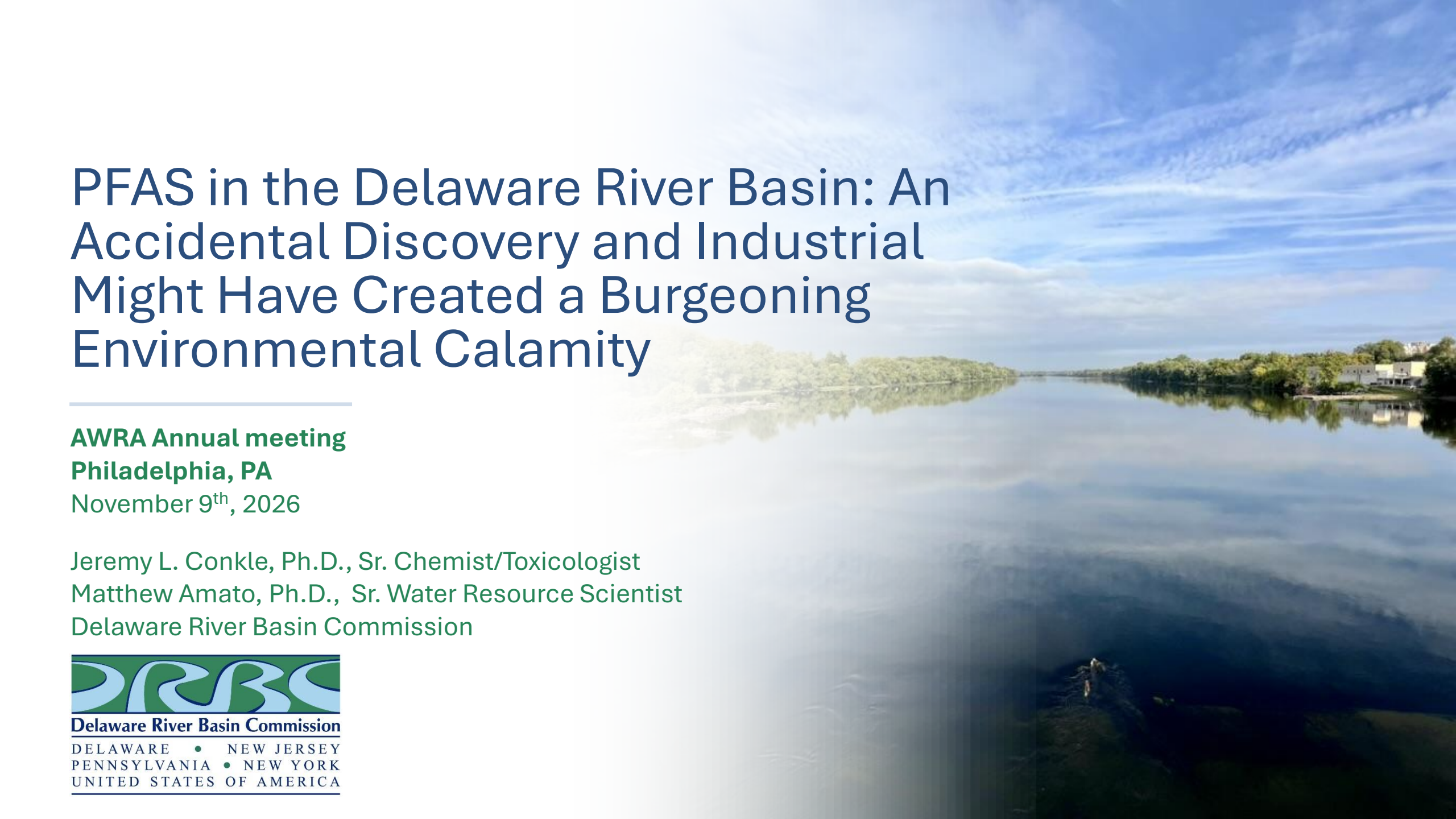
PFAS in the Delaware River Basin: An Accidental Discovery and Industrial Might Have Created a Burgeoning Environmental Calamity



AWRA Annual meeting
Philadelphia, PA
November 9th, 2026

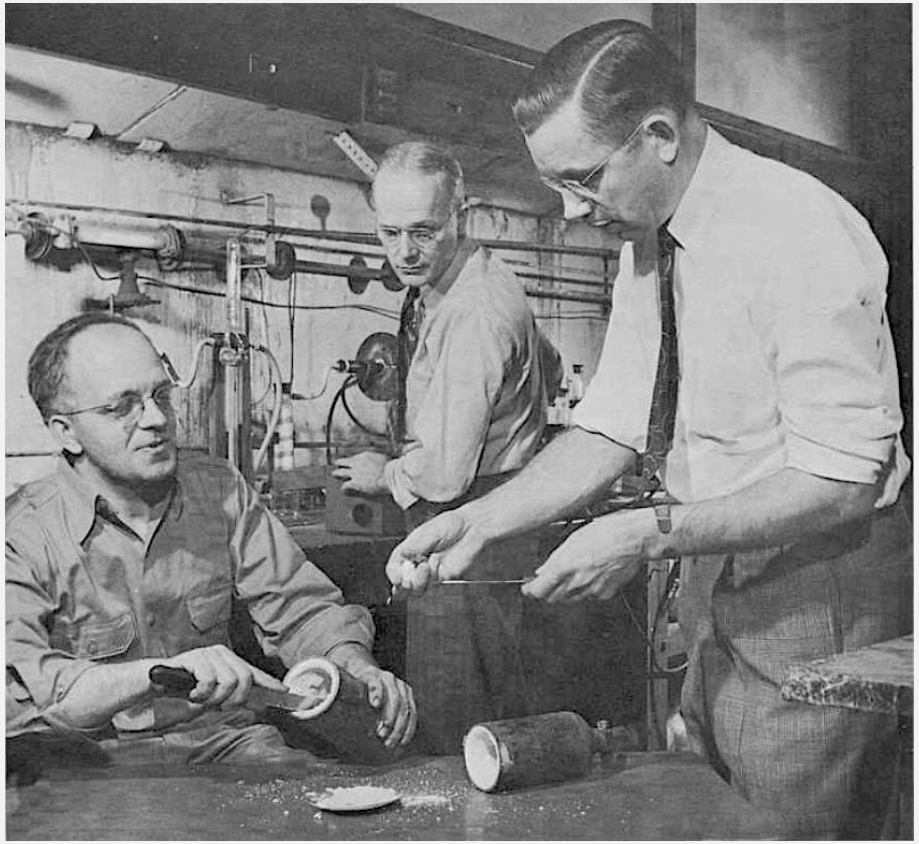
Jeremy L. Conkle, Ph.D., Sr. Chemist/Toxicologist
Matthew Amato, Ph.D., Sr. Water Resource Scientist
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PFAS Started in the Delaware River Basin

THE DISCOVERY

An "Accident" Derived from Solid Research



DISCOVERY of fluorocarbon polymers in 1938 was made by Dr. Roy Plunkett (*right*),who holds the original patent. Technician Jack Rebok (*left*) helped. Chemist Robert McHarness did early fluorocarbon research. In photograph, Plunkett and Rebok re-enact the discovery at the Jackson Laboratory.

"The Wide World of Teflon"

E.I. du Pont de Nemours & Company, 1963

Hagley Museum & Library
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PFAS is a CENTURIAL Problem



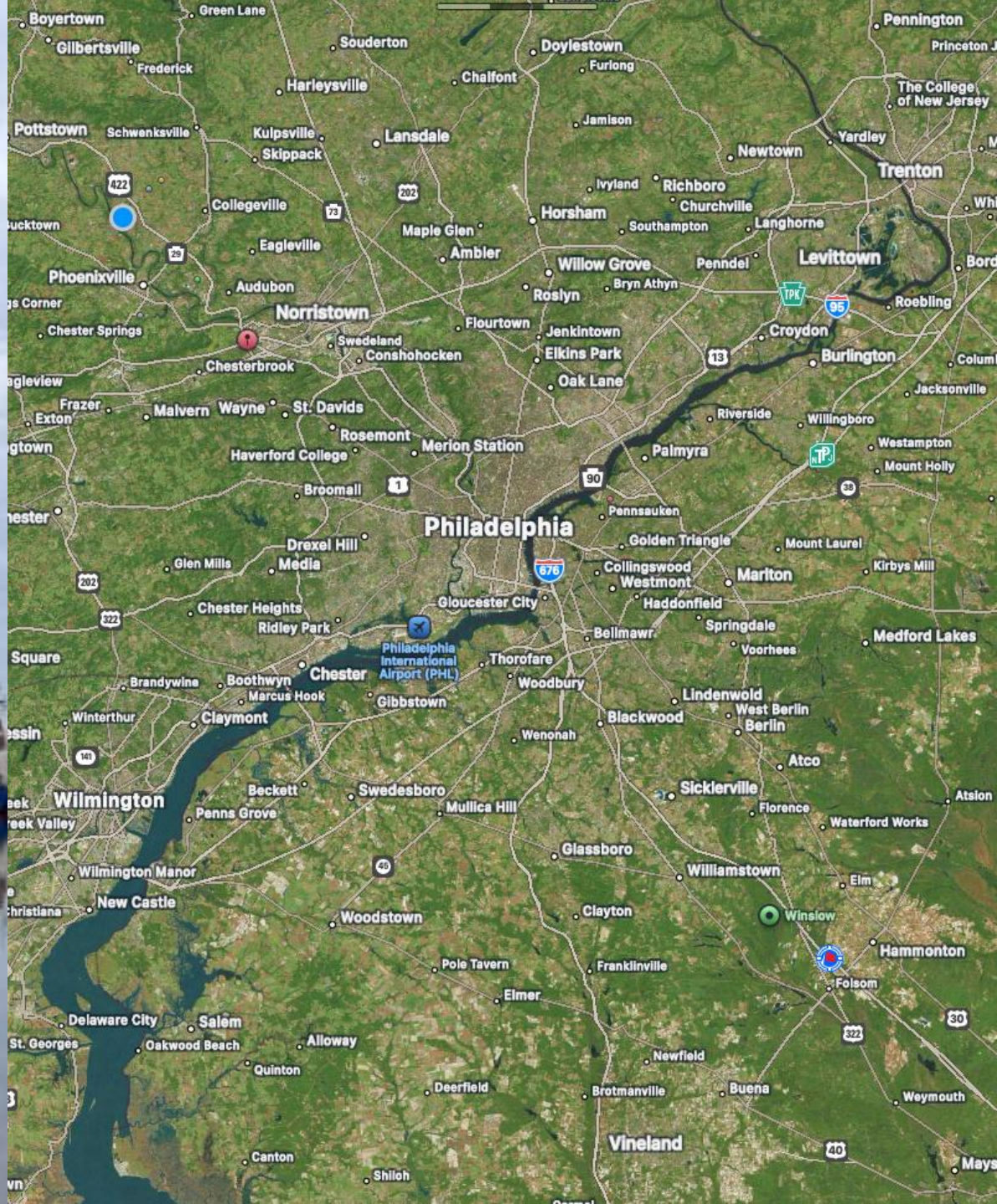
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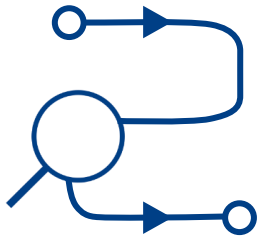
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Long-term Goal: Reduce PFAS Loading to the Delaware River Basin



Consolidate and look at the existing data



Source Identification



Work with state and federal partners to reduce loading from point and non-point sources

Existing PFAS Data in the Delaware River Basin

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	Samples (%)			Below Detection (%)
	All	Estuary	>2019	
All Samples	2,041	1,412 (69)	1,851 (91)	261 (13)
Surface Water	1,393	931 (67)	1,353 (97)	95 (7)
Groundwater	296	186 (63)	233 (79)	108 (36)
Sediment	131	101 (77)	115 (88)	38 (29)
Tissues	221	194 (88)	150 (68)	20 (9)

PFAS in the Delaware River Basin

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Media:

Surface Water

PFAS Data Type:

- (•) **ΣPFAS**
- ( ) **Compounds**
- ( ) **Groups**

Agency:

All

Years:

2007 — 2025

2007 2009 2011 2013 2015 2017 2019 2021 2023 2025

Value displayed at sampling locations with multiple sampling years:

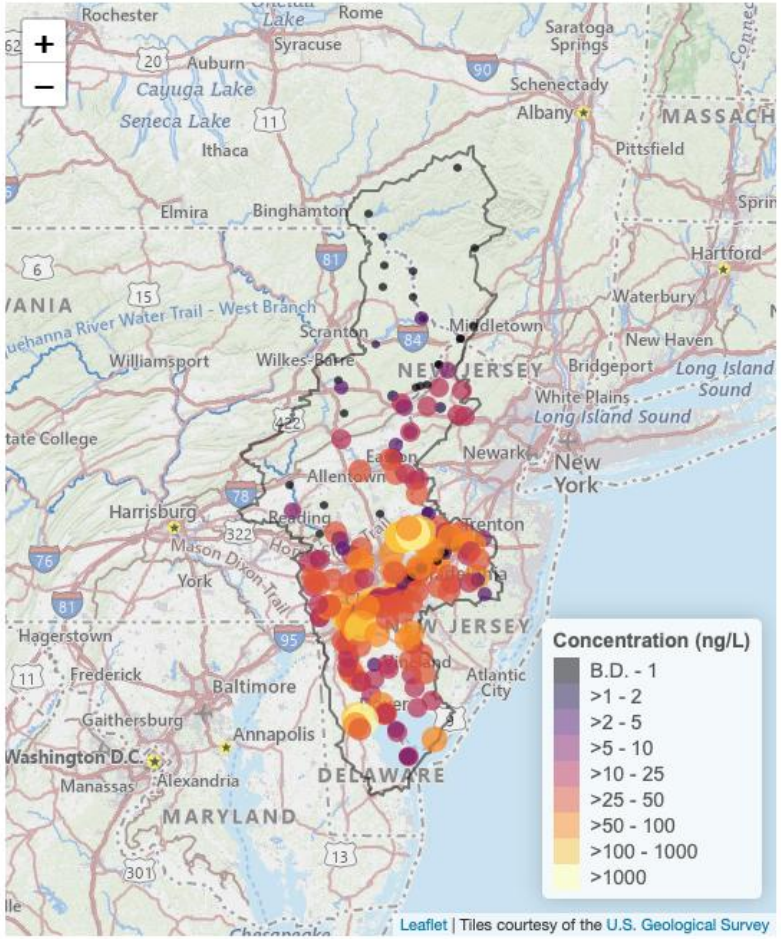
Most Recent Sample

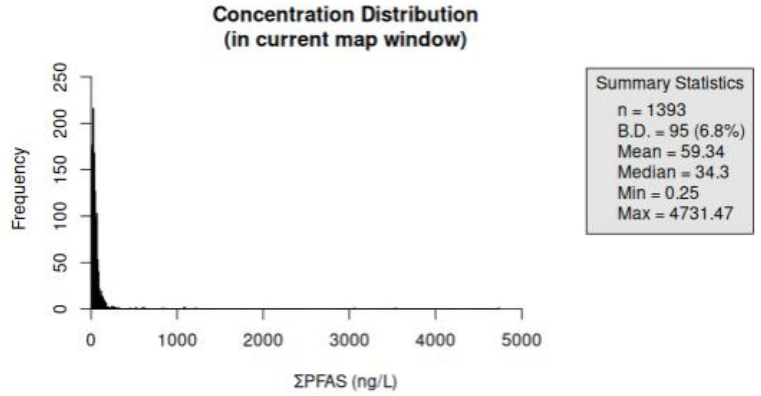
- [ ] **HUC12 Averages (based on values displayed at each sampling location)**
- [ ] **River Miles**
- [ ] **Hide Map Legend**
- [ ] **Samples with known Quality Assurance Project Plans**

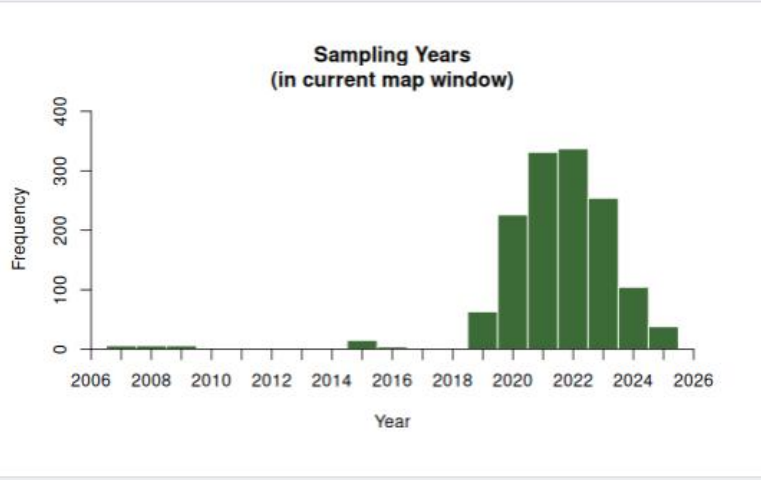
ΣPFAS = Sum of detected PFAS compounds in a sample; not all samples were analyzed for the same compounds.

B.D. = Below analytical detection limits; varies by sample.

Map | **Estuary Analyzer** | **Criteria** | **History** | **About**

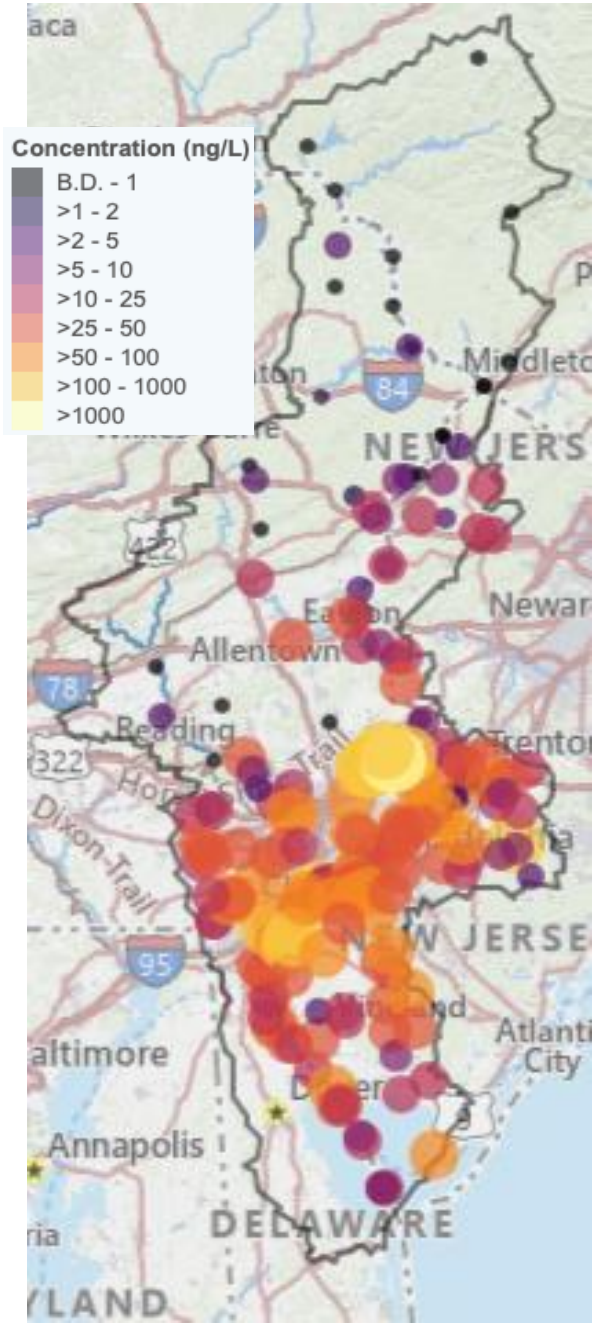




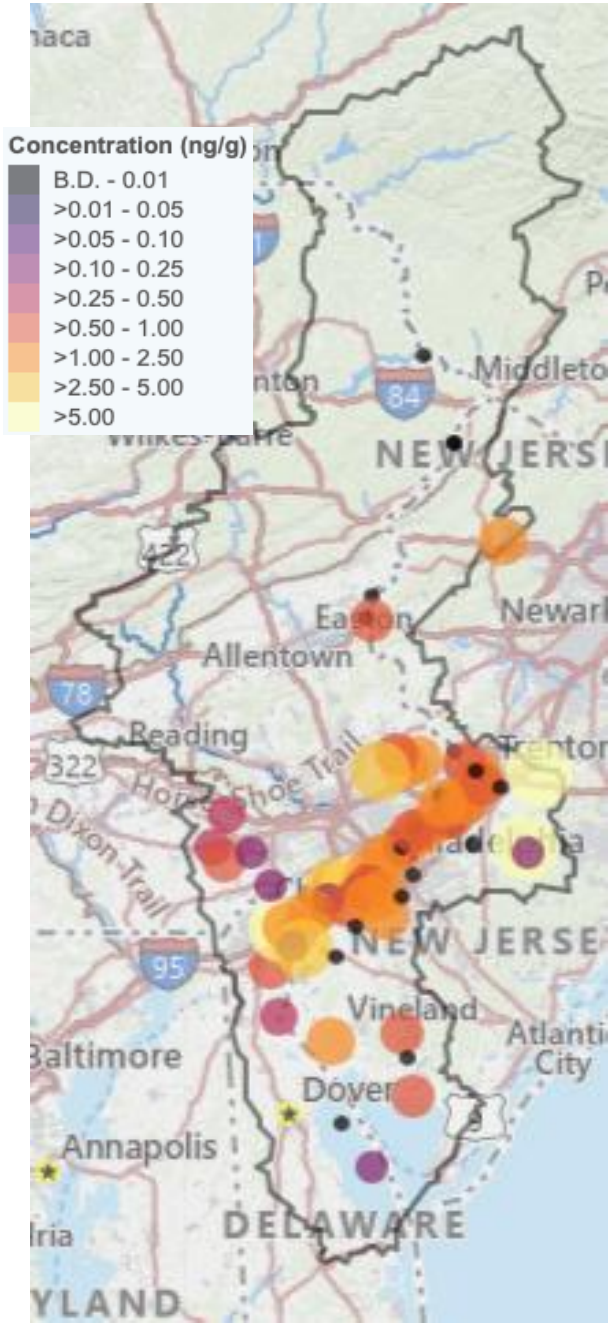


The Estuary is a Hot Spot

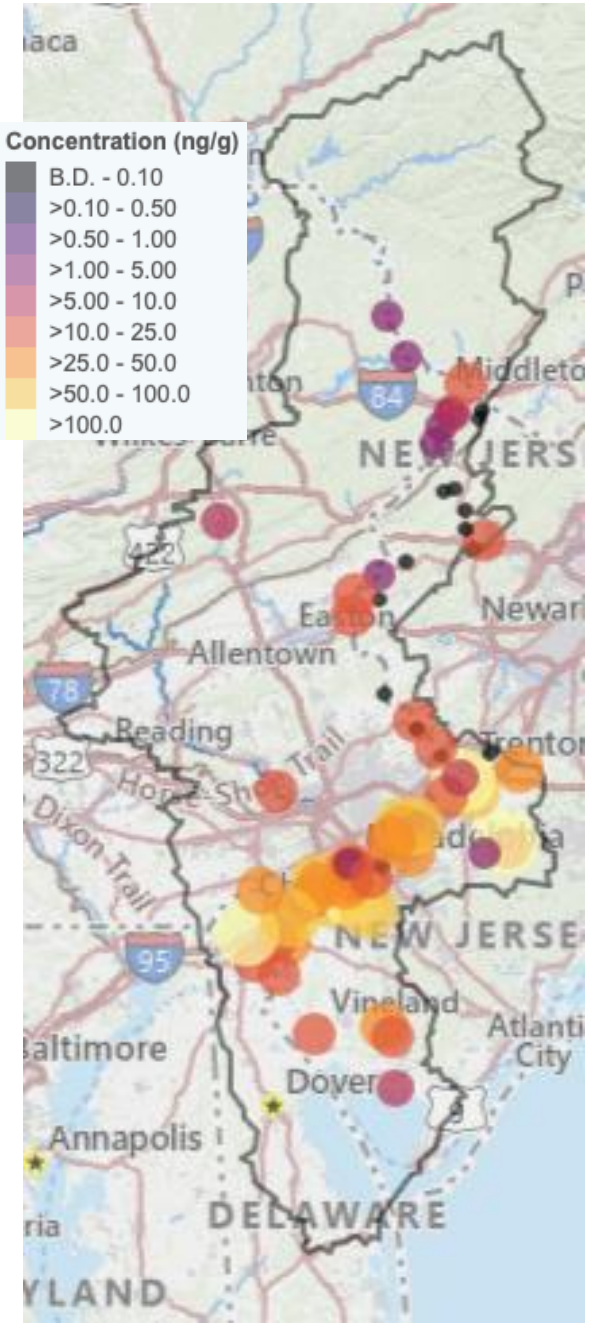
Surface Water



Sediment



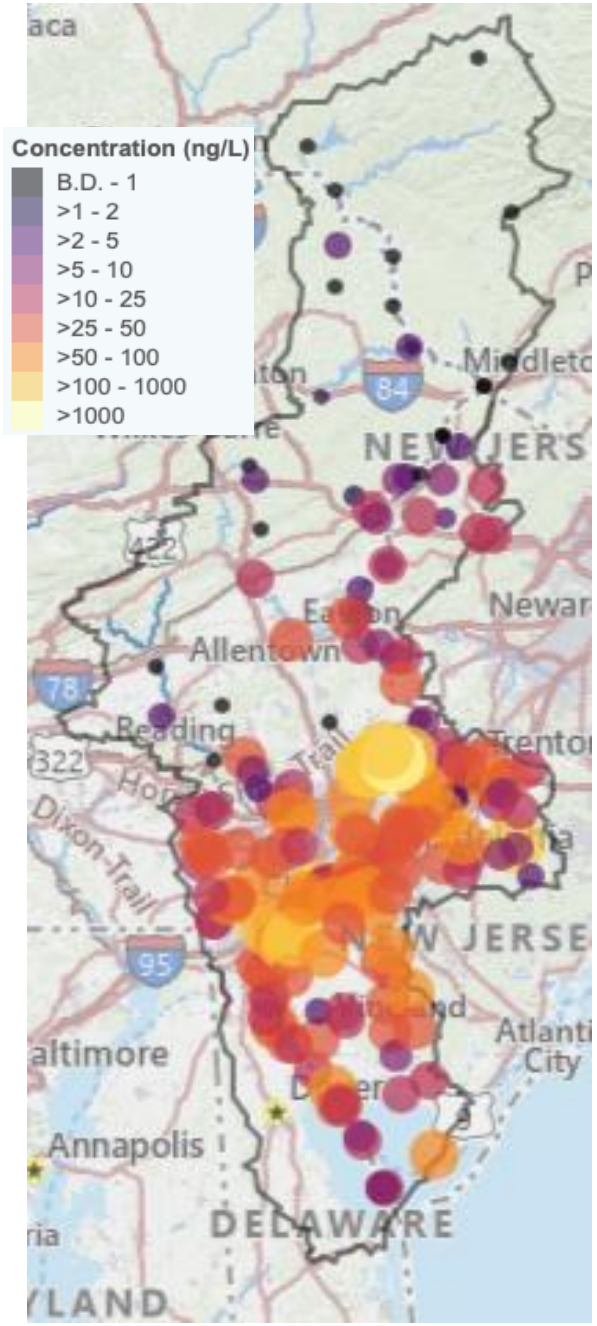
Tissue

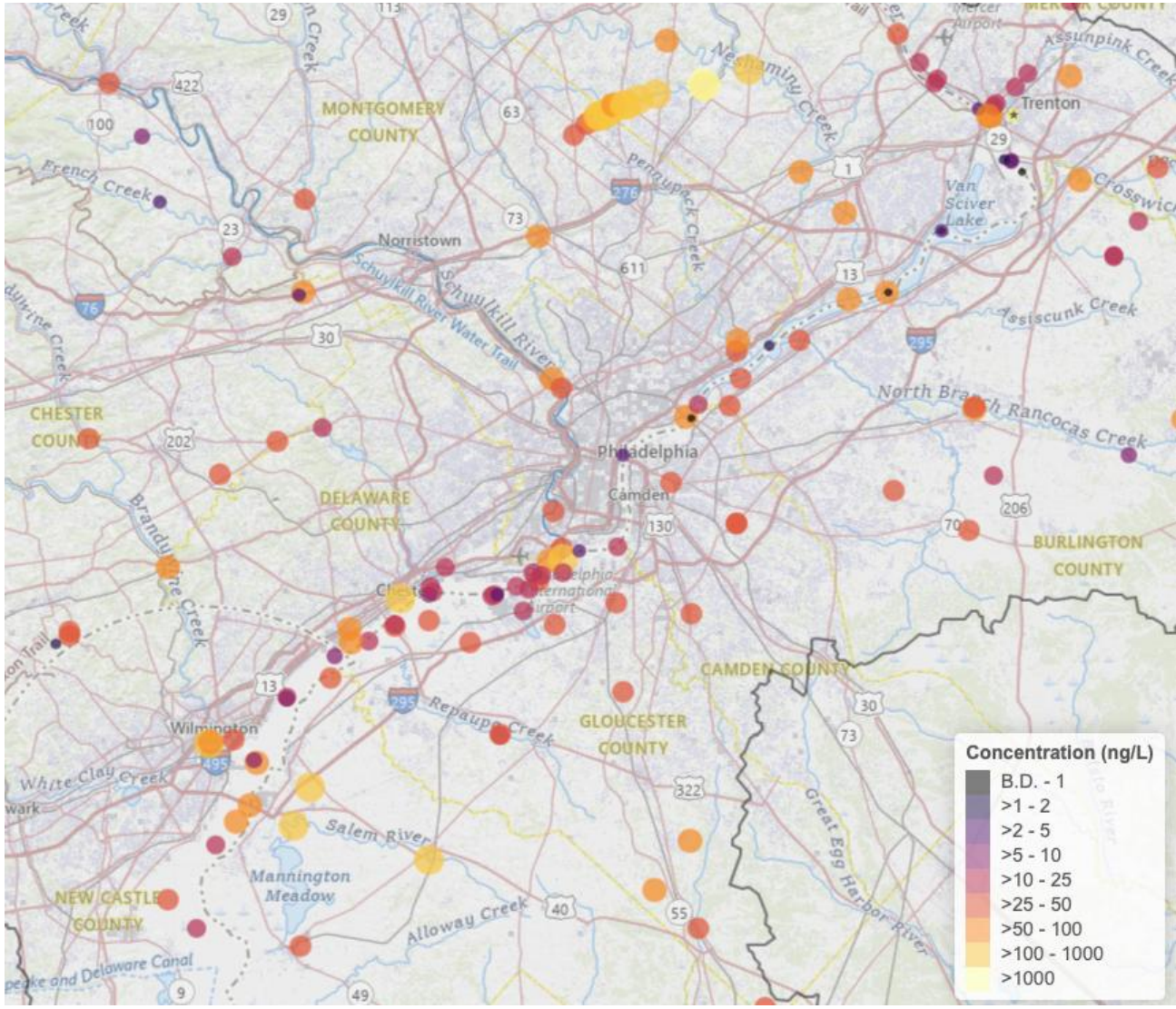


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The Estuary is a Hot Spot

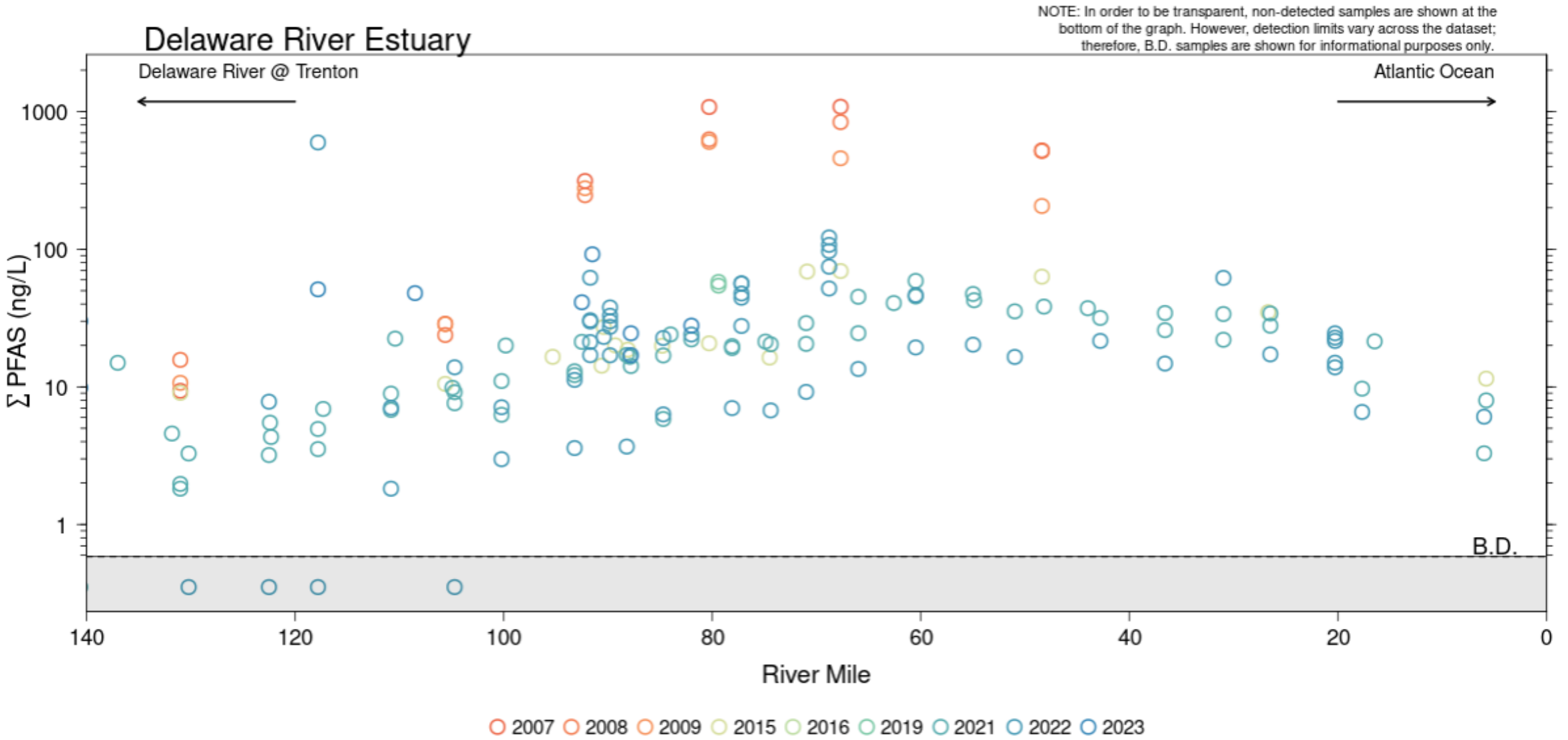
Surface Water





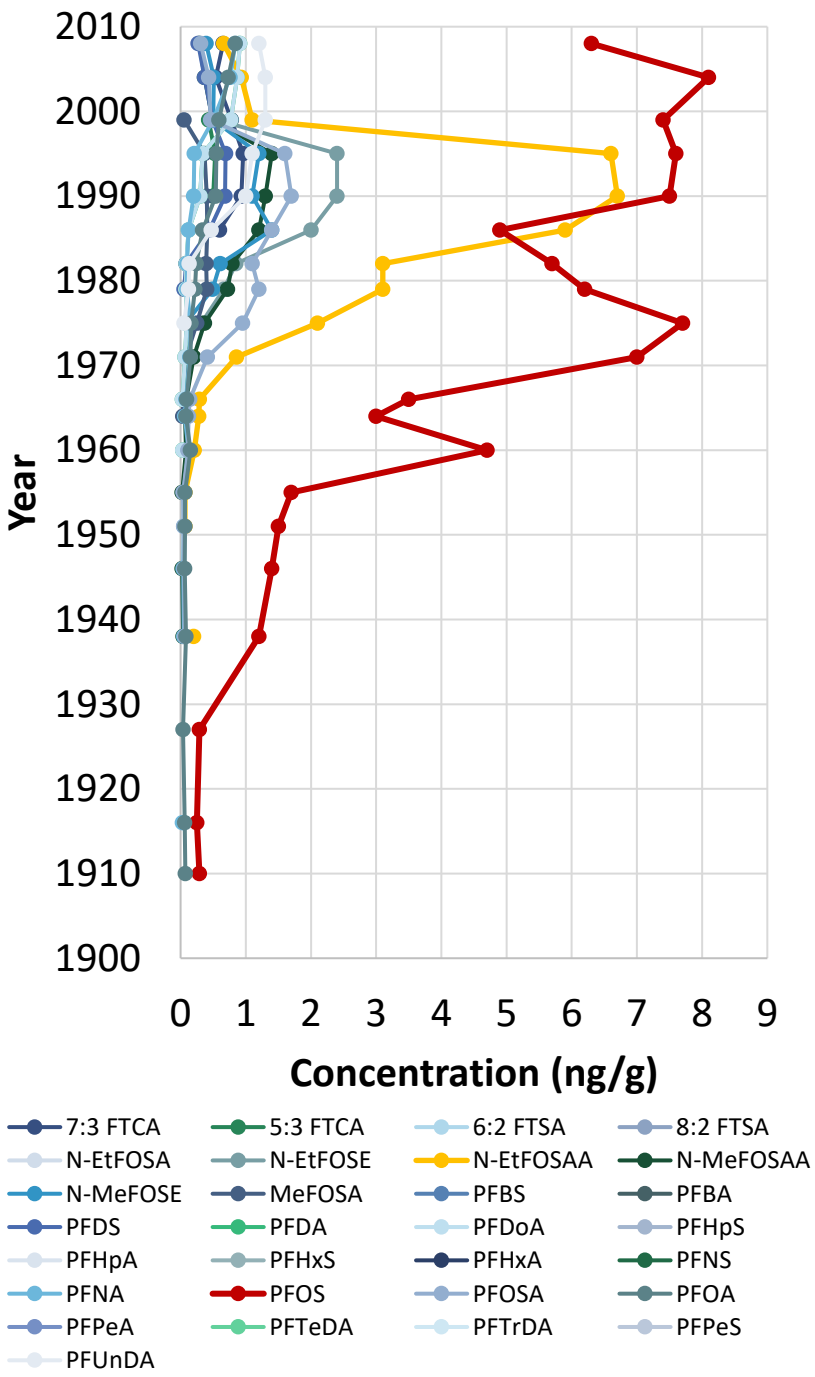
Surface Water Σ_{PFAS} Peaks near River Mile 65

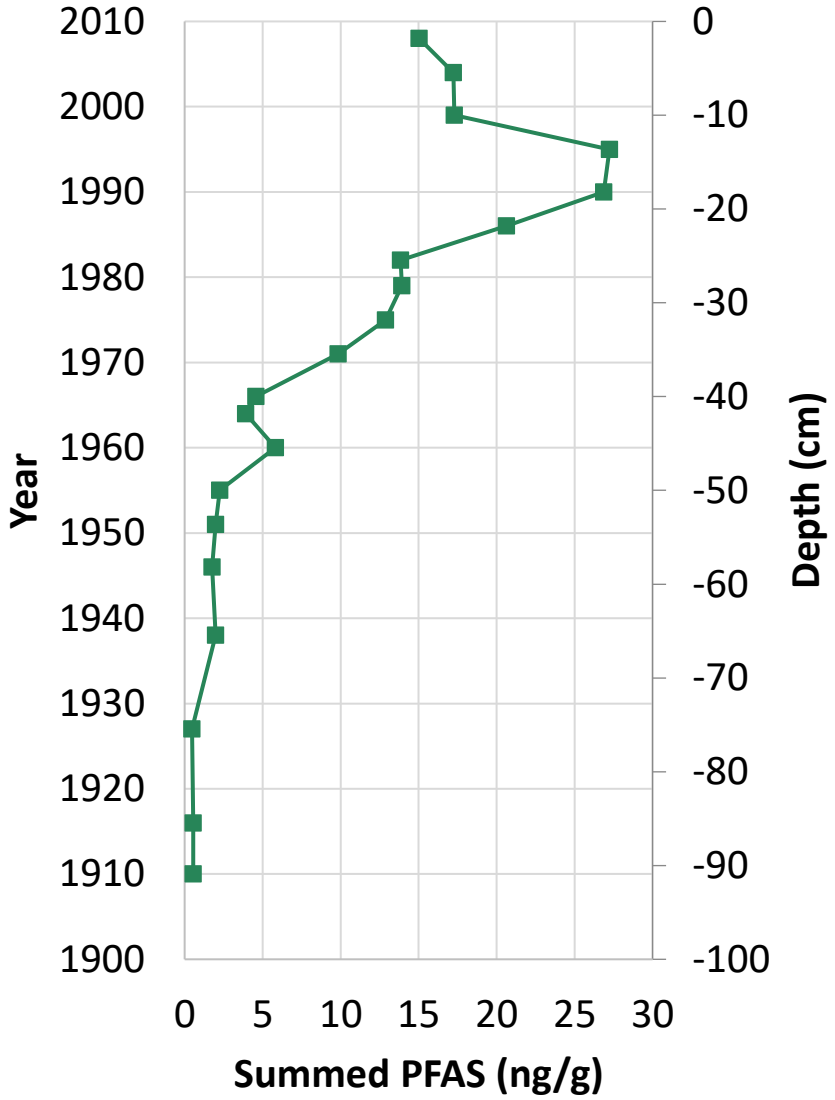
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Crosswicks Creek: Sediment Core from 2008







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DRBC's Plans for PFAS

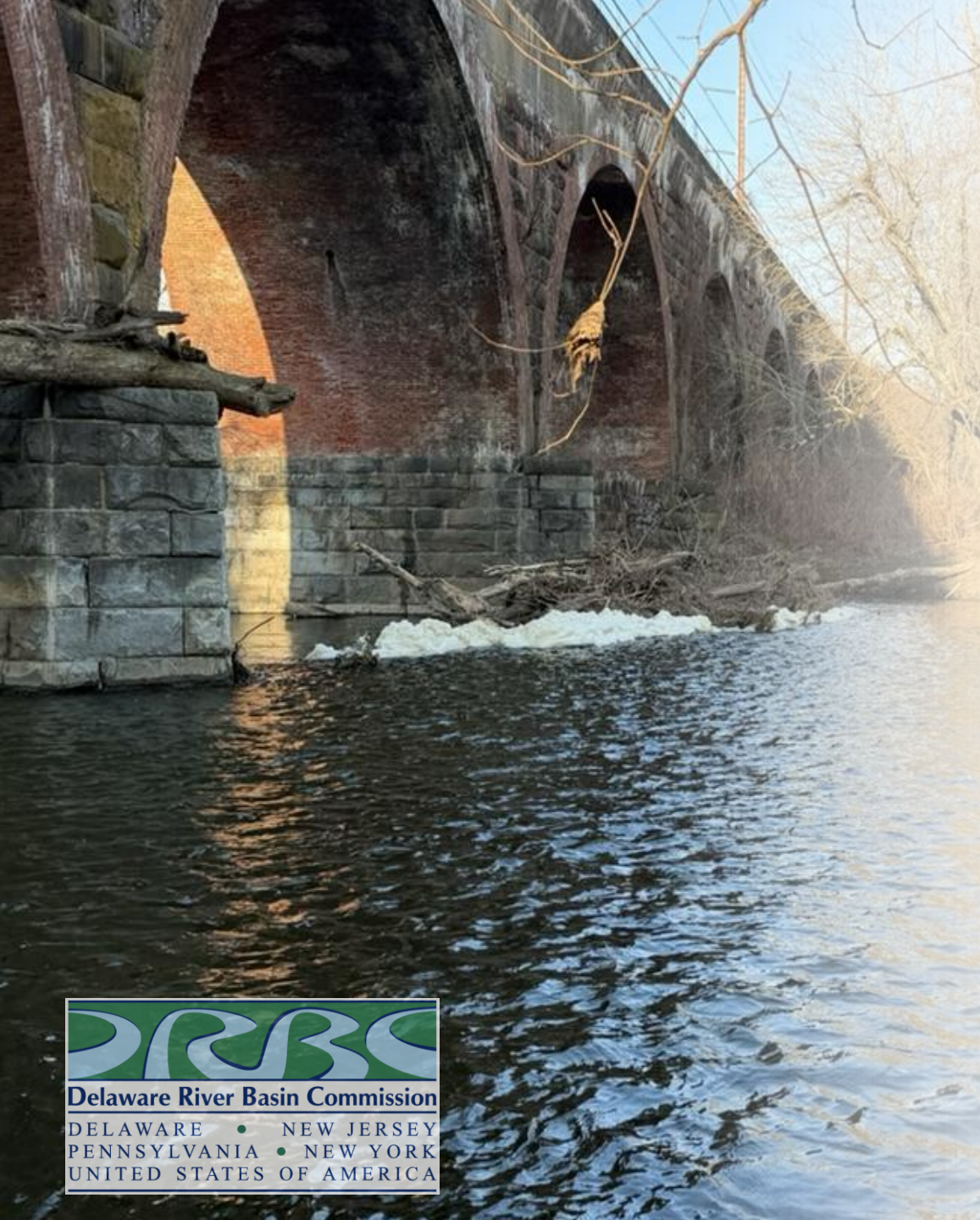
Continue collecting and assessing publicly available PFAS data for the Delaware River Basin

Begin tracking sources of PFAS

When sources are identified, work with state and federal partners to find ways to reduce loading



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Thanks to the USEPA 106 Grants for funding our web app development.

DRBC PFAS Web App

OR search: “DRBC PFAS Web app”

DRBC PFAS Website

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Thank you for the support:

DRBC Staff: Ron MacGillivray, Elaine Panuccio, Jake Bransky, Bailey Adams, Kyle McAllister

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