irrigation
1907	The California State Board of Health recommends against the use of septic tank effluent for irrigation of food crops eaten raw
1918	First regulations (for crop irrigation) go into effect, prohibiting the use of raw sewage and septic and Imhoff tank effluents for the irrigation of food crops eaten raw
1933	Requirements are added for cross-connection control and disinfection reliability. Prohibits the use of raw sewage for any type of crop irrigation
1967	The Legislature sets policy (included in the California Water Code) for water recycling
1968	More restrictive criteria are developed for crop irrigation. Requirements are added for landscape irrigation and impoundments
1975	Requirements are added for treatment reliability
1978	More restrictive criteria are developed for open access landscape irrigation. General groundwater replenishment requirements for indirect potable reuse via surface application are added
2000	Changes are made to criteria for treatment and quality, addressing additional types of uses and adding use area requirements (which were previously used only as guidelines)
2014	Requirements are added for indirect potable reuse for groundwater replenishment via surface (spreading) and subsurface (direct injection) application
2018	Requirements are added for indirect potable reuse via surface water augmentation of a surface water reservoir used as a source of drinking water

How did we get here?

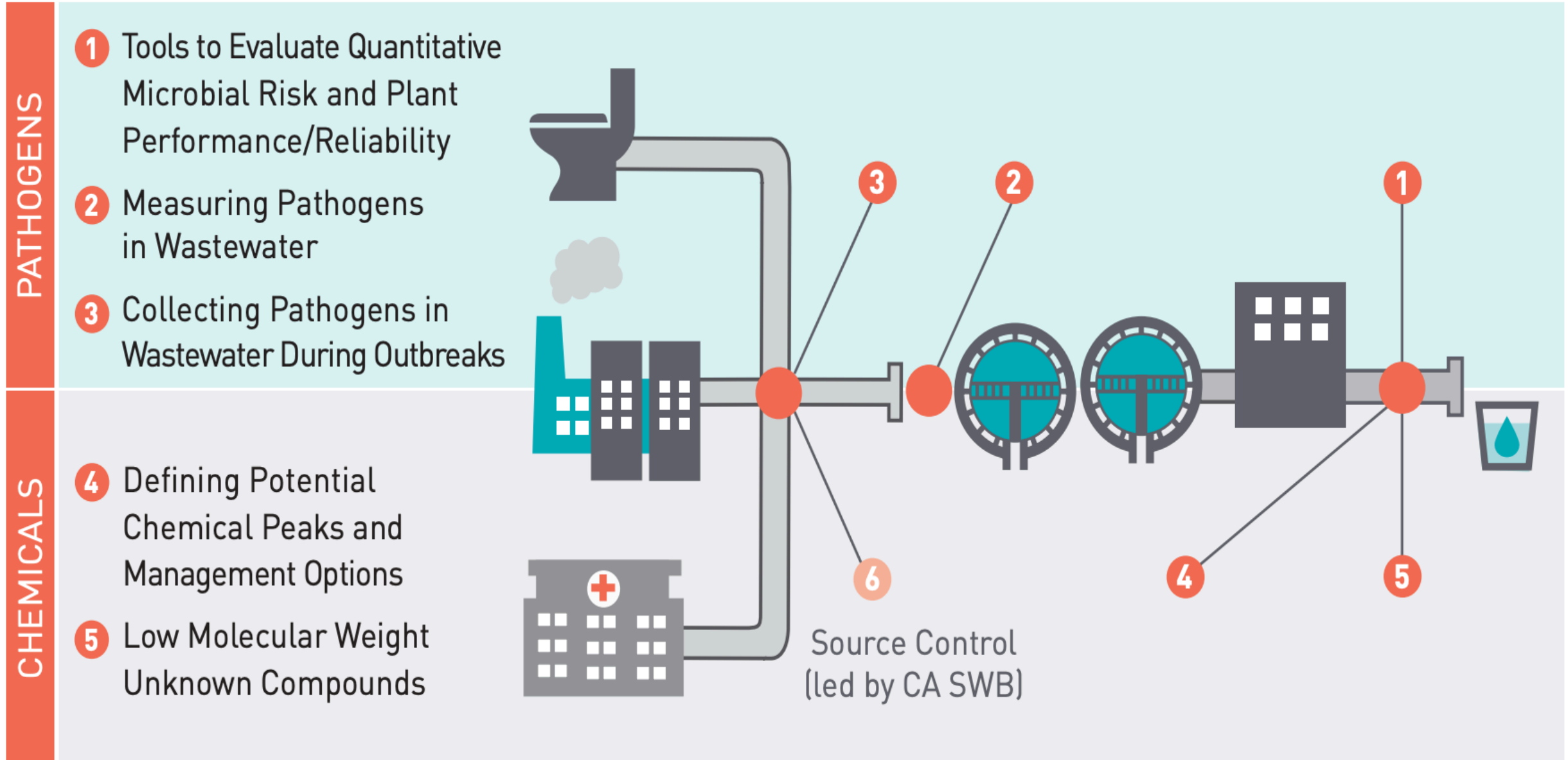
A PROPOSED FRAMEWORK FOR REGULATING DIRECT POTABLE REUSE IN CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD
SECOND EDITION
August 2019



How did we get here?

PROJECTS TO INFORM THE DEVELOPMENT OF DPR REGULATIONS



Where are we – Early Draft

- Early draft of anticipated regulations
- Applies to any project that receives municipal wastewater for treatment to produce water that is used as a source of supply, or drinking water directly for distribution, covering both raw water augmentation and treated water augmentation.
- Direct Potable Reuse Responsible Agency (DiPPRA)
- Annual inspection of facilities and operations including evaluation of:
 - Source & treatment
 - Cross-connection control
 - Enhanced Source Control
 - TMF and Joint Plan
 - Operations Plan, Monitoring Plan, and Water Safety Plan
 - Other aspects determined on a project-specific basis

Where are we - Permits

- Permit Application Elements
 - Initial or amended permit for a public drinking system
 - Engineering Report
 - Joint Plan
 - Demonstration of technical, financial, and managerial capacity
 - Other submittals determined by the State Board on a project-specific basis
- If PWS whose source of supply includes DPR project product water from a DiPPRA must participate in the Joint Plan (RWA)
- If PWS that uses finished water from a DPR project, must obtain a permit prior to use (TWA)

Where are we – Joint Plan

- Procedures to ensure that the DiPRRA will have current knowledge of the status of treatment for the entire DPR project;
- A description of corrective actions to be taken if water delivered from a treatment facility fails to meet the treatment or water quality requirements of this Article;
- The procedures a DiPRRA will implement for notifying partner agency(ies) and the State Board of: (A) Operational changes that may adversely affect the quality of water delivered by the treatment facility; (B) Treatment failure incidents and the corresponding corrective actions taken;
- A plan to optimize corrosion control to reduce lead and copper levels in the distribution system; and

Where are we – Joint Plan

- The steps the DiPRRA and partner agency(ies) will take to provide an alternative source of domestic water supply or drinking water in the event that the DPR project is unable to supply water.
- Copies of agreements such as Joint Powers Authority or bilateral agreements that are essential to the operation of a DPR project compliant with this Article to the State Board with the permit application.
- Response(s) by DiPRRA and partner agency(ies) will take to provide an alternative source of domestic water supply or drinking water in the event that the DPR project is unable to supply water.
- Update when there is a change in the organizational or legal structure of the DPR project management.

Where are we - TMF Capacity

Technical - The Engineering Report must

- describe in detail the facilities, staffing, and support services necessary to comply with regulations, and continuously produce safe drinking water;
- specify elements that have costs associated. Ongoing costs must be determined for each element described in the Engineering Report.
- Costs shall include operation and maintenance costs, 20-year life-cycle costs of equipment, capital replacement costs, energy costs, personnel costs, and other elements specified by the State Board on a project-specific basis;
- Updates per 64669.75

Where are we - TMF Capacity

Financial – the DiPPRA partners must properly budget and fund the enterprise

- Costs shall include operation and maintenance costs, 20-year life-cycle costs of equipment, capital replacement costs, energy costs, personnel costs, and other elements specified by the State Board on a project-specific basis;
- Identify reliable and continuing funding sources for the necessary costs.
- Include budget set asides for maintenance and capital replacement subject to a strategic asset management plan;

Where are we - TMF Capacity

Managerial – the DiPPRA managers must

- ensure that financial, material, and personnel resources will be provided when and where needed;
- institute a quality assurance process to demonstrate that data and information gathered to make compliance determinations and operations and management decisions are based on best practices;
- implement a continuous improvement program for the DPR project based on best practices; and,
- Any additional information as determined by the State Board on a project-specific basis.

Where are we – Other

- Enhanced Source Control
- Operator Certification
- Water Safety Plan
- Monitoring Plan
- Operations Plan
- Laboratory Analysis Plan
- CCP Monitoring and Response Plan
- Compliance and Annual Reporting
- Consumer Confidence
- Transparency?

Where are we – Regulated Contaminants

Monthly Sampling:

- Raw wastewater that feeds the DPR Project
- Advanced treated water at a location immediately after advanced oxidation
- Finished water prior to an entry point to the distribution system

Analyzed for:

- Primary MCLs, Secondary MCLs, Action Levels
- Inorganics
- Radionuclides
- Organic chemicals
- Disinfection byproducts
- Secondary Parameters
- Lead & Copper

Where are we – Pathogen Control

- Continuous treatment
- 20-14-15 proposed log reduction for Virus-Giardia-Cryptosporidium
- 12-10-10 current IPR standard
- Four (4) treatment processes to remove
- LRV credits treatment processes: not more than 6 or less than 1
- Single treatment process can provide validated LRV for 1 or more of the surrogates
- Three diverse treatment mechanisms
 - Physical separation
 - Chemical disinfection
 - UV disinfection
- Validation Study
- What if not?

Where are we – Chemical Control

- Continuous treatment
- Three (3) separate and conforming treatment processes using diverse treatment mechanisms
 - Ozone + biological activated carbon
 - Reverse Osmosis
 - Advanced Oxidation
 - In that order ...
- Ozone BAC must demonstrate no less than 1.0 LRV (90% reduction) of formaldehyde
 - Approved validation testing protocol
 - Approved indicators: operational parameters & surrogates
 - Ratio of applied ozone dose to feed water total organic carbon > 1
 - Empty bed BAC contact > 14:59
- Similarly complex, if more familiar requirements for RO-AOP

Where are we – Alternatives and IAP

Orange County Groundwater Replenishment System

Los Angeles Groundwater Replenishment Program

Hyperion Membrane Bioreactor Pilot Project

Metropolitan Advanced Purification Center Demonstration

Pure Water San Diego

Silicon Valley Advanced Water Purification Project

East County Advanced Water Purification Project

Pure Water Monterey

Las Virgenes-Triunfo Pure Water Project

Pure Water Soquel

Pure Water Roseville

LOTT Reclaimed Water Infiltration Study (WA)

Sustainable Water Initiative for the Future, Hampton Roads (VA)

Our wAAter Program, Anne Arundel County (MD)

Tampa PURE (FL)

What's Next

Public Comments

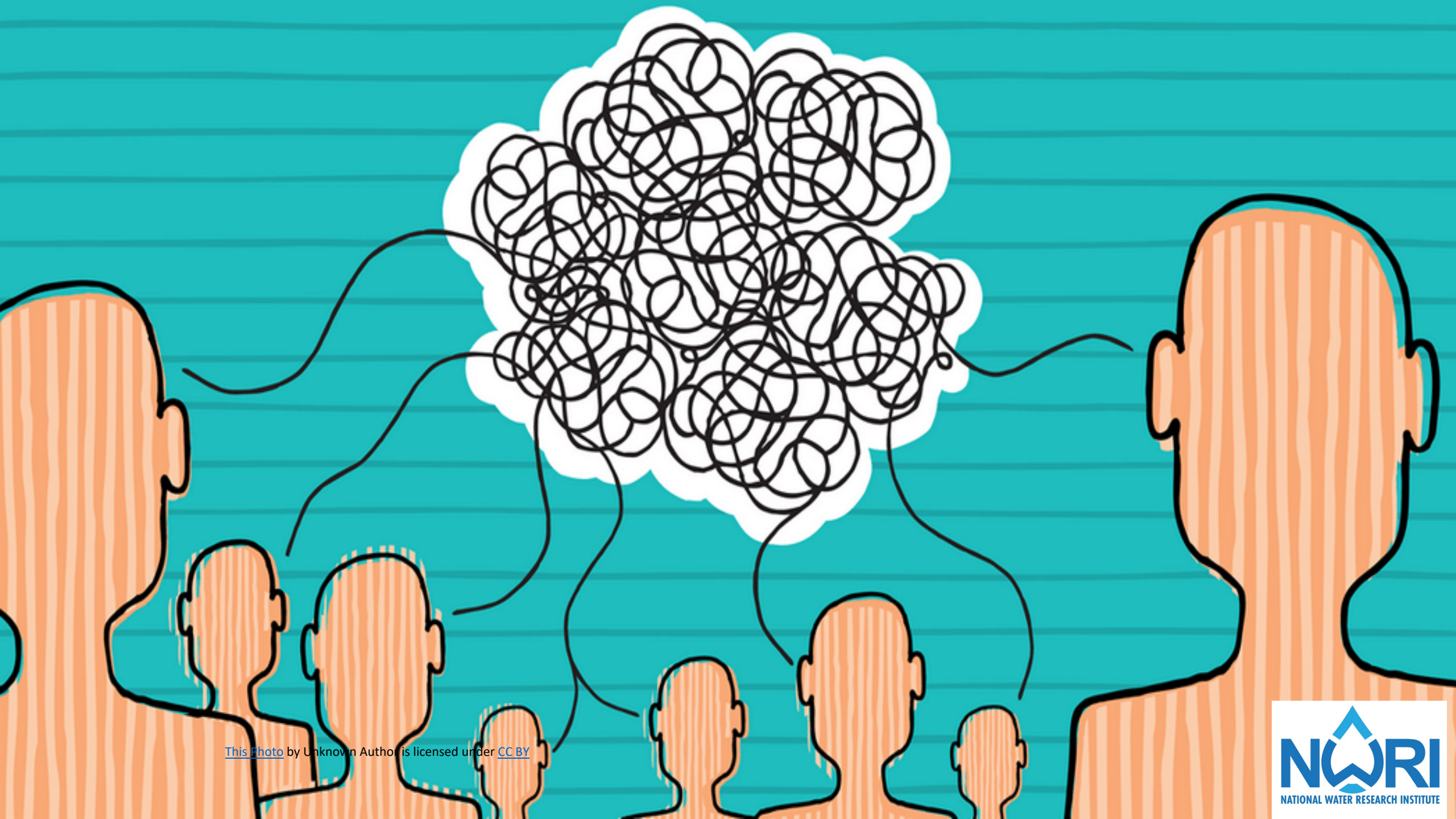
Internal Peer Review

IAP Review

Final Report to DDW

December 2023

NATIONAL WATER RESEARCH INSTITUTE



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Questions





WATER REUSE

CALIFORNIA

Communications Collaborative Group
April 28, 2021



Jennifer West, Managing Director



Climate Bond – 2022 Ballot

Currently RW funding in SB 45 (\$100 million) and AB 1500 Garcia (\$300 million)

Requesting \$1.5 billion in funding. Joined by environmental community and many individual agencies working with Legislators.

WRCA/S. Cal. Water Committee developing 1.5 minute “video brochure” to support funding request.



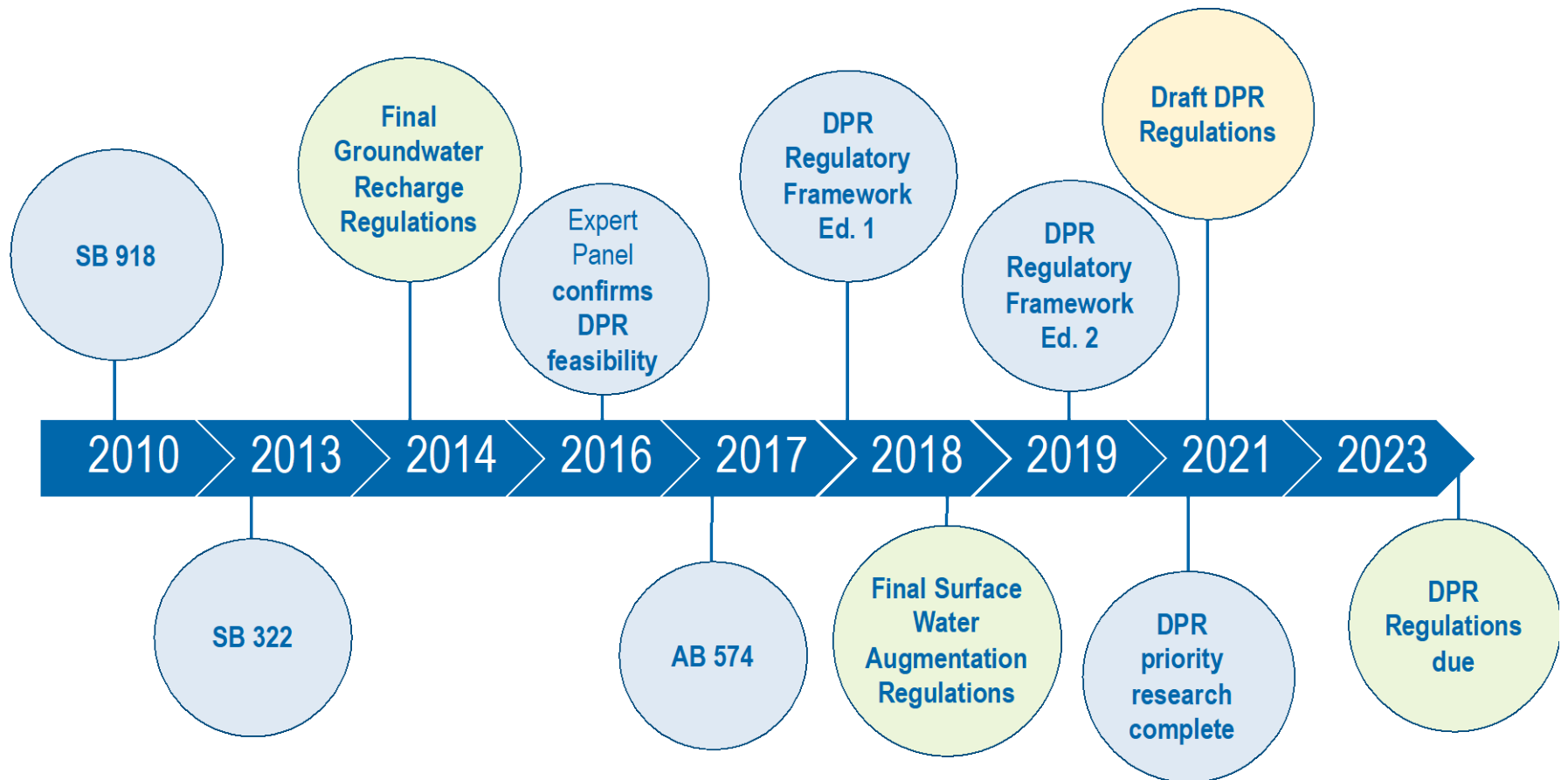
+ Legislation 2021

- AB 1434 Friedman – Sets indoor 40 GPCD -- without DWR recommendation or RW/Wastewater study public.
OPPOSE
- AB 838 Gabriel -- Mandates onsite reuse by 2024.
Oppose/Two year bill





The Path to Direct Potable Reuse





Other Regulatory Highlights



- Water Board's annual recycled water survey to be released in May of 2021
- Water Use Efficiency Implementation – potable reuse credit
- DWR Recommendations on Indoor Water Use Standard –
 - 55 gpcd in 2023
 - 47 gpcd in 2025
 - 42 gpcd in 2030
- Must consider impacts to RW and Wastewater flows include stakeholder input.



Update WRCA Strategic Plan

Final Plan Due

September 2021

(Release at Annual Conference)



Existing Plan from 2014
to 2018



Review Enhanced
Chapter Activities (due
in 2 weeks)



Include California
WaterReuse Action Plan
Reg-Leg priorities



Align WRCA activities
with WRA's Strategic
Plan



2021 Water Reuse California
ANNUAL CONFERENCE
SEPT 19-21, 2021 • LOS ANGELES

**BUILDING A RESILIENT
FUTURE TOGETHER**



Questions?



Non-Potable Recycled Water Signage Guidelines Document



Ben Glickstein |
4/28/21

East Bay Municipal
Utility District



Recent Media



Becca Rubin,
Soquel Creek Water District

| 4/28/2021



Communications
COLLABORATIVE GROUP

Roundtable Discussion



Roundtable led by:
Gina Ayala,
Orange County Water District

| 4/28/2021

Open Discussion



Thank you
for
participating!



“Communication works for
those who work at it.”

-John Powell