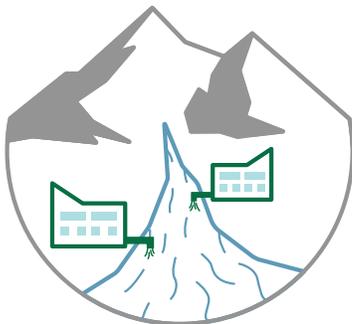




PFAS in Orange County

What are they, how do they impact us and what's being done?



PFAS have been detected in the Orange County Groundwater Basin, entering primarily via the Santa Ana River (SAR) whose flows infiltrate into the basin. PFAS inputs to the SAR include treated wastewater discharges and stormwater runoff from upstream communities in San Bernardino and Riverside counties. Chemical manufacturers are the original source of PFAS chemicals. Despite playing no role in releasing PFAS into the environment, cities and water agencies must find ways to remove it from their local water supplies.

Impacts to Orange County

Orange County Water District (OCWD) and the water retailers it serves provide safe and dependable drinking water that continually meets all state and federal drinking water standards. The state of California has established advisory levels for three PFAS compounds. **In order to meet California's advisory Response Levels for PFAS in drinking water, several dozen wells are impacted and future wells may be taken out of service.** The loss of wells will impose unbudgeted costs on retail water agencies in OCWD's service area that depend on groundwater for 77% of their supply. Agencies will have to temporarily purchase more costly imported surface water to replace PFAS contaminated supplies. The cost of purchasing imported water could increase ratepayers' monthly water bills.

OCWD Actions to Address PFAS

OCWD is proactively and swiftly addressing PFAS in the Orange County Groundwater Basin.

In December 2019, OCWD launched the nation's largest pilot project to test 14 different types of treatment media, including granular activated carbon, ion exchange, and novel alternative adsorbents, with the goal of identifying reliable and cost-effective solutions to remove PFAS from water. Now in its second phase, the project will test additional adsorbents just emerging into the marketplace.

OCWD's board of directors implemented a PFAS treatment policy that enables constructing treatment facilities for 11 currently impacted water agencies and bringing these treatment systems online within two years to restore the impacted drinking water supply. OCWD is funding 100% of design and construction costs, with operation and maintenance costs shared 50/50 with the retail water agency.

OCWD and 10 of Orange County's public water agencies filed a lawsuit against 3M Company, E.I. DuPont de Nemours, Inc., DuPont de Nemours and Company, Chemours Company, and Corteva, Inc. for the manufacture and sale of PFAS that have contaminated groundwater, drinking water, and real property in Orange County. Through their lawsuit, OCWD and the public water agencies seek to protect ratepayers and ensure that the associated costs, including but not limited to treatment and replacement water, are borne by the companies that developed and manufactured PFAS.

What Are They?

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of manmade chemicals, including perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS) and perfluorobutane sulfonic acid (PFBS), that are used to make carpets, clothing, fabrics for furniture, food packaging, cookware, and other materials to make them non-stick and/or resistant to water, oil, and stains. They are also used in a number of industrial processes and firefighting activities.

Estimated Costs of PFAS to Orange County over 30 Years

\$1 BILLION

**As of July 2020 these costs are based on preliminary data and will likely increase.*

Federal and State PFAS Regulations

Over the past several years, the science on PFAS and its impacts to the environment and public health have prompted regulatory actions. In 2016, the United States Environmental Protection Agency (USEPA) established a 70 part per trillion (ppt) combined Lifetime Health Advisory for PFOA and PFOS. In 2021, the USEPA made a formal regulatory determination to begin the process of establishing federal enforceable drinking water standards for PFOA and PFOS.

Ahead of establishing state enforceable drinking water standards, the State Water Resources Control Board's (SWRCB) Division of Drinking Water (DDW) has issued advisory levels for PFOA, PFOS, and PFBS in drinking water supplies and continues to pursue advisory levels for six additional PFAS.

The **Notification Levels (NL)** are as follows: PFOA, 5.1 ppt; PFOS, 6.5 ppt; PFBS, 500 ppt. The NL is the level at which water agencies are required to notify local elected officials and governing bodies of the presence of contaminants in local water supplies. NLs are precautionary health-based advisory levels established by DDW while further research and analysis are conducted by the state to determine the necessity of setting an enforceable drinking water maximum contaminant level (MCL).

The **Response Levels (RL)** are as follows: PFOA, 10 ppt; PFOS, 40 ppt; PFBS, 5,000 ppt. The RL is the level at which the state recommends the water not be served to the public without treatment or blending to reduce contaminants.

In July 2021, the state Office of Environmental Health Hazard Assessment (OEHHA) publicly released its draft document for public review describing proposed Public Health Goals (PHGs) for PFOA and PFOS in drinking water. PHGs are public health-based, non-regulatory values set at concentrations not anticipated to produce adverse health effects. It is anticipated to take approximately one year for final PHGs to be established. Subsequently, DDW will use the PHGs as the starting point for developing enforceable MCLs. The state is not currently pursuing a PHG or MCL for PFBS based on limited occurrence in statewide testing at health-relevant concentrations.

OCWD, cities and retail water agencies in Orange County take seriously the duty to provide reliable high-quality drinking water to residents throughout Orange County and will continue to meet and exceed all state and federal drinking water standards and regulations.

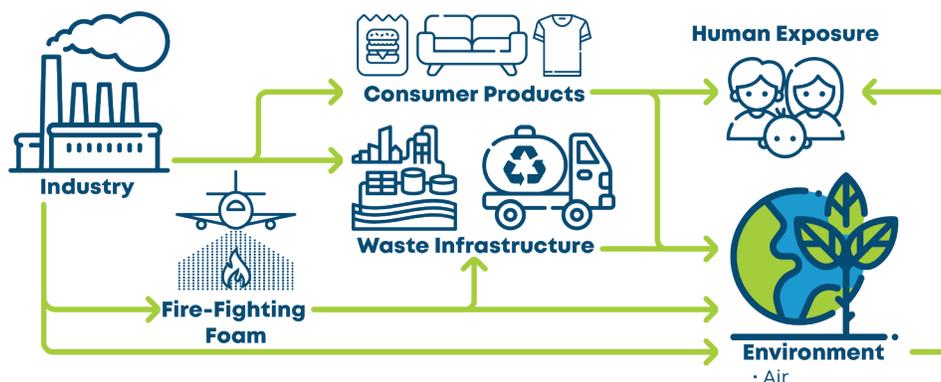
Additional Info

www.ocwd.com

www.epa.gov/pfas

www.fda.gov/food/chemicals/and-polyfluoroalkyl-substances-pfas

www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/PFOA_PFOS



** Diagram references generally-recognized sources of PFAS and is not meant to depict Orange County's PFAS contamination or sources.*