



Thank you for joining! We will begin shortly.

- If you are calling in, please make sure you dial your audio pin to fully participate in the meeting.
- If you are using your computer, please make sure you are connected to a microphone and speakers. A headset is recommended.

1/29/20



Welcome!

Melanie Mow Schumacher,  
Chair

1/29/20

# Introductions



## Highlights from Recent Media

Ivonne  
Gonzales

1/29/20



## **Case Study: Pure Water Monterey Water**

Mike McCullough and  
Rachel Gaudoin,  
Monterey One Water

1/29/20



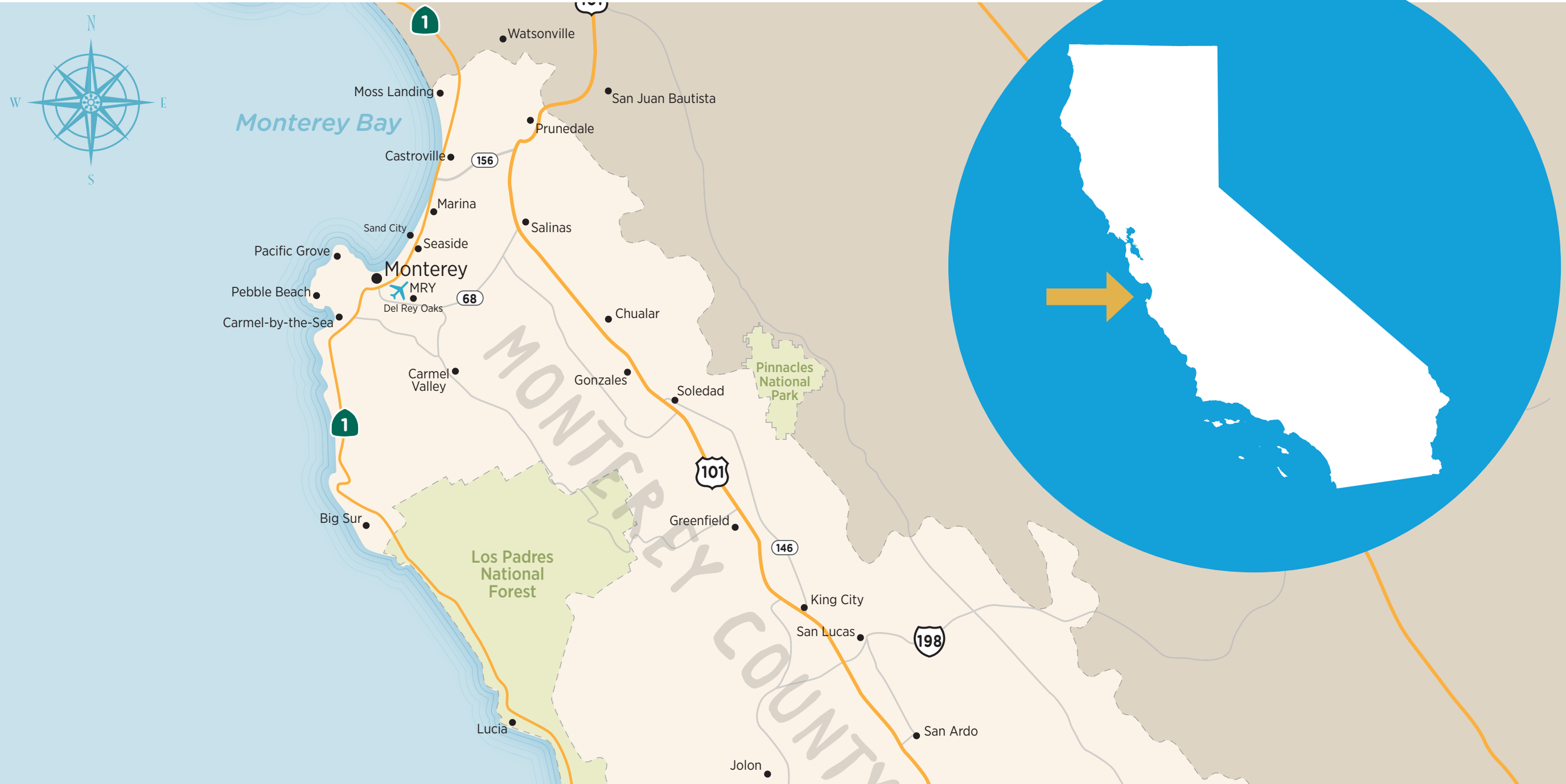
# PIECING TOGETHER THE BEST COMMUNICATION EFFORTS FOR YOUR COMMUNITY

*A Case Study on  
Pure Water Monterey's  
Outreach Strategies*

 **Pure Water Monterey**  
A Groundwater Replenishment Project



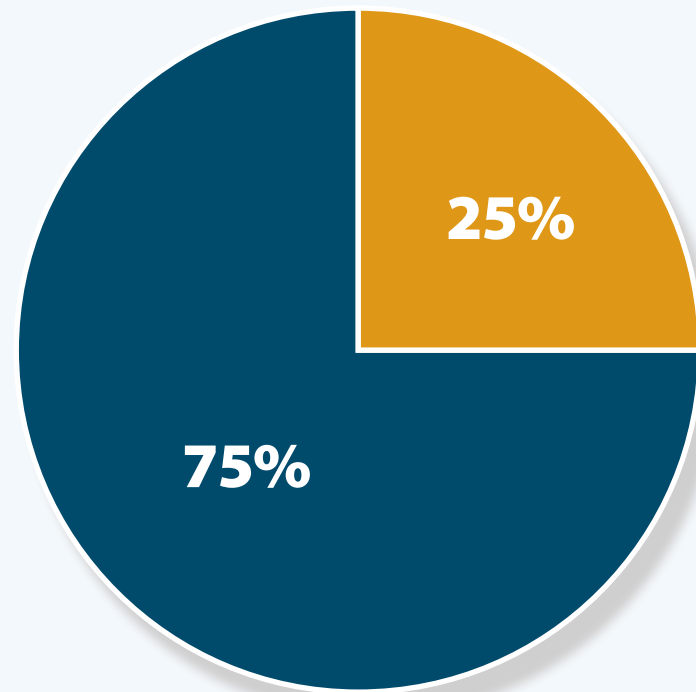
# CENTRAL COAST OF CALIFORNIA



# WHY DO WE NEED PWM?

## Water supply diversification and sustainability

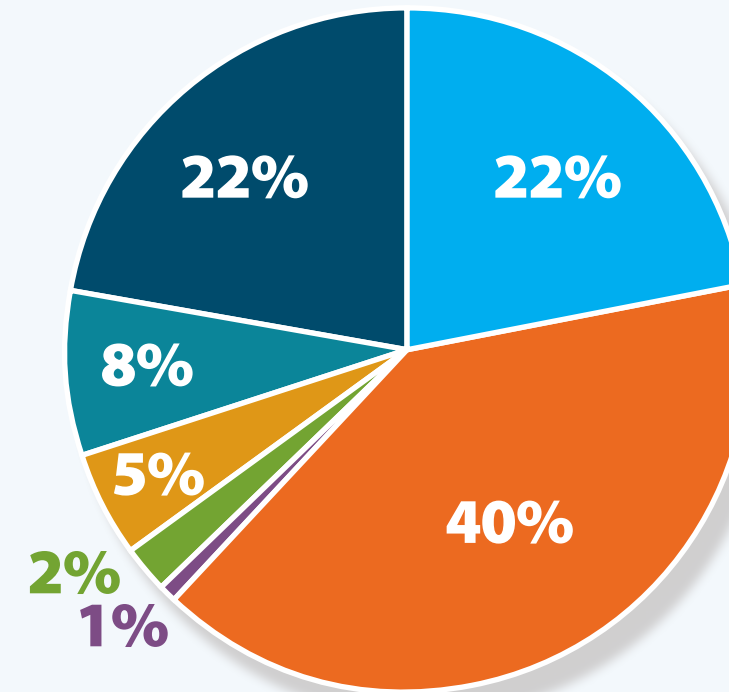
### TRADITIONAL SOURCES



■ Carmel River

■ Seaside Groundwater Basin

### PORTFOLIO APPROACH



■ Pure Water Monterey

■ Desalination

■ Sand City (Desal)

■ Pacific Grove (Rec Water)

■ Aquifer Storage & Recovery



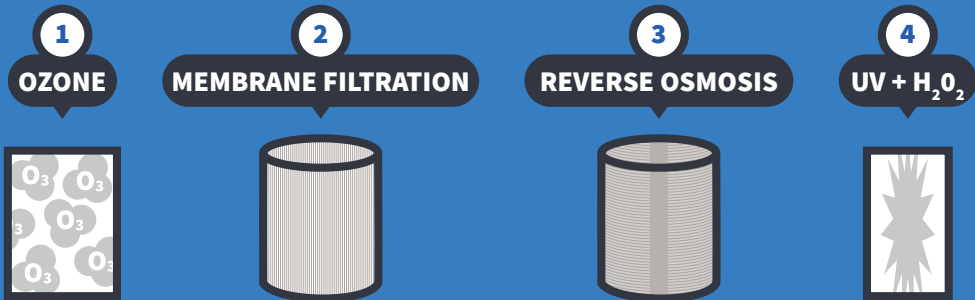
# PURE WATER MONTEREY

**3,500 ACRE FEET / YEAR**  
of Advanced Purified  
Recycled Water  
produced for groundwater replenishment  
of a critical drinking water basin

1 Acre Foot = 325,851 Gallons



## 4 STEP Advanced Purification Process after Primary & Secondary Treatment



**~22-33%** of the  
Monterey Peninsula's  
future water supply portfolio



**\$125 MILLION**  
for project costs;  
20% grant funded

# PROJECT PARTNERS





# ONE REGIONAL TREATMENT PLANT



**Regulated Ocean Discharge**  
*Predominantly Wintertime*



**Non-potable Reuse**  
*Agriculture Irrigation*



**Indirect Potable Reuse**  
*Groundwater Replenishment*

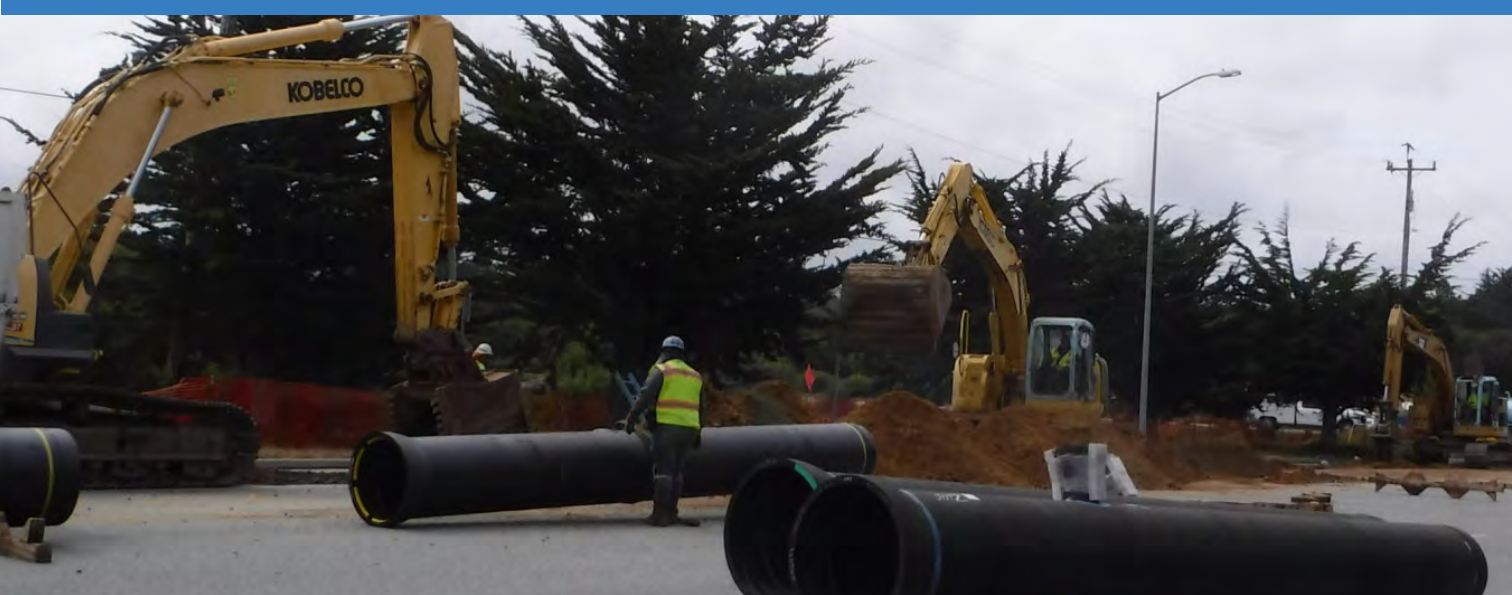


# PROJECT COMPONENTS

## Source Water Diversion Structures



## Advanced Water Purification Facility



## Conveyance Pipeline



## Injection Wells



# PROJECT SOURCE WATERS

**Municipal Wastewater**



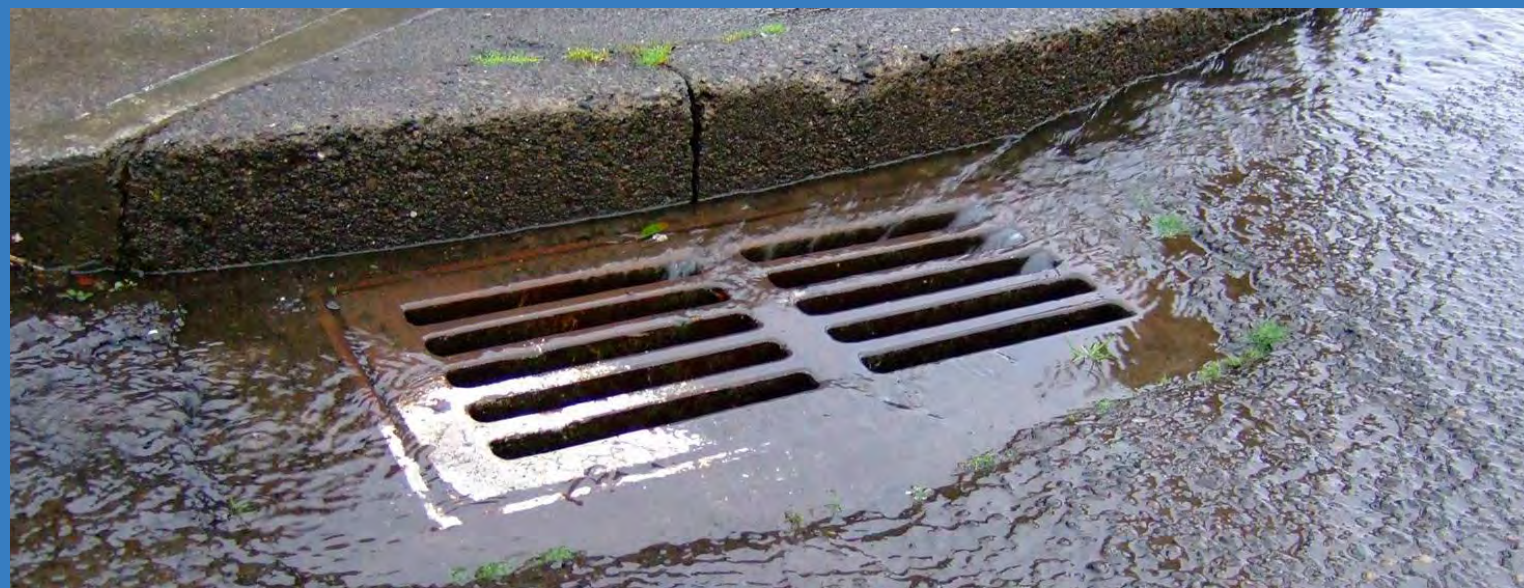
**Agricultural Wash Water**



**Agricultural Drainage Water**



**Urban Storm Water Runoff**





# SAMPLING & PILOT TESTING

**7,057 SOURCE WATER  
SAMPLES**



**11,576 TREATMENT  
SAMPLES**



## **Sampled for 435 Constituents**

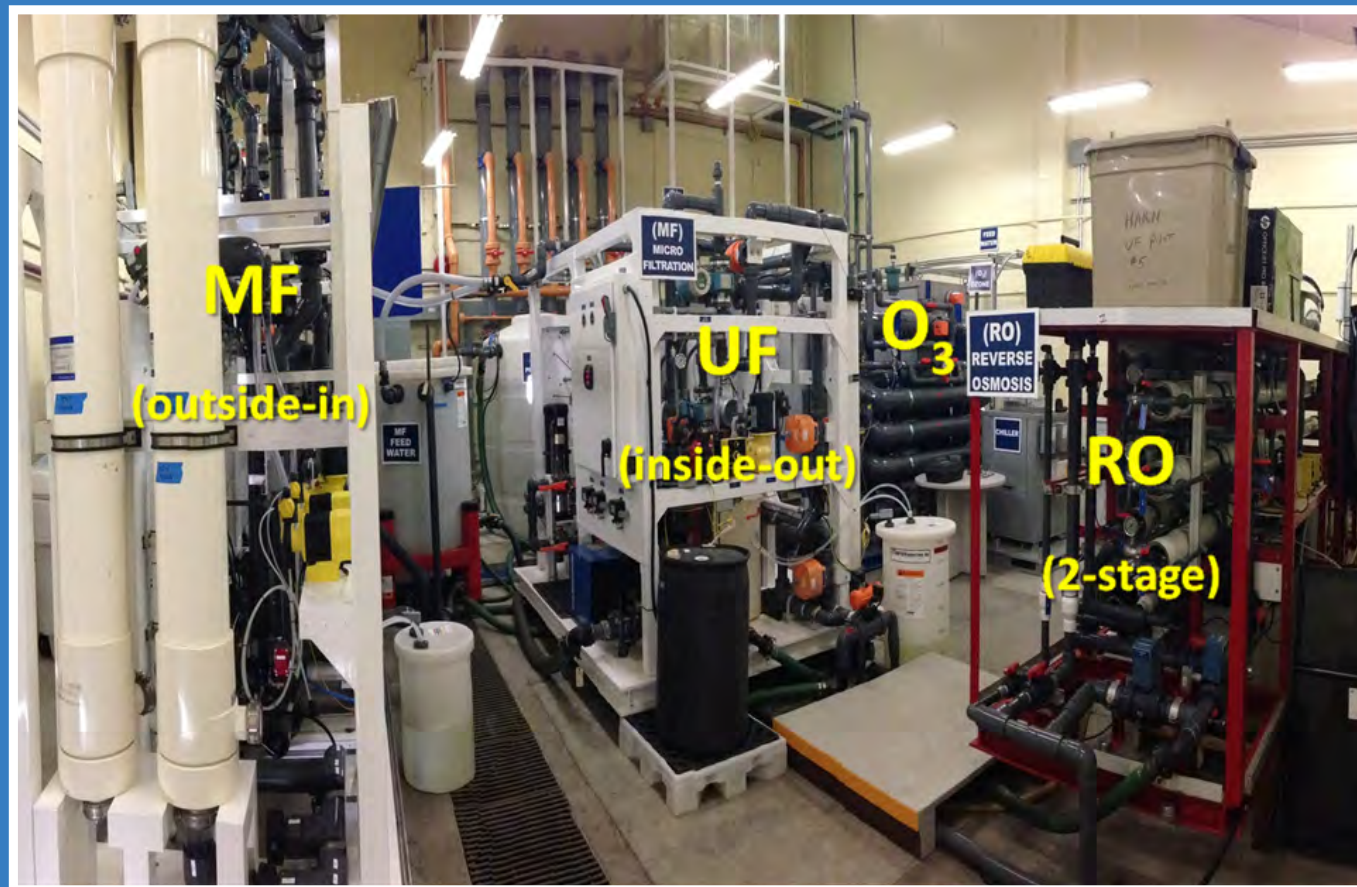
- Most were undetectable
- Few were above regulatory levels

## **Sampled for 24 Pesticides of Local Interest\***

- 15 detected in at least 1 source water
- 2 detected above regulatory levels or public health goals

**\*Pesticide regulations document usage by area**

# PILOT → DEMO FACILITY



#FutureOfWater



# OUTREACH TOOLS

## Gaining Public Support

- 1 Environmental / Engineering public review process
- 2 Community presentations
- 3 Project-specific website and social media with fun, memorable branding
- 4 Demonstration facility tours

Letter B

Pure Water Monterey  
Groundwater Replenishment Project  
Public Meeting Comment Card  
August 22, 2016

Name: \_\_\_\_\_  
Affiliation: \_\_\_\_\_  
Email: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Phone Number: \_\_\_\_\_

Comments:

1) Please specify for the record, what water quality standards apply to the water to be produced by the Pure Monterey Project

2) If the water does not meet the water quality standard, what will MWRPC do?

Continued on back

3) How is mwrpc planning to treat all the pesticides in the Salinas River?

4) Why not use another water source that is not so polluted for a water source?

5) What is the plan for the addition of permits to be obtained that are required for this project?

6) An injection problem today can last for many generations - this project must be it right the first time!!





# EXTERNAL AFFAIRS

## Beyond Community Engagement

---

- ① FUNdraiser: loans, grants, sponsorships
- ② Coordinate with regulators
- ③ Legislative updates
- ④ Project partner coordination
- ⑤ Internal cheerleader



# CONSULTANT SUPPORT

## Gaining Public Support

---

- ① Environmental / Engineering public review process
- ② Community presentations
- ③ Project-specific website and social media with fun, memorable branding
- ④ Demonstration facility tours

# LESSONS LEARNED

## REBRANDING



## RECOGNITION



## DELAYS





# QUESTIONS?

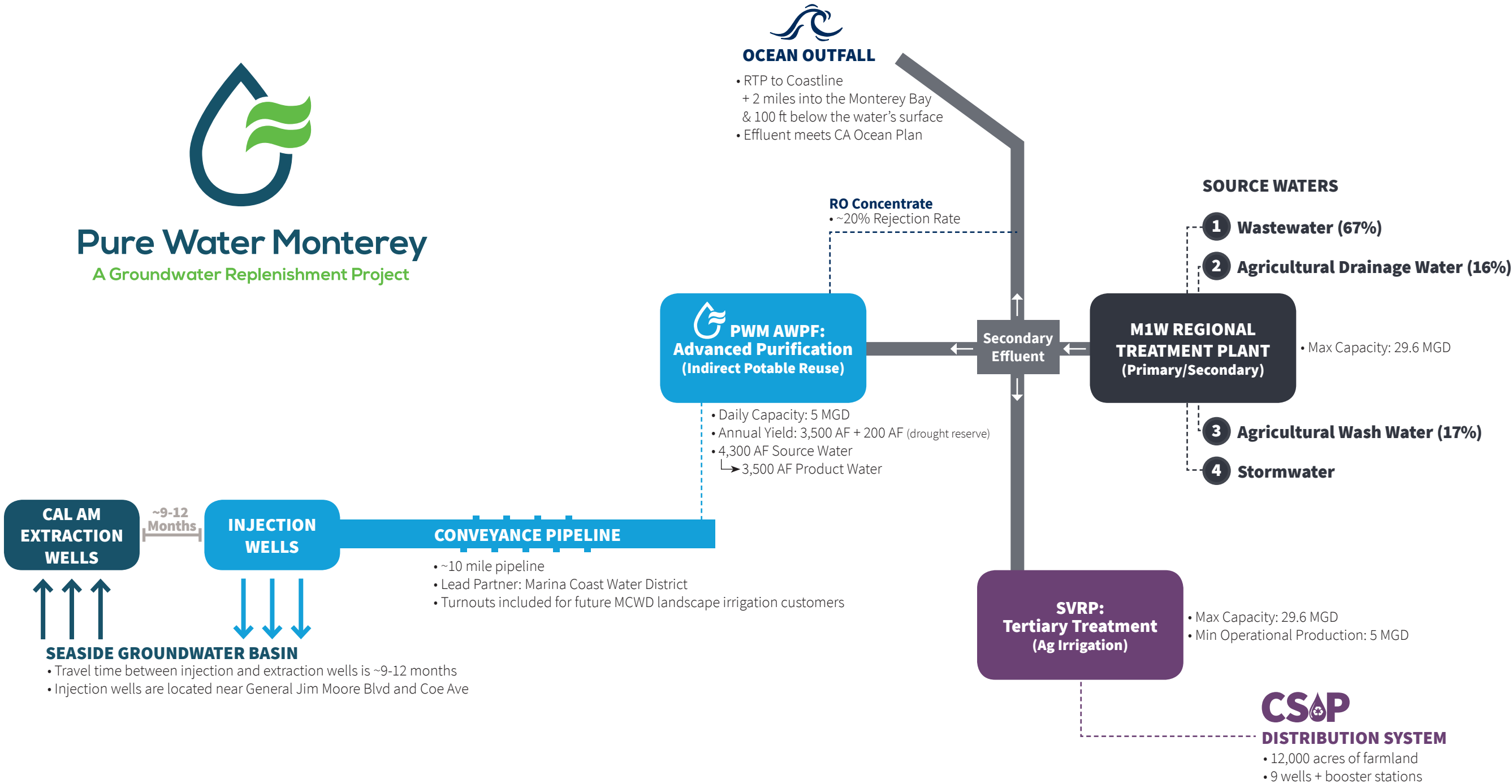




# PURE WATER MONTEREY



Pure Water Monterey  
A Groundwater Replenishment Project





## **Focus Topic: Impacts of CA PFAS Regulations on Wastewater Discharges & Water Recycling**

Roya Sohanaki,  
Orange County Sanitation  
District

1/29/20

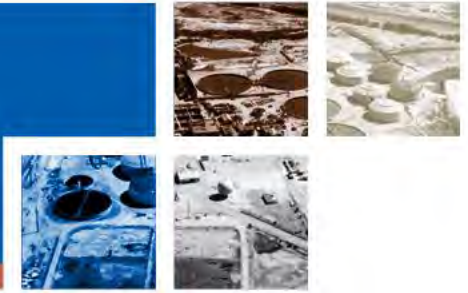
# WaterReuse Association Communications Collaborative Group: PFAS Impacts

Presented by Roya Sohanaki  
*OCSD Engineering Manager*

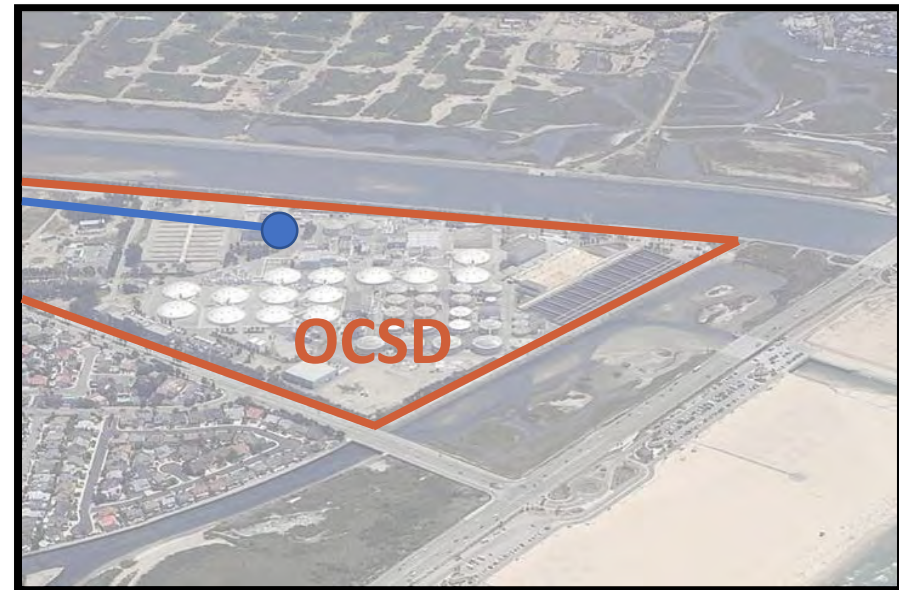




# OCSD's Treatment Plants



**Reclamation Plant No. 1**  
Fountain Valley  
115 - 130 MGD

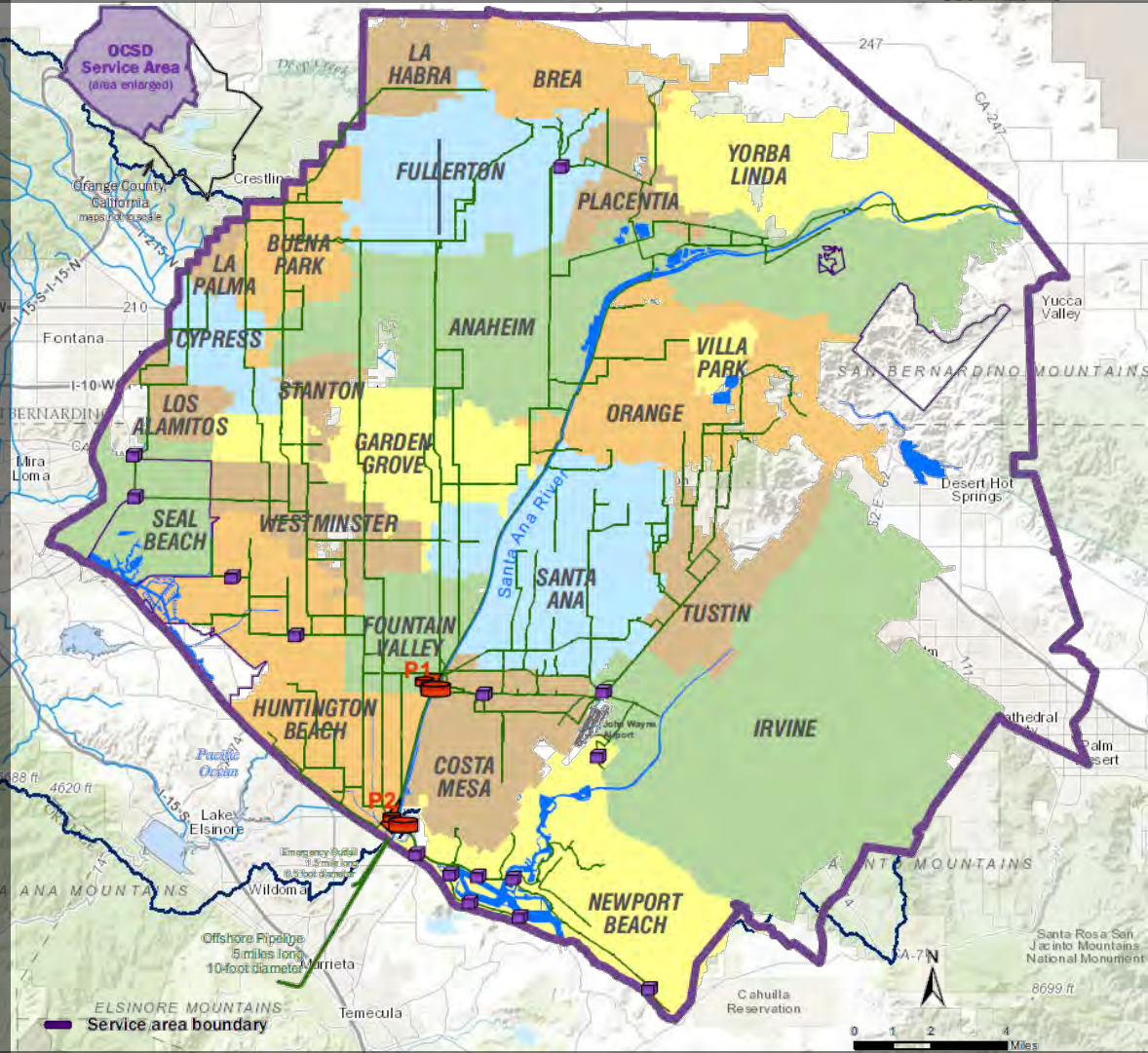


**Treatment Plant No. 2**  
Huntington Beach  
65 - 85 MGD

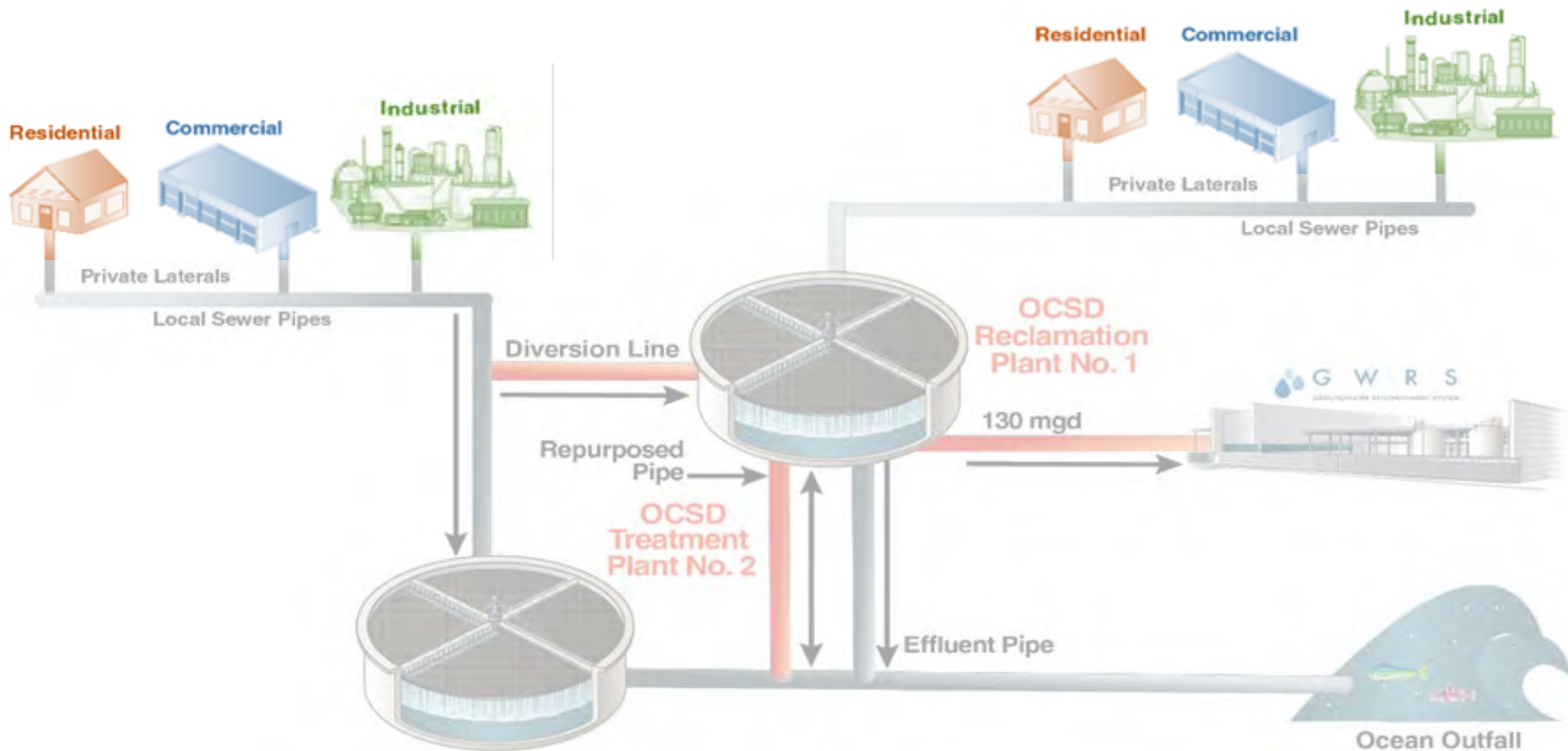


# TWO FACILITIES

- **Area:** 2,840 sq. mi.
- **Population:** 5.97 million (2010)
- **Counties:** Orange, Riverside, San Bernardino, Los Angeles (small)
- **Cities:** 58

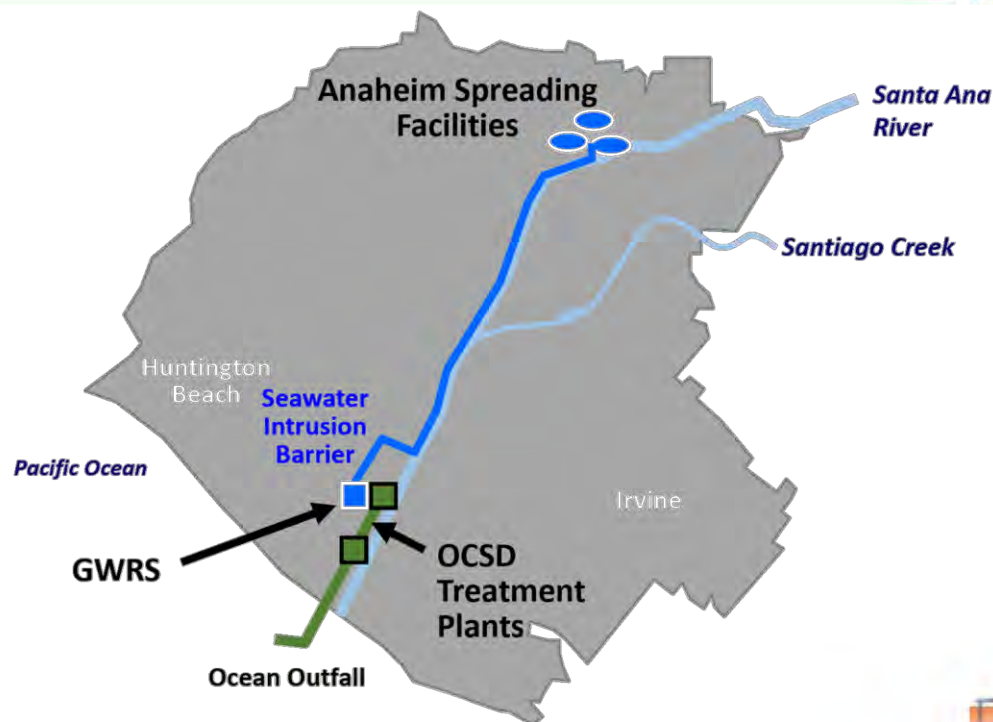
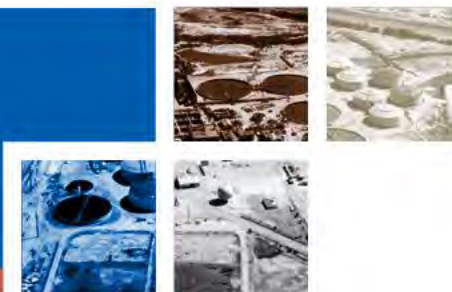


# Controlling Pollutants

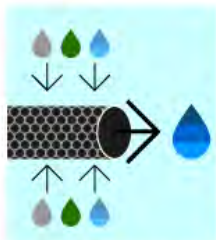




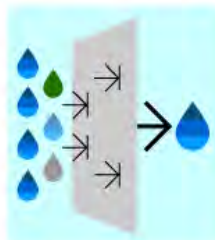
# Controlling Pollutants



PRE-PURIFICATION



MICROFILTRATION



REVERSE OSMOSIS



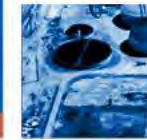
ULTRAVIOLET LIGHT



WATER DELIVERY



# Controlling Pollutants



## Title 22 Regulations Related to Recycled Water (July 16, 2015)

### **§60320.106. Wastewater Source Control.**

A project sponsor shall ensure that the recycled municipal wastewater used for a GRRP shall be from a wastewater management agency that:

- (a) administers an industrial pretreatment and pollutant source control program; and
- (b) implements and maintains a source control program that includes, at a minimum;
  - (1) an assessment of the fate of Department-specified and Regional Board-specified chemicals and contaminants through the wastewater and recycled municipal wastewater treatment systems,
  - (2) chemical and contaminant source investigations and monitoring that focuses on Department-specified and Regional Board-specified chemicals and contaminants,
  - (3) an outreach program to industrial, commercial, and residential communities within the portions of the sewage collection agency's service area that flows into the water reclamation plant subsequently supplying the GRRP, for the purpose of managing and minimizing the discharge of chemicals and contaminants at the source, and
  - (4) a current inventory of chemicals and contaminants identified pursuant to this section, including new chemicals and contaminants resulting from new sources or changes to existing sources, that may be discharged into the wastewater collection system.

*Last updated July 16, 2015—from Titles 22 and 17 California Code of Regulations State Board, Division of Drinking Water, Recycled Water Regulations*

# Controlling Pollutants

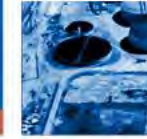


- Pollutants that may or may not be subject to regulatory requirements – but pose some public health or environmental concern are **Contaminants** or **Constituents of Emerging Concern (CECs)**

Some Examples CECs	Timeline
Polychlorinated biphenyls (PCBs)	1970s-1980s
Dimethyldithiocarbamate (DTC) & N-Nitrosodimethylamine (NDMA)	1990s-2000s
1,4-dioxane	2000s-2010s
per- and poly-fluoroalkyl substances (PFAS)	2010s-



# Why are we concerned?



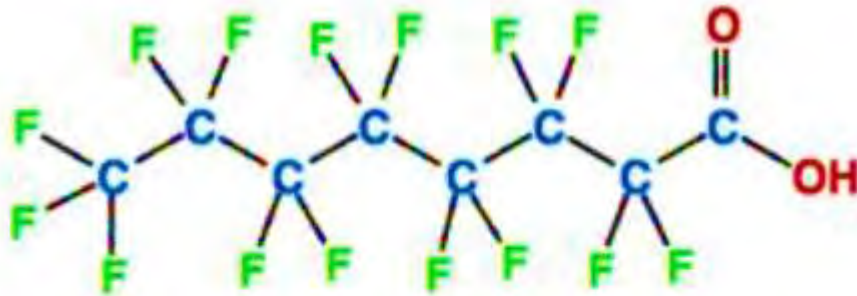
## PFAS

- Persistent, Bioaccumulative (blood & liver) – “forever” chemicals
- Toxic – developmental effects to fetuses & infants, cancer links, impacts liver, thyroid, cholesterol, and immune system
- PFAS are ubiquitous – detected in many environments
- PFAS science is new and under development
  - No approved wastewater testing method yet
  - Requires ultra clean sampling due to contamination concerns at low levels

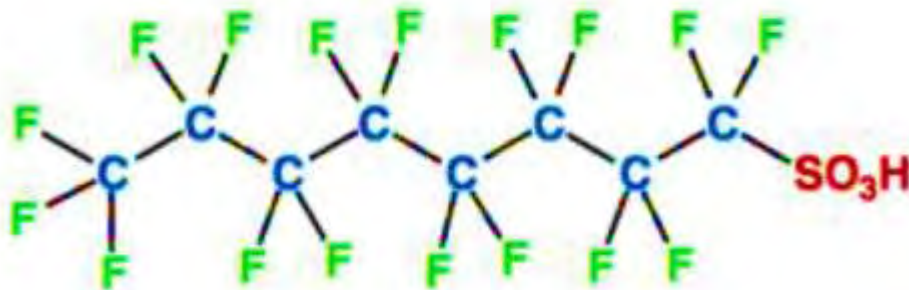
## OCSD

- Wastewater reuse to groundwater drinking wells (OCSD to OCWD GWRs)
- Discharge to the Ocean
- PFAS as a proposed CERCLA hazardous substance – Biosolids Reuse or Disposal
- Regulating Industrial Dischargers with PFAS

# PFAS (per-and poly-fluoroalkyl substances)



PFOA - perfluorooctanoic acid

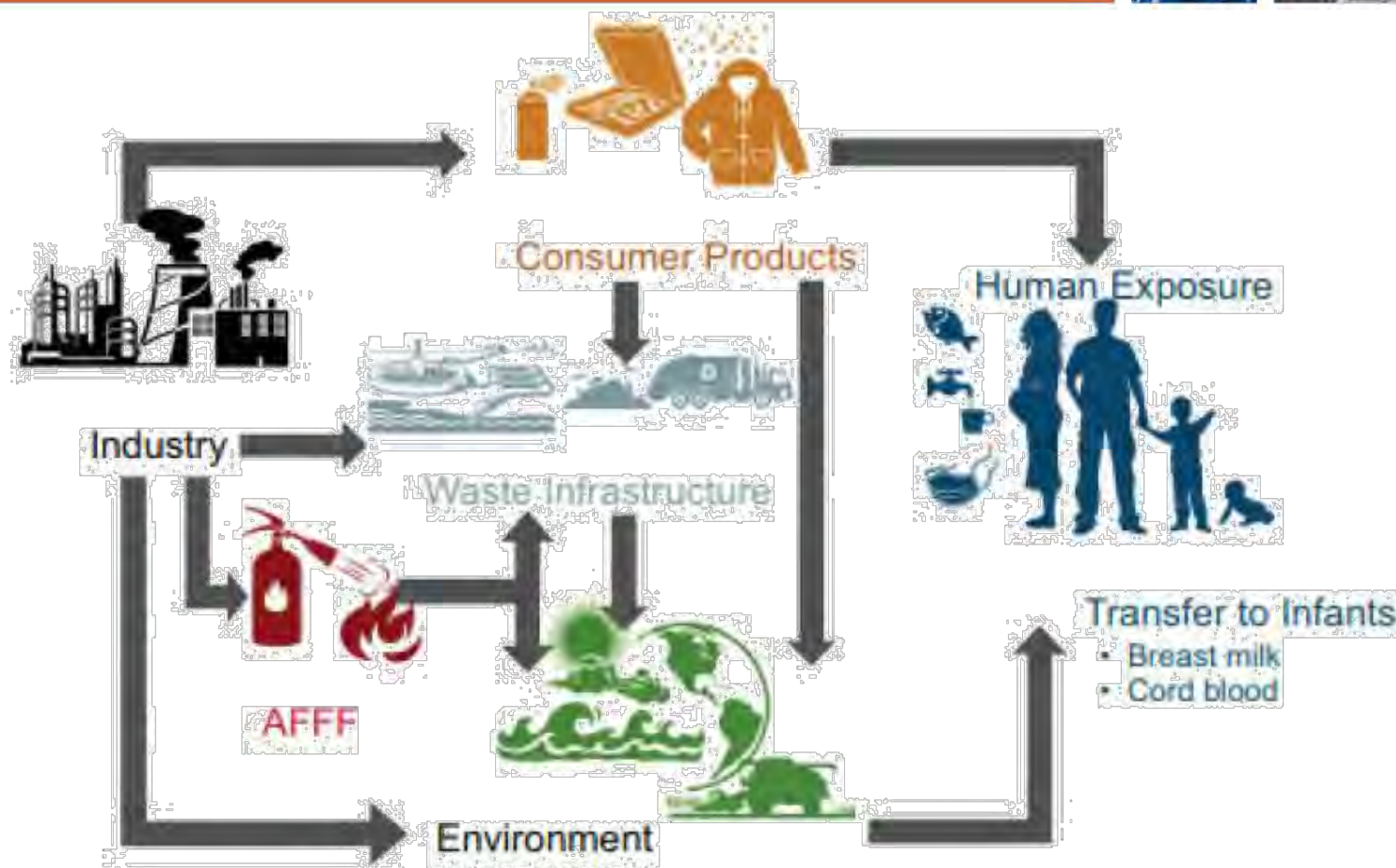


PFOS - perfluorooctanesulfonic acid

At a molecular level, the strong **carbon (C)** and **fluoride (F)** bonds on PFOA and PFOS substances do not break down easily and can stay in the environment



# PFAS (per- and poly-fluoroalkyl substances)



Source: Sunderland, Elsie et al., *A Review of the Pathways of Human Exposure to Poly- and Perfluoroalkyl Substances (PFASs) and Present Understanding of Health Effects*, 29 J. OF EXPOSURE SCI. & ENVTL. EPIDEMIOLOGY 131-47 (2019)

# PFAS Sources



**Aqueous Film Forming Foams**  
(AFFF may end up in groundwater, e.g. airports & military bases)

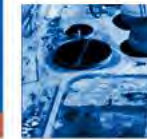
**A large percentage of sources are beyond a POTW's control**  
If captured, the water may be

discharged to sewer  
And will require Federal & OCSD regulates these  
State regulations on discharge requests  
manufacturing and use





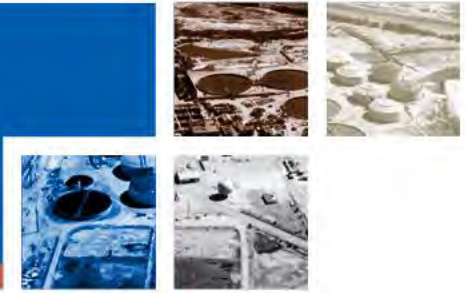
# PFAS Sources



OCSD Administers approx. **540** Control Mechanisms:

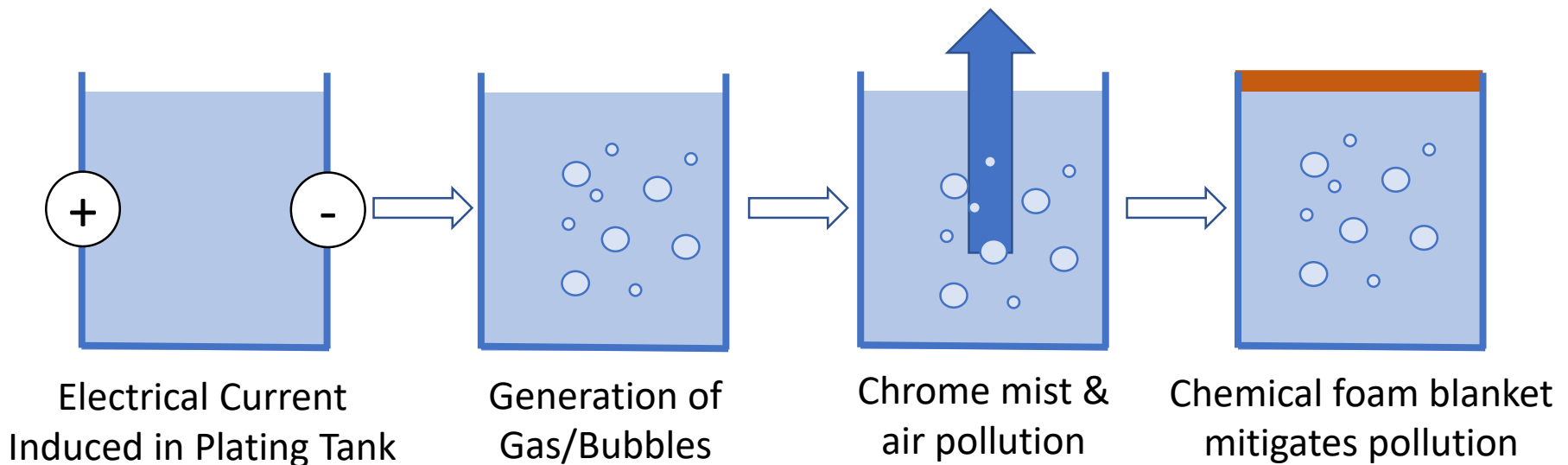
- 336 Significant Industrial Users (SIUs - Class 1 Permit)
  - 190 Categorical Industrial Users (CIUs)
  - 146 Significant Non-Categorical Industrial Users
- 21 Non-Significant Industrial Users (Class 2 Permits)
- 23 Zero-Discharge CIUs (ZD Certifications)
- 60 Groundwater Discharge Users (Special Purpose Permits)
- 21 Urban Runoff Users (Urban Runoff Permits)
- 34 Fats, Oil, & Grease Users (FOG Permits)
- 42 Hauled Waste Users (Wastehauler Permits)

# PFAS Sources



OCSD Administers approx. **540** Control Mechanisms:

- 336 Significant Industrial Users (SIUs - Class 1 Permit)
- 190 Categorical Industrial Users (CIUs)
  - ~130 Metal Finishing Permittees
    - Facilities with Chrome Plating Baths (Tanks)





# PFAS Sources



**Video captured at OCSD permitted facility**



# Federal Action



PFAS  
Detection  
Act of  
2019

National  
Defense  
Authorization  
Act for Fiscal  
Year 2020

Protect  
Drinking  
Water  
from PFAS  
Act of  
2019

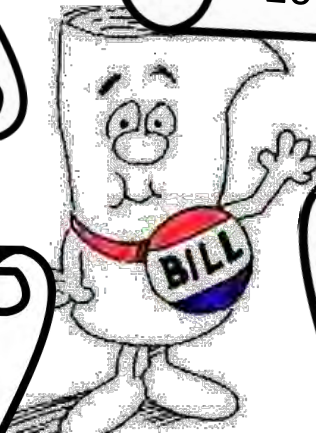
PFAS Action Act  
of 2019

PFAS  
Accountability  
Act of 2019

PFAS  
Release  
Disclosure  
Act

Safe  
Drinking  
Water  
Assistance  
Act of 2019

Clean Water  
Standards for  
PFAS Act of 2020





# State Action



New Jersey • Final

Vermont • Public

Vermont & New Ham

Michigan • Initial

Colorado • Set s

Washington • Annu

New York • Rest

State	Regulated PFAS	Standard
<b>Drinking Water Standard</b>		
New Jersey	PFNA	0.013 µg/L
<b>Soil Cleanup Standards</b>		
Alaska	PFOS	0.0030 mg/kg - 2.2 mg/kg
	PFOA	0.0017 mg/kg - 2.2 mg/kg
Iowa	PFOS	1.8 mg/kg
	PFOA	35 mg/kg
	PFBS	1200 mg/kg
Texas	PFOA, PFOS, PFNA, PFBA, PFBS, PFHxS, PFHxA, PFPeA, PHFpA, PFOSA, PFDA, and PFSA	Various
Wisconsin	PFOS and PFOA	1.26 mg/kg – 16.4 mg/kg
<b>Groundwater Cleanup Standards</b>		
Alaska	PFOS and PFOA	0.40 µg/L
Colorado	PFOS and PFOA	0.070 µg/L
Iowa	PFOS	0.7 µ/L – 1.0 µg/L
	PFOA	0.7 µg/L – 50 µg/L
	PFBS	140 µg/L – 700 µg/L
Michigan	PFOS and PFOA	0.070 µg/L
New Hampshire	PFOS	0.015 µg/L
	PFOA	0.012 µg/L
	PFHxS	0.018 µg/L
	PFNA	0.011 µg/L
New Jersey	PFNA	0.013 µg/L
Rhode Island	PFOS and PFOA (total)	0.070 µg/L
Vermont	PFOS, PFOA, PFHxS, PFHpA, and PFNA (total)	0.02 µg/L

not exceed a

and implement

A and PFOS

ues for seven

ed PFOA and

nts

n's products

ining PFAS

ining PFAS

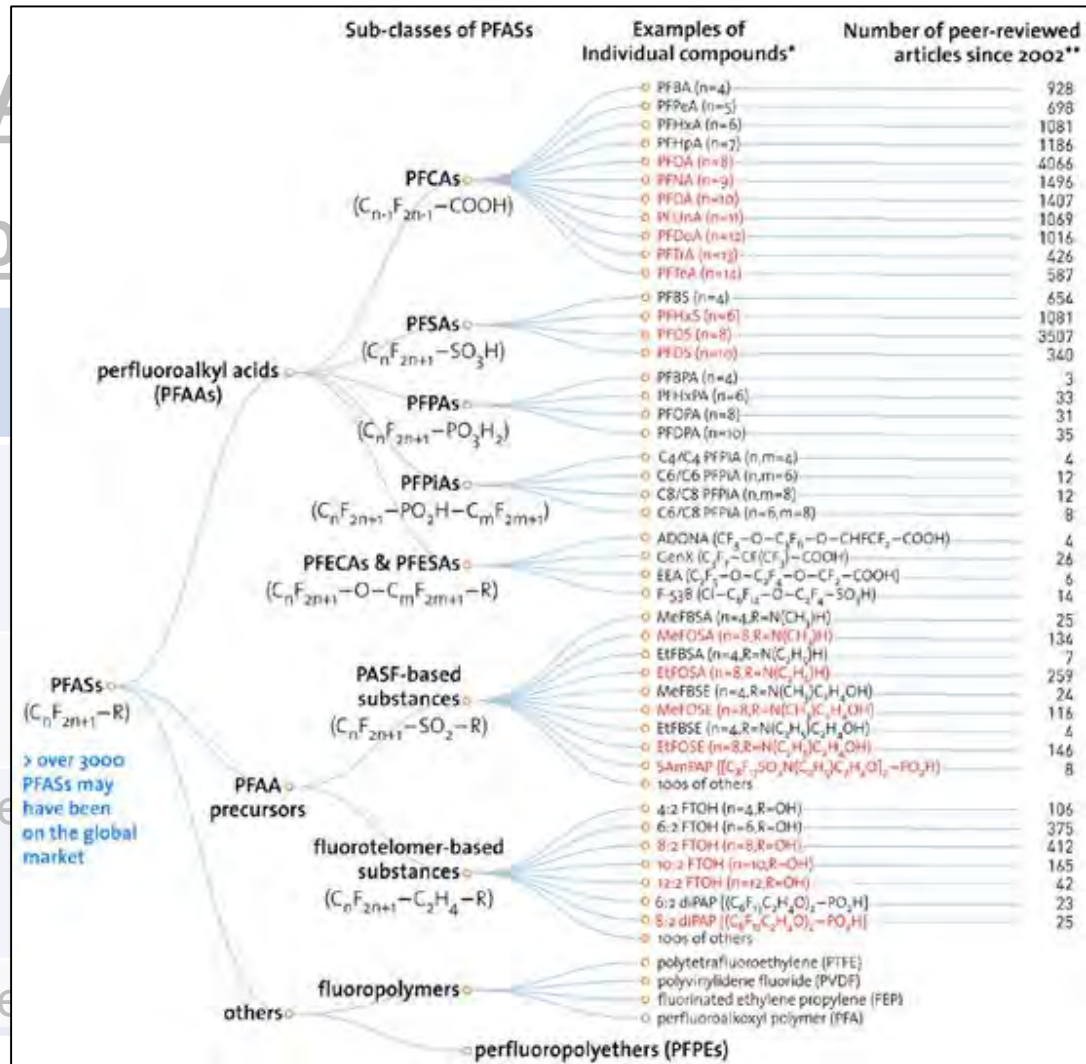
# California D

## Notification Level

## Notification Level

Response Level

## Response Level



ting

## NLs & RLs

# Basis

100x 1-in-1  
million cancer  
risk

100x 1-in-1  
million cancer  
risk



# The CHAOS of PFAS



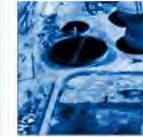
California Department of  
Toxic Substances Control



***How does OCSD make progress in the wake of all these issues & stakeholders?***



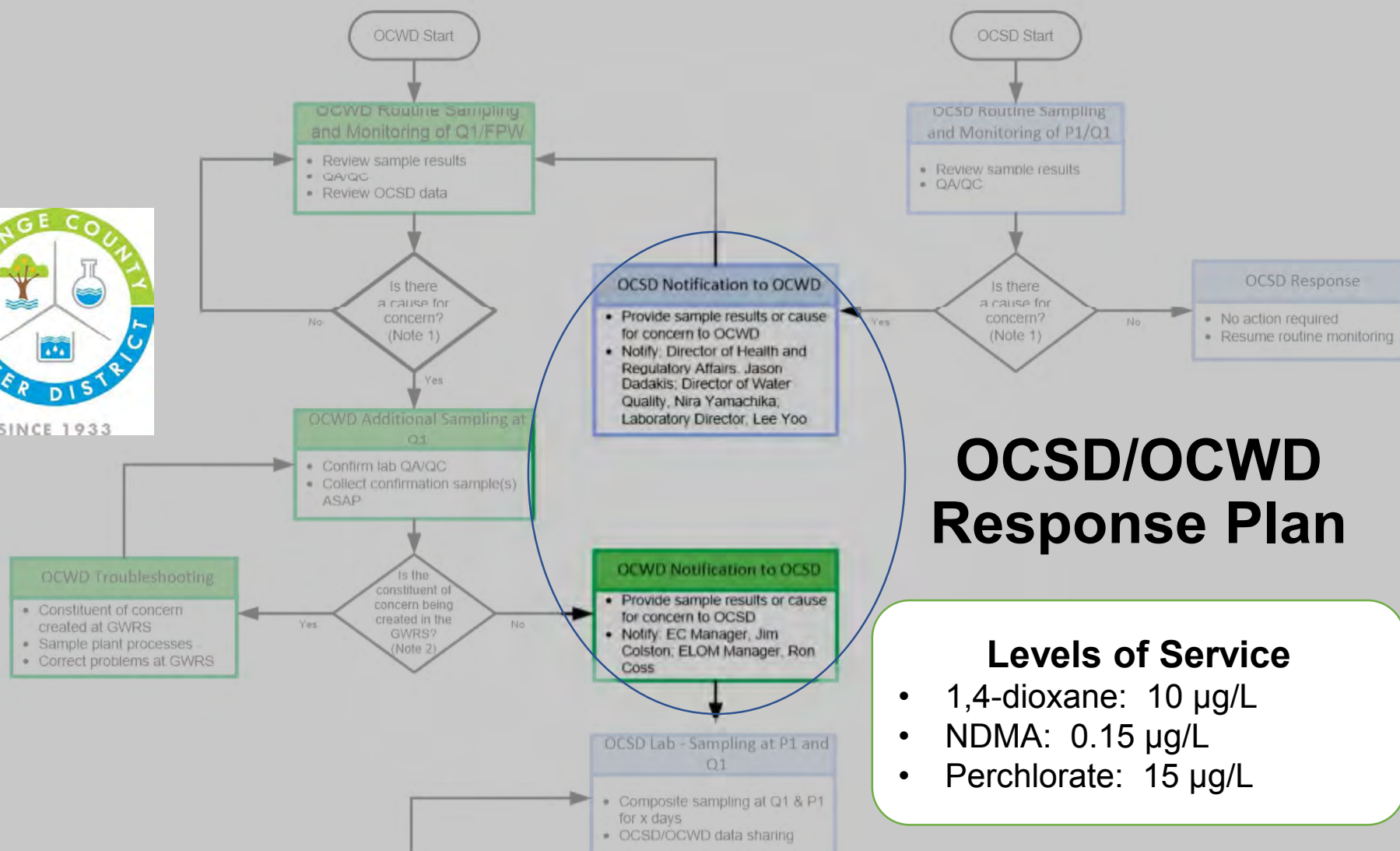
# Focusing on Communication



- Developing a plan to operate in the interim:
  - Aligning messaging and resources with other agencies
  - Educating and engaging regulators & legislators
  - Federal & state advocacy
  - Monitoring method development & providing input
  - Attending and participating in workshops
  - Inform stakeholders on current requirements & future issues



# Communication with OCWD



# Communication with Agencies & Organizations



## Partnerships & Agreements



## Advocates



## Regulators

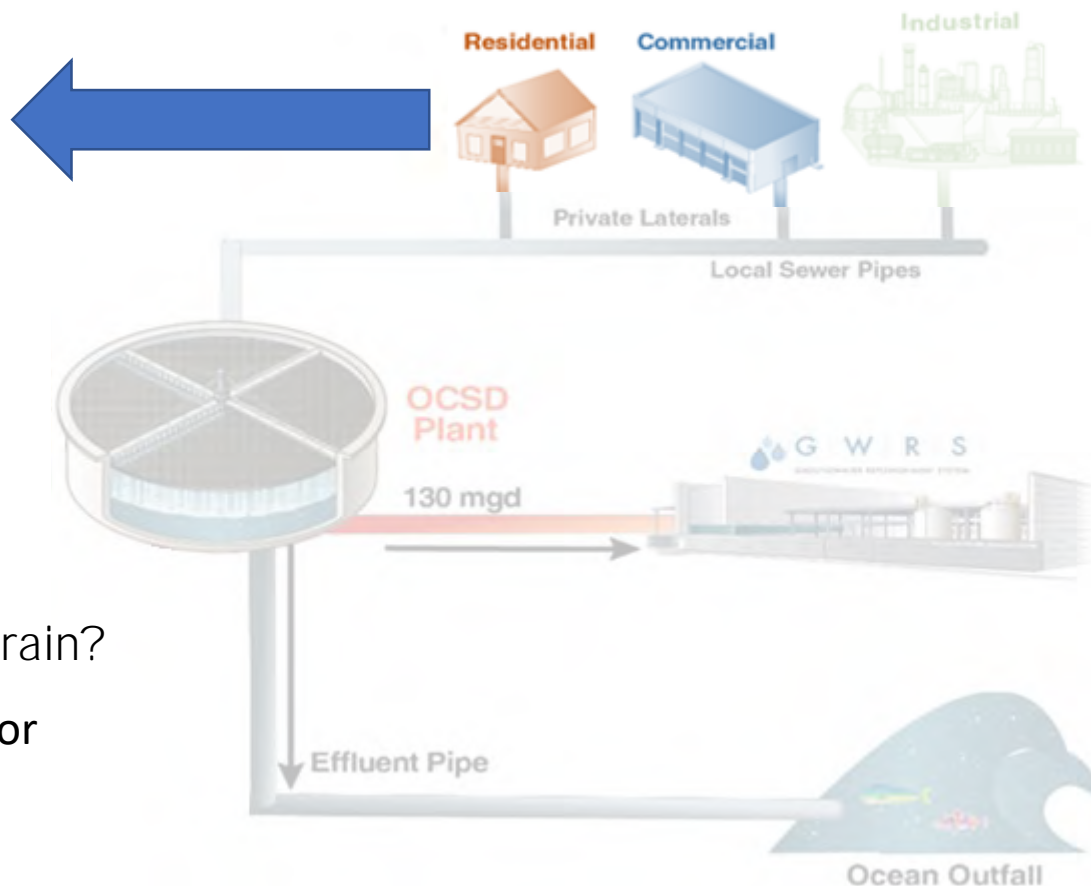
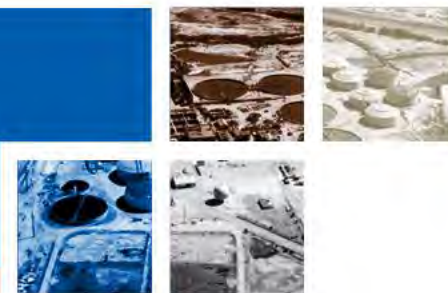


California Department of  
Toxic Substances Control





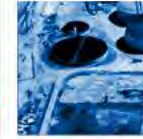
# Communication with Public



Do you know what should go down the drain?

OCSD's Public Outreach Campaign for  
Non-Industrial Sewer Users

# Our Message: OCSD is not a Source



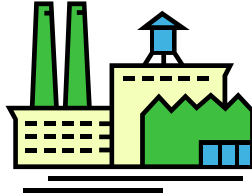
## Sources of PFAS:

- Military bases
- Airports
- Firefighting training academies
- Metal plating, etching, and electroplating
- Paper and packaging manufacturers
- Wire manufacturing
- Laundry services
- Automotive services
- Stain and water-resistant textiles
- Oil and petroleum refineries
- Industrial surfactants, resins, molds, plastics
- Tanneries and leather, fabric, carpet treaters
- Hospitals
- Centralized waste treatment
- Photolithography, semiconductor industry
- Landfills and leachate
- Trucked waste or septage
- Paints, cleaners, and sealants
- Mobile washwater services

# Our Message: OCSD is aligning to State Efforts



## Industrial Survey:

- Researching/Canvassing Industries 
- Focus on locations with a higher probability of PFAS presence
- Visit each facility and review processes, chemicals, and Safety Data Sheets (SDS)
- Speaking to Owners & Operators





# Our Message: OCSD's Plan



## Future Actions

- Collaborate and coordinate with other agencies to establish criteria & risks
- Implement Policies & Standards (limits, conditions, etc.)
- Find, inspect, monitor, and permit potential sources
- Sample and analyze using approved method(s)
- Determine representative & efficient monitoring/sampling protocols
- Evaluate & compile data
- Implement agency policy & federal/state regulations (OCSD Pretreatment Program)
- Identify treatment technology & removal efficiency

## Current Actions

- Communication:
  - Aligning messaging and resources with other agencies
  - Educating and engaging regulators & legislators
  - Federal & state advocacy
  - Monitoring method development & providing input
  - Attending and participating in workshops
  - Inform stakeholders on current requirements & future issues
- Conducting Industrial Surveys in line with state's phased approach
- Preparing staff to respond to public inquiries and answers their questions
- Considering how to evaluate discharge requests with limited or no existing standards



**Questions?**



# Legislative Update







# Communications Collaborative Group

January 29, 2020



2020 WATER RESILIENCE  
**PORTFOLIO**

In Response to the Executive Order N-10-19

DRAFT



# California WaterReuse Action Plan

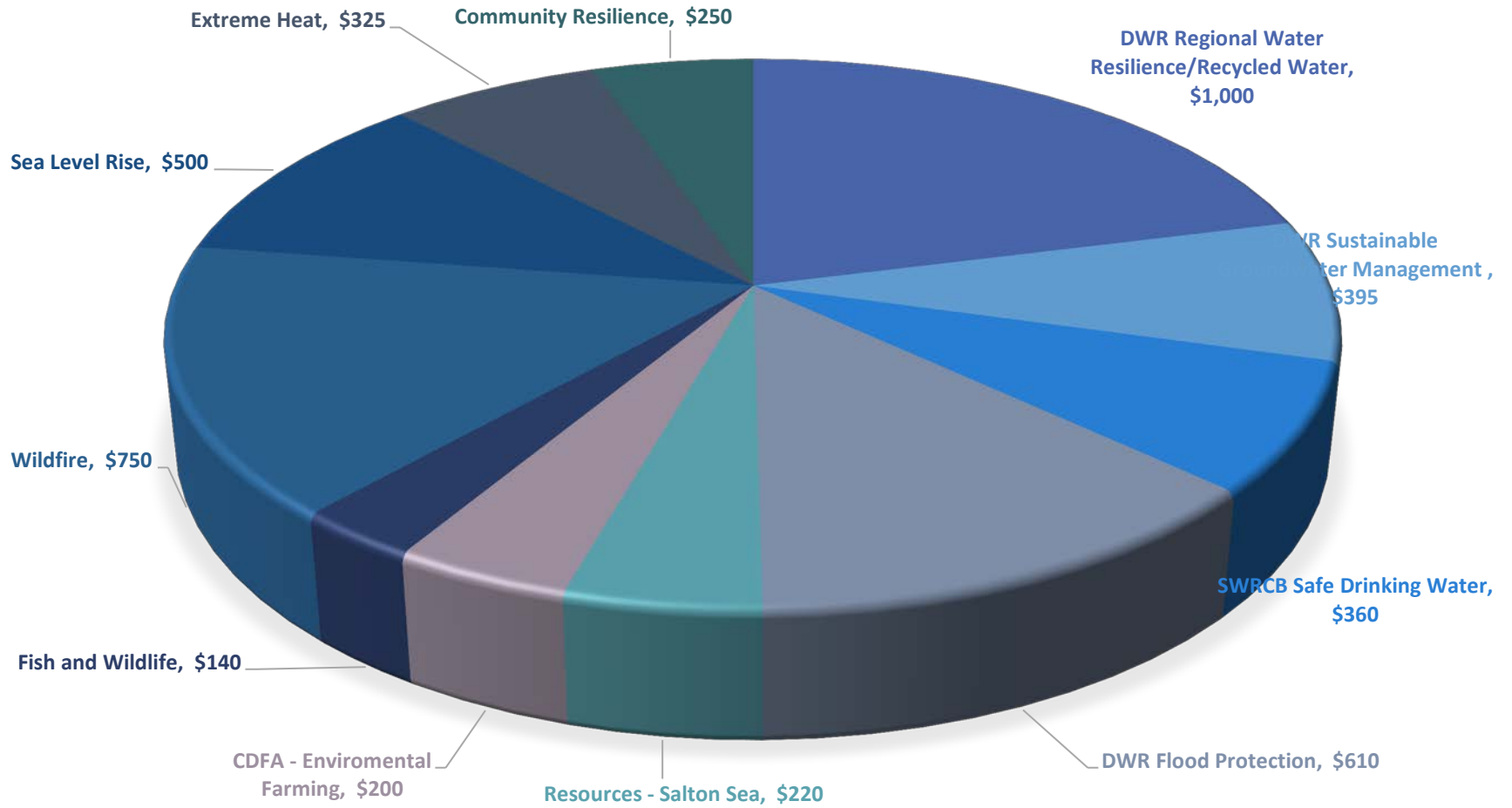
JULY 2019

Support local and regional agencies to recycle or reuse at least 2.5 million acre-feet a year in the next decade

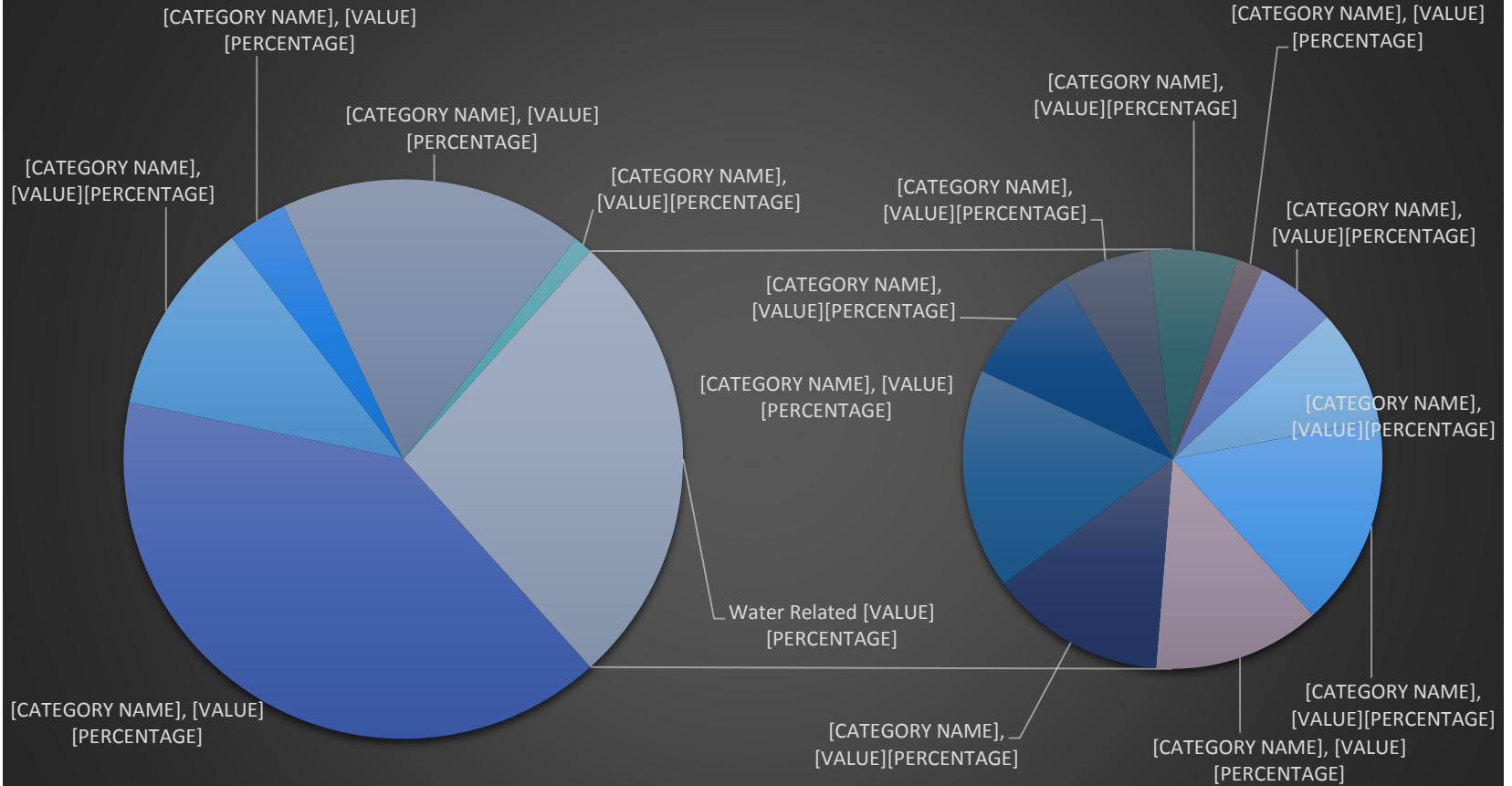
- Increase Clean Water State Revolving Fund financial capacity.
- Complete raw water augmentation regulations by 2023.
- Create risk-based water quality standards for onsite collection and non-potable reuse of water in apartment, commercial, and mixed-use buildings.
- Update 20-year-old “purple pipe” regulations to expand use of non-



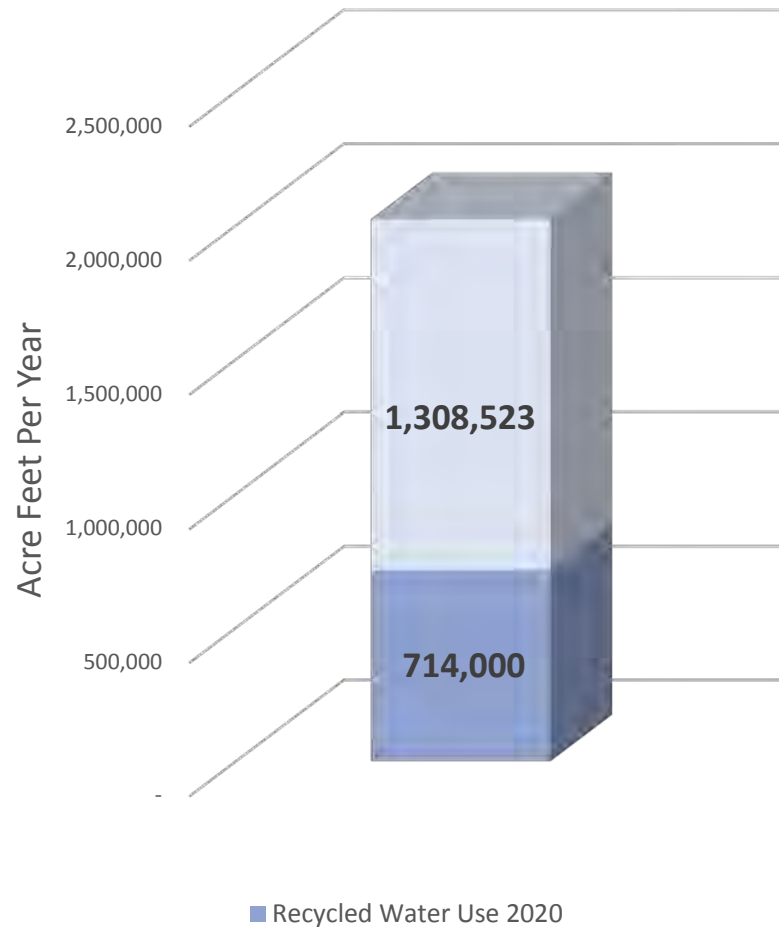
## THE GOVERNOR'S CLIMATE BOND \$4.75 BILLION



**As ammended January 23, 2020**

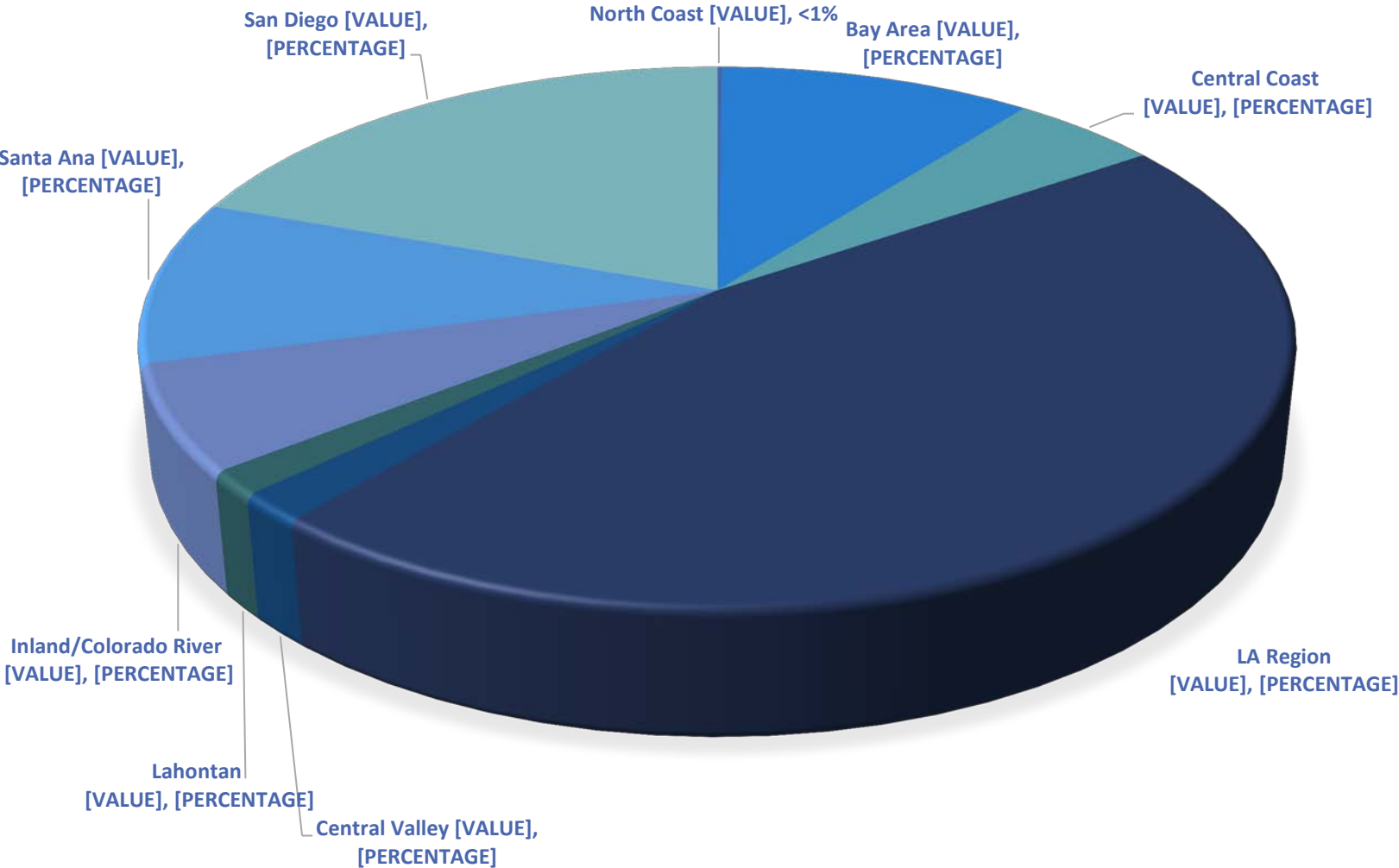


## Water Recycling Planned in California





REUSE FUNDING NEEDS OVER NEXT DECADE





## 2020 California Legislative Proposals

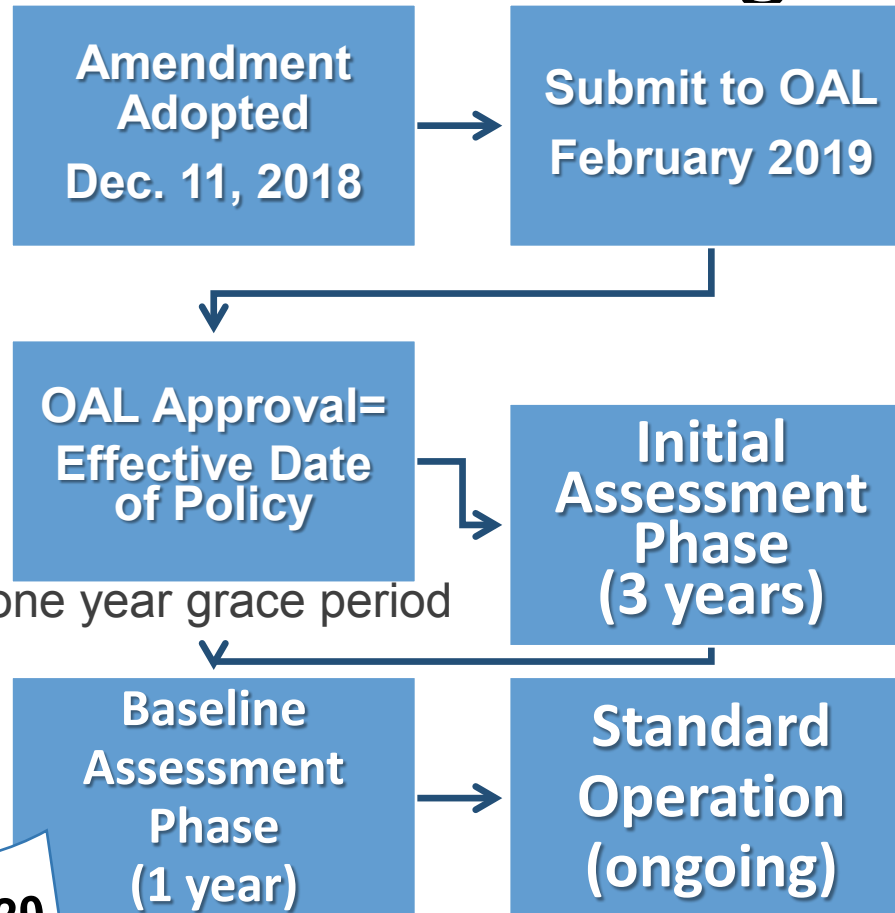
- New CEC Program for all source waters and drinking water
- Voluntary authorization for wastewater agencies to receive dry weather runoff
- Possibly no ocean discharge legislation!!

# Bioassay Monitoring





# Bioanalytical Phased Monitoring Requirements: Timing



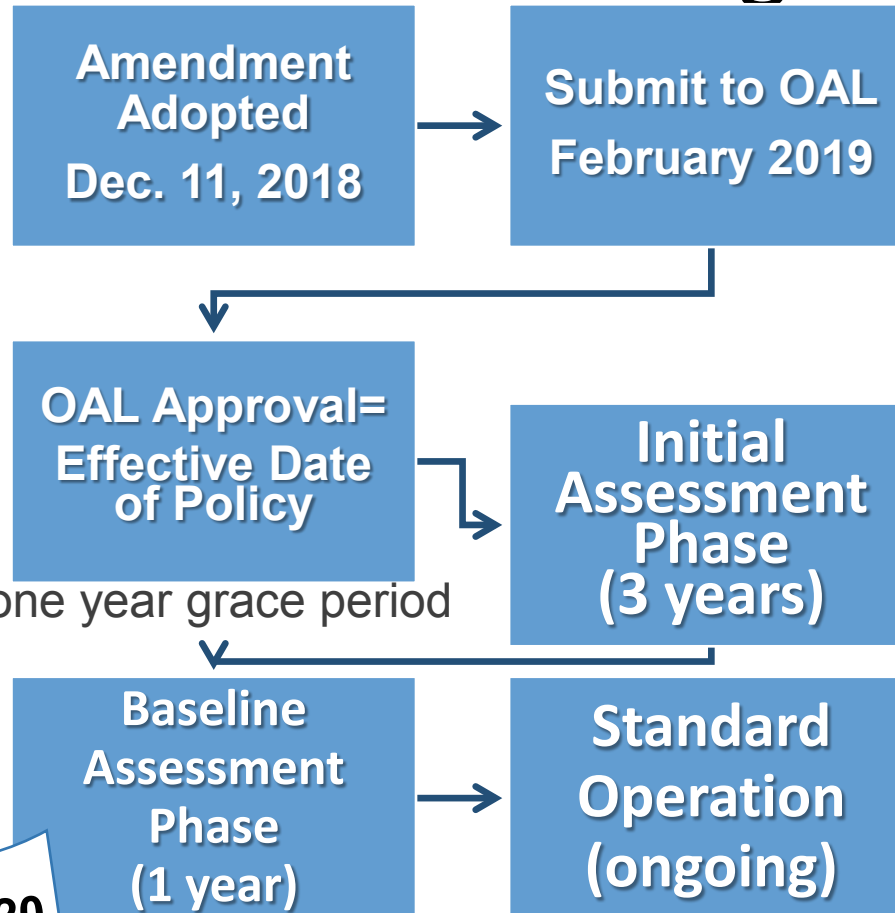
**Est. by April 8, 2020**

# Register Today!!!

---



# Bioanalytical Phased Monitoring Requirements: Timing



**Est. by April 8, 2020**

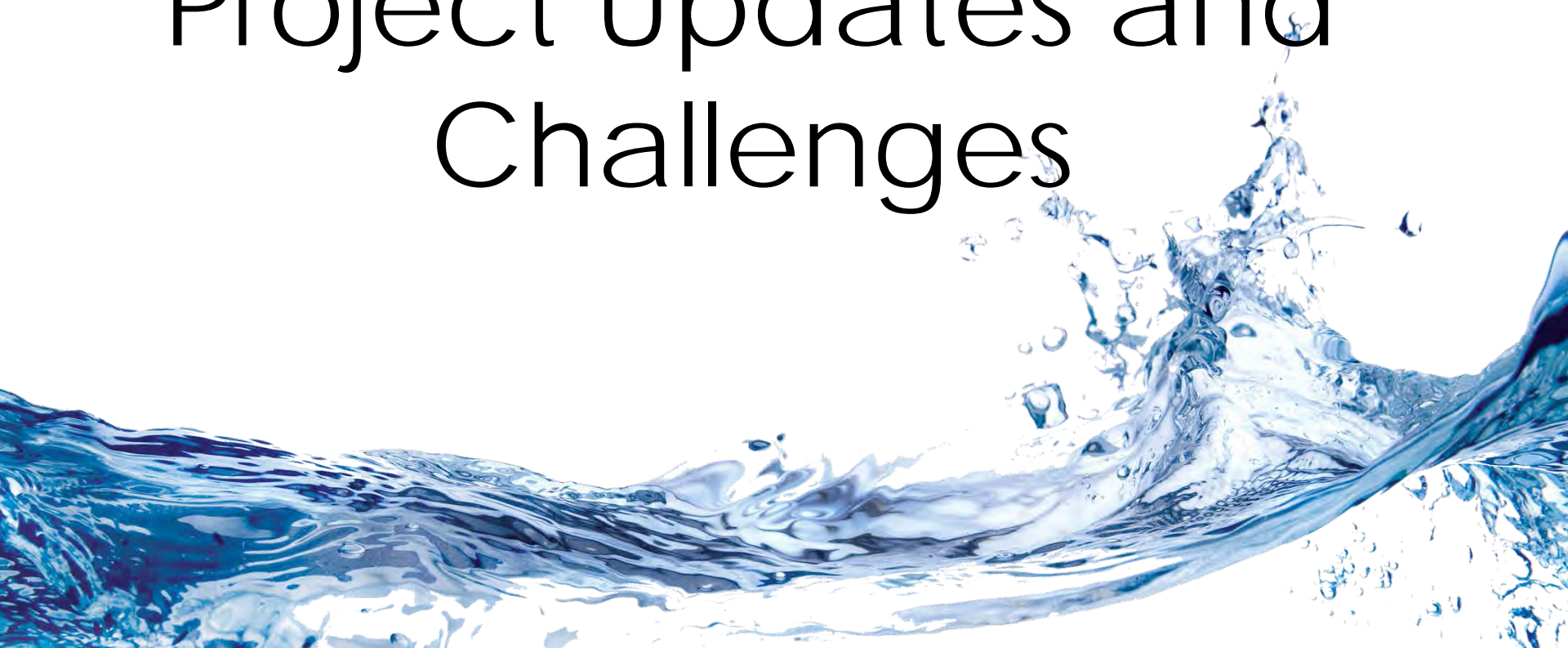




# Open Discussion



# Roundtable – Project Updates and Challenges





Topic Suggestions for Next Meeting

---





# Wrap-up





Thank you for  
participating!

