



# Public Information Session Firefighting Foam Release to the Farmington River

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Windsor Town Hall

July 2, 2019



# Overview

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- Overview of PFAS chemicals
- Timeline of events
- DEEP and DPH response
- DEEP – Transition from Emergency Response Division to Remediation Division
- Health advisories
- Next steps

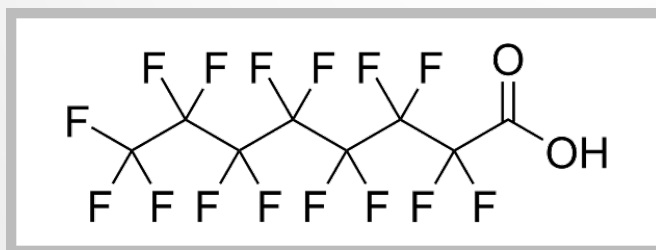


# What Are PFAS?

**PFAS** = Per- and Polyfluorinated AlkySubstances

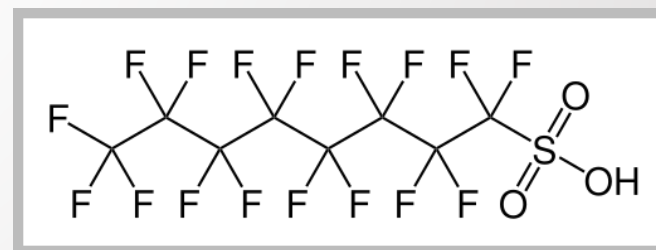
- Over 4,700 “forever chemicals”
- Developed in the 1940s
- Ubiquitous in consumer products and industry
- PFOA and PFOS most well-known

**PFOA**



Perfluorooctanoic acid

**PFOS**



Perfluorooctane sulfonic acid



# PFAS Characteristics

## GOOD

- Resist oil, grease, water, heat
- Stable

BUT....

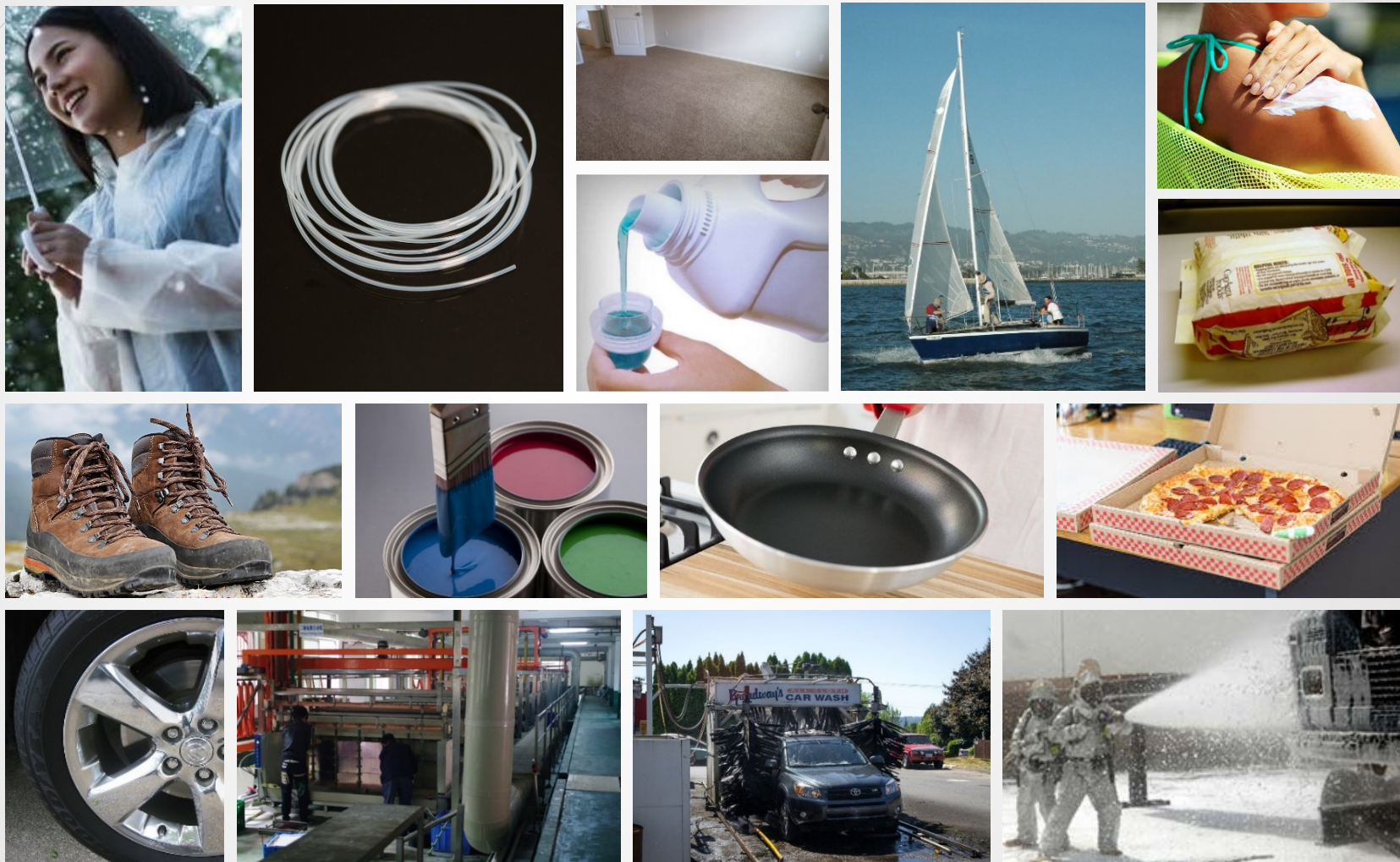
## BAD

- Extremely persistent – resist degradation
- Bioaccumulative
- Linked to health risks
- Migrate easily
  - High solubility, low volatility, mobile in soil, leach to groundwater
  - Air emissions a source of soil & groundwater pollution





# Some PFAS Uses







# Places Where We Might Find PFAS







# Aqueous Film-Forming Foam (AFFF)





# The Problems with PFAS

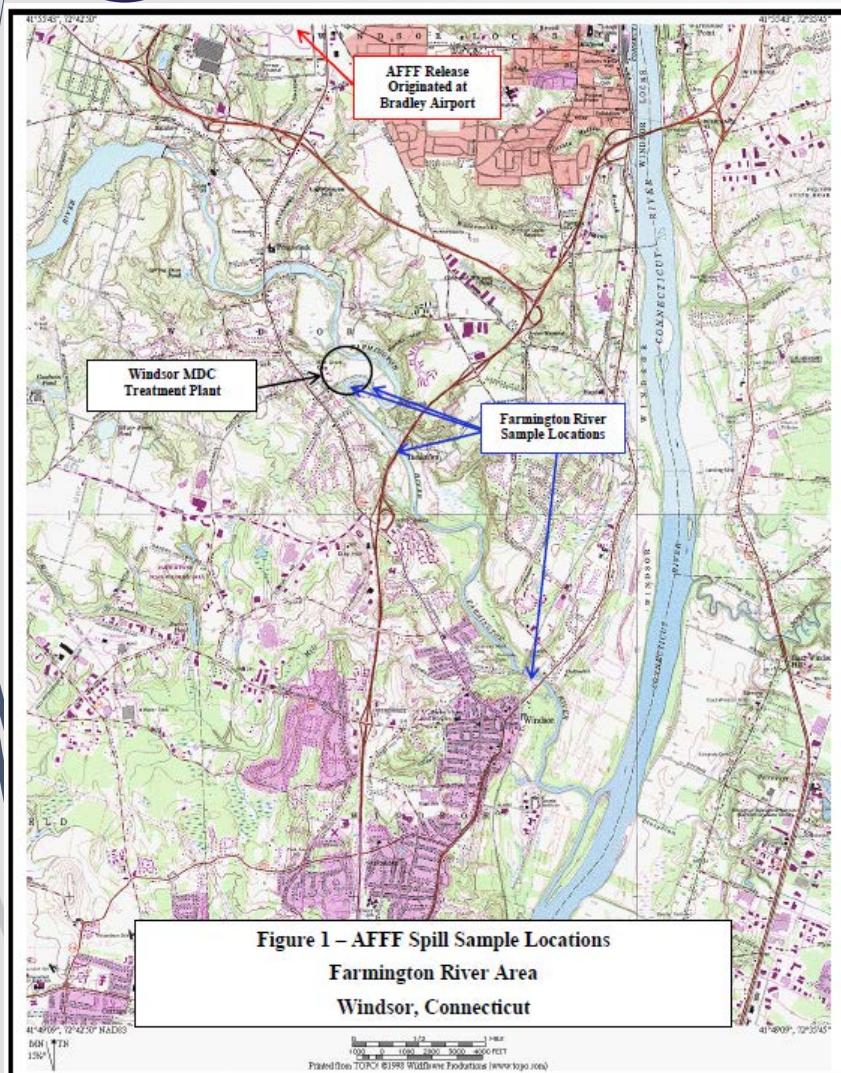
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- ➡ Possible health effects
  - Developmental effects to fetuses and infants
  - Kidney and testicular cancer
  - Liver, thyroid, cholesterol, immune system effects
- ➡ Present in human blood worldwide
- ➡ Have polluted drinking water supplies worldwide
- ➡ Discovery in wastewater treatment plants, biosolids, landfills, soil, surface water, fish tissue, animals, cow's milk, and plants
- ➡ Replacement chemicals also a problem (GenX)





# Timeline of Events: June 8<sup>th</sup>

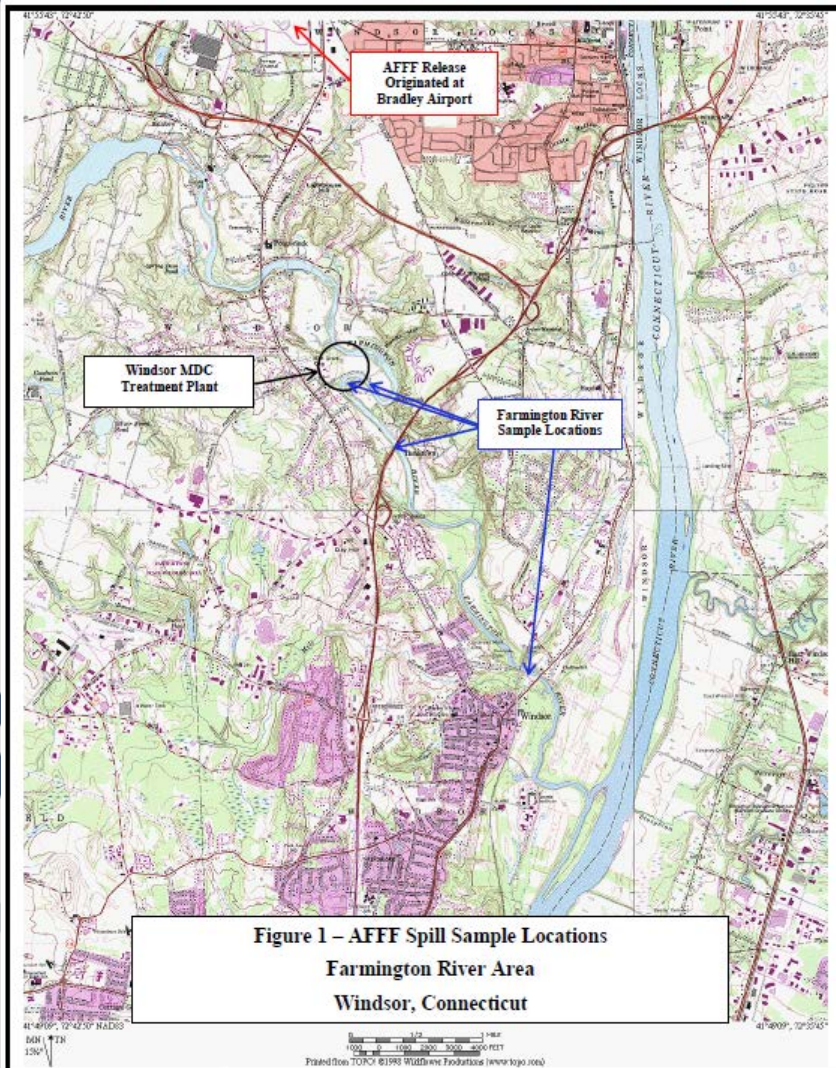


- Approx. 2 pm, malfunctioning fire suppression system at a private hangar at Bradley Airport caused discharge of AFFF for 6 minutes
  - Total foam released: ~40,000 gallons
  - Total AFFF concentrate: ~1,500 gallons
- CT DEEP onsite within 45 minutes, Signature Flight immediately took responsibility
- Emergency Contractor onsite 40 minutes later
- ~15,000 gallons foam captured onsite





# Timeline of Events: June 8<sup>th</sup>



- Path of remaining foam solution:
  - Floor Drain → Oil-Water Separator → Sewer System → MDC Wastewater Treatment Plant → Farmington River
- MDC notified of release
- Approx. 7:30 pm, foam observed exiting sewer manholes on Rainbow Road
- Emergency Contractor called to remove foam from 2 manholes





# Timeline of Events: June 9<sup>th</sup>



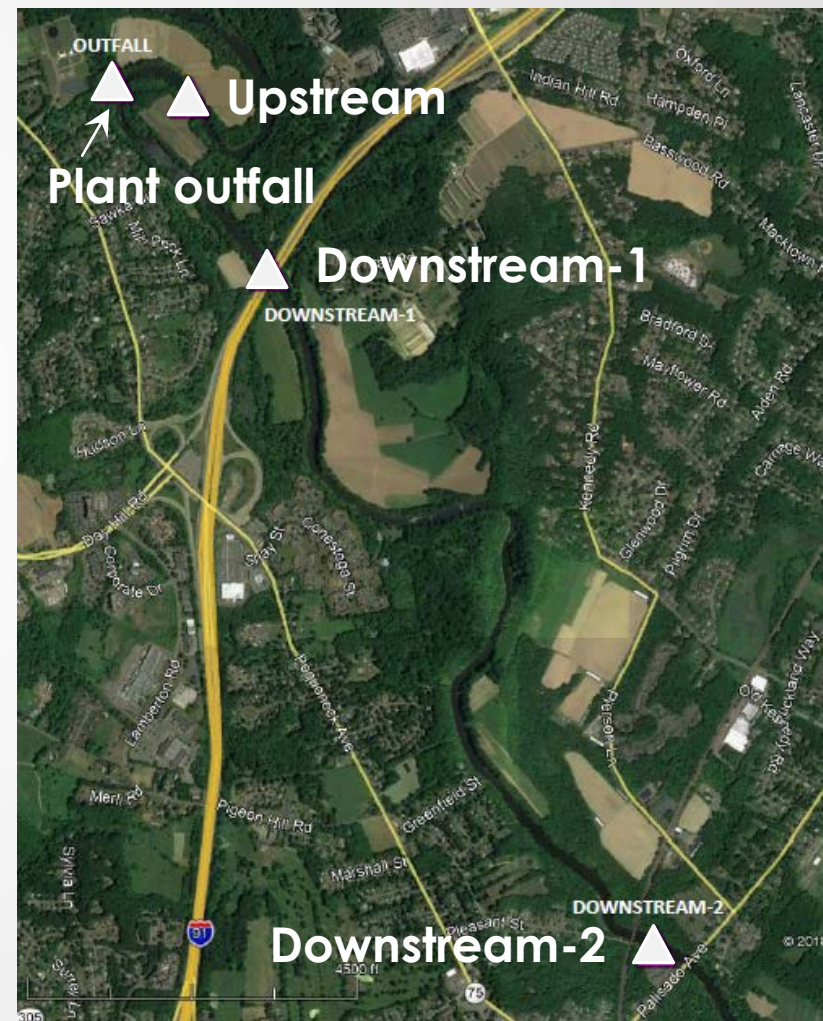
- Foam entered MDC Plant and the Farmington River in the early morning (5:30-7:30 am)
- Booms deployed to contain as much foam as possible
- ~5,000 gallons of contained foam vacuum-pumped out of the river
- Surface water samples collected
- DPH advises no contact with foam/do not eat fish





# Surface Water Sampling

- 3 sampling events
  - June 9
  - June 11 (outfall only)
  - June 21
- 4 locations
  - Upstream
  - Treatment plant outfall
  - Downstream-1 at I-91 (0.6 mi.)
  - Downstream-2 at boat launch/Palisado Ave. (3 mi.)





# Surface Water Sampling Results

## Summary of Total PFAS Concentrations

Location	June 9	June 11	June 21
Upstream	38 ppt	--	18 ppt
Outfall	1,515,700 ppt	90,899 ppt	331 ppt
Downstream-1	13,300 ppt	--	50 ppt
Downstream-2	10,253 ppt	--	40 ppt

- Total = sum of 18 individual PFAS
- Primary chemical is PFOS (1,300,000 ppt at outfall on 6/9, 86% of total PFAS)
- Total PFAS at the outfall decreased by more than 4,000 times over 12 days

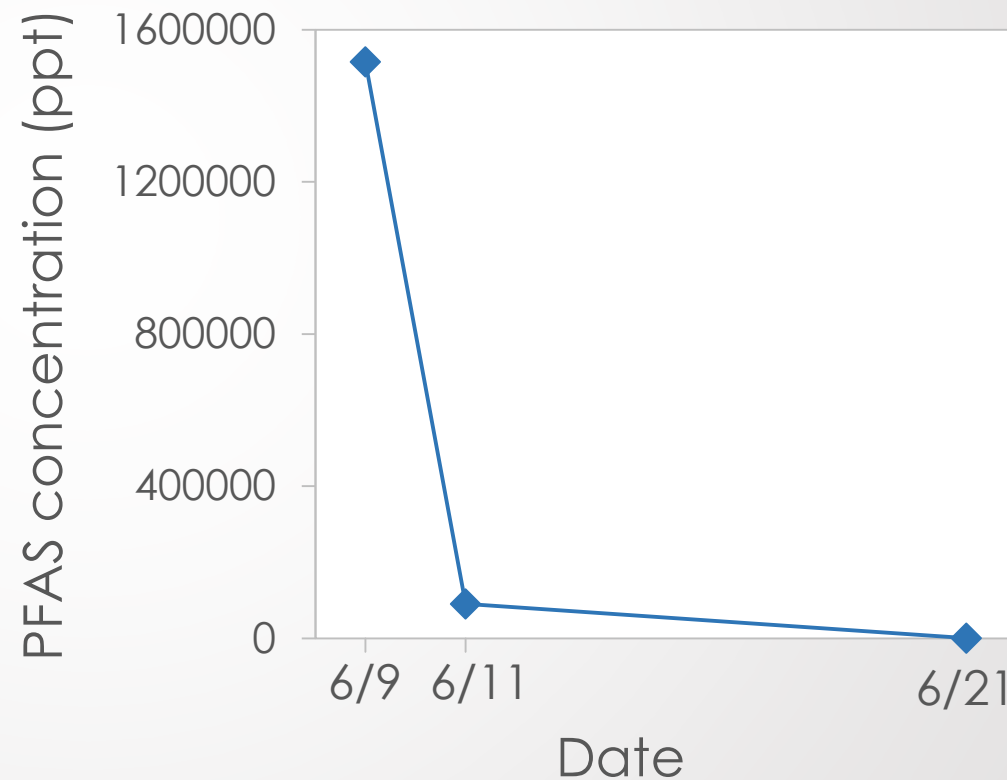




# Surface Water Sampling Results



## Concentration at Plant Outfall



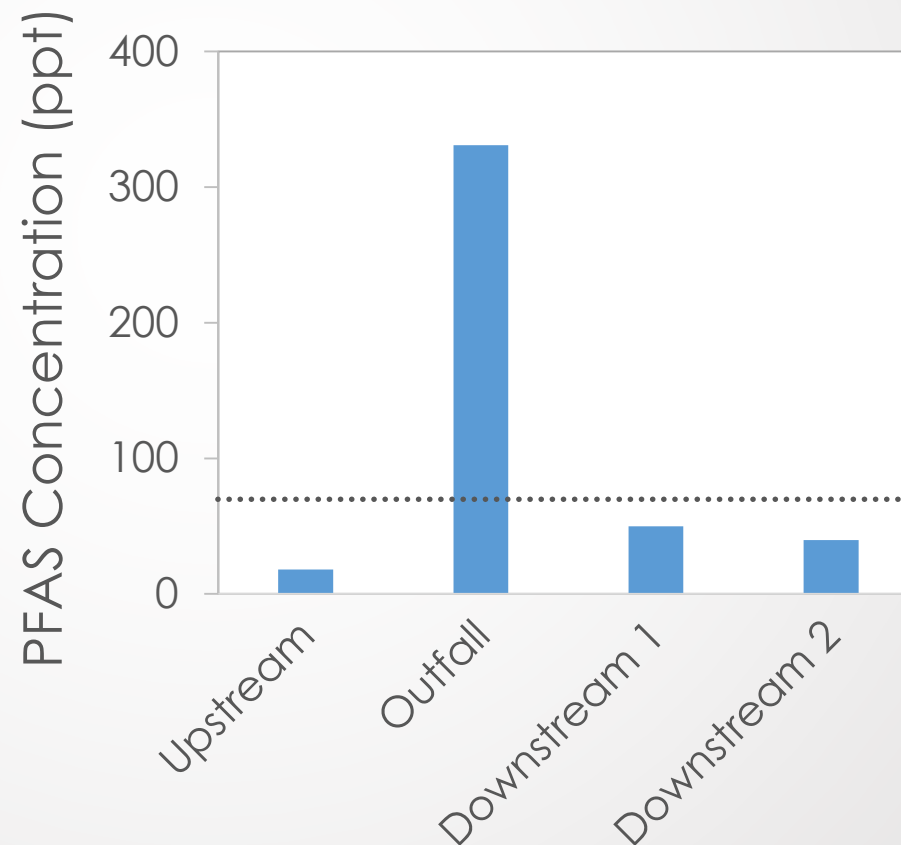




# Surface Water Sampling



## Latest Concentrations (6/21)



Drinking Water  
Action Level (70 ppt  
for 5 PFAS)



# Farmington River Health Advisories

- ➡ Initially – no contact with foam, no fishing
- ➡ The Farmington River is safe for recreational uses (swimming/boating).
- ➡ **DO NOT EAT FISH** caught between MDC wastewater treatment plant outfall near Phelps Brook, downstream to the Connecticut River.
- ➡ Catch & release fishing is allowed.
- ❖ Note: there is an existing fish consumption advisory statewide based on mercury.



# Next Steps for DEEP Response

## Next 2 Weeks

- Testing at MDC – this week
- Fish testing planned for week of July 8
  - Downstream and upstream locations, 2 fish species
  - Additional sampling in September

## Summer

- Additional ecological assessment of Farmington River – sediment
- Remediation at Signature Flight hangar and grounds
- Assessment of impact to sewer system and surrounding areas





# PFAS Resources on the Web

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[DPH Drinking Water Section PFAS webpage](#)

[DEEP Emerging Contaminants webpage](#)

[EPA PFAS webpage](#)

[EPA PFAS Action Plan](#)

[Interstate Technology and Regulatory Council \(ITRC\)  
PFAS Fact Sheets](#)



# Questions or Comments?

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Thanks for your attention!

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