



PFAS, Drinking Water, and State Action Levels Overview

Updated August 2021

Rulemaking to Address Unregulated Contaminants

The Washington State Board of Health (board) is proposing rule updates to include per- and polyfluoroalkyl substances (PFAS) requirements in [chapter 246-290 WAC Group A public water supplies](#) and [chapter 246-390 WAC Drinking water laboratory certification and data reporting](#).

Background

[PFAS](#) are a family of chemicals used since the 1950s to manufacture coatings and materials that repel water and oil and are resistant to heat and chemical reactions. PFAS are also used as surfactants. PFAS are widely used in common consumer products such as food packaging, outdoor clothing, carpets, leather goods, and nonstick cookware. Certain types of firefighting foam also contained PFAS—historically, these have been used by the U.S. military, local fire departments, and airports.



Manufacturing and extensive use of PFAS has led to wide-spread human exposure in the U.S. and globally. In laboratory animals, some PFAS produce liver and kidney toxicity, altered hormones, suppressed immune response, adverse reproductive and developmental effects, and certain tumors. Evidence from some, but not all, [epidemiological studies in people](#) suggest that exposure to some PFAS increases cholesterol levels, alters hormone levels, reduces birth weight, reduces immune antibody response to childhood vaccines, and may increase rates of some types of cancers such as kidney and testicular cancer.

There are many sources of human exposure to PFAS. However, when drinking water is contaminated, it can be a major contributor to our overall exposure. In Washington State, voluntary testing conducted by the Department of Defense (DoD) and public water systems between 2016-2020 has documented PFAS in drinking water supplies above EPA health advisory levels in five areas of the state. These areas are the Lower Issaquah Valley Aquifer and groundwater aquifers at and/or near four military bases (Navy Bases at Whidbey Island and Bangor, Fairchild Airforce Base near Spokane, and Joint Base Lewis–McChord in Pierce County). The Department of Health (department) is working with local health jurisdictions and other agencies to address concerns in these communities. Although testing in Washington has not been comprehensive, all known sites of drinking water PFAS contamination in our state involve ground water contaminated by nearby use or release of PFAS containing fire-fighting foam.

Federal and State Actions

In 2016, [EPA established a non-regulatory lifetime health advisory level](#) (HAL) for two PFAS, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), of 70 parts per trillion combined. In 2021, EPA announced it will develop federal drinking water standards for PFOA and PFOS. This EPA rulemaking process may take several years to complete. In the meantime, at least six U.S. states have established state enforceable limits on two or more PFAS in drinking water.

To address concerns that several water systems are contaminated above EPA and other state's health advisory levels, the board filed a [CR-101](#) on December 15, 2017, to begin the rulemaking process to set a drinking water standard for PFAS in our state.

The proposed rule includes:

- Criteria for setting state action levels (SAL) for contaminants that do not have an EPA established a maximum contaminant level (MCL).
- State action levels (SAL) for five PFAS found in Washington state drinking water.
- Requirements for monitoring and reporting, follow-up actions, and public notice.

It is important to note that when an MCL is exceeded, the water system is required to treat the water, while exceeding a SAL does not require a water system to treat. SALs are established using the same calculations EPA uses to establish maximum contaminant level goals, which is one of the first steps in determining an MCL.

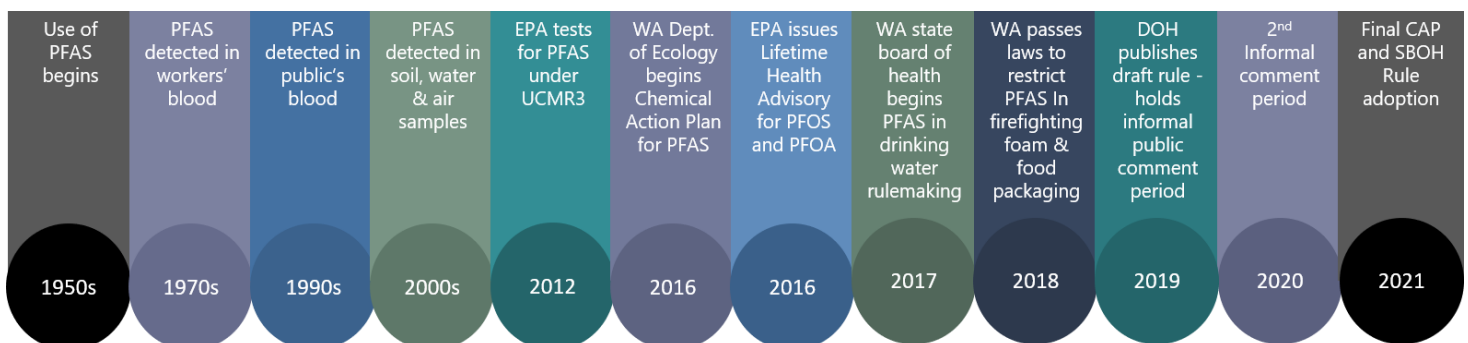
The SALs provide state public health recommendations for the safe, long-term consumption of drinking water, below which there is no known or expected health risk. If a SAL is exceeded, follow-up actions, including monitoring and public notification are required. Since EPA has not adopted MCLs for PFAS, the board determined that acting now is the best course to protect public health. The board intends to begin the public comment period in August 2021 and hold a public hearing at the October 2021 board meeting. The board intends to complete the rulemaking process by December 2021.

Department of Ecology (Ecology) is working with Department of Health and diverse stakeholders to develop a state [PFAS Chemical Action Plan](#) (CAP). The CAP looks broadly at all uses and exposures of PFAS and makes recommendations that will protect human health and the environment.

The proposed rule is aligned with several recommendations in the CAP. The rule expands drinking water testing to include all Group A community water systems, provides health-protective standards for the most common PFAS found in drinking water, and will expand the number of PFAS that are routinely measured and reported in drinking water testing.

Several other CAP recommendations support the safety of drinking water including:

1. Notification of local governments when PFAS are discovered in a Group A system so that Group B water systems and private wells can be notified.
2. Ecology support to identify the source of contaminated aquifers.
3. Coherence between PFAS SALs and Ecology groundwater cleanup standards.
4. Ecology designation of PFAS as hazardous substances under the Model Toxics Control Act (MTCA) to bring PFAS into the regulatory framework of our state clean-up law.
5. Funding to support PFAS testing and mitigation. The release of the final CAP is planned for mid-2021.



Interested Stakeholders

Stakeholders interested in the rulemaking include, but are not limited to: water systems owners and operators, environmental laboratories that analyze drinking water samples, local health jurisdictions, environmental and human health advocacy groups, military entities, individuals and communities with known PFAS contamination in their drinking water, as well as manufacturers and users of PFAS.

Key Messages

- PFAS have become a serious public health concern across our state and country.
- Almost a dozen Group A public water systems and over 200 private wells in five areas of the state are known to have PFAS contamination in their groundwater supplies above EPA and other state's health advisory levels.
- PFAS do not break down easily and can persist in the environment for long periods of time. Over time, PFAS released from manufacturing sites, landfills, firefighting foam, and other products have contaminated groundwater, rivers, lakes, fish, and wildlife.
- Some PFAS are widely detected in human breastmilk and blood serum.
- Exposure can occur when someone uses certain products that contain PFAS, eats PFAS-contaminated food, or drinks PFAS-contaminated water. When ingested, some PFAS chemicals can build up in the body and, over time, they may increase to a level where health effects could occur.
- Voluntary phase-outs of PFOS and PFOA and some other highly bioaccumulative PFAS occurred between 2000 - 2015 in the U.S.

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More Information

For more information about PFAS visit the PFAS webpage at doh.wa.gov/CommunityandEnvironment/Contaminants/PFAS.

To find out more about the PFAS rulemaking visit the Office of Drinking Water's Rulemaking webpage at [doh.wa.gov/ODWRulemaking #246-290](http://doh.wa.gov/ODWRulemaking#246-290)

To find out more about the Lab rulemaking visit the Office of Drinking Water's Rulemaking webpage at [doh.wa.gov/ODWRulemaking #246-390](http://doh.wa.gov/ODWRulemaking#246-390)



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