

Per- and Polyfluoroalkyl Substances (PFAS)

An Emerging Contaminant in Drinking Water

CWWA Annual Meeting

October 18, 2018

Lori Mathieu

Public Health Section Chief
Drinking Water Section

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Overview

- What are PFAS?
- PFAS uses
- Brief history of PFAS sampling in drinking water
- What is happening Locally, Regionally and Nationally?
- What is CT Department of Public Health (DPH) Drinking Water Section doing?
- Learn more about PFAS
- Contact information

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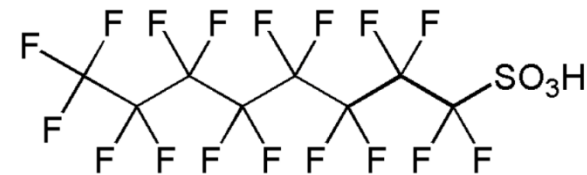
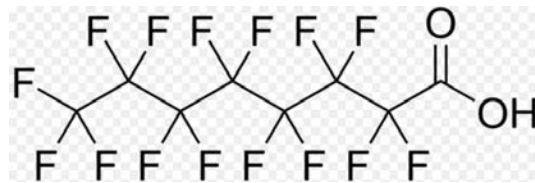
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What are PFAS?

PFAS = per- and polyfluoroalkyl substances

- Manufactured compounds, not found naturally
- There are thousands of different PFAS
- Environmentally persistent and stable
 - Does not degrade readily in the environment or in the human body
- Phase out of larger chain PFAS, such as PFOA and PFOS, began in 2000s
 - PFOA = Perfluorooctanoic Acid ($C_8HF_{15}O_2$)
 - PFOS = Perfluorooctane Sulfonate ($C_8HF_{17}O_3S$)



PFAS Uses – Not all inclusive

- Oil, water, and dirt repellant coatings
- Non-stick cooking surface coatings
- Coated paper for food packaging
- Personal care products, cosmetics
- Paints and adhesives
- Fluoro-elastomers (gaskets, O-rings, hoses)
- Mist suppressant in metal plating baths, esp. chromium
- Aqueous Film Forming Foam (AFFF)



PFAS Drinking Water History

2013-2015

- EPA – Third Unregulated Contaminant Monitoring Rule ([UCMR 3](#))
- Required all public water systems (PWS) that serve over 10,000 consumers to test for six PFAS, including PFOA and PFOS between 2013 and 2015
- None of the large PWS in Connecticut that tested for PFAS had detections above the reporting limit.
 - Provisional health advisory and reporting limits were much higher during the UCMR3
- These PWS serve over 2,400,000 daily consumers

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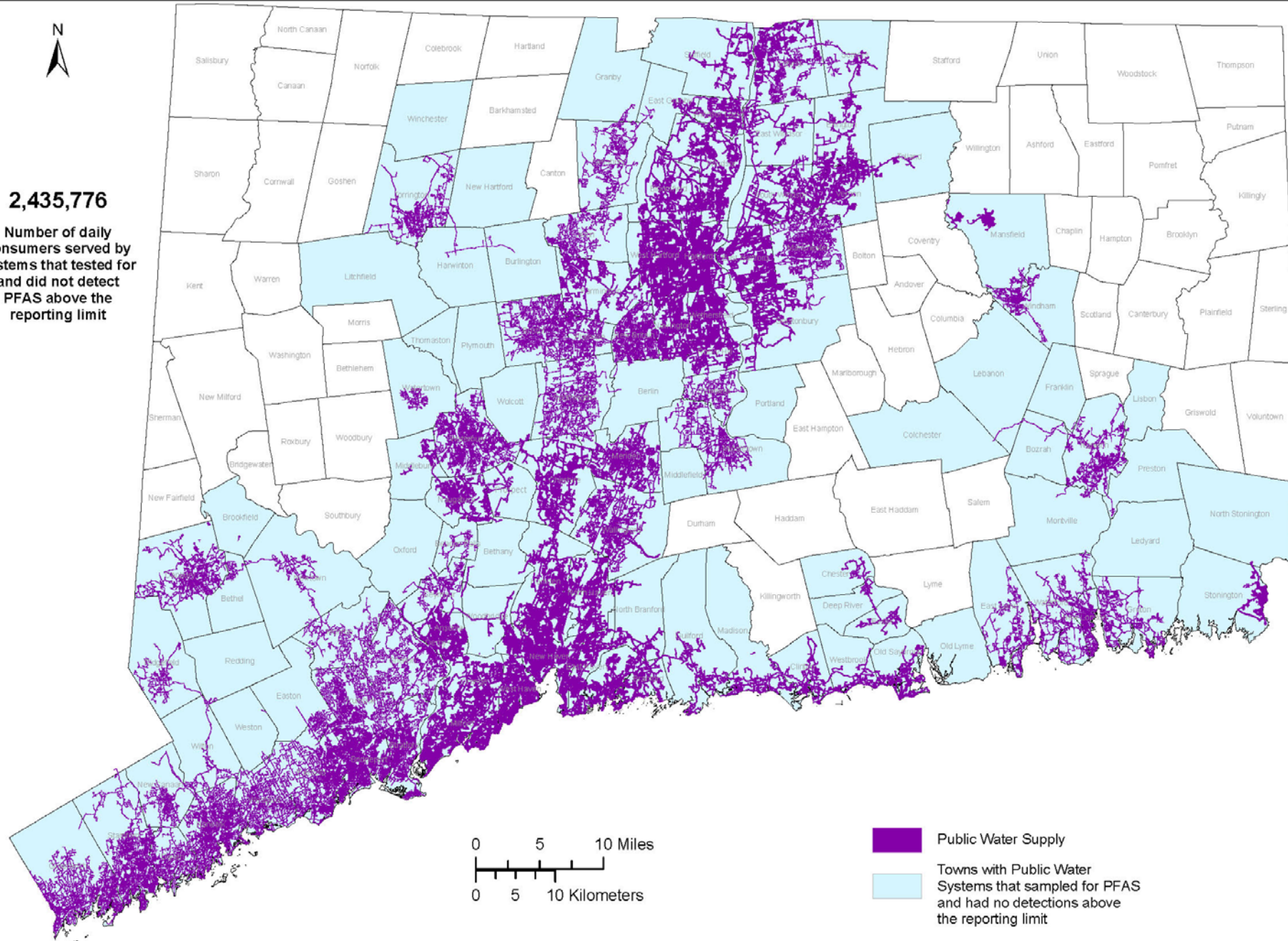


Connecticut Towns Served by Public Water Systems that have Tested for PFAS

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2,435,776
Number of daily
consumers served by
systems that tested for
and did not detect
PFAS above the
reporting limit



What is State of CT doing?

- Created an interagency team with Department of Energy and Environmental Protection (DEEP)
- Drafted a strategy to minimize human exposure to PFAS through drinking water which includes a [CT Drinking Water Action Level](#) of 70 parts per trillion for the sum of five PFAS
- Trained an interagency team in collecting drinking water samples for analysis for PFAS
- Developed public outreach communication materials and websites
- Collaborating with agency counterparts in the Northeast and Nationally

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What are other Northeastern States Doing?

	NY	NJ	NH	VT	MA	RI
Providing Drinking Water Sampling and Testing	✓		✓	Pilot sampling program at schools to be expanded	Targeted for vulnerable systems near PFAS generators	Investigative and targeted sampling schools, daycares and water bottling plants
Extending water mains, providing bottled water or treatment	✓		✓	✓		
Conducting Biomonitoring	✓	✓	✓	✓		
Regulating PFAS	Using EPA HA of 70 ppt for PFOA and PFOS. Evaluating creation of MCL. PFOA and PFOS Hazardous Substance State Superfund Program	DW MCL: 19 ppt PFNA Proposed: 13 ppt PFOS & 14 ppt PFOA	Legislative mandate for PFAS MCL by Dec. 2018	DW MCL: 20 ppt for sum of 5 PFAS Hazardous Substance State Superfund Program	DWAL 70 ppt for sum of 5. Potential to set as MCL.	Using EPA HA of 70 ppt for PFOA and PFOS, Considering using sum of 5.
State lab capacity to analyze samples	✓				Proposed	✓
Dept. of Defense lead at military installations	✓		✓		✓	

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What is EPA doing?

- Reacting to requests from the States to show leadership and provide guidance.
- In May, announced a [Four Step Action Plan](#) :
 - Initiating steps to evaluate the need for a maximum contaminant level (MCL) for PFOA and PFOS.
 - Beginning the necessary steps to propose designating PFOA and PFOS as “hazardous substances”
 - Developing groundwater cleanup recommendations for PFOA and PFOS.
 - Developing toxicity values for GenX and PFBS.
- Held five “Listening Sessions” and created a docket for public input
- Drafting a **PFAS Management Plan** to include all the above by end of 2018

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What is the CT DPH Drinking Water Section doing?

- Participating in the national PFAS Conversation
 - EPA's PFAS [National Leadership Summit](#) in May 2018
 - EPA's [Community Engagement](#) in Exeter, NH in June of 2018
- Responding to identified PFAS Contamination
 - Greenwich/NY Border
 - Utilized an EPA mapping tool to identify and select vulnerable PWS for sample collection
 - Coordinated outreach with Local Health Department; Communicated directly with PWS to be sampled
 - Arranged sample collection/analysis
 - Participated in [public outreach and education](#)

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What is the CT DPH Drinking Water Section doing?

- Providing Education, Outreach and Resources to Public Water Systems and Local Health Departments/Districts
 - [Circular Letters](#) 2016-16, 2018-19 and 2018-20
 - Dedicated [PFAS Webpage](#)
- Working with the CT Section Source Protection Committee to standardize the reporting method for Circular Letter 2018-20 and brainstorming ideas on how to use existing laws to address emerging contaminants
- The next meeting tentatively scheduled for November 6 at The MDC Training Center. Please Contact Co-chairs Steve Vitko or Kurt Sampara of Regional Water Authority to participate.

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Learn More about PFAS

- DPH Drinking Water Section – [Per and Polyfluoroalkyl Substances](#)
- DPH Fact Sheet: [Perfluoroalkyl Substances \(PFAS\) in Drinking Water Health Concerns](#)
- DPH Private Well [Drinking Water Action Level determination](#)
- CT Department of Energy and Environmental Protection: [Emerging contaminants & PFAS](#)
- EPA Information:
 - [Background on PFAS](#)
 - [Fact sheet](#)
 - [Health Advisory for PFOA and PFOS](#)

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Contact Information

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- **Questions about drinking water from Public Supplies and treatment options:** DPH Drinking Water Section: 860-509-7333
- **Questions on drinking water from Private Wells and treatment options:** DPH Private Well Program: 860-509-7296
- **Questions about PFAS Health Effects:** DPH Environmental & Occupational Health Assessment Program: 860-509-7740
- **Questions on PFAS Sources:** DEEP Remediation Division: 860-424-3705

