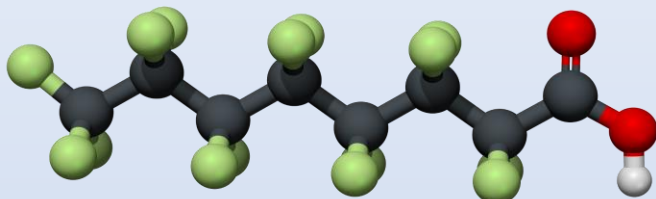


PFAS in Drinking Water New Federal Regulations



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Introduction

New Federal PFAS Maximum
Contaminant Levels (MCLs)
in Drinking Water for
Community and Non-
Transient Non-Community
Public Water Supplies

Regulations published by EPA
on April 26, 2024

EPA has established 5
Individual MCLs plus a
Hazard Index MCL

EPA National Primary Drinking Water Standards

PFAS		Maximum Contaminant Level Goal	Maximum Contaminant Level
PFOA (perfluorooctanoic acid)		0	4.0 ppt
PFOS (perfluorooctane sulfonic acid)		0	4.0 ppt
PFNA (perfluorononanoic acid)		10 ppt	10* ppt
PFHxS (perfluorohexanesulfonic acid)		10 ppt	10* ppt
HFPO-DA (hexafluoropropylene oxide dimer acid, GenX)		10 ppt	10* ppt
Mixture of 2+	PFNA	1 (unitless) Hazard Index (HI)	1 (unitless) Hazard Index (HI)
	PFHxS		
	HFPO-DA		
	PFBS (perfluorobutane sulfonic acid)		

* One significant figure

EPA's Timeline

- Within three years of rule promulgation (2024 – 2027): Initial monitoring must be complete
 - Existing monitoring results can be used to meet this requirement
- Starting three years following rule promulgation (2027 – 2029):
 - Results of initial monitoring must be included in annual Consumer Confidence Reports
 - Compliance monitoring begins, and results of compliance monitoring must be included in Consumer Confidence Reports
 - Public notification required for monitoring and testing violations
- Starting five years following rule promulgation (2029)
 - Comply with all MCLs
 - Public notification required for MCL violations

How is Massachusetts' PFAS6 different from the PFAS included in EPA's MCLs?

Massachusetts MCL = 20 parts per trillion (nanograms per liter)

“PFAS6” is the sum of six PFAS (this is equivalent to a HI):

- PFOS: perfluorooctane sulfonic acid
- PFOA: perfluorooctanoic acid
- PFHxS: perfluorohexane sulfonic acid
- PFNA: perfluorononanoic acid
- PFHpA: perfluoroheptanoic acid
- PFDA: perfluorodecanoic acid

- EPA includes 2 PFAS not in Massachusetts' PFAS6 (HFPO-DA and PFBS)
- Massachusetts includes 2 PFAS not in EPA's MCLs (PFHpA and PFDA)

MA's PFAS6 Rule Compared to EPA's PFAS Rule

- EPA's Practical Quantitation Levels are less stringent than MA's Minimum Reporting Levels

PFAS	EPA PQL (ppt)	MA MRL (ppt)
PFHxS	3.0	2.0
PFNA	4.0	2.0
PFOA	4.0	2.0
PFOS	4.0	2.0

- MCL Compliance based on EPA's Running Annual Average (4 Quarters) versus MA's Quarterly Average (3 Months)
- EPA's Hazard Index MCL (MA's PFAS6 MCL is roughly equivalent with Health-Based Water Concentrations set at 20 ppt)

$$HI\ MCL = \left(\frac{[HFPO-DA_{water}]}{[10\ ppt]} \right) + \left(\frac{[PFBS_{water}]}{[2000\ ppt]} \right) + \left(\frac{[PFNA_{water}]}{[10\ ppt]} \right) + \left(\frac{[PFHxS_{water}]}{[10\ ppt]} \right) = 1$$

Massachusetts' Timeline

- States are required to establish regulations that are no less stringent than the federal standards within 2 years of the promulgation of the federal rule, with the possibility of a 2-year extension
- The Massachusetts PFAS6 MCL of 20 ppt will be updated and will consider MassDEP's 3-Year Review
- MassDEP will be proposing amendments to its PFAS regulations to be at least as stringent as the EPA rule and will be holding public hearings to receive public input on this proposal
- MassDEP expects to have regulations finalized within the 2-year timeframe

Three-Year Review of MA Regulations

- Three-year review of PFAS and Drinking Water as Required by 310 CMR 22.07G(3)(e)

“Review of PFAS and Drinking Water. Not later than December 31, 2023, and once every three years thereafter, the Department shall perform a review of relevant developments in the science, assessment and regulation of PFAS in drinking water for the purpose of evaluating whether to amend 310 CMR 22.07G(3) in light of any advancements in analytical or treatment technology, toxicology and/or any other relevant information. Information about this review shall be made available to the public.”

- Delayed to address final EPA regulations
- Underway; to be completed this summer

Three-Year Review Elements

- Focused on issues relating to toxicology, risks and the standards
- Considering whether to continue MA regulation of PFDA and PFHpA
- Re-evaluating PFHpA toxicity
- Considering implications of evolving EPA PFAS toxicity assessments
 - Final assessments for PFHxA and PFBA (neither of these two are in EPA's rule)
 - Draft assessments for PFDA, PFNA and PFHxS
- Assessing drinking water intake rates and averaging periods

Use of Existing Data for Initial Monitoring



A State may accept data collected since 1/1/2019 to count toward the initial monitoring requirements

EPA – Initial Monitoring Requirements:

Type of System	Minimum Monitoring Frequency
Groundwater COM and NTNC serving > 10,000 Surface water COM and NTNC GWUDI COM and NTNC	Four consecutive quarters of samples at each entry point collected 2 to 4 months apart
Groundwater COM and NTNC serving $\leq 10,000$	Two consecutive samples at each entry point collected 5 to 7 months apart within a 12-month period

- Initial monitoring requirements must be completed by April 26, 2027
- If systems have multiple years of data, the most recent data must be used

Number of Public Water Suppliers Impacted

- Based on the most recent sampling results (not a running annual average)
- Only PWS required to test for PFAS included. Consecutive PWS were not required to test for PFAS because they purchase their water from another PWS.

POTENTIAL IMPACT ON COMMUNITY AND NON-TRANSIENT NON-COMMUNITY PWS

	Number of PWS impacted by the EPA MCLs	% of PWS impacted by the EPA MCLs
PWS with results exceeding the Mass PFAS6 MCL and working with MassDEP to reduce levels	86	12.6%
PWS newly impacted by EPA MCLs	95	13.9%
Total PWS impacted by EPA MCLs	181	26.5%

Where to Find PFAS Testing Results

All PWS testing results are available at:

<https://eeaonline.eea.state.ma.us/Portal/#!/search/drinking-water>

The screenshot shows the 'Energy & Environmental Affairs Data Portal' interface. At the top, there is a navigation bar with links for HOME, DASHBOARDS, SEARCH DATA (with a dropdown arrow), and HELP (with a dropdown arrow). Below the navigation bar, the main heading is 'Search for Drinking Water'. The search form is organized into two columns. The left column contains: 'PWS ID' (text input), 'Town' (dropdown menu with 'Select' as the current value), 'Contaminant Group' (dropdown menu with 'Select' as the current value), and 'Raw OR Finished' (dropdown menu with 'Select' as the current value). The right column contains: 'PWS Name' (text input), 'Class' (dropdown menu with 'Select' as the current value), 'Chemical Name' (dropdown menu with 'Select' as the current value), and 'Collected Date' (date range selector with two calendar icons and a 'to' label). At the bottom left of the form, there are two buttons: 'PREVIOUS' (with a left arrow) and 'CLEAR' (with an 'X'). At the bottom right, there is an orange 'SEARCH' button with a magnifying glass icon. The background of the form area features a faint city skyline illustration.

Search under the Town name or PWS name and the Contaminant Group "PFAS"

Nationwide PWS Impacted by PFAS

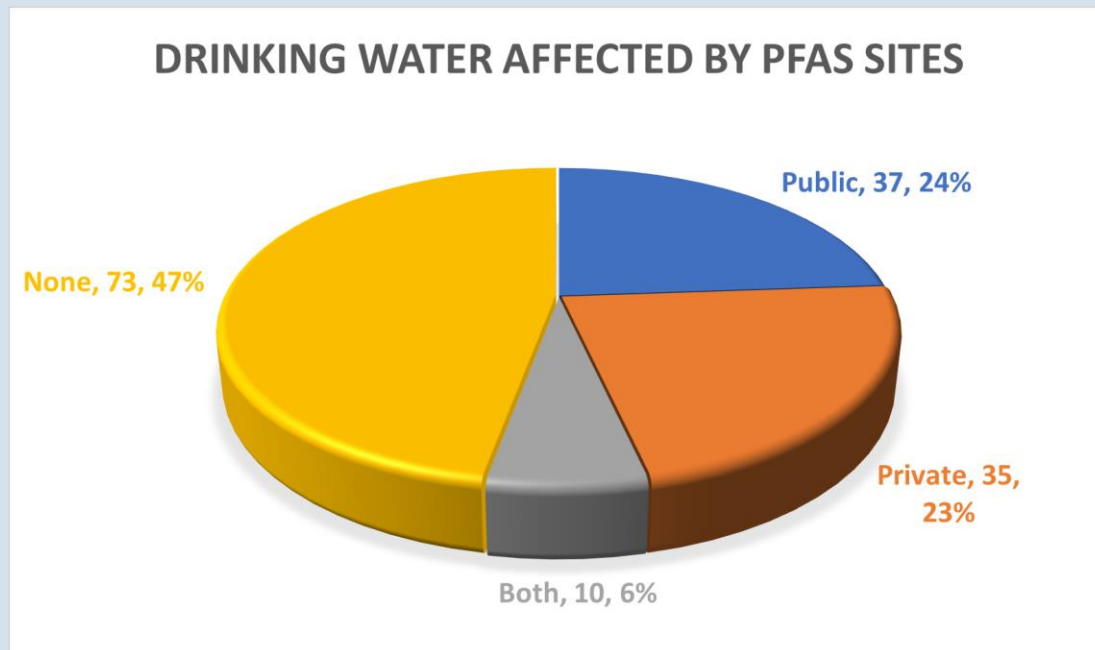
- EPA Fifth Unregulated Contaminant Monitoring Rule sampling underway 2023-2025
- Monitoring data being collected from PWS for 29 PFAS and lithium
- PFOA and/or PFOS were measured above the new MCLs for **16.1%** of PWSs nationally
- Some states with a larger percent of impacted PWS: Connecticut, New Jersey, North Carolina, Rhode Island, Florida, and Maryland
- The UCMR 5 Data Finder is available and can be sorted by EPA Region, State, PWS, Water Type, etc.

<https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule>

MassDEP Bureau of Waste Site Cleanup

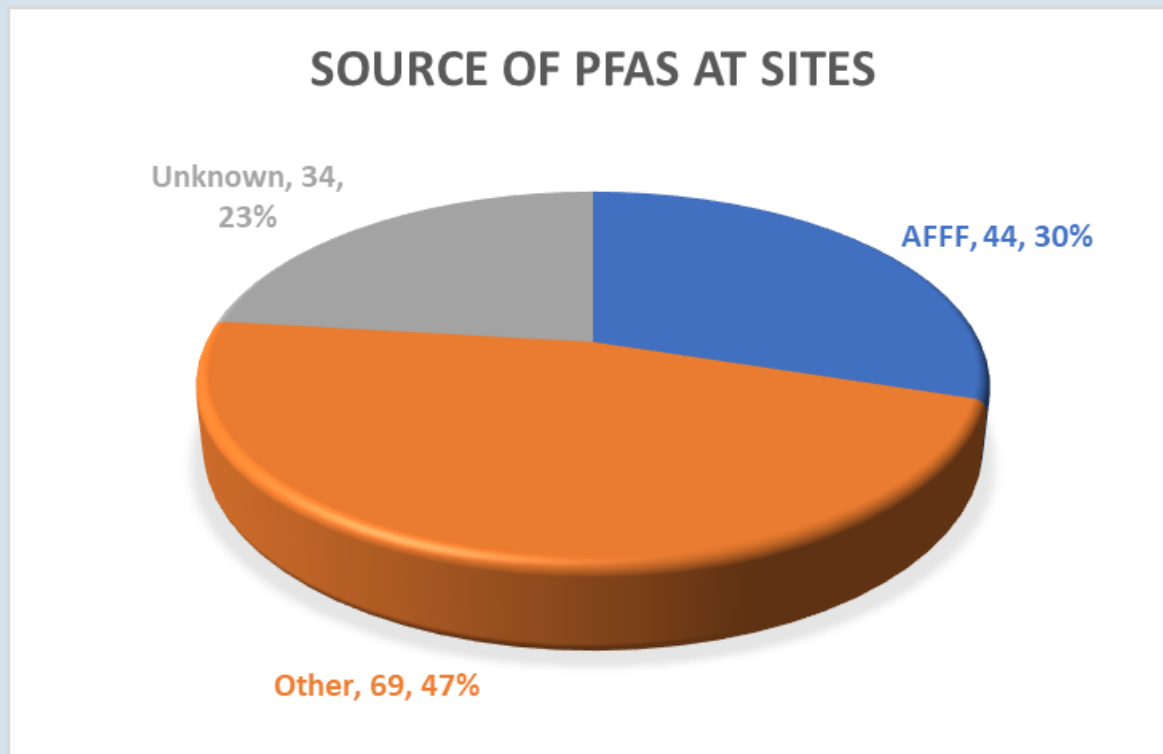
Investigations of Sources

- There are 155 site investigations of PFAS contamination with 47 of these associated with public water supply sources
- 28% of all PFAS notifications (release tracking numbers) are within Environmental Justice areas



Where is PFAS coming from?

MassDEP
investigations
of PFAS
sources



- AFFF = Aqueous Film-Forming Foam used for firefighting, at training areas, airports, etc.
- Other = manufacturing sites, landfills, industrial paper waste composting, scrap/waste metal facilities, fertilizer from biosolids, etc.

Investigation Documents for PFAS Contaminated Sites

<https://eeaonline.eea.state.ma.us/portal#!/home>

Environmental Data Search

Search for environmental data on permits, facilities, inspections, enforcements, and specific environmental datasets.
You can customize your search results using filters.



Permits



Facilities



Inspections



Enforcements



Waste Site Cleanup File Viewer



Asbestos



Wetlands Notice of Intent Projects



Lead & Copper in Schools/Childcare

[SEE ALL DATA SEARCH CATEGORIES >](#)



MassDEP



What Should PWS Do Now?

- For those systems that may be impacted by the new standards and will need to undertake compliance efforts, MassDEP strongly encourages you to begin planning now. MassDEP encourages PWS to plan for how to comply with federal Safe Drinking Water Act Regulations well in advance of the 2027 – 2029 compliance dates
- Funding and Technical Assistance are available

Financial Investment by the Commonwealth and EPA to Assist PWS



- The 2024 MassDEP Drinking Water State Revolving Loan Fund Program's Intended Use Plan includes 31 construction projects to address PFAS
- MassDEP and the Clean Water Trust have already issued 31 loans totaling over \$245 million at a 0% interest rate for construction projects to address PFAS in drinking water; in addition, MassDEP has issued Project Approval Certificates/Regulatory Agreements for another \$208 million in loans, totaling \$453 million for PFAS projects
- Starting this year, the EPA Emerging Contaminants in Small or Disadvantaged Communities Grant Program (administered by MassDEP) will offer \$32 million to PWS to address PFAS

Current Funding Sources



MassDEP Drinking Water State Revolving Loan Fund

- 0% interest rate on PFAS loans
- Additional principal forgiveness on loans (PFAS and disadvantaged communities)
- Solicitation for 2025 now open – deadline is **July 26, 2024**

<https://www.mass.gov/lists/state-revolving-fund-applications-forms>

Emerging Contaminants in Small or Disadvantaged Communities Grant

- Small PWS serving less than 10,000 customers
- Disadvantaged Communities meeting the Clean Water Trust's definition:

<https://www.mass.gov/info-details/the-disadvantaged-community-program>

- For more information and to complete a needs survey:

<https://www.mass.gov/info-details/emerging-contaminants-in-small-or-disadvantaged-communities-grant>

Technical Assistance

Assistance will be available through UMass Amherst and the MassDEP Drinking Water Program Boston and Regional Offices

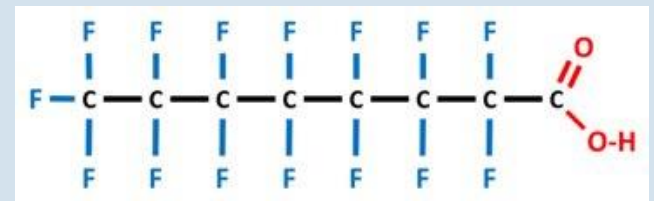
Assistance includes:

- Planning for and applying for grant and loan funding
- Completing required grant and loan paperwork and reporting
- Planning for treatment/construction projects to address contamination, including permitting and hiring contractors
- Review of potential service connections to identify opportunities to connect small PWS with elevated levels of PFAS to larger municipal PWS
- Operator training and identification of treatment technologies
- Compliance calculations
- Use of the UMass Amherst Mobile Testing Laboratory

EPA Method 533

PFAS Testing Methodology

- MassDEP regulations allow for EPA Methods 537 and 537.1
- EPA requires Method 533 for UCMR5
- MassDEP is revising its regulations to allow PWS to submit sampling results analyzed using Method 533 and is evaluating the pathways for accepting this method during the interim period before new state PFAS regulations are promulgated



Recap and Next Steps

- Public Water Suppliers should be monitoring their PFAS testing results and if necessary, start planning to address elevated levels of PFAS
- MassDEP will be in contact with PWS as we revise our regulations and hold public hearings over the next 2 years
- MassDEP or UMass Amherst technical assistance providers will be available and will be contacting PWS that will need to address PFAS



Questions?

Please type your questions
in the chat box.

General PFAS Questions, email the MassDEP Drinking Water Program:
Program.Director-DWP@mass.gov