



Department of
Environmental
Conservation

Targeted PFAS Monitoring in New York State Ambient Surface Waters

Dan Rearick

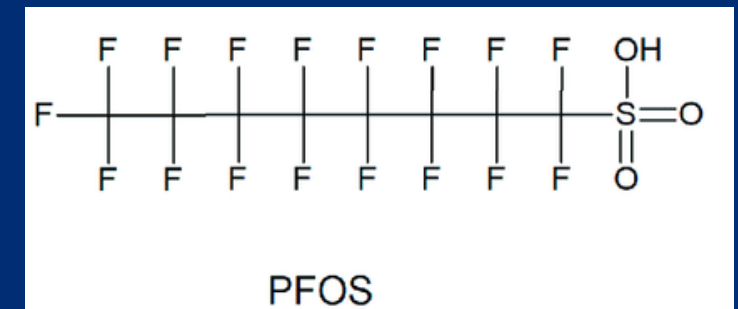
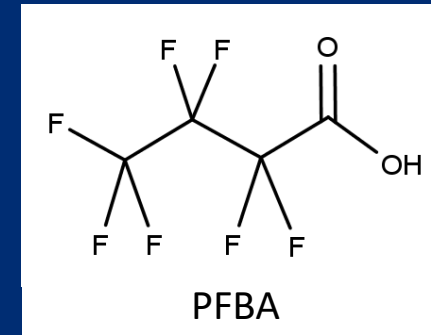
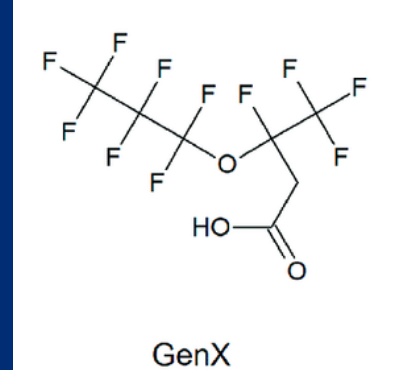
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Overview of ongoing DOW monitoring for PFAS in surface waters

- Part of the Rotating Integrated Basin Studies (RIBS) probabilistic screening sites
- What chemicals are present (or non-detections) in ambient water using EPA 1633?
- Can we characterize basins and identify sites for further investigation?

Per- and Polyfluoroalkyl Substances

- 10,000+ depending on the definition
- Chain length and functional groups
- Repellence of oil, grease, water, and high thermal stability
- **Very persistent in the environment, bioaccumulative and difficult to destroy under natural conditions**



NYS PFOA/PFOS Guidance Values

Chemical	Finished drinking water	DEC – Raw Source Water		
	MCL	Human Health	Aquatic Life	
			Chronic	Acute
PFOA	10 ppt	6.7 ppt	N/A	N/A
PFOS	10 ppt	2.7 ppt	160 ppb (fresh) 41 ppb (saline)	710 ppb (fresh) 190 ppb (saline)

- GVs established 2023
- **H(WS) GV** = Applies to Class A, A-S, AA, AA-S surface waters (and groundwater GA, GSA).
- Monitoring for ambient surface water for PFOA and PFOS

Study Design

PFAS sampling at RIBS screening probabilistic sites

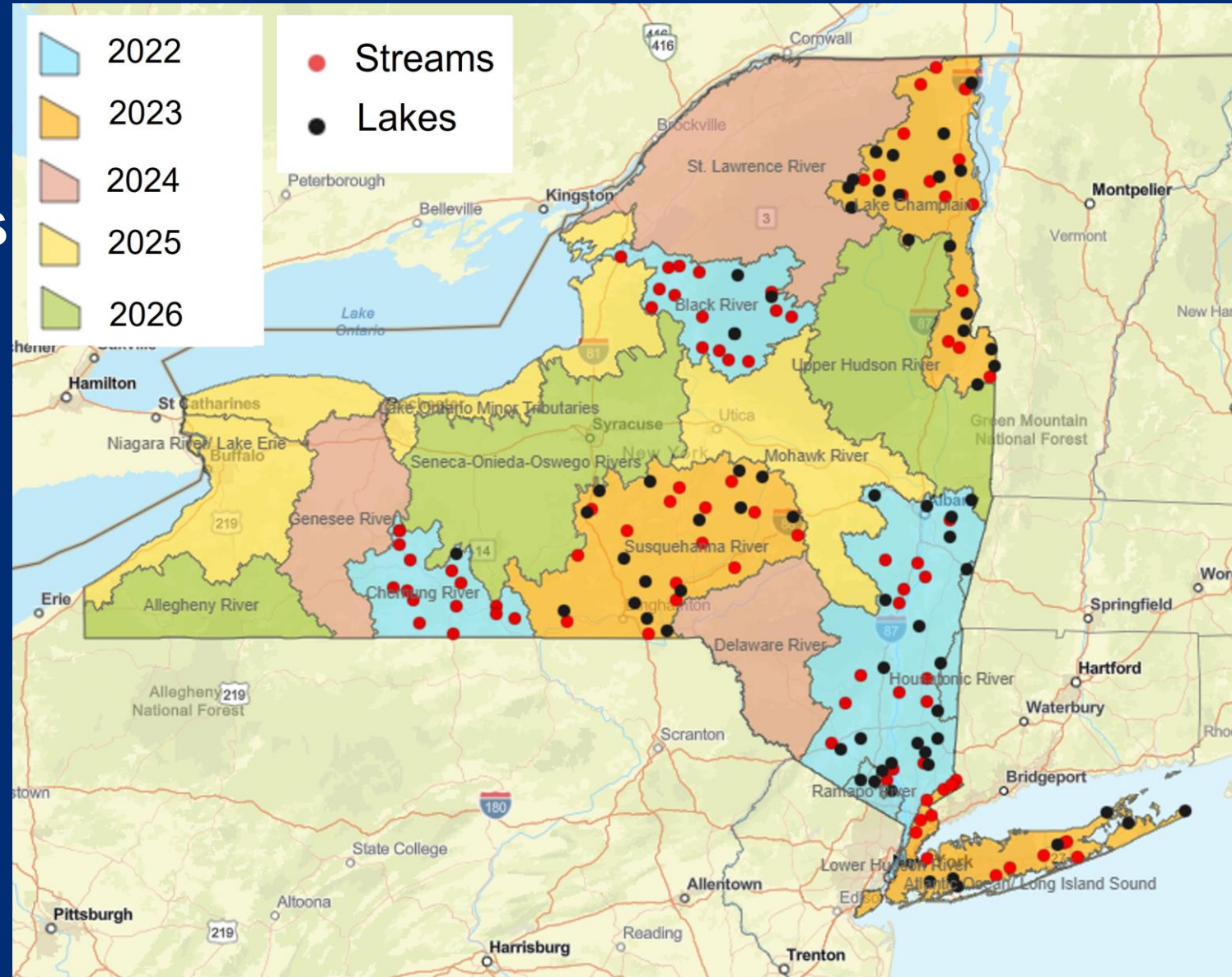
- Single Sample collection
- EPA Draft Method 1633 (40 analytes)

2022

- Lakes: 27; Streams: 44

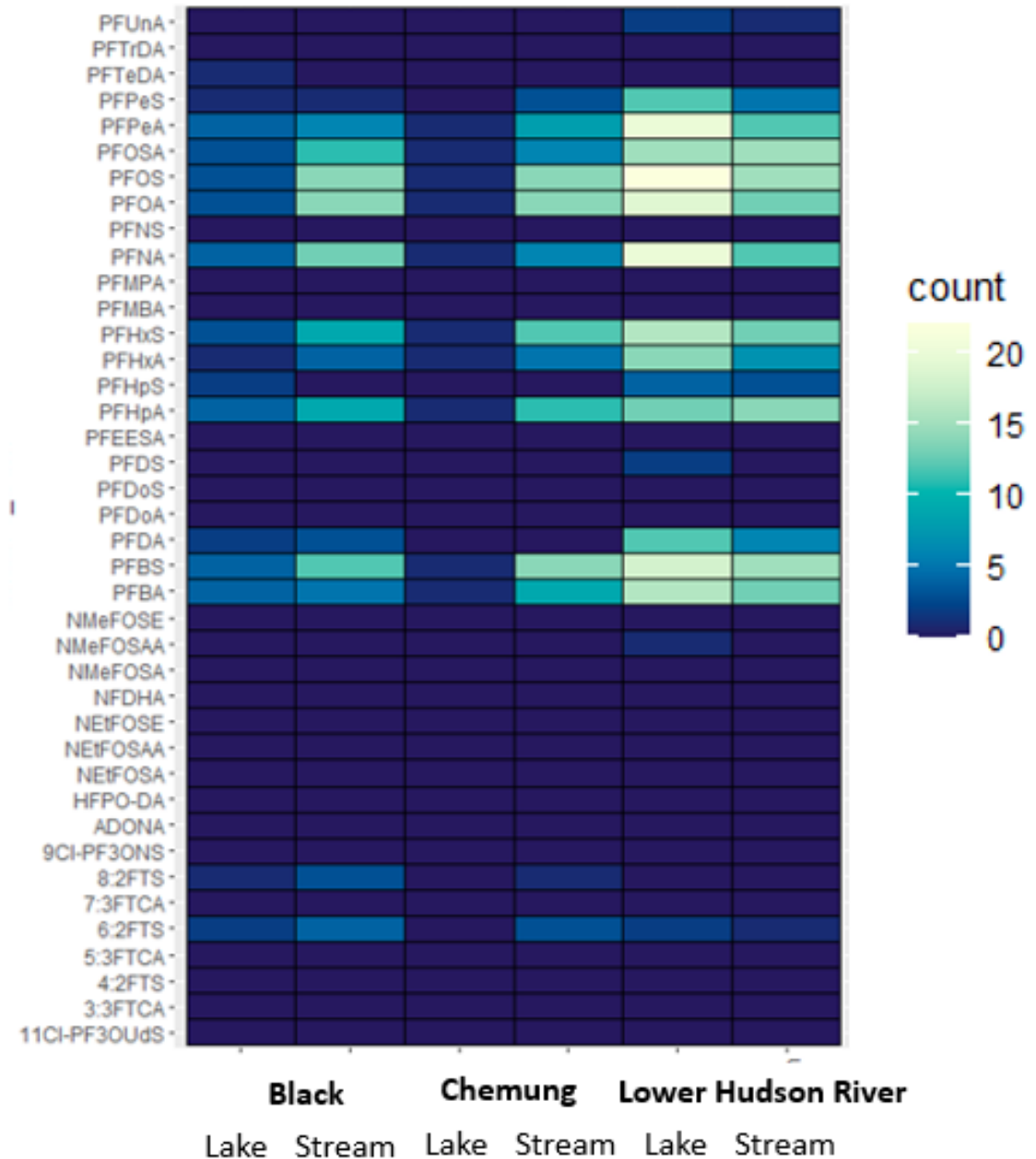
2023

- Lakes: ~40; Streams 45



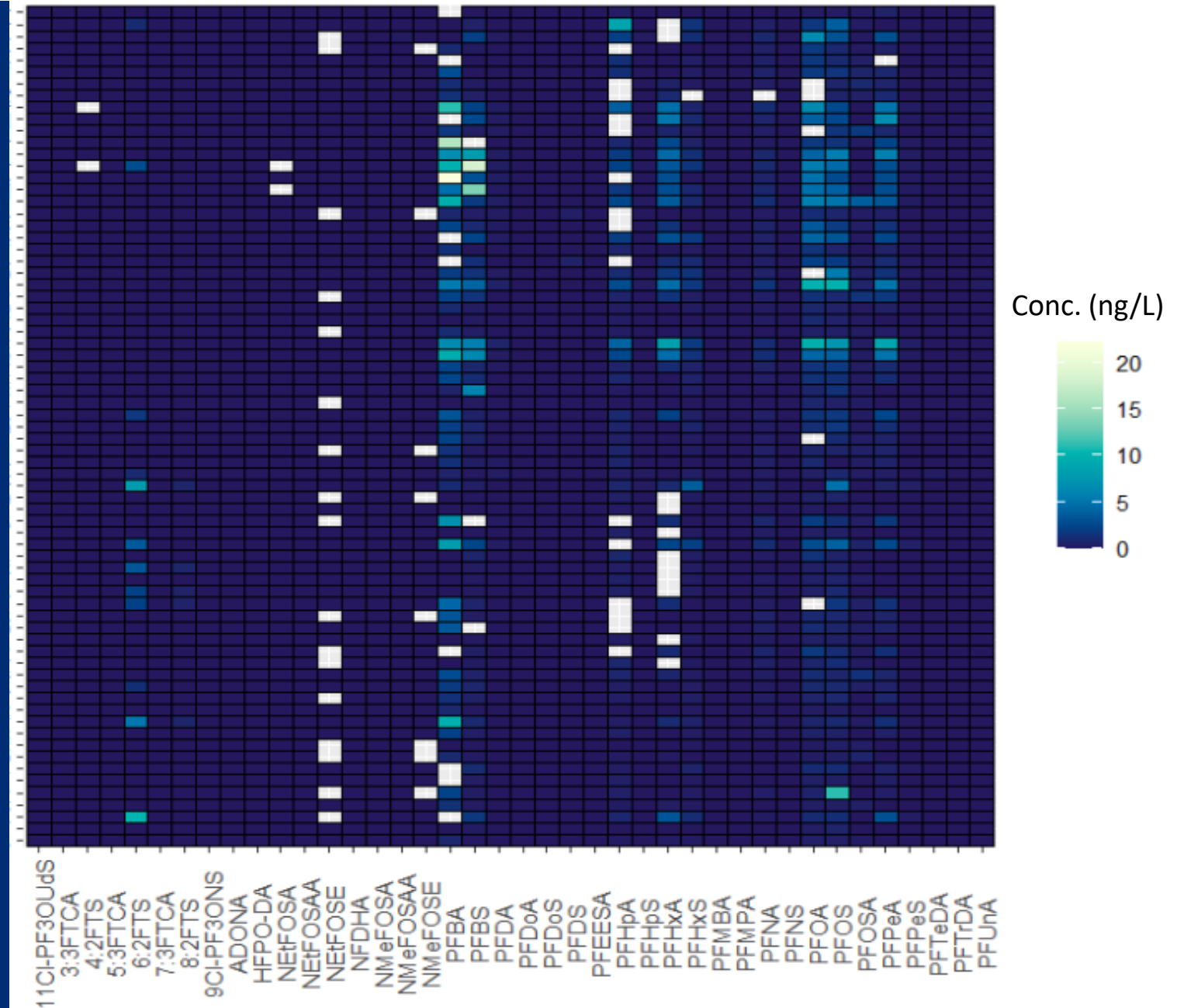
Number of Targeted PFAS Detections 2022

- ~50% of 40 PFAS analytes detected
- PFOA, PFOS, PFNA, PFBS, PFBA, PFPeA most frequently detected
- Analytes consistent across basins
 - Chemung Basin only 1 lake sampled
 - LHUD Basin 22 lakes sampled

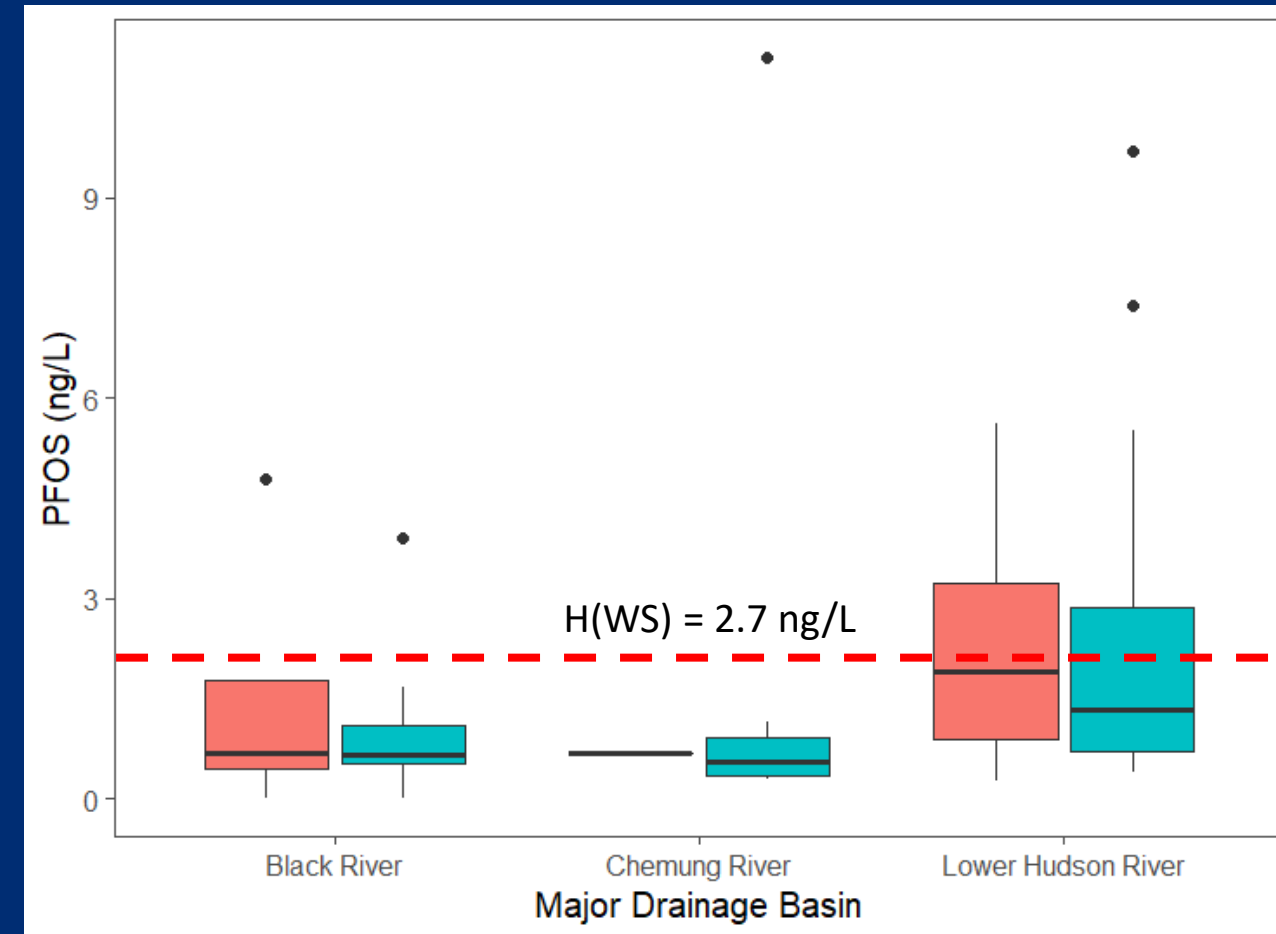
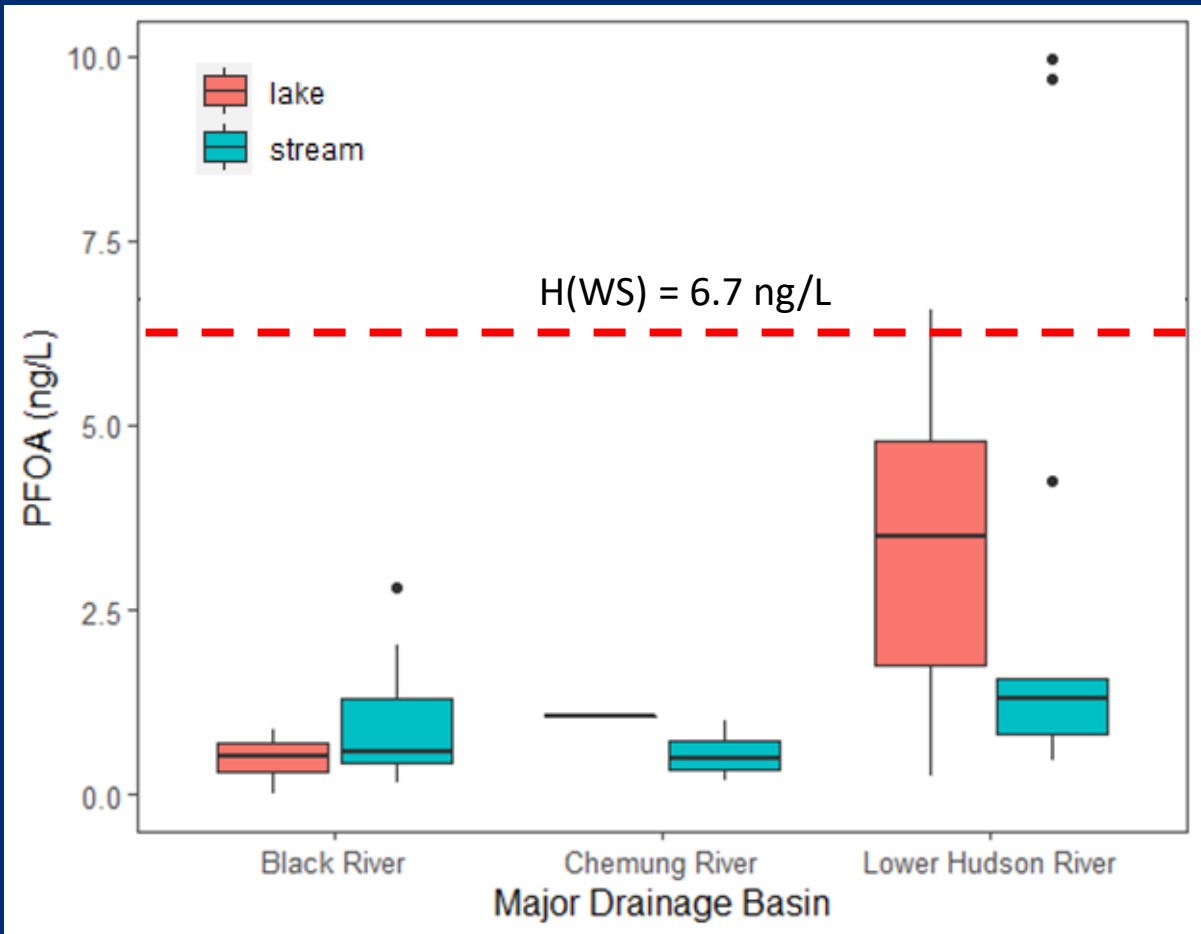


PFAS Concentrations by Site

- Many non-detections
- 92% detections below 1 ng/L
- Highest concentrations detected for PFBA, PFBS, PFPeA, PFOA, and PFOS



PFOA/PFOS widespread low-level detections



Summary 2022 monitoring

- PFAS detections were similar across basins and water body types (lakes vs streams)
 - ~20 analytes detected consistently
- PFOS occurrences **were always below freshwater aquatic life criteria GVs**
- PFOA/PFOS generally below health water source GVs for all waterbody classes.
- 2023 data finishing up collection and begin analysis
 - **Susquehanna, Lake Champlain, and Long Island Sound major drainage basins**

Acknowledgements

- NYSDEC LCI and SMAS staff for data collection and experimental design

For more information:

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