AMERICAN WATER

PFAS introduction

Environmental Policy Commission

February 23, 2026

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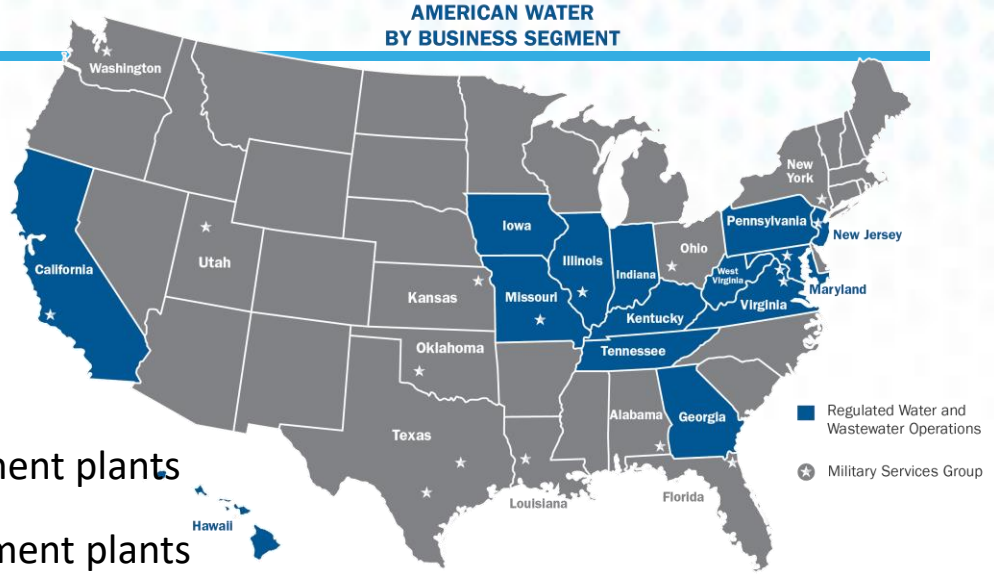
- US PFAS data collected during UCMR
- PFAS info from U.S EPA

About American Water

Largest regulated water and wastewater company in the United States

- Founded in 1886, American Water (NYSE: AWK) has **served customers and communities for more than 135 years**.
- We serve a broad national footprint and **a strong local presence**.
- We treat and deliver more than **one billion gallons of water daily**.
- We provide services to more than **14 million people with regulated operations in 14 states and on 18 military installations**.
- We **employ 6,700 talented professionals** who leverage their significant expertise and the company's national size and scale to achieve excellent outcomes for the benefit of customers, employees, investors and other stakeholders.



Primary operating assets:

- **80** surface water treatment plants
- **490** groundwater treatment plants
- **175** wastewater treatment plants
- **53,500** miles of transmission, distribution and collection mains and pipes
- **1,100** groundwater wells
- **1,700** water and wastewater pumping stations
- **1,100** treated water storage facilities
- **73** dams
- **18** military bases

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VIRGINIA AMERICAN WATER:

Over 140 YEARS OF SERVING VIRGINIA

384,000

POPULATION SERVED

50,000,000 GALS

WATER DELIVERED EACH DAY

FORT BELVOIR & FORT WALKER

MILITARY BASES SERVED IN VA BY AW MSG

VIRGINIA AMERICAN WATER

ALEXANDRIA SINCE 1886

HOPEWELL SINCE 1930

FORT GREGG-ADAMS SINCE 2001

PRINCE WILLIAM SINCE 1966

NORTHERN NECK SINCE 2000

WAVERLY SINCE 2022

CAPE CHARLES SINCE 2024

PFAS overview

PFAS overview

What are PFASs?

PFAS (**Per- and Polyfluoroalkyl Substances**) are a large group of man-made chemicals used since the 1940s in products like nonstick cookware, water-resistant fabrics, firefighting foams, and food packaging. They are called **“forever chemicals”** because their carbon-fluorine bonds make them extremely resistant to breakdown in the environment and the human body

How do PFAS get into drinking water:

- **Industrial discharge** from manufacturing facilities
- **Firefighting foams** used at airports and military bases
- **Wastewater treatment plant effluent and biosolids**
- **Landfill leachate** and contaminated soil runoff

These sources allow PFAS to infiltrate **groundwater, surface water, and public water systems**

PFAS overview

Health risks:

Long-term exposure to PFAS is linked to:

-Increased risk of **certain cancers**

-Developmental issues in infants and children

Regulatory Standards

The **EPA's National Primary Drinking Water Regulation (2024)** sets enforceable limits:

- PFOA & PFOS: 4 parts per trillion (ppt)

- PFHxS, PFNA, HFPO-DA (GenX): 10 ppt

- Mixtures: Hazard Index = 1

Compliance deadlines: monitoring by **2027**, full compliance by **2029** (with some extensions under review).

PFAS overview

Detection & monitoring

- **EPA Methods 533 & 537.1** using LC-MS/MS for ultra-trace detection (ppt level)
- Sampling at entry points to distribution systems
- Public reporting in Consumer Confidence Reports

Treatment options

- Granular Activated Carbon (GAC)
- Ion Exchange Resins
- Reverse Osmosis/Nanofiltration
- Emerging destruction technologies (thermal, electrochemical)

US PFAS data collected during UCMR (Nationwide data)

PFAS monitoring initiated as part of the Unregulated Contaminant Monitoring Rule (UCMR)

Monitoring conducted during round 3 and round 5 of UCMR

PFAS Methods

UCMR 3

- Included 6 PFAS using EPA Method 537
- Reporting Limits were 10 – 90 ng/L

Class	Compound, Carbon #	EPA 537	EPA 537.1	EPA 533
Perfluoroalkyl sulfonic acids (PFSAs)	PFBS - C4	X	X	X
	PFPeS - C5			X
	PFHxS - C6	X	X	X
	PFHpS - C7			X
	PFOS - C8	X	X	X
Perfluoroalkyl carboxylic acids (PFCAs)	PFBA - C4			X
	PFPeA - C5			X
	PFHxA - C6	X	X	X
	PFHpA - C7	X	X	X
	PFOA - C8	X	X	X
	PFNA - C9	X	X	X
	PFDA - C10	X	X	X
	PFUnA - C11	X	X	X
	PFDoA - C12	X	X	X
	PFTrDA - C13	X	X	
	PFTA - C14	X	X	
Per- and polyfluoroalkylether acids (PFEAs) - Per- and polyfluoroether sulfonic acids (PFESAs) - Per- and polyfluoroether carbonic acids (PFECAs)	PFEESA (PFESA)			X
	9Cl-PF3ONS - C8 (PFESA)		X	X
	11Cl-PF3OUdS - C10 (PFESA)		X	X
	PFMPA (PFECA)			X
	PFMBA (PFECA)			X
	NFDHA (PFECA)			X
	HFPO-DA (GenX) (PFECA)		X	X
	ADONA (PFECA)		X	X
Fluorotelomere sulfonates (FTSs)	4:2 FTS			X
	6:2 FTS			X
	8:2 FTS			X
Fluoroalkyl sulfonamidoacetic acids (FASAAs)	NEtFOSAA	X	X	
	NMeFOSAA	X	X	

UCMR 5

- Includes 29 PFAS using EPA Methods 537.1 and 533
- Reporting Limits are 3 – 8 ng/L

Class	Compound, Carbon #	EPA 537	EPA 537.1	EPA 533
Perfluoroalkyl sulfonic acids (PFSAs)	PFBS - C4	X	X	X
	PFPeS - C5			X
	PFHxS - C6	X	X	X
	PFHpS - C7			X
	PFOS - C8	X	X	X
Perfluoroalkyl carboxylic acids (PFCAs)	PFBA - C4			X
	PFPeA - C5			X
	PFHxA - C6	X	X	X
	PFHpA - C7	X	X	X
	PFOA - C8	X	X	X
	PFNA - C9	X	X	X
	PFDA - C10	X	X	X
	PFUnA - C11	X	X	X
	PFDoA - C12	X	X	X
	PFTrDA - C13	X	X	
	PFTA - C14	X	X	
Per- and polyfluoroalkylether acids (PFEAs) - Per- and polyfluoroether sulfonic acids (PFESAs) - Per- and polyfluoroether carbonic acids (PFECAs)	PFEESA (PFESA)			X
	9Cl-PF3ONS - C8 (PFESA)		X	X
	11Cl-PF3OUdS - C10 (PFESA)		X	X
	PFMPA (PFECA)			X
	PFMBA (PFECA)			X
	NFDHA (PFECA)			X
	HFPO-DA (GenX) (PFECA)		X	X
	ADONA (PFECA)		X	X
Fluorotelomere sulfonates (FTSs)	4:2 FTS			X
	6:2 FTS			X
	8:2 FTS			X
Fluoroalkyl sulfonamidoacetic acids (FASAAs)	NEtFOSAA	X	X	
	NMeFOSAA	X	X	

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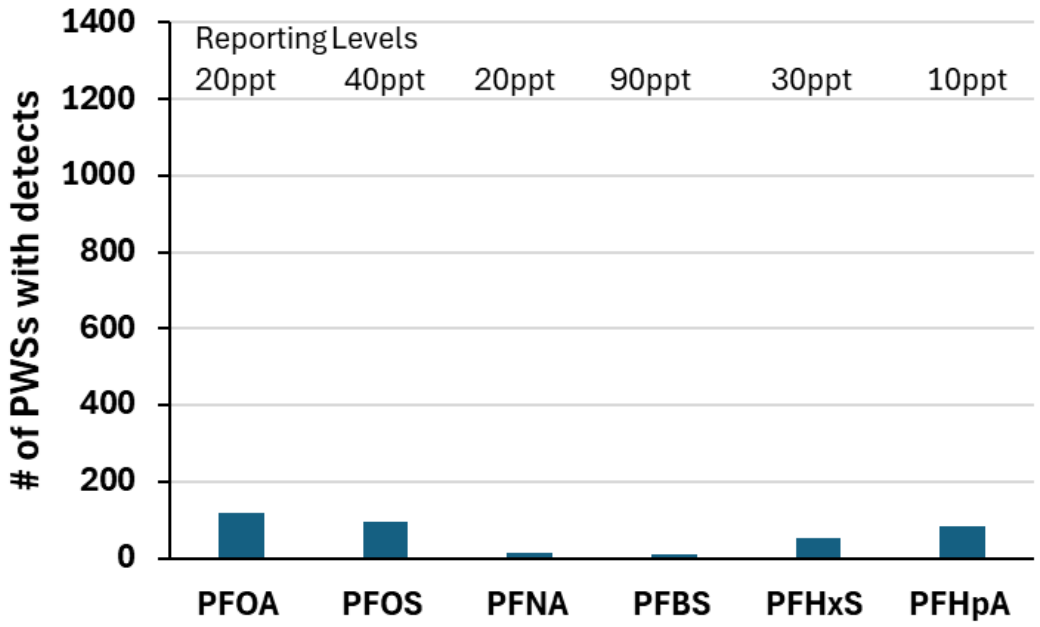
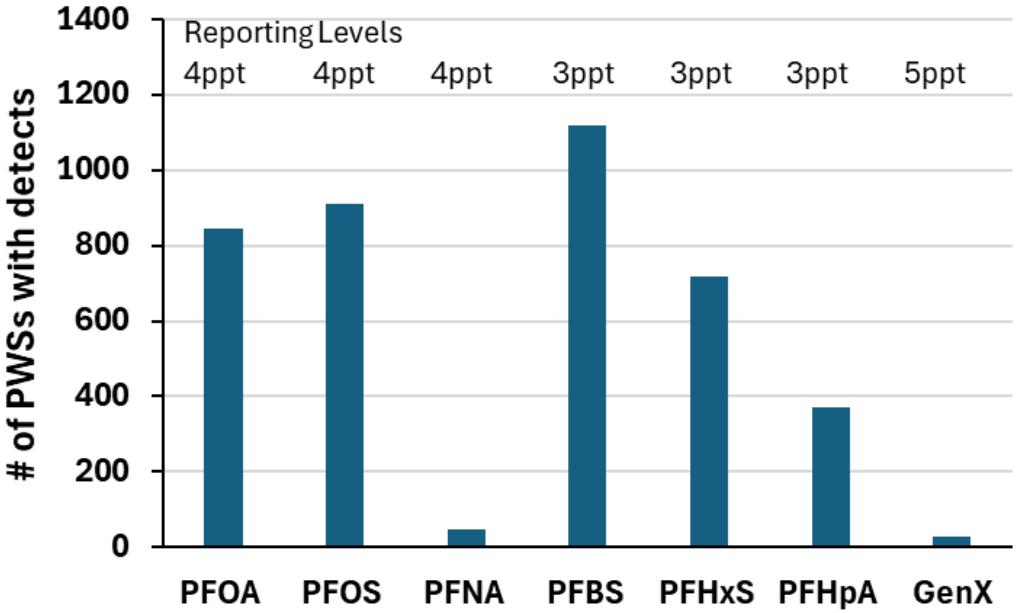
UCMR 3 vs UCMR 5

UCMR 3 – Testing 2013-2015



All PWSs serving more than 10,000 people and 800 PWSs serving 10,000 or fewer
➔Total: ~5,000 PWSs

UCMR 5 – Testing 2023-2025



All PWSs serving more than 3,300 people and 800 PWSs serving fewer than 3,300
➔Total: ~10,300 PWSs

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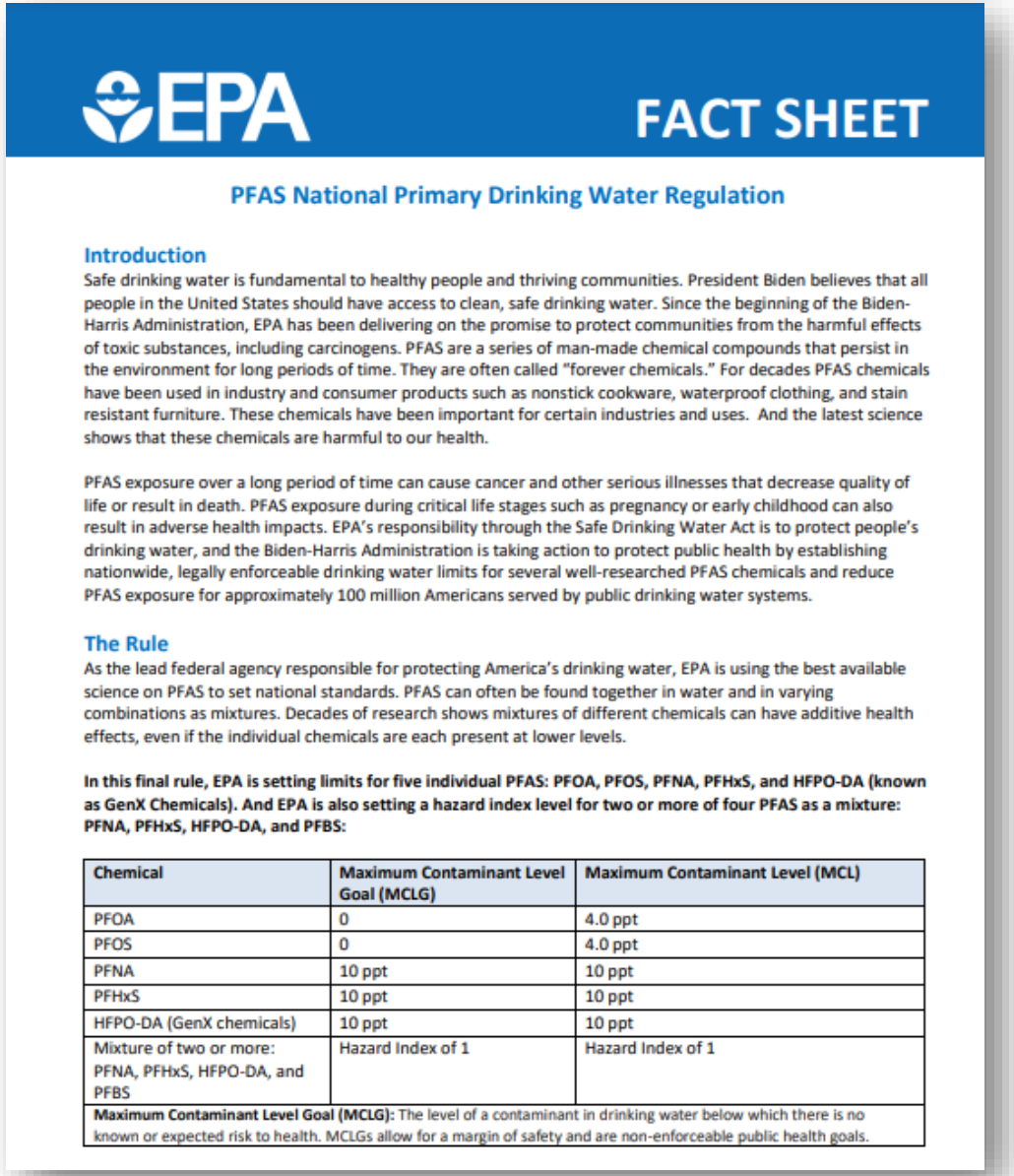
PFAS Information available from U.S. EPA

EPA Resources for Drinking Water Utilities

- Presentation recordings from April 2024 webinars
- General Q&A
- Fact Sheet: Reducing PFAS in Your Drinking Water with a Home Filter
- Fact Sheet: Benefits and Costs of Reducing PFAS in Drinking Water
- Fact Sheet: PFAS NPDWR Monitoring and Reporting
- Fact Sheet: Understanding the Hazard Index
- Fact Sheet: Small systems
- Fact Sheet: Treatment Options for Removing PFAS in Drinking Water
- https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas



EPA FACT SHEET

PFAS National Primary Drinking Water Regulation

Introduction

Safe drinking water is fundamental to healthy people and thriving communities. President Biden believes that all people in the United States should have access to clean, safe drinking water. Since the beginning of the Biden-Harris Administration, EPA has been delivering on the promise to protect communities from the harmful effects of toxic substances, including carcinogens. PFAS are a series of man-made chemical compounds that persist in the environment for long periods of time. They are often called "forever chemicals." For decades PFAS chemicals have been used in industry and consumer products such as nonstick cookware, waterproof clothing, and stain resistant furniture. These chemicals have been important for certain industries and uses. And the latest science shows that these chemicals are harmful to our health.

PFAS exposure over a long period of time can cause cancer and other serious illnesses that decrease quality of life or result in death. PFAS exposure during critical life stages such as pregnancy or early childhood can also result in adverse health impacts. EPA's responsibility through the Safe Drinking Water Act is to protect people's drinking water, and the Biden-Harris Administration is taking action to protect public health by establishing nationwide, legally enforceable drinking water limits for several well-researched PFAS chemicals and reduce PFAS exposure for approximately 100 million Americans served by public drinking water systems.

The Rule

As the lead federal agency responsible for protecting America's drinking water, EPA is using the best available science on PFAS to set national standards. PFAS can often be found together in water and in varying combinations as mixtures. Decades of research shows mixtures of different chemicals can have additive health effects, even if the individual chemicals are each present at lower levels.

In this final rule, EPA is setting limits for five individual PFAS: PFOA, PFOS, PFNA, PFHxS, and HFPO-DA (known as GenX Chemicals). And EPA is also setting a hazard index level for two or more of four PFAS as a mixture: PFNA, PFHxS, HFPO-DA, and PFBS:

Chemical	Maximum Contaminant Level Goal (MCLG)	Maximum Contaminant Level (MCL)
PFOA	0	4.0 ppt
PFOS	0	4.0 ppt
PFNA	10 ppt	10 ppt
PFHxS	10 ppt	10 ppt
HFPO-DA (GenX chemicals)	10 ppt	10 ppt
Mixture of two or more: PFNA, PFHxS, HFPO-DA, and PFBS	Hazard Index of 1	Hazard Index of 1

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.

Thank you!