



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Safe Drinking Water

Pennsylvania's PFAS MCL Rule

Citizens Advisory Council

January 9, 2024

Josh Shapiro, Governor

Jessica Shirley, Interim Acting Secretary

PFAS Background

- **Per- and polyfluoroalkyl substances (PFAS)** are a class of synthetic chemicals that have been manufactured and in use since the 1940s.
- PFAS are used to make products resistant to water, heat and stains and are found in industrial and consumer products
- PFAS have unique chemical properties because they readily dissolve in water and are mobile, are highly persistent in the environment, and bioaccumulate.

Nonstick cookware

Fire-fighting foam

Some sunscreens

Stain-resistant and
water-resistant fabrics
and coatings

Personal care products

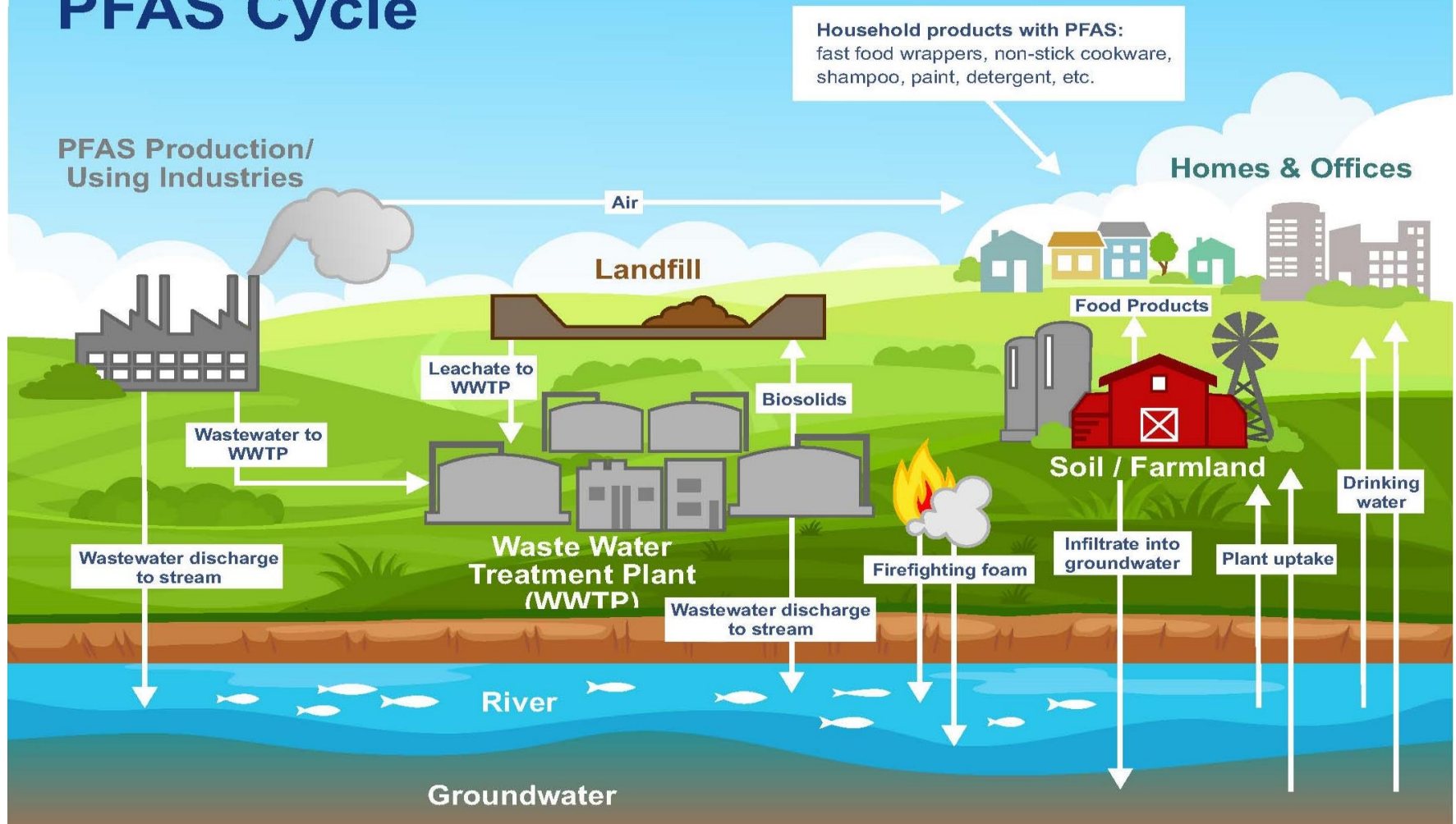
Dental floss

Adhesives

Fast-food wrappers

PFAS Background

PFAS Cycle



PFAS Background

- PFAS are not yet regulated in drinking water on a national level.
- PFAS are considered emerging contaminants - research is ongoing to better understand PFAS and the potential impacts to human health.
 - Perfluorooctanoic acid (PFOA) is linked to adverse developmental effects (neurobehavioral effects and skeletal effects).
 - Perfluorooctanesulfonic acid (PFOS) is linked to adverse immune system effects (including immune suppression).

MCL Rulemaking Process

An MCL rulemaking must consider all factors as required by the Federal Safe Drinking Water Act (SDWA) and Pennsylvania's Regulatory Review Act (RRA), including:

- Health effects
- Occurrence data
- Treatability and available treatment technologies
- Technical limitations, such as analytical methods and detection & reporting limits
- Costs and benefits

Key Projects:

- **PFAS Sampling Plan**
- **PFAS Toxicology Services Contract**

PFAS Sampling Plan

Intended to prioritize sites for PFAS sampling and generate statewide occurrence data:

- Developed a GIS data layer of *potential* sources of PFAS contamination (PSOC)
- Identified public water supply (PWS) sources located within ½ to ¾ of mile of PSOCs
- Identified PWS sources located within forested watersheds and > 5 miles from PSOCs to serve as baseline/control sites

PFOA	PFOS
Detected: 112/412 sites (27%)	Detected: 103/412 sites (25%)
1.7 – 59.6 ppt (average 7.5)	1.8 – 187.1 ppt (average 9.9)

Toxicology Services Contract

DEP executed a Toxicology Services contract with Drexel University to:

- Review work from other states and federal agencies on MCLs.
- Independently review the available data, science and studies on the toxicology of PFAS.
- Develop recommended maximum contaminant levels goals (MCLGs) for select PFAS.
- Provide additional information supporting benefits analysis.

PFAS	MCLG (ng/L or ppt)
PFOA	8
PFOS	14

Technical Considerations

Surveys were conducted to increase knowledge on treatment availability, analytical laboratory capacity, and costs

PA Accredited laboratories

Systems in PA with PFAS treatment

Treatment technology vendors

Other states



DEP's PFAS MCL Rule

PFAS MCL Rule was published as a final rule in the *PA Bulletin* on January 14, 2023.

Purpose:

- Improve public health protection by setting maximum contaminant level goals (MCLGs) and maximum contaminant levels (MCLs) for **PFOA** and **PFOS**
- Set MCL compliance provisions for monitoring, reporting and public notification
- Specify analytical methods, reporting limits and acceptable treatment technologies

Key Provisions of PFAS MCL Rule

- MCLs and MCLGs:

	MCLG (ng/L)	MCL (ng/L)
PFOA	8	14
PFOS	14	18

ng/L = nanograms per liter = parts per trillion (ppt)

EP = entry point

- Comparison to other states

	NY	MI	NJ	NH	PA	MA	VT	WA
PFOA	10	8	14	12	14	20*	20*	10
PFOS	10	16	13	15	18	20*	20*	15

Key Provisions of PFAS MCL Rule

- Monitoring Requirements
 - Apply to all community, nontransient noncommunity, bottled, vended, retail and bulk hauling water systems.
 - Initial monitoring is quarterly at each EP.
 - Repeat monitoring is quarterly, annual or triennial based on sampling results (i.e., non-detected, detected, reliably & consistently less than MCL).
- MCL Compliance:
 - Based on a running annual average (RAA) at each Entry Point (EP).
 - If any quarterly result causes RAA to exceed MCL, a violation is incurred for that quarter.

Key Provisions of PFAS MCL Rule

- Analysis:
 - Samples must be analyzed by a PA-accredited lab using an approved method.
 - Labs must achieve reporting limit of 5 ng/L.
- Treatment:
 - Approved technologies are Granular Activated Carbon (GAC), Ion Exchange or Reverse Osmosis.
 - Other technologies approved by DEP.
- Tier 2 public notice (PN) is required for MCL violations.
- Results must be reported in the annual Consumer Confidence Report.



[PFAS MCL Rule \(pa.gov\)](#)

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PFAS MCL Rule

PFAS are a large class of man-made synthetic chemicals that were created in the 1930s and 1940s for use in many industrial and manufacturing applications. PFAS have been widely used for their unique properties that make products repel water, grease and stains, reduce friction and resist heat. Because of their unique chemical structure, PFAS readily dissolve in water and are mobile, are highly persistent in the environment and bioaccumulate in living organisms over time. PFAS are referred to as “forever chemicals,” because they do not readily break down when exposed to air, water, or sunlight. The primary means of distribution of PFAS throughout the environment has been through the air, water, bio-

- Ground Water Rule
- Lead and Copper Rule
- PFAS MCL Rule** 13

Funding for PFAS Projects

- **Infrastructure Investment And Jobs Act (IIJA):**
 - Supplemental Emerging Contaminants funding (focus on PFAS) for next 5 years as PENNVEST DWSRF grants or principal forgiveness (~\$23.3 M).
 - General Supplemental funding for next 5 years as PENNVEST DWSRF low-interest loans or principal forgiveness that can be used to address PFAS (~\$60.9 M).
- **Additional funding options:**
 - Base DWSRF funding continues to be available as PENNVEST low-interest loans or principal forgiveness (~\$25.9 M).
 - Future funding opportunity via Emerging Contaminants in Small or Disadvantaged Communities (EC-SDC) grant; anticipated first allotment from EPA approx. March 2024 (~\$37.5 M)

EPA Actions

EPA Actions to address PFAS in Drinking Water:

- Lifetime Health Advisory Levels (HALs) for select PFAS
 - <https://www.epa.gov/sdwa/drinking-water-health-advisories-pfoa-and-pfos>
- Third and Fifth Unregulated Contaminant Monitoring Rule (UCMR 3 and 5)
 - <https://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule>
- Proposed National Primary Drinking Water Regulation (NPDWR)

NPDWR

- March 3, 2021: Regulatory Determination 4 for PFOA and PFOS
- October 18, 2021: PFAS Strategic Roadmap
- National Primary Drinking Water Regulation (NPDWR)
 - The proposed rule was published in the Federal Register on March 29, 2023, and includes regulatory determination for PFHxS, HFPO-DA, PFNA, PFBS.
 - EPA hopes to publish the final rule in early 2024.
- The compliance date for a NPDWR is 3 years after it is published as final regulation.

EPA Actions to Address PFAS



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EPA Actions to Address PFAS

Under the Biden-Harris Administration, EPA has restored scientific integrity and accelerated the pace of research and actions needed to tackle the PFAS crisis and protect American communities.

- [Learn more about PFAS.](#)
- [Learn more about EPA's PFAS Strategic Roadmap.](#)

Since January 2021, EPA has taken bold actions, including:

PFAS News Releases

- [Read the latest news from EPA about PFAS.](#)

<https://www.epa.gov/pfas/key-epa-actions-address-pfas>



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