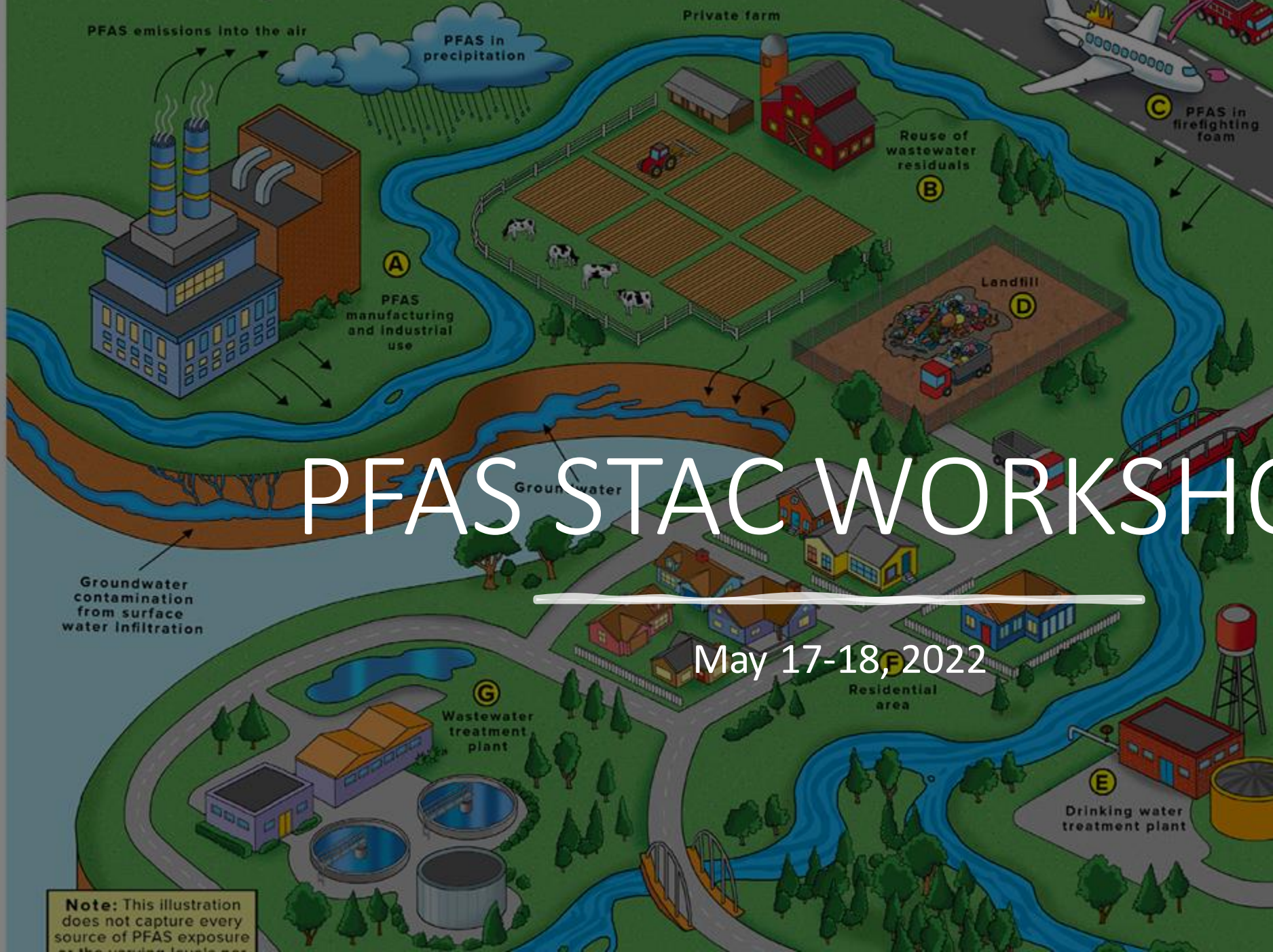


How PFAS Cycle Through the Environment



PFAS STAC WORKSHOP

May 17-18, 2022

A
PFAS, which are unregulated in industrial discharges, enter the environment through air, surface water and groundwater.

B
Nutrient-rich materials that remain after wastewater treatment and testing are used on farms as low-cost fertilizers. Significant contributions to wastewater from nearby industrial sites can elevate PFAS levels in residual materials and seep into groundwater if not removed during treatment.

C
Firefighting foams which may contain PFAS are used at airports, military bases and training sites. Runoff containing PFAS migrates through soil into surface and groundwater.

D
At older landfills, wastewater from PFAS-contaminated waste may leach into groundwater and enter surface water.

E
New technologies have enabled recent detection of PFAS in drinking water supplies. Water treatment facilities that hadn't previously known of PFAS in their water supplies are determining the most effective treatments for removal.

F
PFAS continue to be used in common household products such as stain repellants and non-stick cookware. Their use contributes to PFAS exposure in humans and drinking water, source water and groundwater.

G
Liquid waste that seeps from landfills and wastewater is treated at wastewater plants, but PFAS may remain in the water after treatment and contaminate

Note: This illustration does not capture every source of PFAS exposure as the regular people see.

Workshop Statistics

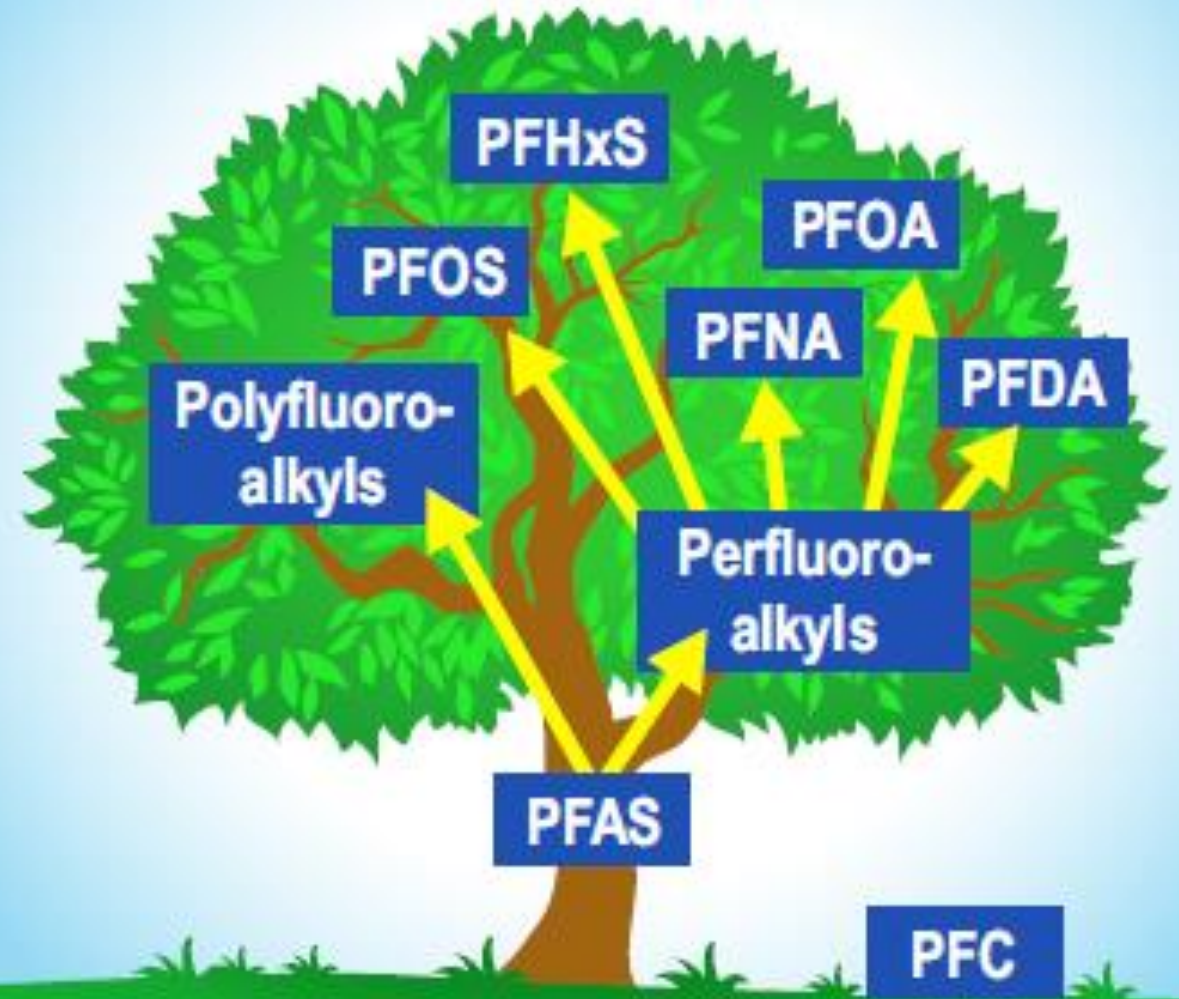
- Hybrid, in person and online format
- About 20 in person participants, and ~25-30 active virtual participants (55+ total virtual participants)
- Varied organizations including states (MD, DE, PA, DC, VA, NJ, WA), federal (EPA Reg 3 and GLRI, USGS, NOAA, FWS, DOD), academic (UMBC, Johns Hopkins, Morgan State, UD, PSU, VT), non-govt (EA Engineering, Mount Sinai Med Center, ICPRB, MWCOG, DRBC)



Workshop Agenda – Day 1

- Session 1: Current Understanding and Efforts to Address PFAS
 - In Chesapeake (inventory and literature review)
 - Outside the Chesapeake including DRB, Great Lakes, Puget Sound
- Breakout to discuss gaps and needs
- Session 2: Considerations for Establishing PFAS Targets for Fisheries- Consumption Advisories and Identifying Potential Effects on Fisheries
 - Components of fish advisory development
 - Potential effects on fisheries

Family Tree of Perfluoralkyl and Polyfluoralkyl Substances

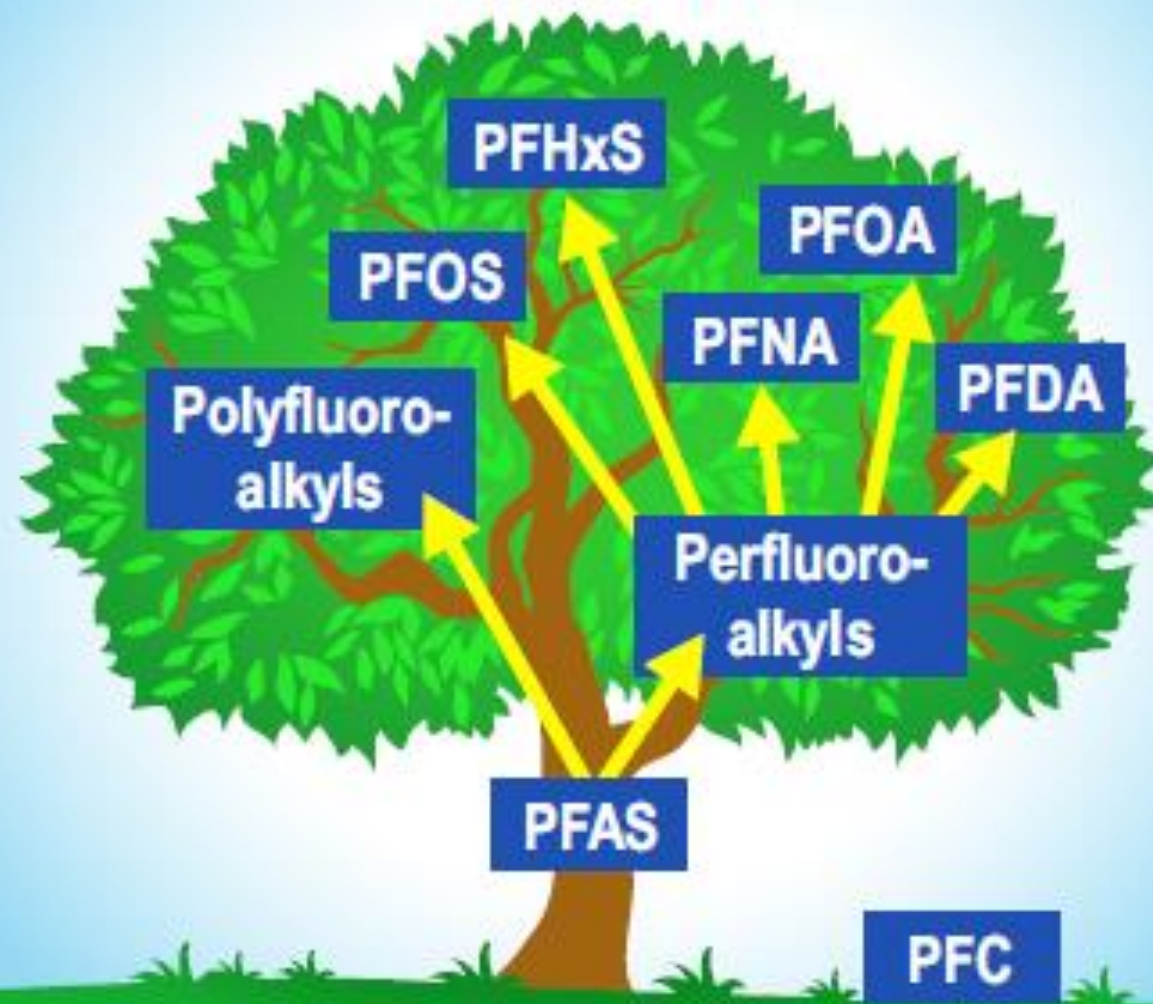


[from PA DEP, https://www.dep.pa.gov/Citizens/My-Water/drinking_water/PFAS/Pages/default.aspx]

Workshop Agenda – Day 2

- Session 3: Considerations for Developing a Coordinated Monitoring Effort for PFAS in the Chesapeake Bay – Sampling and Analysis
 - Inventory of what is being done
 - Tissue methods
 - Water sampling and analysis
- Develop Recommendations to Address Science Gaps for a More Coordinated Research and Monitoring Effort for PFAS in the Chesapeake Watershed

Family Tree of Perfluoralkyl and Polyfluoralkyl Substances



[from PA DEP, https://www.dep.pa.gov/Citizens/My-Water/drinking_water/PFAS/Pages/default.aspx]

Major Takeaways

- Call for improved, consistent bioconcentration factors
- An understanding of tributary loadings was identified as a priority need (some states already doing this work)
- Consensus around draft 1633 method



Major Takeaways- cont.

- Very little is understood about the mixtures present in the environment (aside from AFFF)– their sources, fate, and cumulative toxicity
- Collective need for a repository (at minimum) to facilitate coordination of efforts (lit., sampling, research)
- Most identified gaps and needs fall under research, suggesting our workgroup could play an integral role

