



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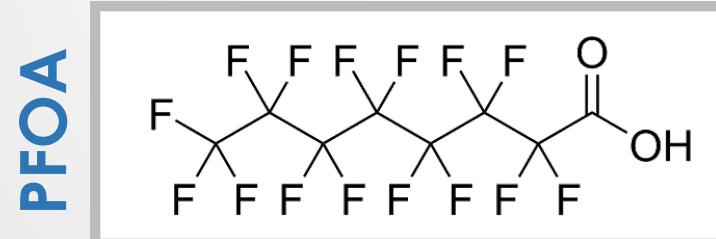
- ▶ Overview of PFAS chemicals
- ▶ Timeline of events
- ▶ DEEP and DPH response
- ▶ DEEP – Transition from Emergency Response Division to Remediation Division
- ▶ Health advisories
- ▶ Next steps



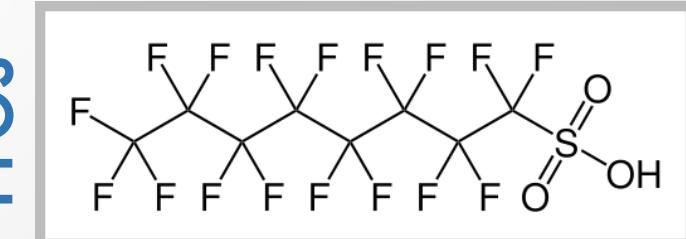
# What Are PFAS?

**PFAS = Per- and Polyfluorinated Alkyl Substances**

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



## Perfluoroctanoic acid



## Perfluorooctane sulfonic acid



# PFAS Characteristics

GOOD

- ▶ Resist oil, grease, water, heat
- ▶ Stable

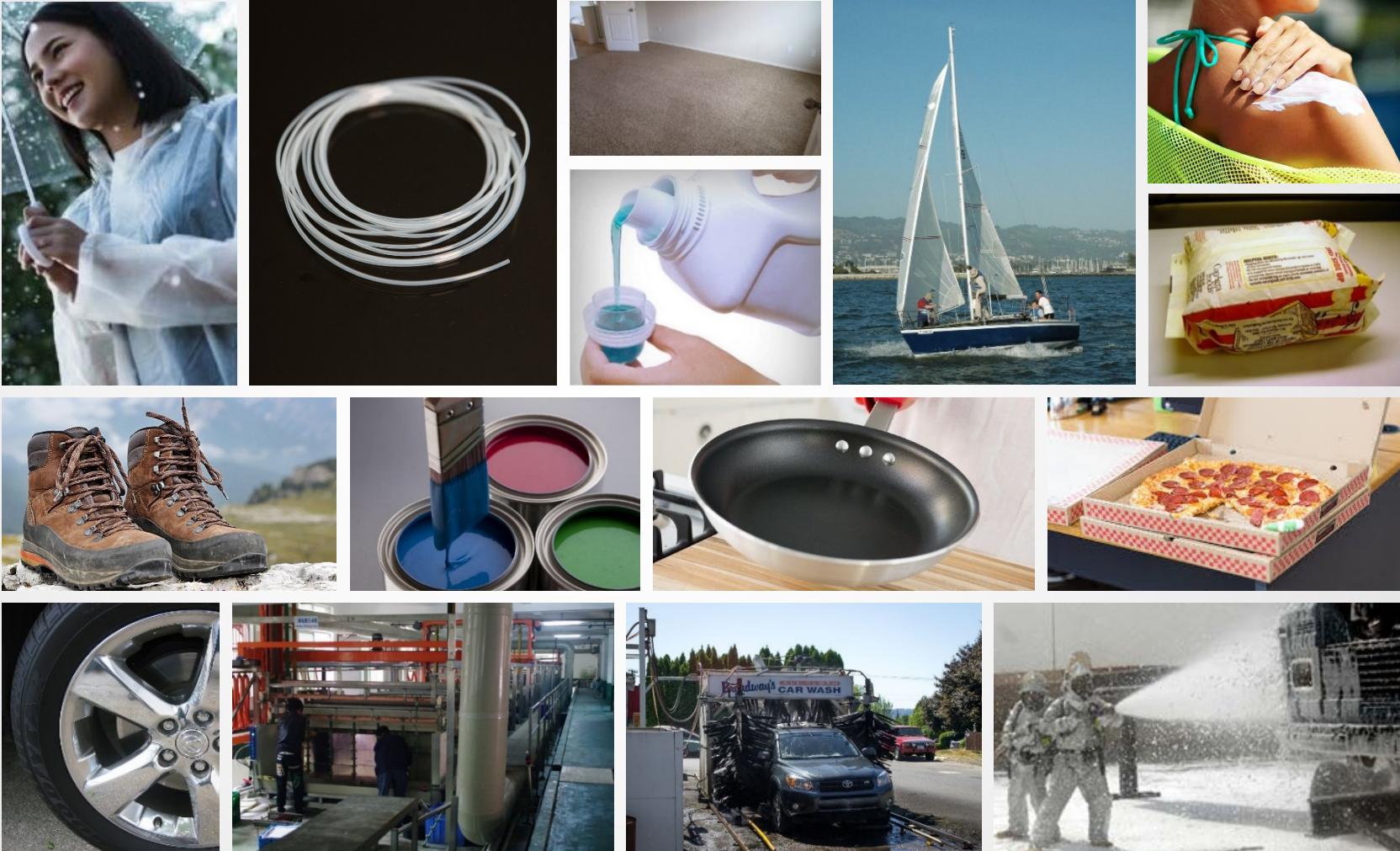
BUT....

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)





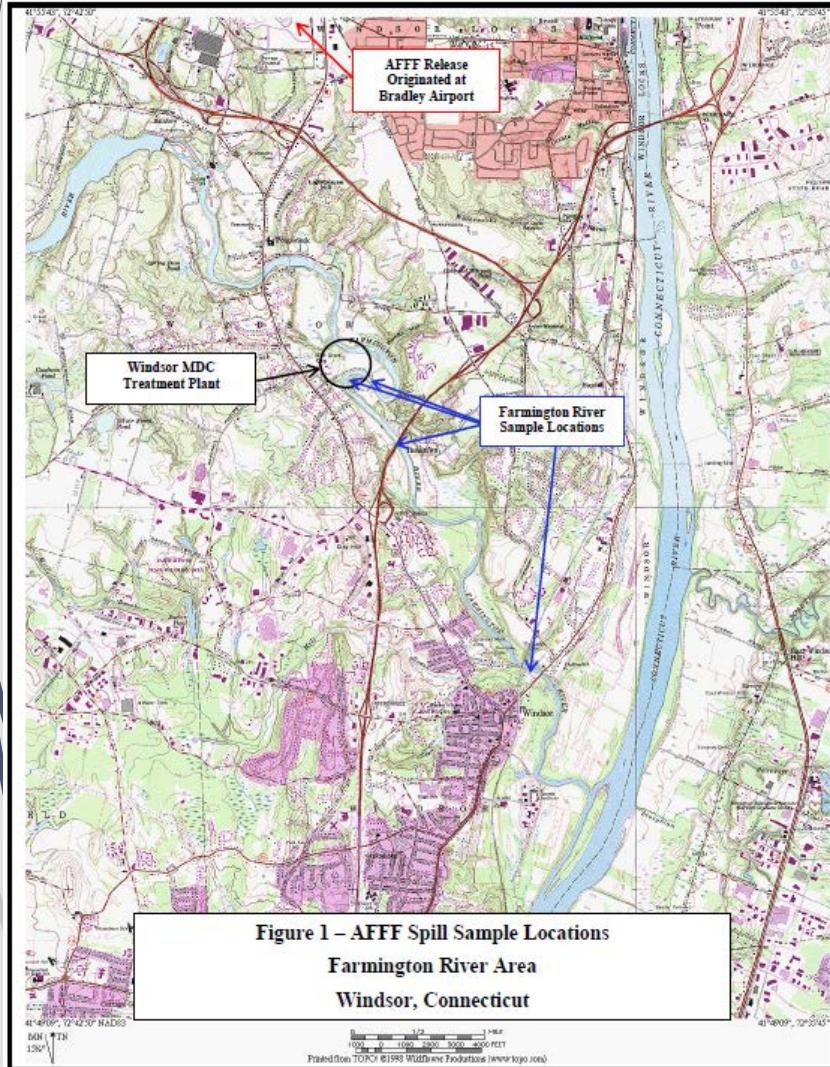
# The Problems with PFAS

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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)



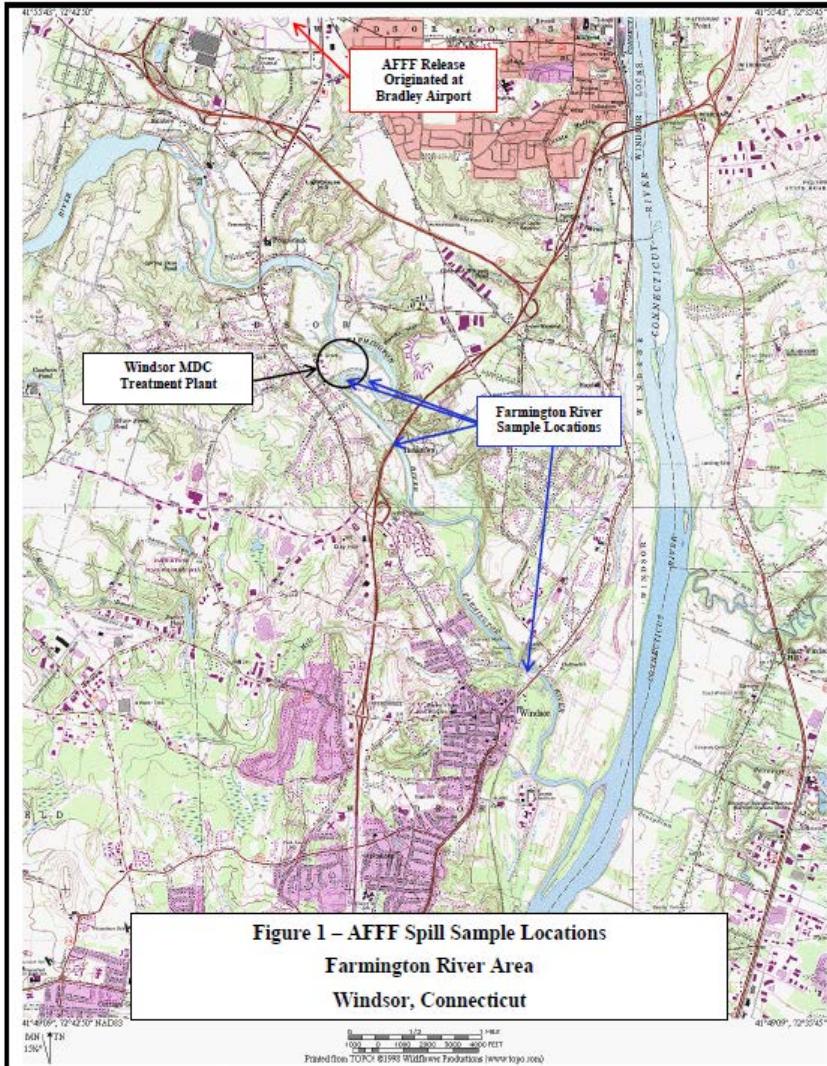
# Timeline of Events: June 8<sup>th</sup>



- ▶ 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>

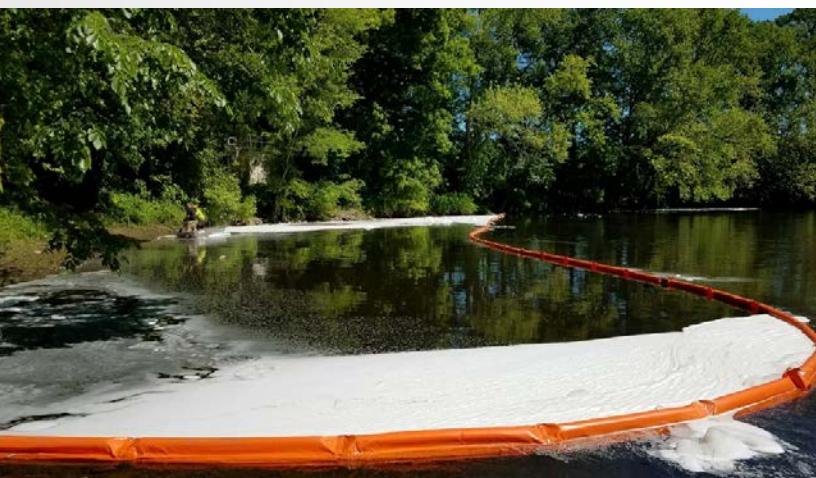


- ▶ Path of remaining foam solution:
  - Floor Drain → Oil-Water Separator → Sewer System → MDC Wastewater Treatment Plant → Farmington River
- ▶ MDC notified of release
- ▶ Approx. 7:30 pm, foam observed exiting sewer manholes on Rainbow Road
- ▶ Emergency Contractor called to remove foam from 2 manholes



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

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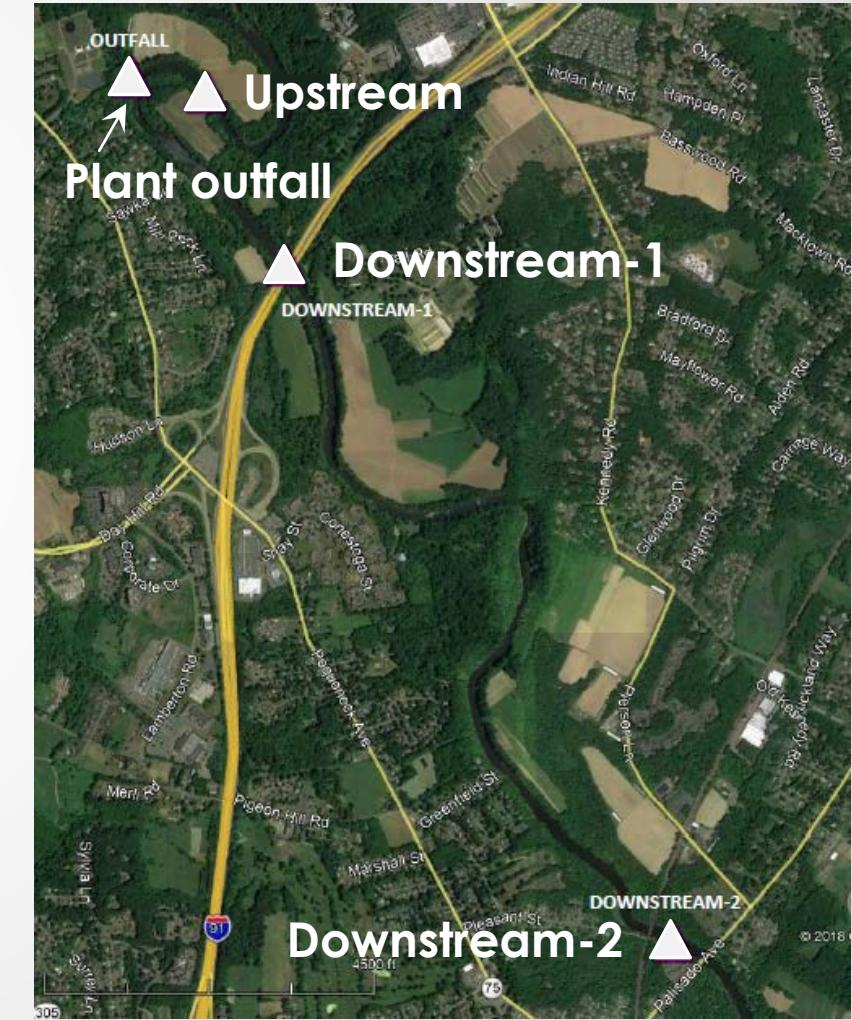


- ▶ Foam entered MDC Plant and the Farmington River in the early morning (5:30-7:30 am)
- ▶ Booms deployed to contain as much foam as possible
- ▶ ~5,000 gallons of contained foam vacuum-pumped out of the river
- ▶ Surface water samples collected
- ▶ DPH advises no contact with foam/do not eat fish



# 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

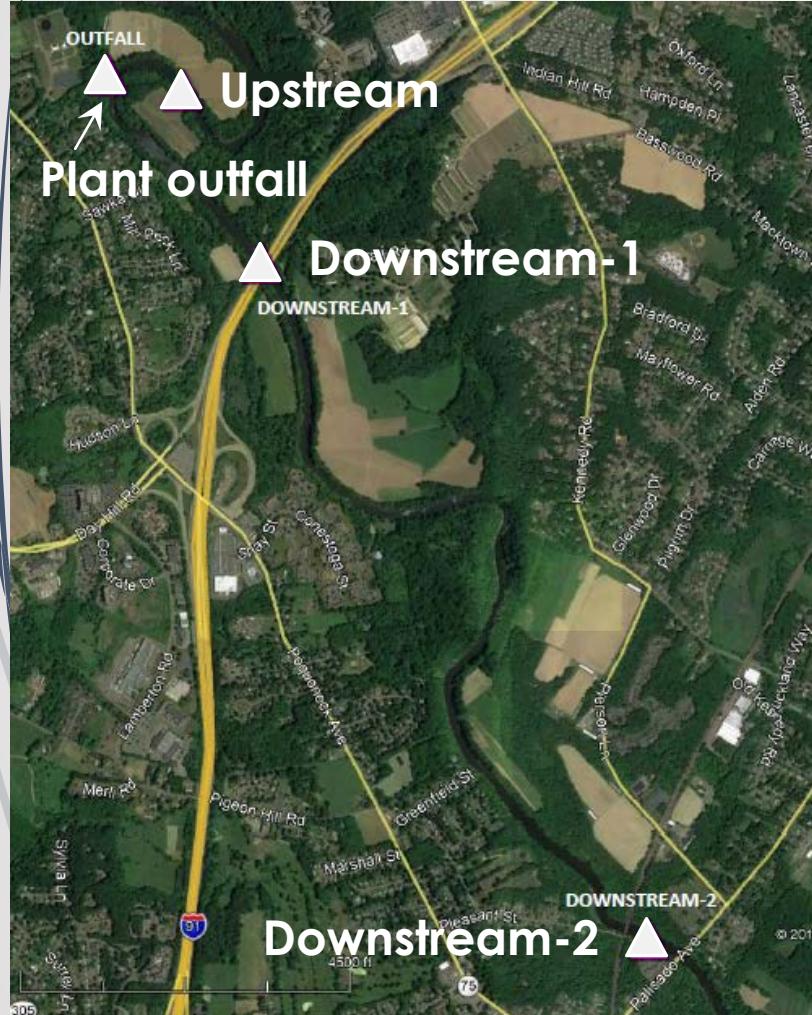
## Summary of Total PFAS Concentrations

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

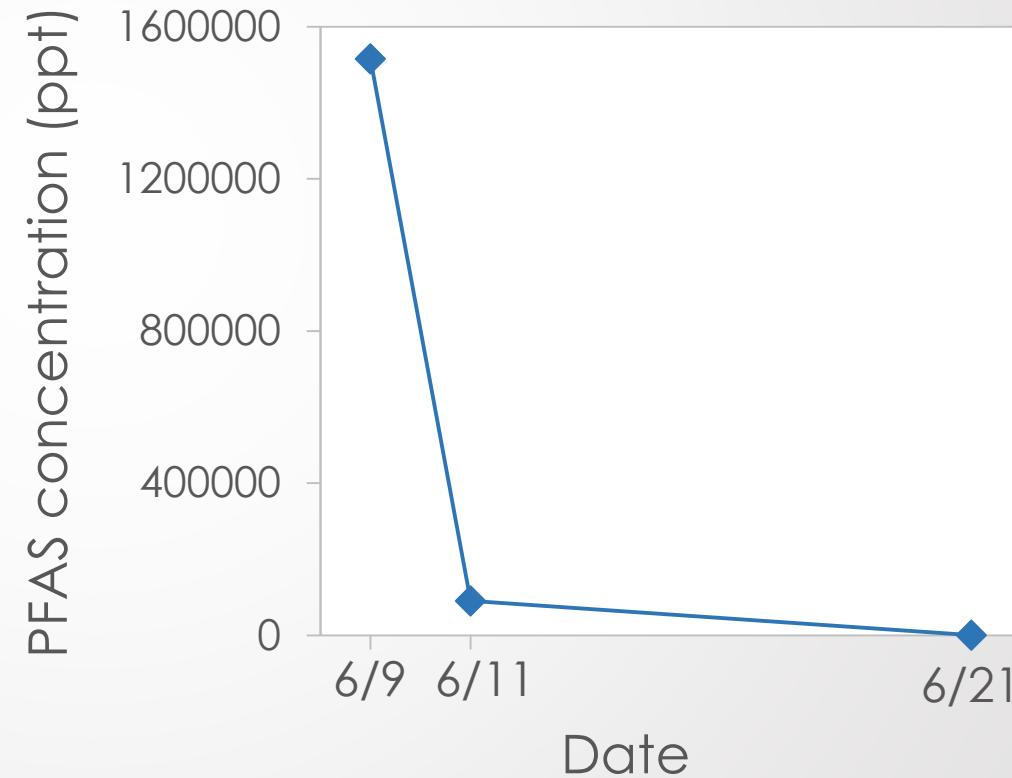
- ▶ Total = sum of 18 individual PFAS
- ▶ Primary chemical is PFOS (1,300,000 ppt at outfall on 6/9, 86% of total PFAS)
- ▶ Total PFAS at the outfall decreased by more than 4,000 times over 12 days



# Surface Water Sampling Results

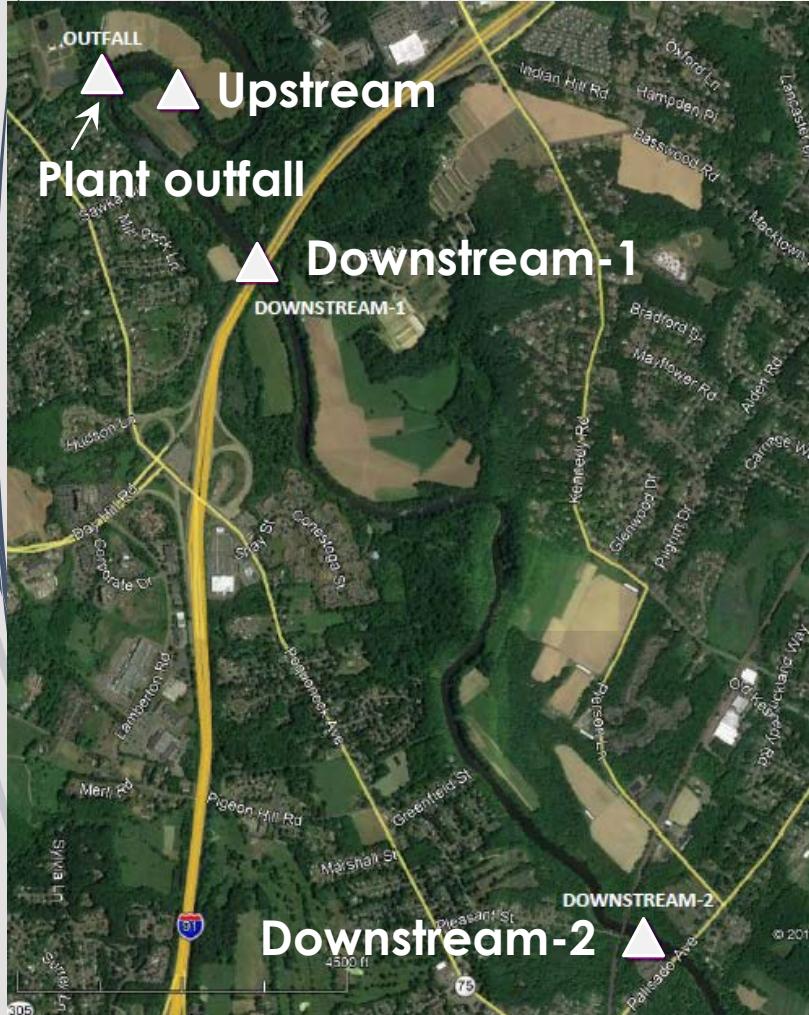


# Concentration at Plant Outfall

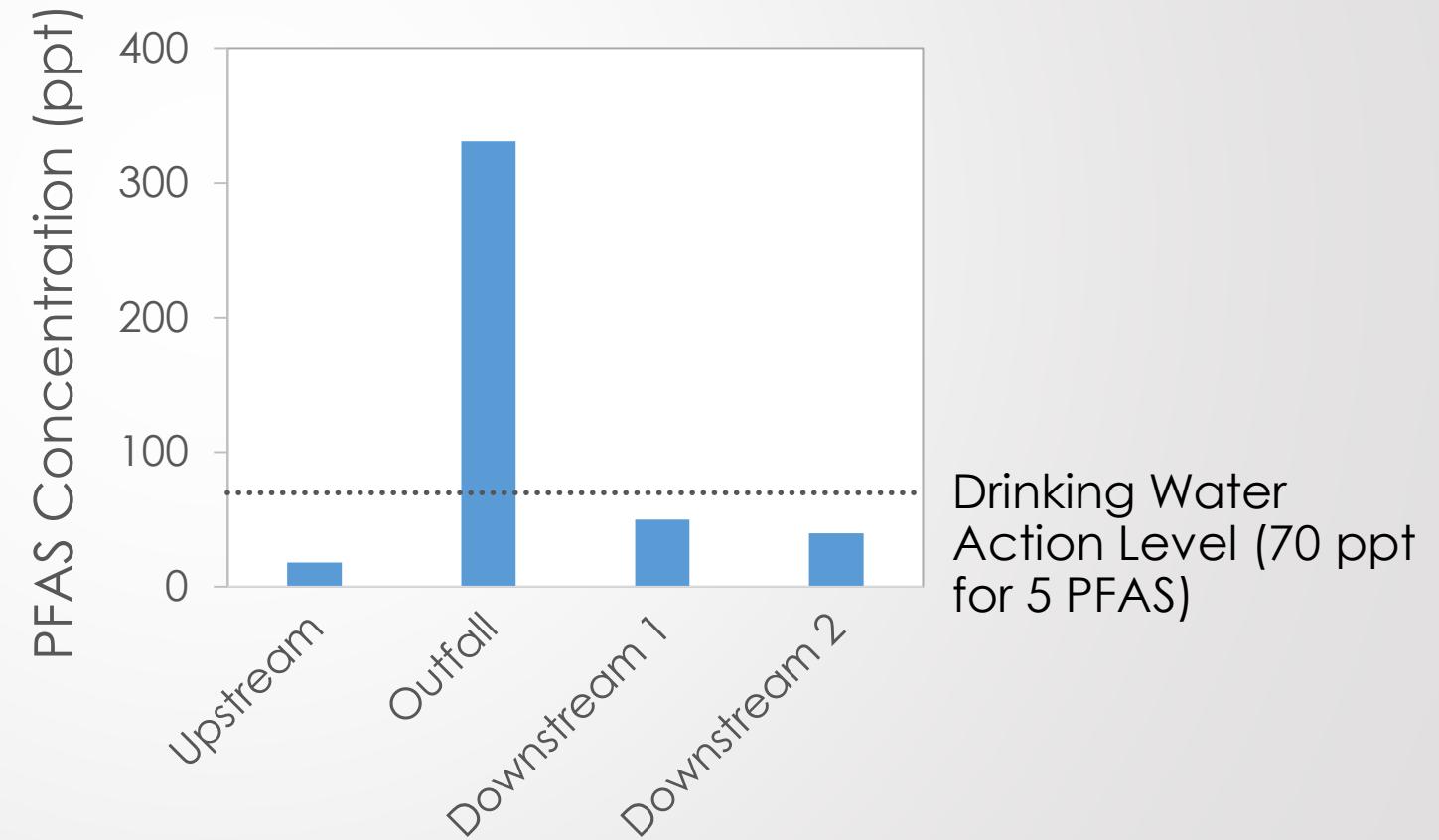




# Surface Water Sampling



## Latest Concentrations (6/21)





# Farmington River Health Advisories

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

**Summer**



# 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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