



OCWD/MWDOC JOINT PLANNING PFAS UPDATE

July 24, 2019

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Executive Director of Water Quality & Technical Resources



Outline

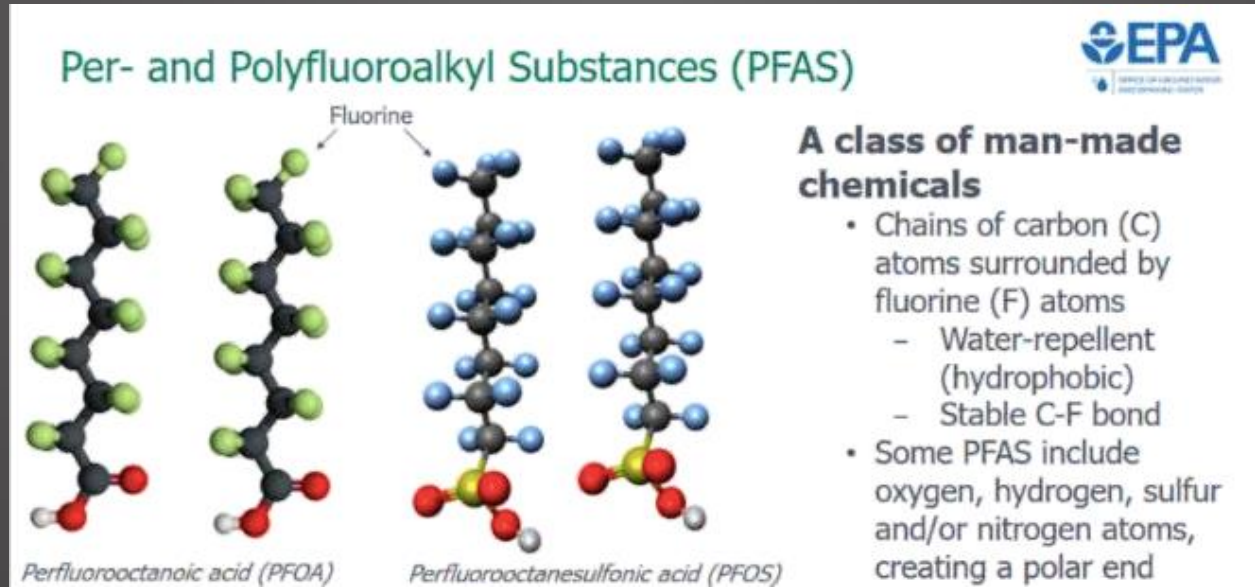
- Background
- CA Regulatory Update
- Other States' Actions
- Pilot Testing & Planning Study
- Legislative Actions
- Outreach



BACKGROUND

What Are PFAS, PFOA & PFOS?

- PFAS = Per- and Polyfluoroalkyl Substances (family of 1000s of chemicals)
- PFOA = Perfluorooctanoic Acid ($C_8HF_{15}O_2$)
- PFOS = Perfluorooctane Sulfonate ($C_8HF_{17}O_3S$)

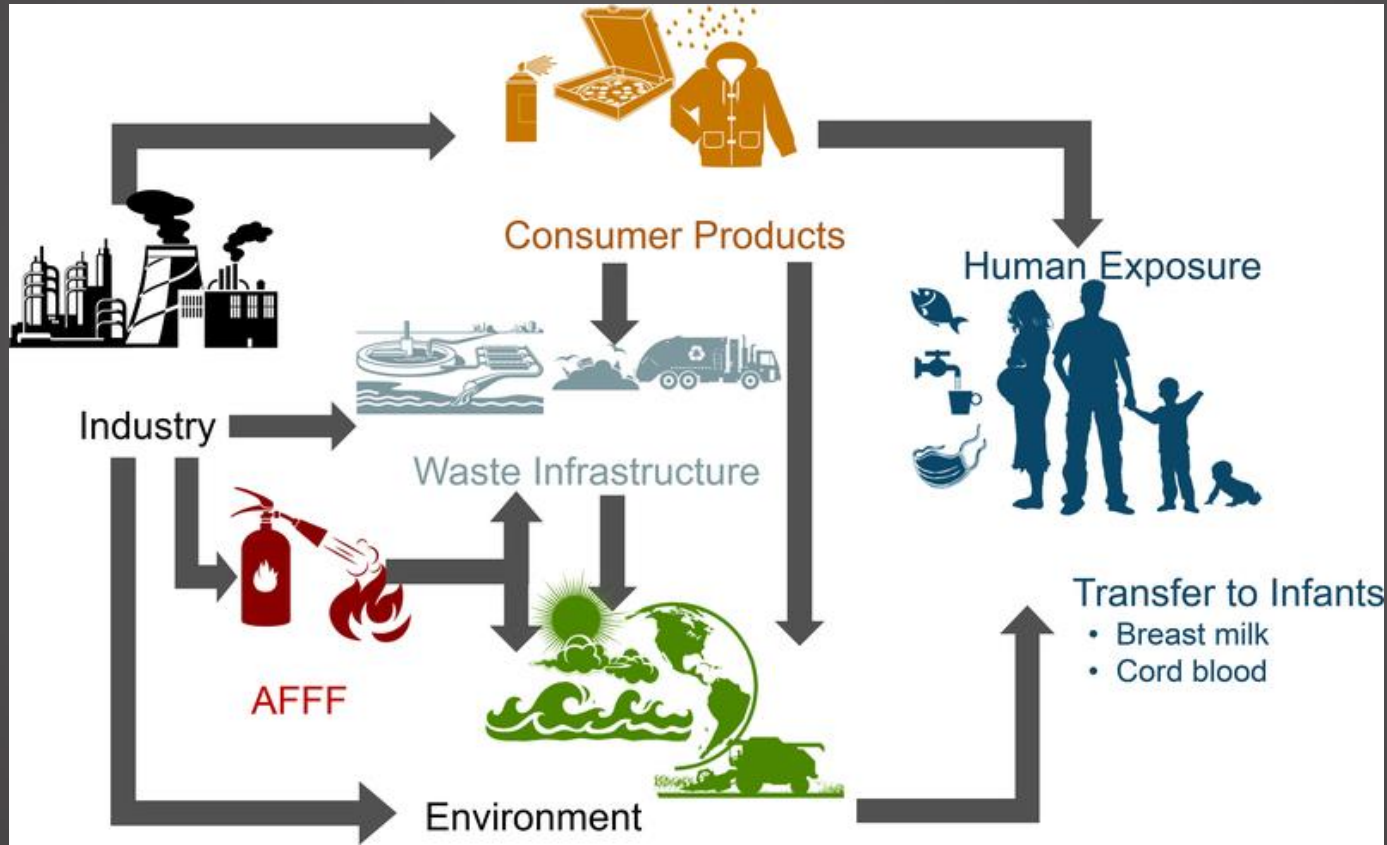




PFAS Used Across A Wide Range of Industries and Consumer Products: Water/Oil/Stain Resistant



PFAS Exposure Pathways





REGULATORY UPDATE



OCWD PFAS Timeline

- **2009:** USEPA Provisional Health Advisories for PFOA & PFOS
 - PFOA = 400 ng/L
 - PFOS = 200 ng/L
- **2012:** WRF PFAS study includes GWRS testing
- **2013 – 2015:** OCWD lab performs UCMR3 for Producers
- **2016:** USEPA Lifetime Health Advisory: PFOA + PFOS = 70 ng/L
- **2018 (July):** CA DDW issues interim Notification & Response Levels
 - NL PFOA = 14 ng/L
 - NL PFOS = 13 ng/L
 - RL PFOA + PFOS = 70 ng/L
- **2019 (March):** CA DDW issues PFAS Monitoring Orders to 12 Producers



California Notification & Response Levels Are Unique

- Defined generally in state law (Health and Safety §116455)
- Idea is to provide advisory levels ahead of enforceable MCLs
- Specifics on how to determine are DDW policy
- Only legal requirement: notification of governing body if > Notification Level
- All other actions are recommendations from DDW policy
- Setting Notification and Response Levels does not require
 - Peer review
 - Public notice
 - Public comment

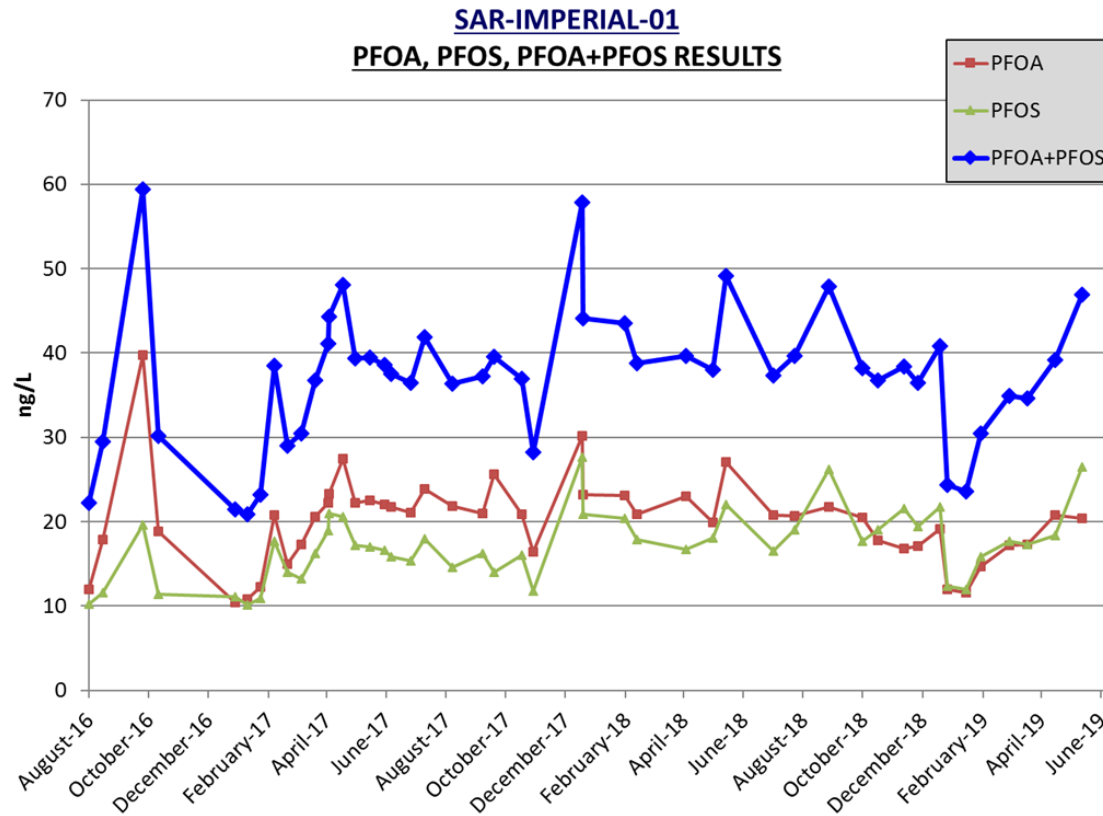


Producers with One or More Recent Monitoring Order Results Greater Than DDW Interim NLs for PFOA or PFOS

Producer
Anaheim
East Orange County Water District
City of Fullerton
City of Garden Grove
Irvine Ranch Water District
City of Orange
City of Santa Ana
Serrano Water District
Yorba Linda Water District



Santa Ana River at Imperial Hwy



Aug 2016 –
Present

Averages (ng/L)

PFOA: 20

PFOS: 17

PFOA+PFOS: 37

Min / Max (ng/L)

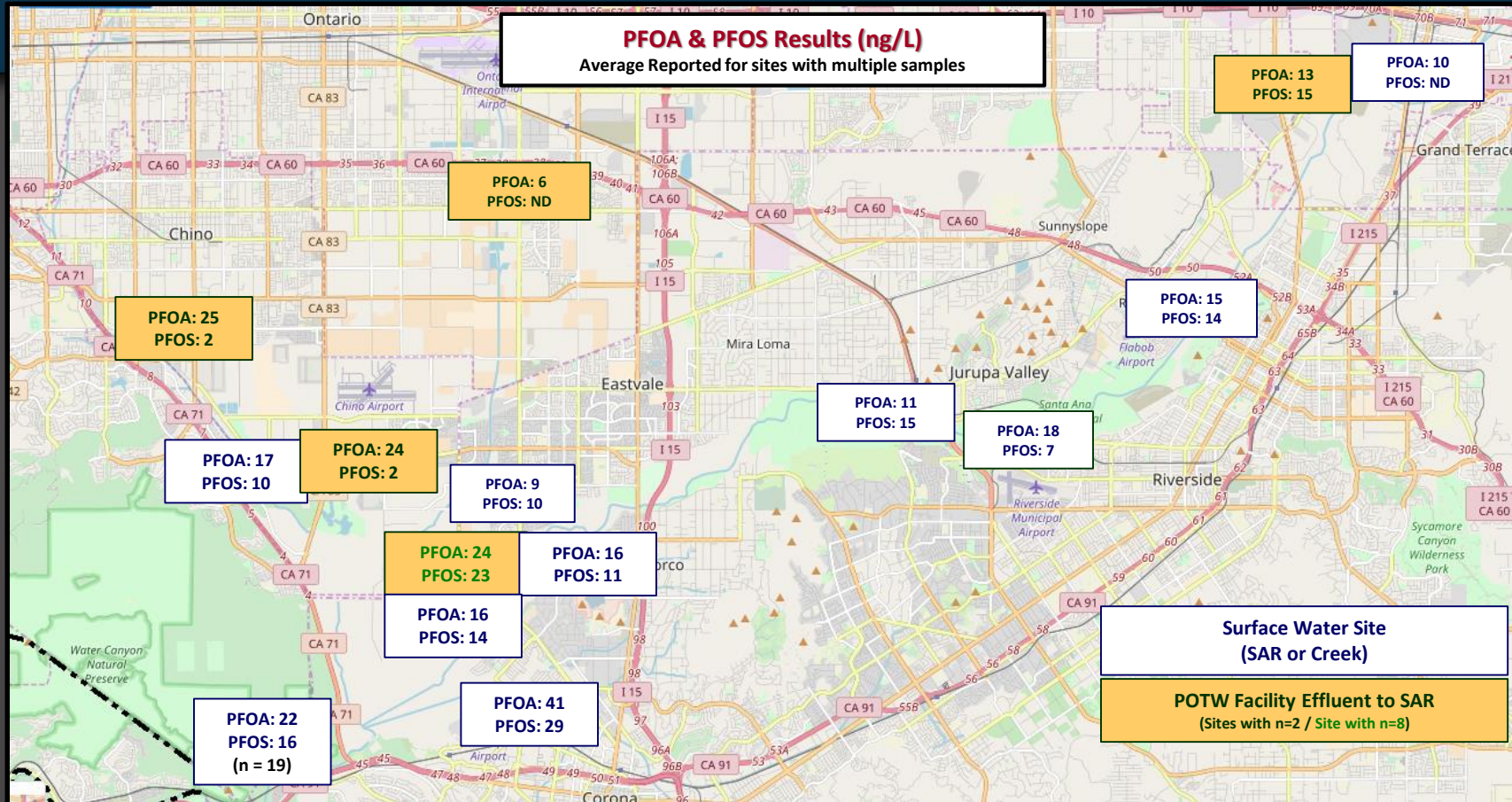
PFOA: 10 / 40

PFOS: 10 / 28

PFOA+PFOS: 21 / 59



Upper SAR Watershed Monitoring





Proposed Reductions to DDW NLs & RLs

- Based OEHHA review of recent National Toxicology Program (NTP) study data
- “Lowest observed effect”/1 – in – 1 million cancer risk estimate
 - PFOA = 0.1 ng/L (pancreatic cancer endpoint)
 - PFOS = 0.4 ng/L

Standard	PFAS Compound	Current	Proposed	Adjustment from “lowest observed effect” level
Notification Level	PFOA	14 ng/L	5.1 ng/L	Reliable Detection Limit
Notification Level	PFOS	13 ng/L	6.5 ng/L	Reliable Detection Limit
Response Level	PFOA	70 ppt combined	10 ng/L	100x 1-in-1-million cancer risk
Response Level	PFOS		40 ng/L	100x 1-in-1-million cancer risk



Effects of Lowering DDW Response Level

- Two Producer wells in OCWD area above current/previous 70 ng/L PFOA + PFOS RL
- Reducing Response Level to PFOA = 10 ppt and PFOS = 40 ppt
 - 39 of 51 OC wells tested under Monitoring Orders will exceed RL in OCWD area
 - Project ~71 out of ~200 OCWD area wells would exceed (~100,000 acre-ft of annual pumping)
- Preliminary estimate of OCWD area financial Impacts
 - 39 wells lost = \$30 million/yr in replacement treated imported water
 - 71 wells lost = \$50 million/yr in replacement imported water
 - Wellhead treatment for 71 wells = ~\$200 million capital + additional annual O&M



DDW Database*: Other Counties & Agencies Affected

- Los Angeles County
 - Santa Clarita Valley Water
 - Pico Rivera
 - Glendale
 - Montebello
 - La Habra Heights
- Riverside County
 - Corona
 - Riverside
 - Elsinore Valley
 - Rubidoux CSD
 - Desert Water Agency
- San Luis Obispo County
- Alameda County
 - Zone 7 Water Agency
 - Pleasanton
- Butte County
 - Cal Water Service Co – Chico
 - Cal water Service Co. - Oroville
- Riverside County
 - Eastern Municipal Water District

*** 75% of Ordered Systems Reporting**



July 3: Meeting in Sacramento

- **OCWD:** Vicente Sarmiento, Mike Markus, Jason Dadakis
- **Intertox:** Richard Pleus, Ph.D.
- **Lobbyists:** Don Gilbert & Jason Gonsalves
- **Santa Clarita Valley Water Agency:** Matt Stone
- **Cabinet Secretary:** Jared Blumenfeld
- **State Board Chair:** Joaquin Esquivel
- **Deputy Director (DDW):** Darrin Polhemus
- **OEHHA Director:** Lauren Zeise, Ph.D.





July 5: Secretary Blumenfeld Phone Call

- Notification and Response Levels will be set separately
- Subsequent DDW indicates NL to be released on July 24
 - OEHHA to release basis for NL (i.e., use of underlying NTP study)
 - OEHHA to announce beginning of Public Health Goal (PHG) process
- State to hold “Science Webinar” in September 2019
- New Response Level will be set in October 2019



OTHER STATES' ACTIONS



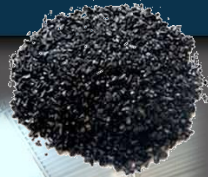
State	Type	PFOA (ng/L)	PFOS (ng/L)	Other PFAS
MI	Advisory Panel Recommendation	8	16	
MN	Health Based Guidance for Water	35	15	PFBS, PFHxS, PFBA,
NH	Proposed MCL	12	15	PFHxS = 18, PFNA = 11
NJ	Pending MCL	14	13	PFNA = 13
NY	Proposed MCL	10	10	
VT	Drinking Water Health Advisory	20 combined w/ PFHxS, PFHpa, & PFNA		
PA	Proposed MCL (via legislation)	5	5	
WI	Proposed Standard	20 combined		
MA	Proposed MCL	20 combined w/ PFHxS, PFHpA, & PFNA		



OCWD PILOT TREATMENT & PLANNING STUDIES

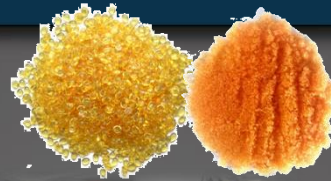


PFAS Treatment Technologies



Carbon Adsorption:
granular activated
carbon (GAC)

- More conventional treatment, site specific, WQ factors in, footprint area also



Ion Exchange
(IX) resin



Reverse Osmosis or
Nanofiltration
(RO or NF)

- Higher capital cost, concentrate disposal



OCWD Field Pilot Testing

- Pilot test skid delivered on July 22nd
- Pilot will assess GAC & IX (4-slots)
 - Phase I = Calgon + Evoqua GAC & Purolite & Dow
 - Phase 2 = TBD based on lab results + consultant rec.
- Laboratory bench-scale testing of GAC and NF
- Lab work to assess multiple groundwaters
- **Goal:** inform & accelerate local retail agencies' potential future treatment decisions
- Consultant support proposals under review





Planning Study with Producers

- **Goal:** assess feasibility of treatment for individual Producers
 - Number of wells impacted
 - Location of wells impacted
 - Space available
 - Number of treatment systems required
 - Integration into Producer operations
 - DDW Permitting & CEQA assessment
 - Planning-level capital cost estimates
- Supplement to Treatment Pilot Testing activities
- RFP to be issued by July 26



LEGISLATIVE ACTIONS



State Legislation

- AB 756 (C. Garcia) PFAS
 - Amended to largely be redundant to current State Board regulations/policy
 - Still contains some enhanced public notification requirements
 - Passed Assembly & Senate, awaiting Governor's signature
 - OCWD took an oppose position and sent a veto request to Governor
- AB 841 (Ting) PFAS
 - Would require OEHHA to adopt a work plan by 2021
 - Plan to assess which PFAS should be identified as a potential risk to human health
 - Consideration given to PFAS likely to be present in CA water and feasible to detect
 - OCWD took a support position; this bill is now a 2-year bill



Federal Legislation

Senate: National Defense Authorization Act (S. 1790)

- S. 1507 amended into S. 1790 to mandate the establishment of a federal Maximum Contaminant Level (MCL). Sponsor: James Inhofe (R-OK)
- OCWD took a support position on S. 1507 provisions
- **Status:** S. 1790 Passed by the Senate

House: National Defense Authorization Act (H.R. 2500)

- Adds PFAS to toxic pollutants list under Federal Water Pollution Control Act, allowing EPA to publish effluent & pretreatment standards. Sponsor: Chris Pappas (D-NH)
- Requires the EPA to list PFAS as hazardous substances under CERCLA within one year
Sponsor: Rep. Debbie Dingell (D-MI)
- **Status:** H.R. 2500 Passed by the House

Differences in bills to be worked out in Conference Committee in Sept



Legislative Outreach

- Orange County House Congressional Delegation, including joint letter to U.S. EPA seeking MCL standard coordinated through Congressman Correa's office
- OCWD met with Steven Cook, Deputy Assistant Administrator, U.S. EPA Office of Land and Emergency Management
- Working with public stakeholders:
 - AWWA
 - AMWA
 - WEF
 - NACWA
 - CASA
 - ACWA
 - WaterReuse
 - Solid Waste Companies



Outreach (Cont.)

Meetings with State Elected Officials:

Senator John Moorlach
Assemblymember Sharon Quirk-Silva
Assemblymember Cottie Petrie-Norris
Assemblymember Steven Choi

Meetings with State Electeds' staff:

Senator Tom Umberg
Senator Ling Ling Chang
Senator Bob Archuleta
Senator Patricia Bates
Assemblymember Tom Daly
Assemblymember Phillip Chen
Assemblymember Tyler Diep

Meetings with Federal Elected Officials

Congressman Harley Rouda
Congressman Gil Cisneros

Meetings with Federal Electeds' Staff:

Senator Dianne Feinstein
Congresswoman Katie Porter
Congressman Lou Correa
Congressman Alan Lowenthal

Orange County Supervisors

Chiefs of Staff To All OC Supervisors