



Status of PFAS Regulatory Actions in California and the Santa Ana Region

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SAME-PEMA

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Agenda

- State Water Resources Control Board
- Santa Ana Region Water Board
- Status of State-Wide PFAS Investigations
- Reported PFAS Impact in Santa Ana Region
- Summary
- What is Next in CA?

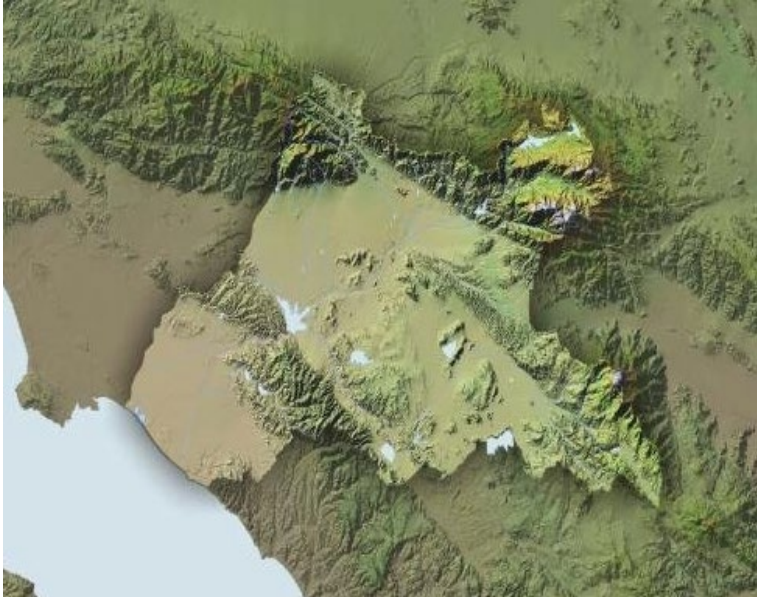
Regional Water Quality Control Boards

- 1 - North Coast
- 2 - San Francisco Bay
- 3 - Central Coast
- 4 - Los Angeles
- 5 - Central Valley
- 6 - Lahontan
- 7- Colorado River Basin
- 8 - Santa Ana
- 9 - San Diego



The Santa Ana Region

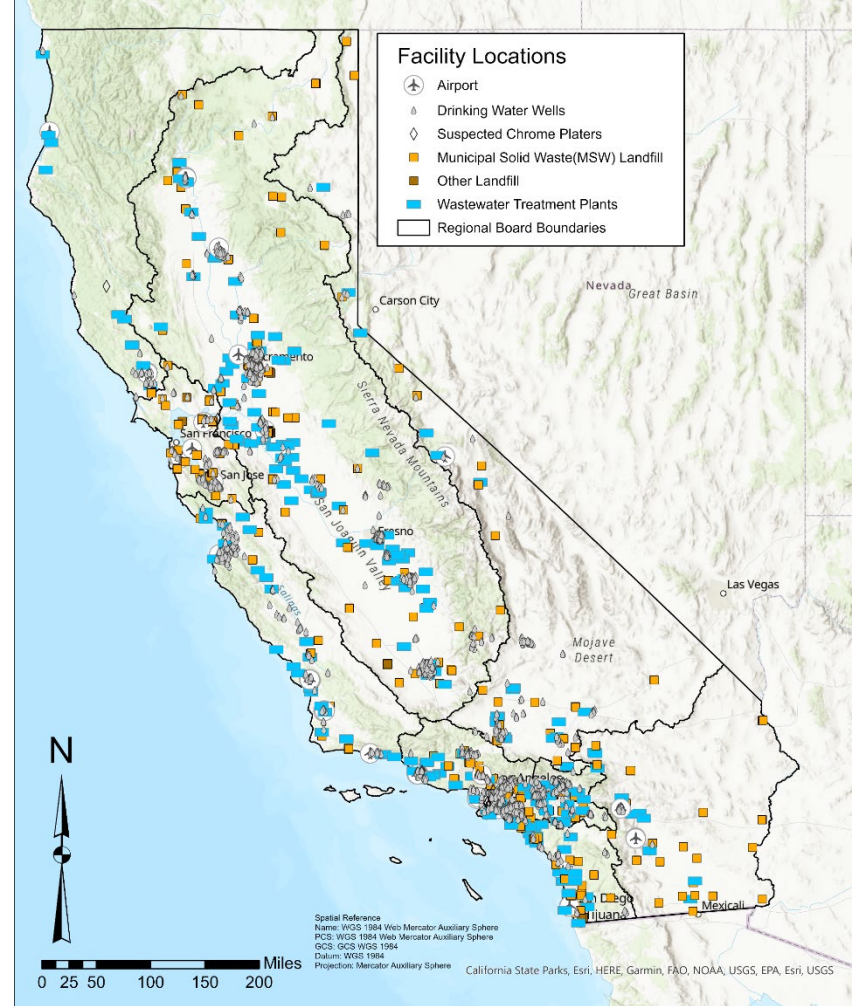
- 2,800 square miles of land
- 460 miles of stream
- 21,090 acres of lakes
- 24 miles of coastline



State-Wide PFAS Investigations

➤ Since 2019, investigative orders were issued to the following industries and facilities:

- Municipal solid waste landfills (March 2019)
- Commercial airports (March 2019)
- Suspected chromium plating facilities (Oct. 2019)
- Wastewater treatment plants (July 2020)
- Refineries and bulk terminals (March 2021)
- Drinking water supply wells operators since 2019 (Feb., June 2021 using EPA 537.1 and EPA 533)



State Water Board Notification Levels (NLs) and Response Levels (RLs)

	Notification Level (NL) ng/L (ppt)	Response Level (RL) ng/L (ppt)	Date Issued / Status
PFOA	5.1	10	February 6, 2020
PFOS	6.5	40	February 6, 2020
PFBS	500	5000	March 5, 2021
PFHxS	3	20	October 31, 2022
PFHxA	--	--	Requested
PFHpA	--	--	Requested
PFNA	--	--	Requested
PFDA	--	--	Requested
ADONA	--	--	Requested

EPA's Proposed Ruling for Drinking Water

	Proposed MCLG	Proposed MCL
PFOA	0	4 ppt
PFOS	0	4 ppt
PFBS	1 (HI)	1(HI)
PFHxS		
PFNA		
GenX		

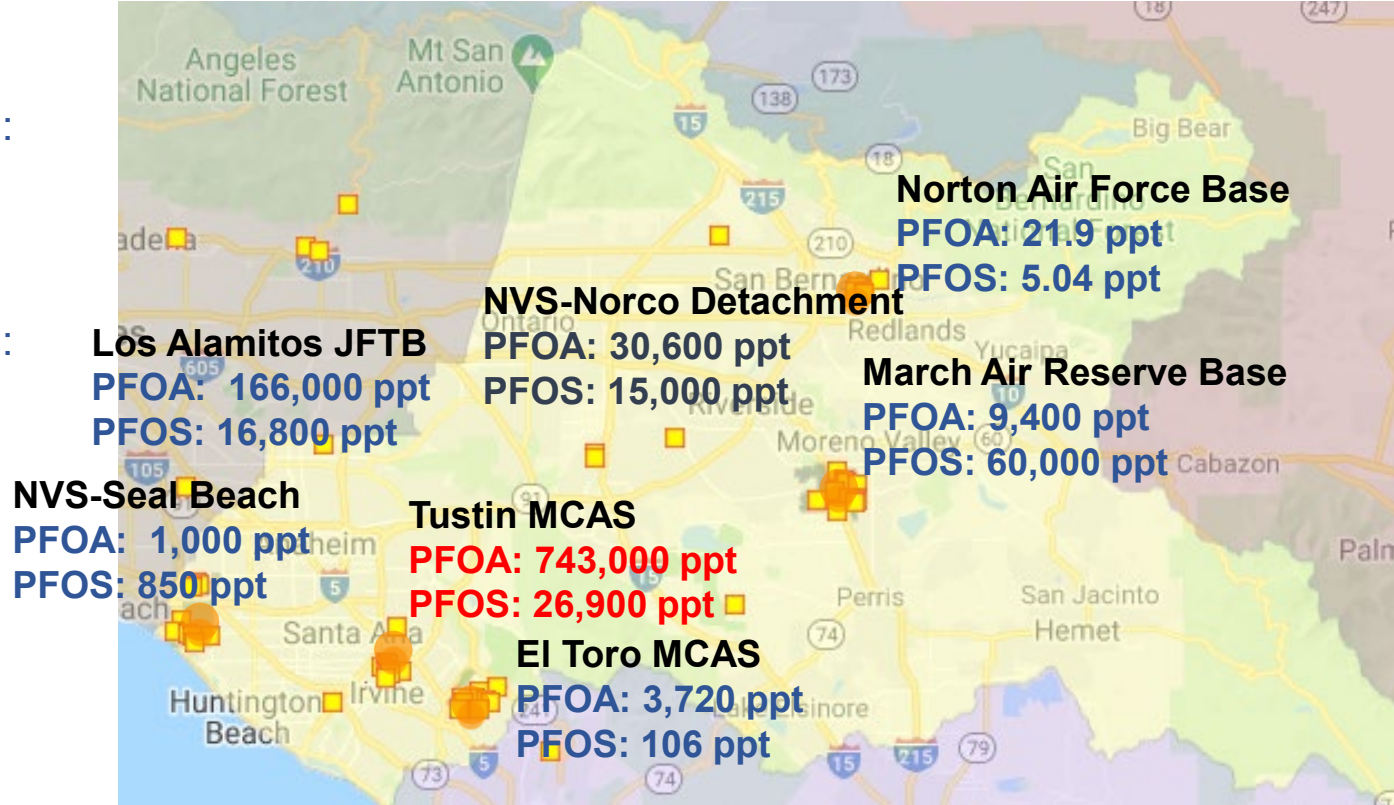
PFAS Detections Statewide and in Santa Ana River Watershed



Maximum PFOA/PFOS Detections Groundwater - Military Sites

- Drinking water NLs:
 - PFOA: 5.1 ppt
 - PFOS: 6.5 ppt

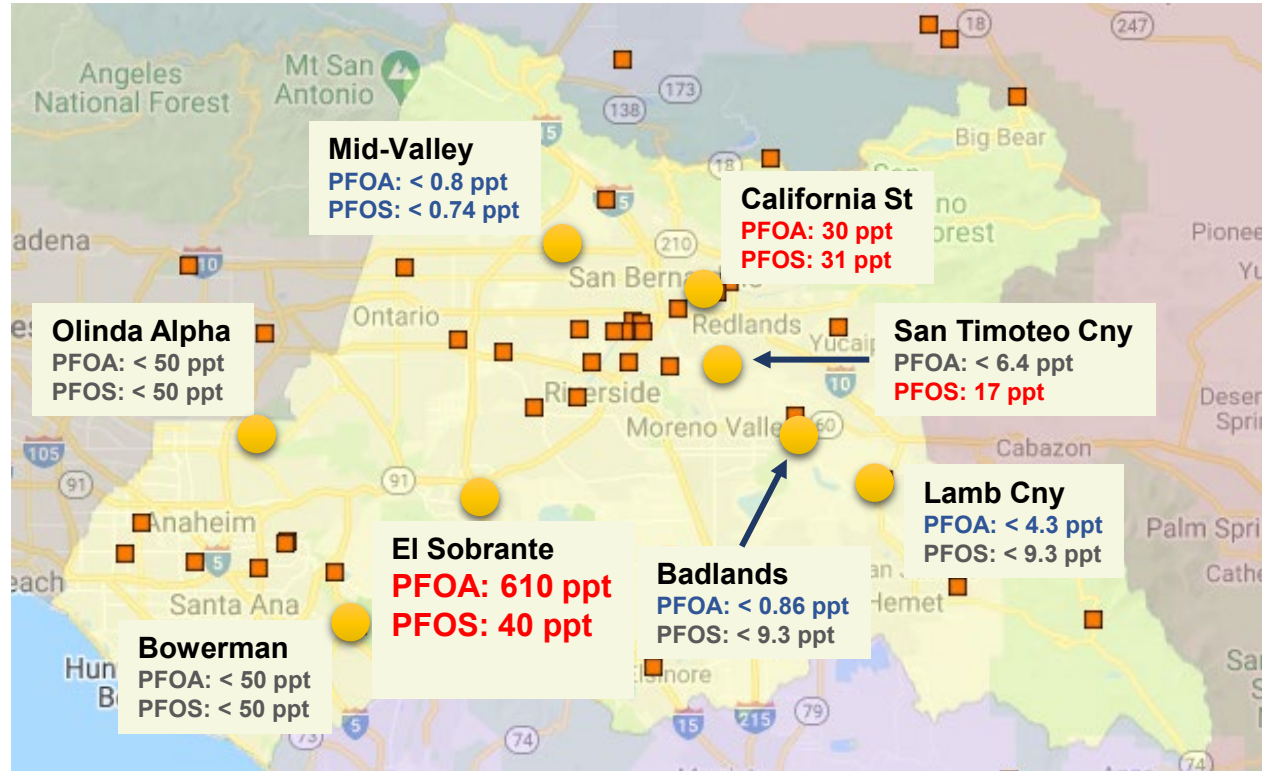
- Drinking water RLs:
 - PFOA: 10 ppt
 - PFOS: 40 ppt



Source: GeoTracker

Maximum PFOA/PFOS Detections Groundwater - Active Landfills

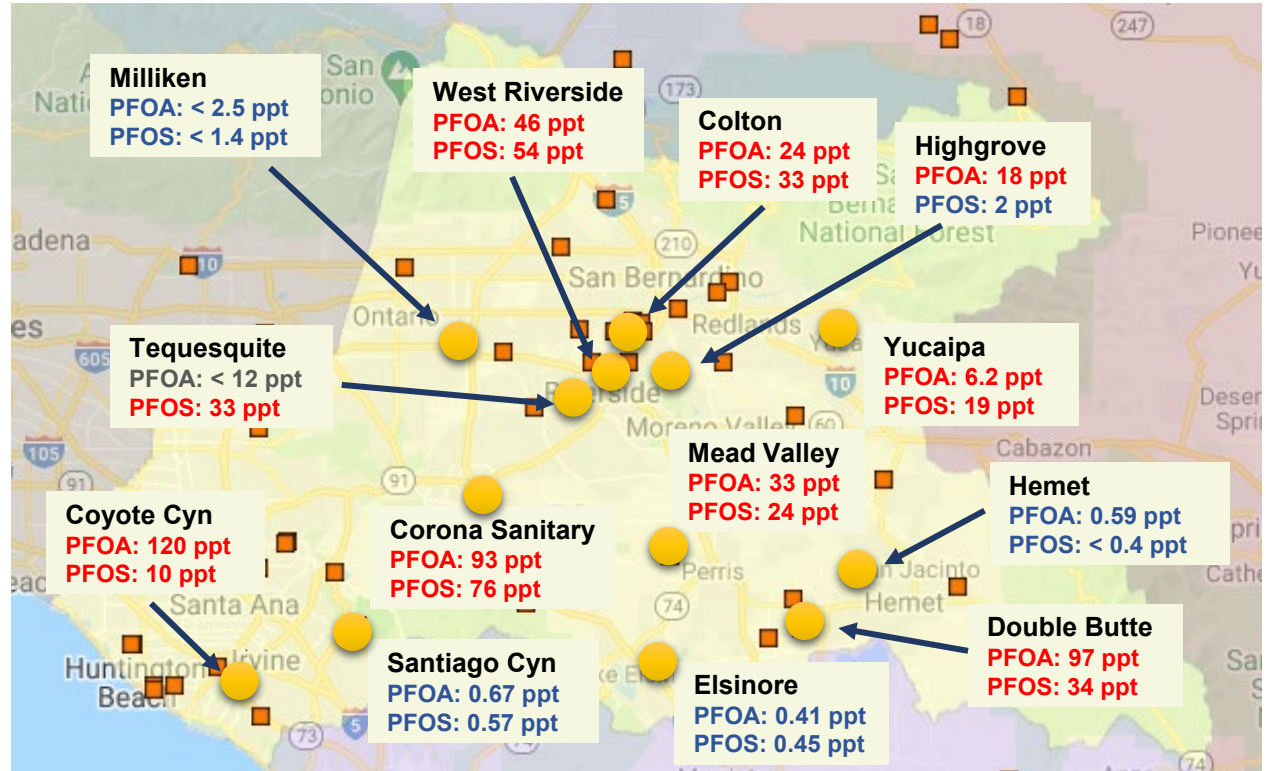
- Drinking water NLs
 - PFOA: 5.1 ppt
 - PFOS: 6.5 ppt
- Drinking water RLs
 - PFOA: 10 ppt
 - PFOS: 40 ppt



Source: GeoTracker

Maximum PFOA/PFOS Detections Groundwater – Closed Landfills

- Drinking water NLs
 - PFOA: 5.1 ppt
 - PFOS: 6.5 ppt
- Drinking water RLs
 - PFOA: 10 ppt
 - PFOS: 40 ppt

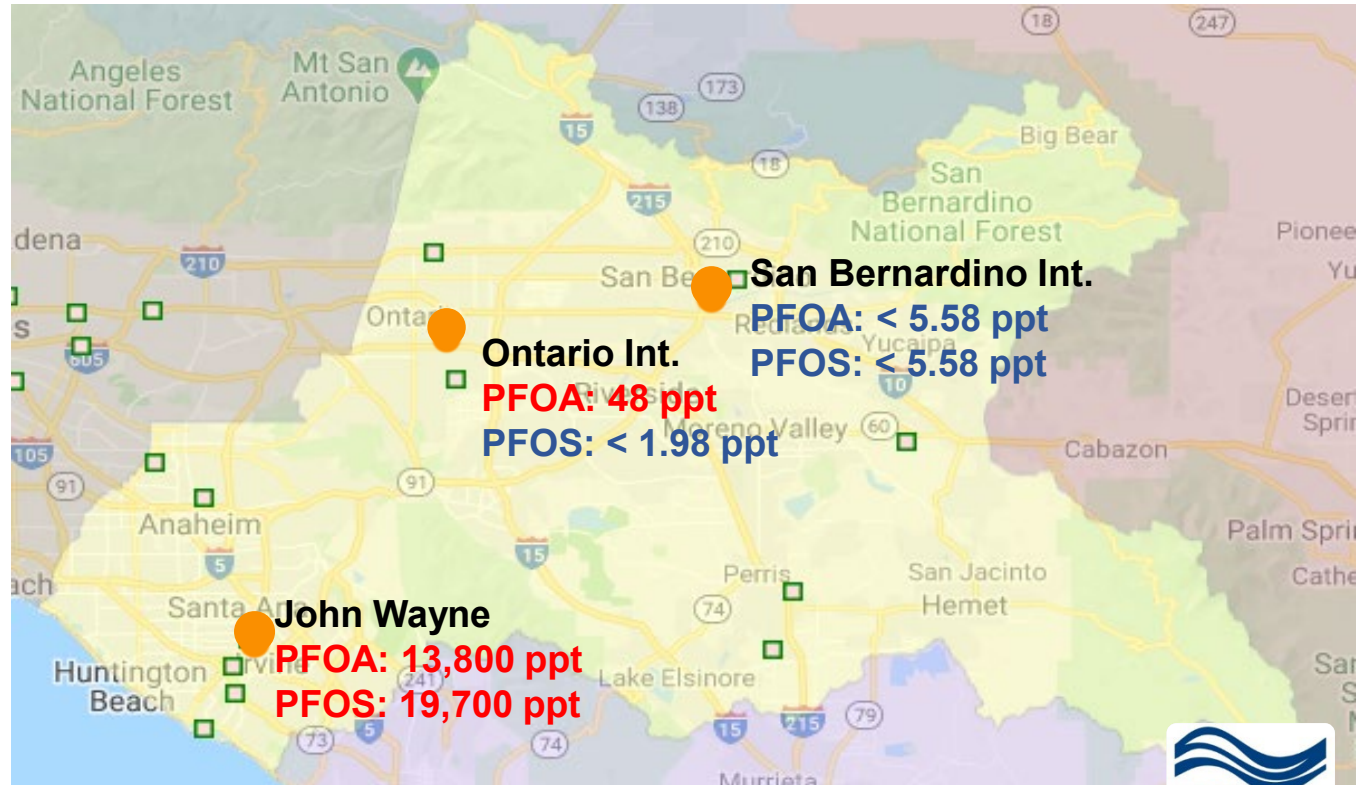


Source: GeoTracker



Maximum PFOA/PFOS Detections Groundwater - Airports

- Drinking water NLs:
 - PFOA: 5.1 ppt
 - PFOS: 6.5 ppt
- Drinking water RLs:
 - PFOA: 10 ppt
 - PFOS: 40 ppt



Source: GeoTracker

Maximum PFOA/PFOS Detections Groundwater - Bulk Fuel Terminals

- Maximum detections statewide:
 - PFOA: 28,000 ppt
 - PFOS: 990,000 ppt



<https://www.waterboards.ca.gov/pfas/>

Maximum PFOA/PFOS Detections Groundwater - Chromium Plating Facilities

- Maximum detections statewide:

PFOA: 3,600 ppt

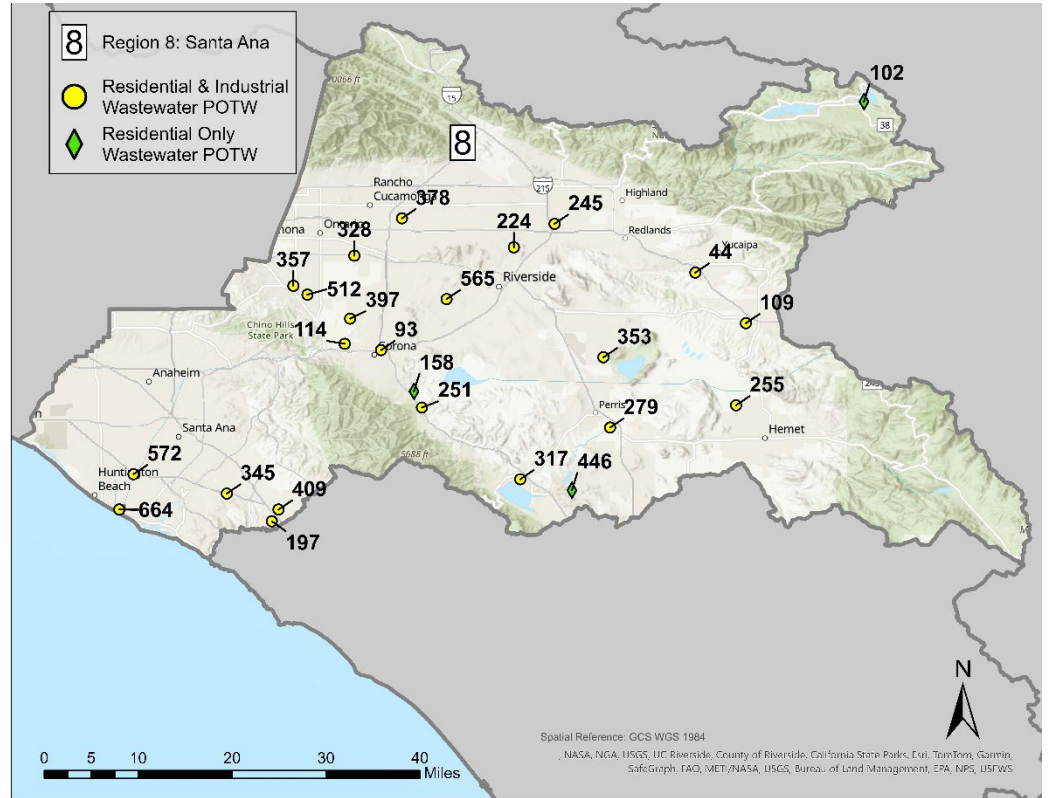
PFOS: 68,000 ppt

<https://www.waterboards.ca.gov/pfas/>



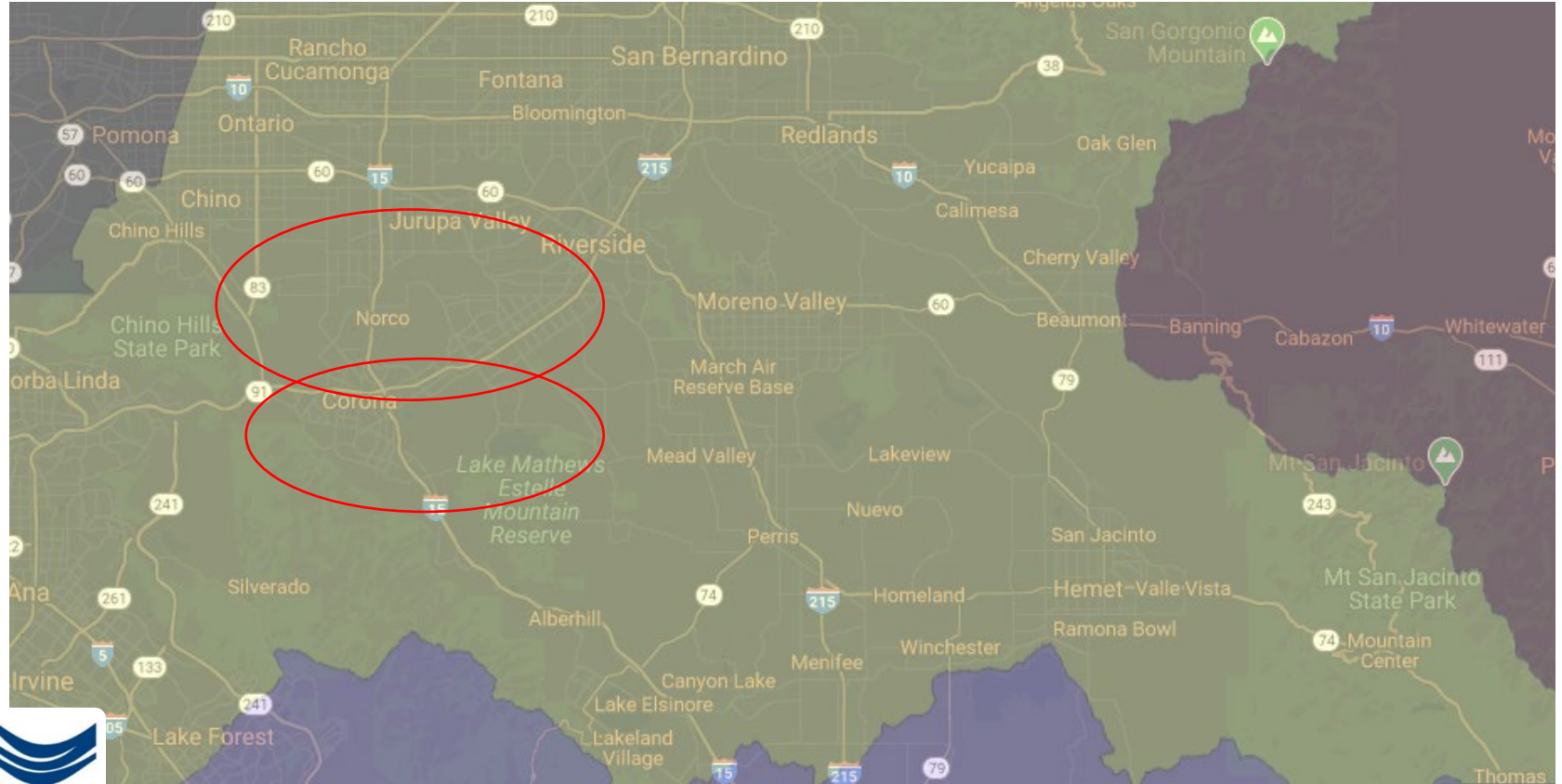
Average of Total PFAS in Effluent of WWTPs

- Average Detections in R8:
PFOA: 13.2 ppt
PFOS: 8.6 ppt
- Maximum Detections in R8:
PFOA: 30.7 ppt
PFOS: 231 ppt
- Statewide Max PFOA: 152 ppt
Statewide Max PFOS : 2,420 ppt

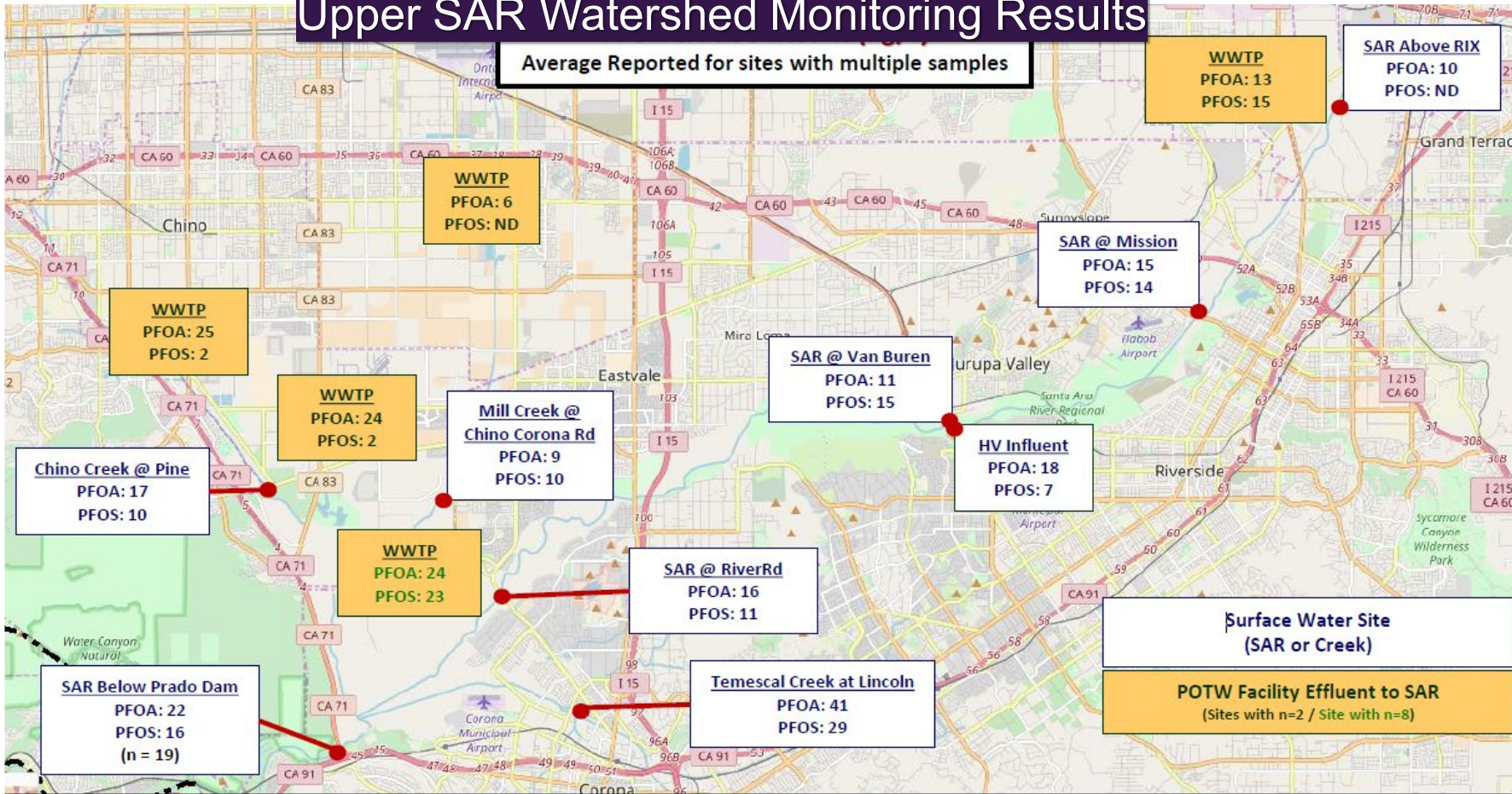


Samples were analyzed using method compliant with the DoD QSM with 25 to 38 analytes.

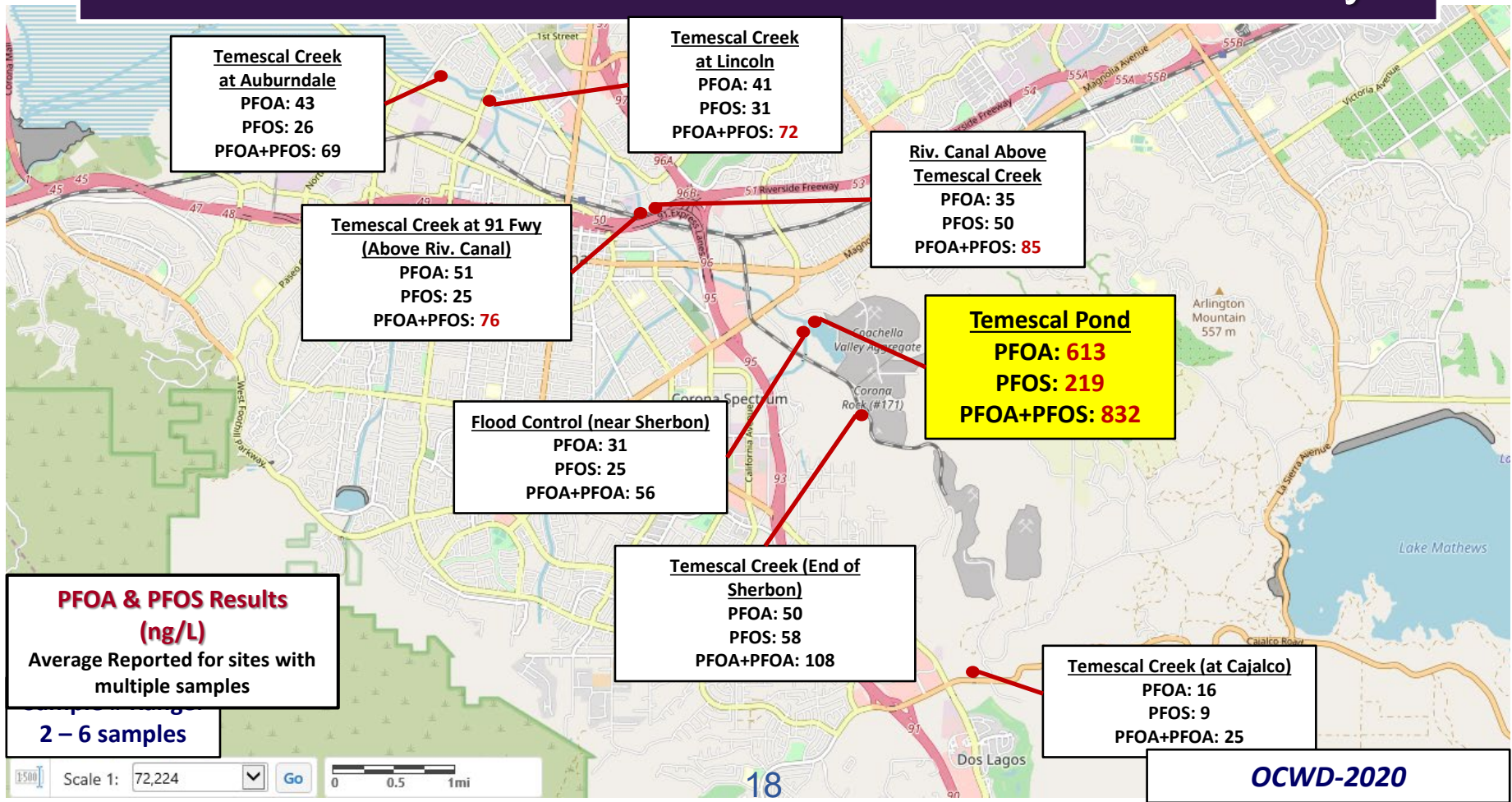
OCWD PFAS Investigations



Upper SAR Watershed Monitoring Results



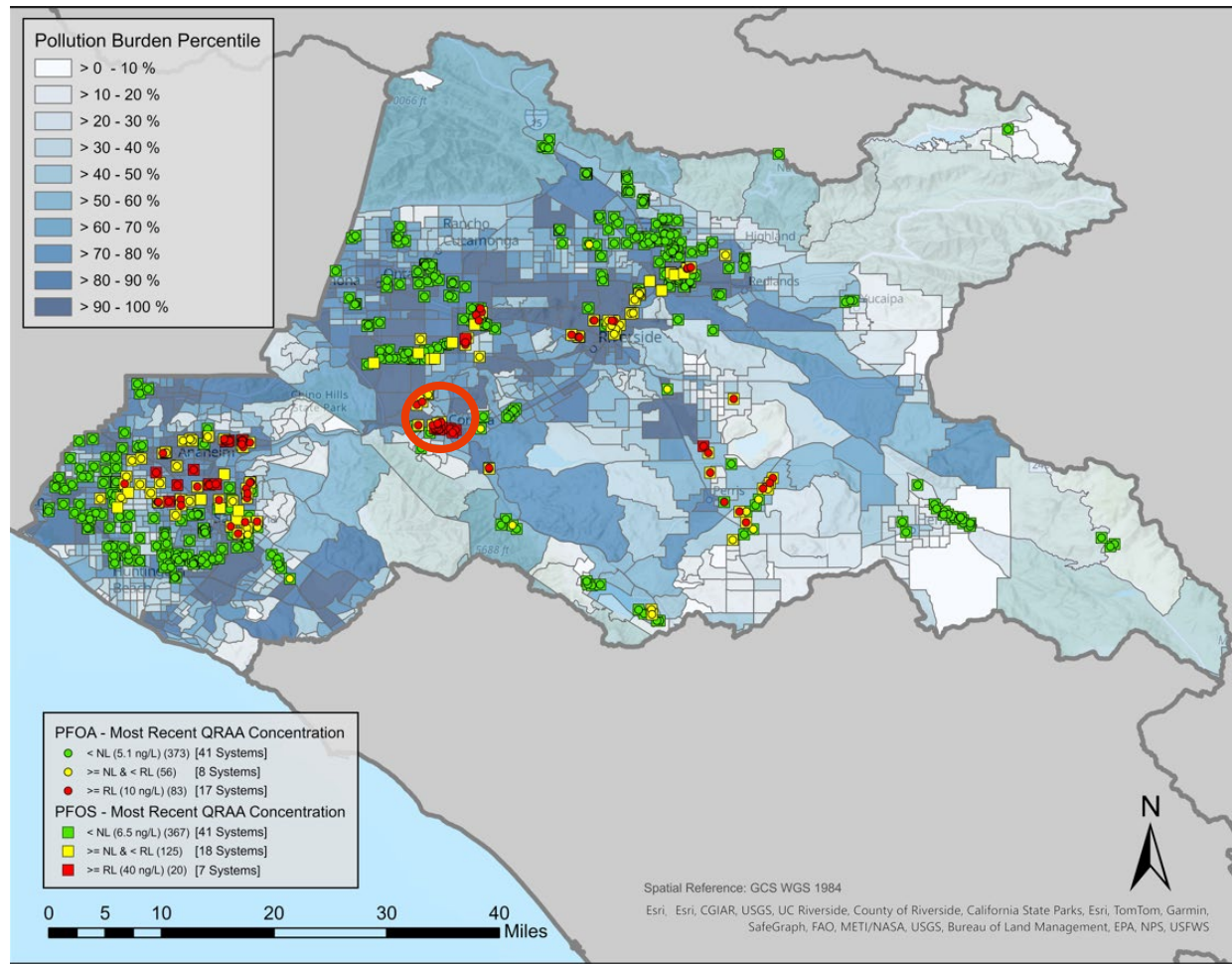
Temescal Creek Watershed PFAS Results Summary



Drinking Water Supply Wells PFOA/PFOS > NLs/RLs

Data downloaded in February 2024:

- Raw water results
- QRAA = Quarterly Running Annual Average
- PFOA and PFOS analyzed using EPA Method 537.1
- PFOA: NL = 5.1 ng/L, RL = 10 ng/L
PFOS: NL = 6.5 ng/L, RL = 40 ng/L



Drinking Water Supply Wells PFOA/PFOS > NLs

➤ Statewide Detections:

Total No. of Supply Wells Tested: **2,958**

PFOA impacted above NL: **382 wells**

Max PFOA detected : **350 ppt**

PFOS Impacted above NL: **459 wells**

Max PFOS detected: **260 ppt**

➤ R8 Detections:

Total No. of Supply Wells Tested: **512**

PFOA impacted above NL: **142 wells**

Max QRAA PFOA detected : **240 ppt**

PFOS Impacted above NL: **145 wells**

Max QRAA PFOS detected: **240 ppt**



What Do We Know

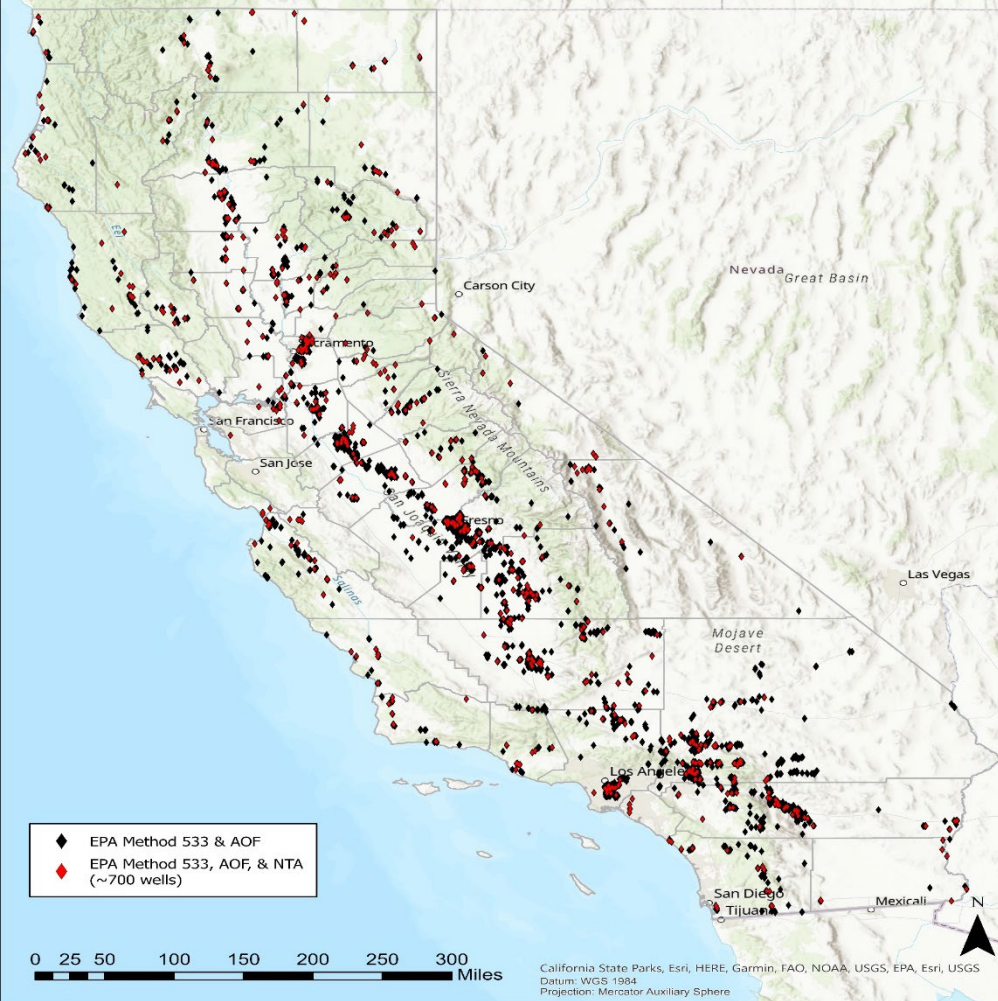
- Many military and industrial facilities are sources of PFAS which have impacted water quality in the Santa Ana Region
- Detections in groundwater mostly above drinking water NLs and often above RLs
- Detections in Santa Ana River greater than drinking water NLs

What Is In The Horizon

- Santa Ana Water Board continues working with local agencies and other stakeholders to identify additional major sources of PFAS in groundwater and surface water
- Addressing these challenges requires a multi-layered approach that should include scientific research, stakeholders' engagement, and investment in resources, infrastructure, and new technologies

AB-178 (Budget Act of 2022)

- Develop and validate a **broad-spectrum test method** for the class of PFAS
- Sample nearly 4,000 public water wells serving disadvantaged and severely disadvantaged communities
- Develop a **treatment-based regulation** for the entire class of PFAS



Questions/Comments

The State Board staff, Wendy Linck and Richard Nelson.

Mehrnoosh.Behrooz@waterboards.ca.gov

Information:

<https://www.waterboards.ca.gov/pfas/>



Progress on Regulating PFAS Usage in California

SB-1044 (Allen) – Prohibits fluorinated AFFF use.
AB 756 (Garcia) – Requires municipalities to notify consumers for PFAS detected above NLs and provides broader investigation authorities to State Water Board.

SB 1335 (Allen) - Food services in state-owned facilities properties, or under state contract, must use food packaging that is reusable, recyclable, compostable, and PFAS free.
AB 1200 (Ting) - Bans plant fiber-based food packaging containing PFAS that are either intentionally added or present at levels exceeding 100 ppm total fluorine. Chemical disclosures on cookware.

SB 2771 (Friedman) – Proposes to prohibit the use of PFAS as intentionally added to cosmetics.
AB 1817 (Ting) - Proposes to prohibit the sale of textile articles that contain regulated PFAS.
AB 2247 (Bloom) – Proposes to prohibit the use of PFAS (and other ingredients) intentionally added to cosmetics and provides a reporting platform for product registration and information about PFAS used in the product.

2020

✓ PFOA RL = 10 ppt,
PFOS RL = 40 ppt

2021

- ✓ Carpets and Rugs containing PFAS as a class are designated as a Priority Product.
- ✓ PFOS is listed (Prop 65) as a chemical known to cause cancer.
- ✓ PFBS RL = 5 ppb.
- ✓ Draft PHG issued for PFOA and PFOS.

2022

- ✓ PFOA is listed (Prop 65) as a chemical known to cause cancer.
- ✓ Treatments containing PFAS (as a class) for use on converted textiles and leathers that are manufactured in or imported to California as a Priority Product.
- ☐ PFHxS RL

California Legislature

CalEPA Agencies

Major Lawsuits

- The Orange County Water District (OCWD), along with several water retailers in Southern California, filed a lawsuit against PFAS manufacturers (December 2020):
 - Contamination of Water Supplies
 - Failure to Warn
 - Seeking Damages
 - Accountability and Remediation
- California has filed lawsuits against PFAS manufacturers (Nov. 2022). Allegations: the contamination of drinking water supplies, soil, and other environmental resources. The lawsuits seek damages for the costs associated with investigating, monitoring, and treating PFAS contamination, as well as for endangering public health.