



Public Information Session Firefighting Foam Release to the Farmington River

Windsor Town Hall

July 2, 2019



Overview

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

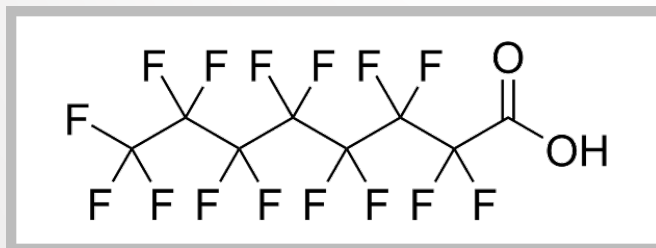


What Are PFAS?

PFAS = Per- and Polyfluorinated Alkyl Substances

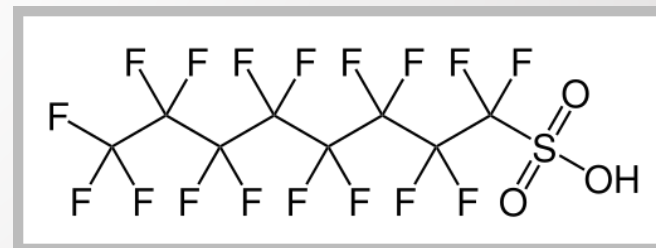
- ▶ Over 4,700 “forever chemicals”
- ▶ Developed in the 1940s
- ▶ Ubiquitous in consumer products and industry
- ▶ PFOA and PFOS most well-known

PFOA



Perfluorooctanoic acid

PFOS



Perfluorooctane sulfonic acid



PFAS Characteristics

GOOD

- Resist oil, grease, water, heat
- Stable

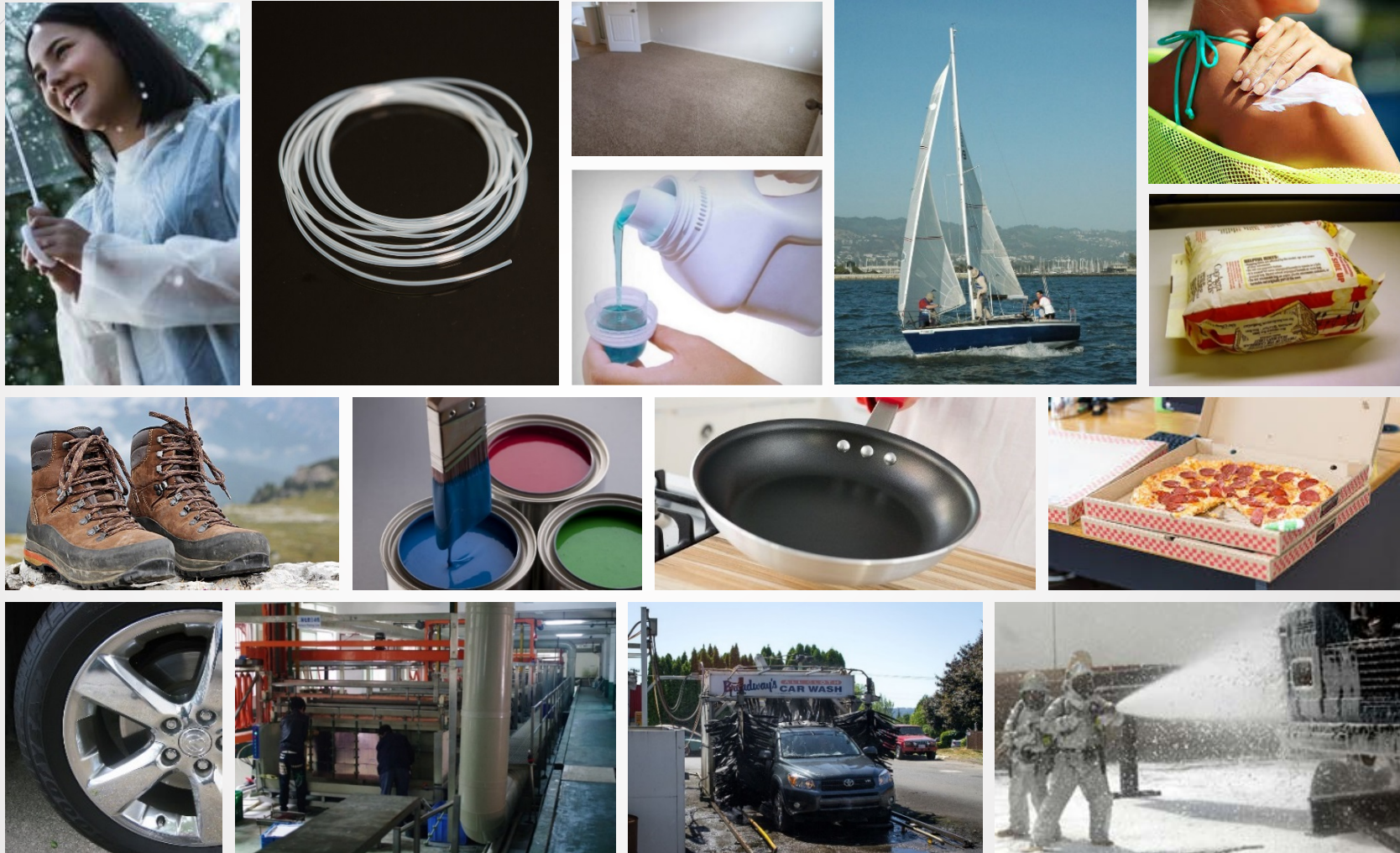
BUT....

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)



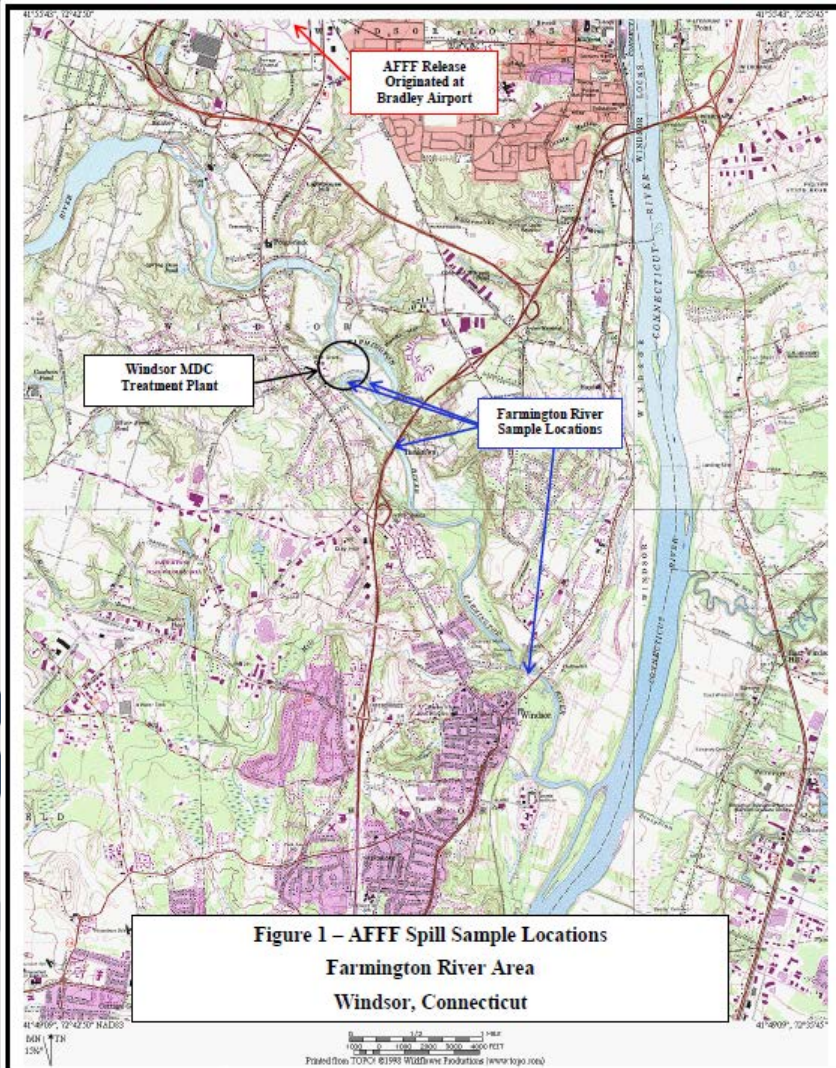


The Problems with PFAS

- 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)



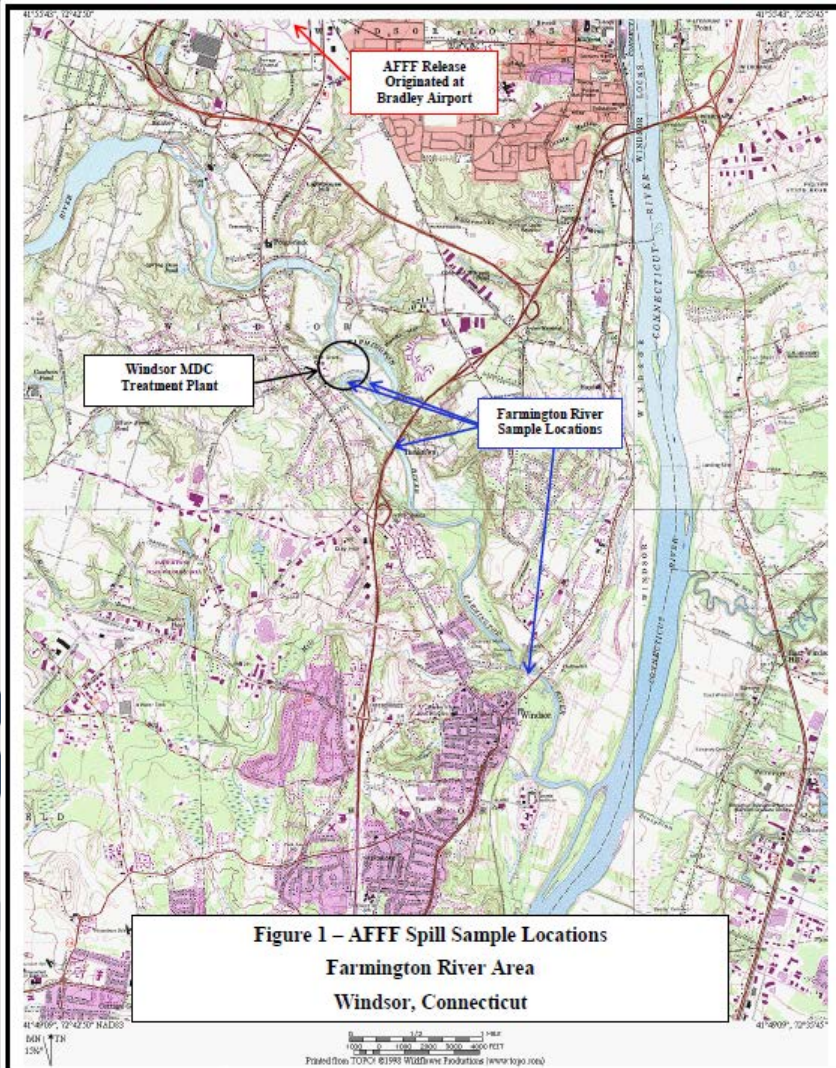
Timeline of Events: June 8th



- 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 8th



- ▶ 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 9th



- ▶ 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

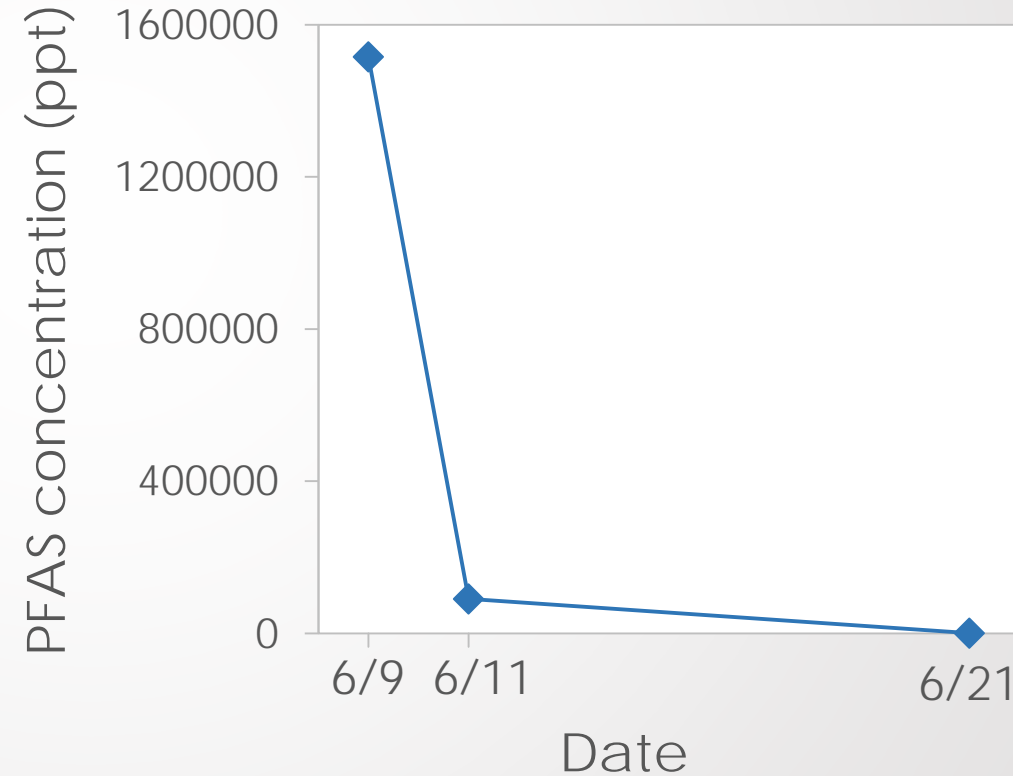
- ▶ Total = sum of 18 individual PFAS
- ▶ Primary chemical is PFOS (1,300,000 ppt at outfall on 6/9, 86% of total PFAS)
- ▶ Total PFAS at the outfall decreased by more than 4,000 times over 12 days



Surface Water Sampling Results



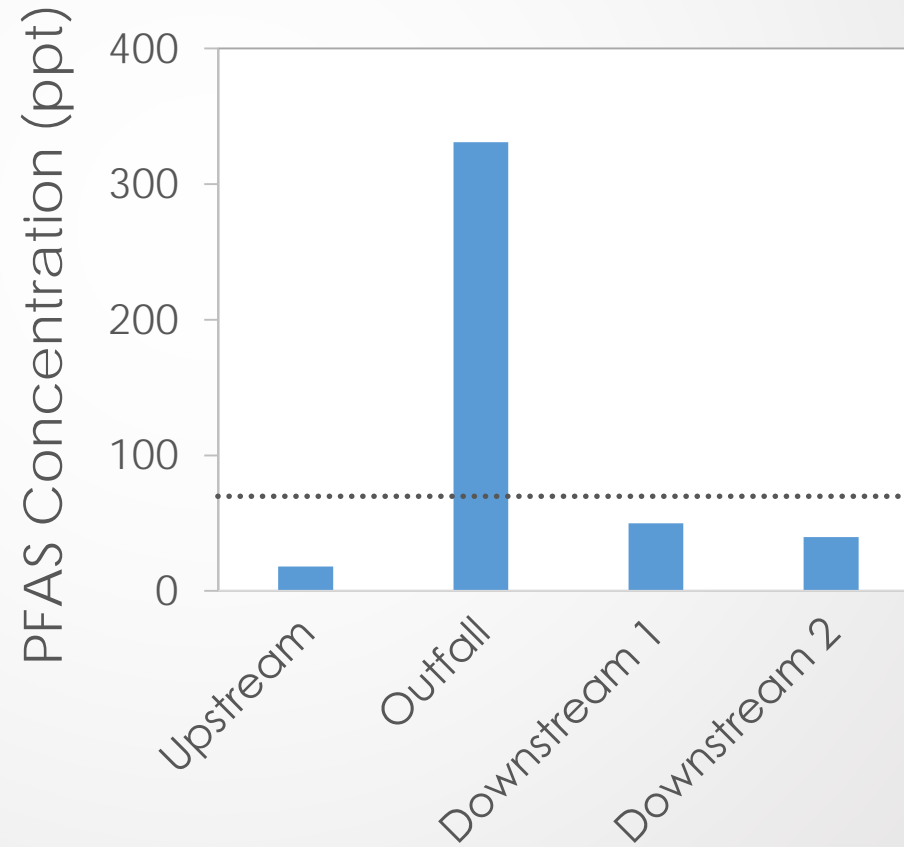
Concentration at Plant Outfall





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

[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?

Thanks for your attention!

For remediation questions:

Shannon.Pociu@ct.gov

860-424-3546

For health questions:

Brian.Toal@ct.gov

860-509-7740