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Dialogue on Water Economics & Policy

UC RIVERSIDE School of Public Policy

UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources

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Water Contamination and Chemicals

Public water systems across California have shown traces of chemicals and this strongly impacts the future of drinking water. Contamination of certain chemicals in drinking water has caused a shift in regulations and how regions deal with chemical contamination. In this newsletter, we interview with **Jen Jackson (SF Environment)**, and **San Francisco Public Utilities Commission (SFPUC)** to understand the policy aspects of PFAS and its implications for water agencies and households.

What is PFAS?

Per-and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that includes

perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), GenX (trade name for a technology that is used to make high performance fluoropolymers), and many other chemicals. PFAS chemicals don't break down in the environment, are water soluble, and the application of their fat and water repelling properties turn any material into water, oil, and stain repellent. When accumulated over time, PFAS can have adverse human health effects.

How is PFAS in water? How does it occur in water?

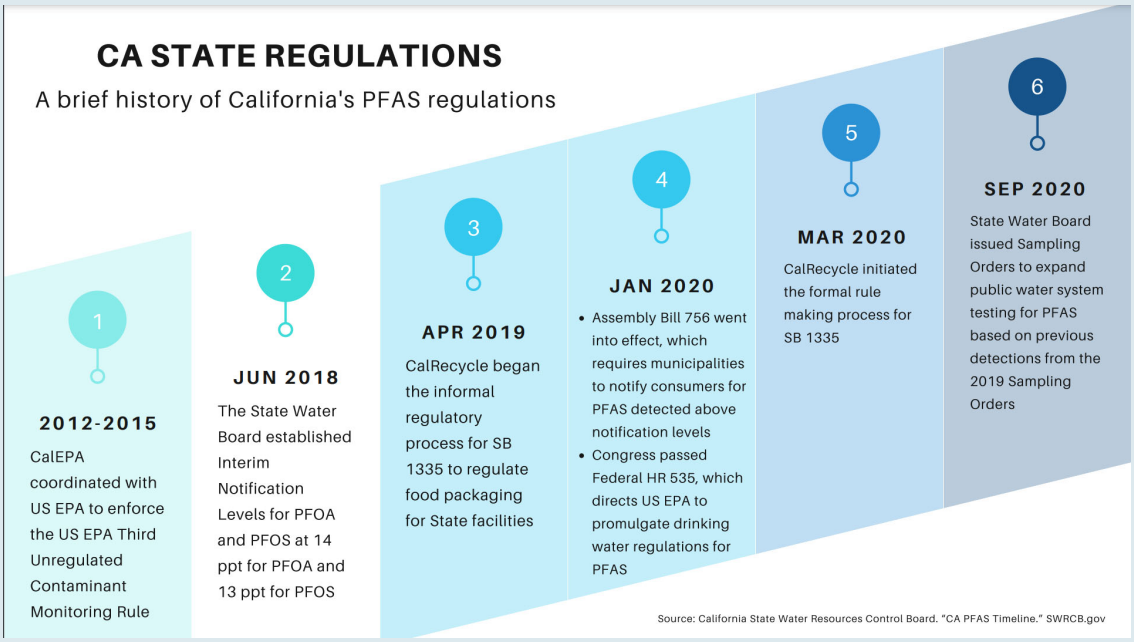
Higher levels of PFAS can be found in drinking water due to the transfer of facilities that use, dispose, or manufacture PFAS can contaminate nearby water supplies. Therefore, the main sources of PFAS exposure are through public water systems, drinking water wells, surface, and groundwater. PFAS can occur in drinking water in three forms through food, commercial household products, and drinking water. Commercial household products that contain PFAS, such as cleaning products and detergents, can cause groundwater contamination as well.

Which regions deal with it most?

Statewide water testing in 2019 detected around 600 wells and 86 water systems across California with recognized levels of poly- and per- fluoralkyl contamination.These clusters of contaminated wells were mainly found in Southern California, in Los Angeles (especially Glendale), Orange, Riverside and San Bernardino counties. Read more...

More recently, on December 1st, 2020, the Orange County Water District (OCWD), along with eleven other OC water districts has filed a lawsuit against PFAS manufacturers (DuPont, 3M, Chemours and Corteva) and one consumer product manufacturer (Decra Roofing Systems), seeking millions of dollars for the costs of cleanup and decontamination related to PFAS in the districts' water. Read more...

Source: "Basic Information on PFAS." *EPA*, Environmental Protection Agency, 14 Jan. 2021, www.epa.gov/pfas/basic-information-pfas.



San Francisco Department of the Environment

We interviewed **Jen Jackson**, Toxics Reduction & Healthy Ecosystems Program Manager, on PFASs and how it is directly and indirectly impacting the future of California's water. Jackson shares her perspective, as an environmental leader, and how her team at SF Environment have implemented policies, programs, and initiatives to prevent against PFAS contamination in the environment.

Throughout the interview, we discussed initiatives implemented by SF Environment in order to eliminate PFASs from take-out food ware, city purchases of carpet and furniture containing PFASs, and transition the SF Fire Department and SF International Airport to using fluorine-

free firefighting foams. Our interview reveals how PFAS's exposure in different products can be linked to drinking water quality.

Watch Now

San Francisco Public Utilities Commission

What is PFAS? What can PFAS be found in? How do PFAS enter drinking water?

Please see our PFAS Fact Sheet

Please tell us about the City of San Francisco experience with water monitoring guidelines for PFAS contamination and the challenges your agency faces with the prevention of PFAS in drinking water?

We conducted a voluntary round of PFAS monitoring using EPA Method 537.1 for analysis in 2019. Since we had no detection, PFAS is not our concern.

Please tell us about regulatory approaches in reducing PFAS in consumer products and drinking water that are more attractive to San Francisco?

We only follow drinking water regulations and requirements. Since we had no detection, PFAS is not our concern.

Does San Francisco face a special situation regarding PFAS due to its nature of being a tourist city?

Yes, the watersheds at our main sources of water supply are either located in Yosemite National Park or are not open to public activities and therefore are very well protected from any contamination.

How realistic is the regulation of PFAS in consumer products, packaging, and drinking water in San Francisco?

We only follow drinking water regulations and requirements.
Regulating PFAS in drinking water make sense considering its persistence in nature and human body.

What are the costs for your agency? What technologies are needed to achieve PFAS regulation and what are available resources for them to achieve the recommended levels?

As we have had no detection, other than the monitoring costs, we do not anticipate any additional costs.

Have you observed any changes to PFAS concentrations in water during the Covid-19 pandemic? Changes to activities of households, such as a longer stay at home and changes to consumption patterns of food and medications?

No, we had no detection and we do not expect any changes.

Scholar Spotlight

Samantha Ying is an Assistant Professor of Biogeochemistry in the Department of Environmental Sciences and a co-director of UC Global Health Institutes's Planetary Health Center of Expertise. Sam's research group, the DirtyLab, examines how human activities contribute to the contamination of water and soil resources and carbon flux to the atmosphere. The DirtyLab takes an interdisciplinary team approach by working with collaborators from social science, humanities, and engineering across campuses and organizations to answer pressing planetary health questions. Some of these questions include how can safe and affordable water be provided to all and how can

UCR better serve its students and the local communities overall. **More...**

In The News

Rethinking (waste)water and conservation
UC Riverside News* | *May 2020
Read more...

Historical trends of residential water use in California: Effects of droughts and conservation policies
***Applied Economic Perspectives and Policy* | Jan 2021**
Read more...

COVID-19 and Urban Water Consumption
***Giannini Foundation of Agricultural Economics* | Oct 2020**
Read more...

The impact of information-based interventions on conservation behavior: A meta-analysis
***Resource and Energy Economics*| Nov 2020**
Read more...

Water Seminar Series

Water of various types and qualities has been increasingly affecting humans and the environment. Many of the individual and social responses to water scarcity or degraded quality are associated with policies. The purpose of this seminar series is to present works conducted by academics and practitioners, using a multitude of disciplines and approaches. There are a total of 8 speakers per year (3 during Fall/Winter, and 2 during Spring). See below for upcoming events.

Water Seminar Series

past events

WATCH

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This newsletter is supported by UCR School of Public Policy, UC Agriculture and Natural Resources, Santa Ana Watershed Project Authority and California Institute For Water Resources.

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