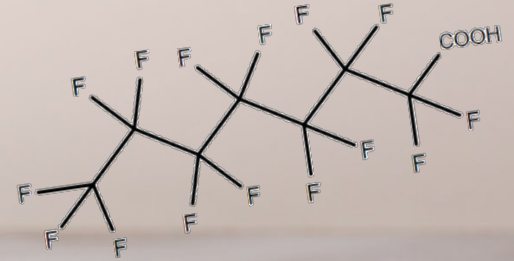
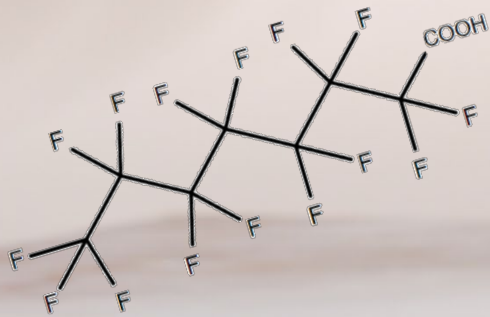


PFAS State and Federal Drinking Water Standards



PNWS AWWA Conference
May 4, 2023



Speakers



Capacity Development and Policy Manager

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Overview

State Action Levels for 5 PFAS in Drinking Water

Highlight Policy Calls

SAL rule implementation/early results

Proposed EPA MCLs

Q&A

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Nonstick, Stain and Water Resistant, Heat Stable



Some PFAS are PBTs

Persistent
in the
environment

Bioaccumulate
in humans

Toxic
at relatively
low levels

Health Concerns

In Laboratory Animals

- Liver toxicity
- Developmental toxicity
- Reproductive toxicity
- Immune toxicity
- Endocrine disruption
- Tumors in liver, pancreas, testes

In Humans

- Increased cholesterol levels
- Altered liver enzyme levels
- Reduced immune response to vaccines
- Lower birth weight
- Blood pressure problems during pregnancy
- Increase risk of thyroid disease
- Increased risk of cancer (kidney and testicular)-PFOA

2021 State Action Levels (SALs)



Features

- Sets action levels for 5 PFAS.
- Requires PFAS testing by most Group A water systems.
- Requires notification of customers.
- Requires follow-up monitoring
- Effective date: Jan 1, 2022.
- Mitigation of water is not required but systems are encouraged to follow public health advice and funding support is available.

Drinking water Contaminant	SAL (parts per trillion)
PFOA	10
PFOS	15
PFNA	9
PFHxS	65
PFBS	345

Policy Calls

- State SAL vs. MCL
- Regulate PFAS as a class vs. individual
- Addressing PFAS mixtures

SAL vs. MCL

State Action Level

Set as close
to Public
Health Goal
as possible...

**Considering:
Technical feasibility**

Maximum Contaminant Level

Set as close
to Public
Health Goal
as possible...

**Considering:
Technical feasibility
Cost-benefit**



A SAL is a Bridge to an MCL

- SALs **require** testing, public notification and **guide** public health response to results.
- Testing will help define scope of problem and necessary funding and resources.
- Sample results are needed to develop state cost-benefit analyses for Maximum Contaminant Levels (MCL).

Consideration of Grouped Approaches



● Class-wide approach (EU)

● Grouped approach (CT, VT, OR, MA, NY)

● Subclasses approach

WA Approach

- Use five SALs as indicators of PFAS impacted water.
- When mitigation is employed, use broad approaches that can remove many PFAS.
- Use widest test panels available to learn about co-occurring PFAS (EPA validated methods).



Implementation of the PFAS SALs

- Initial PFAS test required between Jan 2023-Dec 2025. (EPA methods 533 or 537.1)
- SALs apply to Group A public Water Systems
 - 2,209 Community systems
 - 318 Non-transient, Noncommunity systems
 - ?/1577 Transient Noncommunity (only asked to test if near a detection)
- Voluntary free testing program – 2022/23

2022/23—Initial Water Testing Program

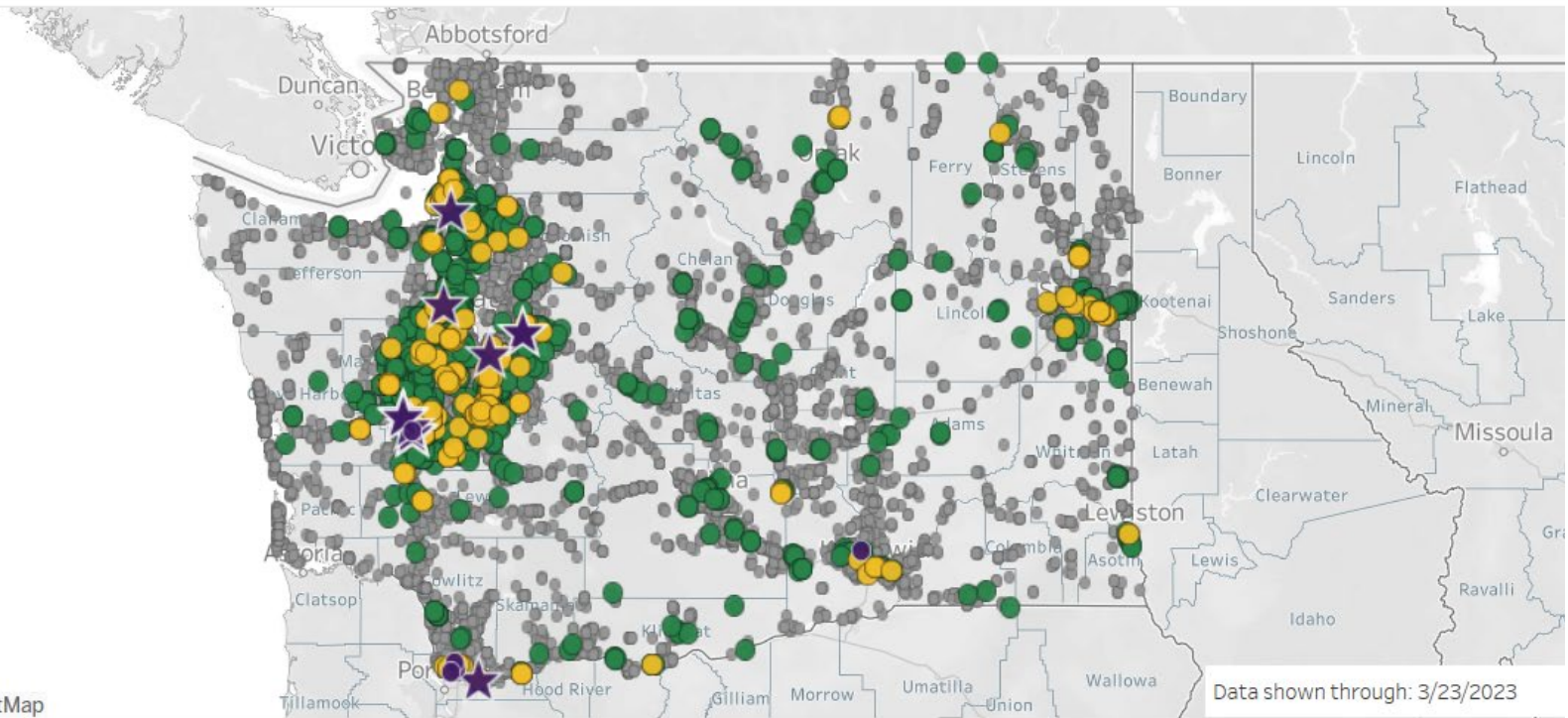
- Offered in advance of required testing (2023-2025)
- Data available online at Sentry Internet Website.
- Summary (as of March 23, 2023)
 - **672** water systems have tested (1,098 sources tested)
 - **13** systems (21 sources) had a PFAS SAL exceedance
 - **195** sources had PFAS detections
 - **82.5** percent of sources tested were non-detect

PFAS in Drinking Water and Ground Water

- Map the most recent PFAS test result for each water source
- Map the highest PFAS test result for each water source

- Not Tested
- No PFAS detected
- PFAS detected at levels below State Action Level (SAL)
- PFAS detected at levels exceeding State Action Level (SAL)
- Indicates action is or has been taken to remove or reduce PFAS exposure

Include Include Include Include Include



2023 Mapbox © OpenStreetMap

Data shown through: 3/23/2023

Source of data: PFAS Detections reported to Sentry Database—primarily voluntary testing.

Implementation Challenges

Response to PFAS Detections

- **Water system response to PFAS detections**
 - Notifying public of SAL exceedance (required)
 - Annual notification for PFAS detections (required)
 - Removing sources from service
 - Exploring treatment alternatives
- **DOD response**
 - Interim action to provide alternate water for drinking and cooking when PFOS +PFOA >70 ppt (No change yet)
 - Some branches are using lower screening values to guide which sources are considered for long-term solutions (based on EPA RSLs)

Evolving Health Guidance Values



SIGN IN NPR SHOP DONATE

NEWS CULTURE MUSIC PODCASTS & SHOWS SEARCH

NATIONAL

EPA warns that even tiny amounts of chemicals found in drinking water pose risks

June 15, 2022 - 11:47 AM ET

THE ASSOCIATED PRESS



PFAS	EPA HALs (2016)	WA SALs (2021)	EPA HALs (2022)
PFOA	70 ppt	10 ppt	<i>0.004 ppt</i>
PFOS	70 ppt	15 ppt	<i>0.02 ppt</i>
PFNA		9 ppt	-
PFHxS		65 ppt	-
PFBS		345 ppt	2,000 ppt
GenX		-	10 ppt

Italics indicates interim HALs -not yet finalized by EPA
ppt = parts per trillion; HAL = Health Advisory Level

Funding for PFAS Mitigation

- Bipartisan Infrastructure Law
- Water Infrastructure – small and disadvantaged communities
- Polluter Pays Concepts under MTCA and CERCLA
- Legislative actions in Washington

PFAS Resource Considerations

	Large Group A	Small Group A	Group B/ Private wells
Access to loans/grants for PFAS mitigation	Yes	Yes	No
Capacity to hire engineering consultants to study sources and recoup costs from responsible party	Yes	No	No
	Federal funding/ state SRF	ECY has limited resources to assist.	Burden falls on individuals and counties.

Health Equity Considerations



Health Advisory



**Health Advisory
with funding**



**Uniform Enforceable
Standard**

Proposed EPA MCLs

EPA Proposed MCL(s)

- Establishes PFOS and PFOA Standards at 4ppt
 - Determines carcinogenic risk for PFOS and PFOA
 - Default MCLG = 0 for carcinogens
 - Detection by lab is the limiting factor
- Proposes a new Health Index for MCL Implementation
 - New to SDWA
 - Historically used under cleanup statutes
 - Addresses 4 additional PFAs for HI determination

EPA Proposed MCL(s) Cont'd

Drinking water Contaminant	Proposed MCL (parts per trillion)
PFOA	4.0
PFOS	4.0
PFNA	10
PFHxS	9.0
PFBS	2000
Gen X Chemicals	10

Where these are calculated as an Index

- Hazard Index = $(\text{[GenXwater]}/\text{[10 ppt]}) + (\text{[PFBSwater]}/\text{[2000 ppt]}) + (\text{[PFNAwater]}/\text{[10 ppt]}) + (\text{[PFHxSwater]}/\text{[9.0 ppt]})$
- Where:
 - GenXwater = monitored concentration of GenX
 - PFBSwater = monitored concentration of PFBS
 - PFNAwater = monitored concentration of PFNA
 - PFHxSwater = monitored concentration of PFHxS

EPA Proposed MCL(s) Cont'd

- Follows EPA's standard monitoring framework
- Requires initial monitoring and ongoing
 - Quarterly or 2x/year depending on size etc
 - No waiver eligibility
 - Detection limit less than WA required currently
- Addressed as a chronic chemical
 - Tier 2 notification
 - Ongoing quarterly monitoring and quarterly notification

Comment Requests EPA Proposed Rule

- The public is invited to review the proposal and supporting information and provide their written input to EPA through the public docket.
- The public docket can be accessed at: www.regulations.gov under Docket ID: EPA-HQ-OW-2022-0114.
- Written comments must be submitted to the public docket 60 days following the proposed rule publishing in the Federal Register
 - Due May 30, 2023.
- For more information on submitting information to EPA dockets: <https://www.epa.gov/dockets/commenting-epa-dockets>

Comment Requests EPA Proposed Rule

- Toxicology review
- Use of the Hazard Index approach
 - Should there be individual MCLs (too)
- Use of significant figures (ties to toxicology and rounding)
- Use of 4.0 ppt for PFOA and PFOS (based on PQL)
- Associated Feasibility
- Use of trigger value of 1.3 ppt and 0.33 for HI

Comment Requests EPA Proposed Rule

- Should Monitoring Waivers be allowed
- Should the detection limit better allow historical data
- Should all systems be allowed 1 sample every 3 years or should SW and large systems require 2
- Treatment efficacy and disposal impacts

EPA Proposed MCL(s) and Other Regulations

- Promulgated MCL are established ARARs under CERCLA, MTCA, and other state cleanup standards
- ARAR = Applicable or Relevant and Appropriate Requirements
- State Regulatory implications Surface and Groundwater

State PFAS Stakeholder forum

Topics

- Forum to discuss solutions to PFAS in surface and drinking water
- **Intended audience**
 - Drinking water purveyors and private wells owners
 - Others who investigate, mitigate, or clean up PFAS
 - State and local governments
 - Any interested parties (communities)

Working together for brighter tomorrow



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