HUDSON RIVER PCBS SUPERFUND SITE

Community Advisory Group Meeting

Wednesday, September 24, 2025

EPA

Hudson River PCBs SUPERFUND SITE

Today's Agenda

- Overview of Superfund site and work
- Lower Hudson River - Investigations
  - Summary of supplemental studies data
  - Preliminary river segmentation
  - Next steps
- Fish Advisory Outreach – NYS Dept of Health – Update
- Upper Hudson River - Project Updates
  - Upper Hudson River (special studies and habitat)
  - Floodplain investigation (Old Champlain Canal, RI/FS, STRAs, Risk Assessments)
  - Powerhouse & Allen Mill deconstruction (schedule and next steps)

Lower Hudson River Investigations Update

EPA

Hudson River
PCBs SUPERFUND SITE

Hudson River Superfund Site

EPA Activities

(Conceptual - not to scale)

Remnant Deposits – OM&M

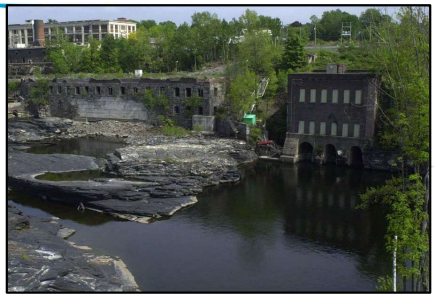
Upper Hudson River Floodplain - RI/FS and STRAS

Hudson Falls
(GE Plant Site - DEC)

Fort Edward
(GE Plant Site - DEC)

Former Fort Edward Dam

Powerhouse and Allen Mill - Deconstruction



Upper Hudson – Dredging Remedy OM&M and Special Studies (40 mi)

Troy (Dam)

Albany

Waterline Transfer to Municipalities

Catskill

Poughkeepsie (salt front)

Tappan Zee

George Washington

NJ

NY Harbor

Lower Hudson – Additional Investigations and Sampling (160mi)

PCB Sites (DEC)

- BASF
- Hastings
- BIC

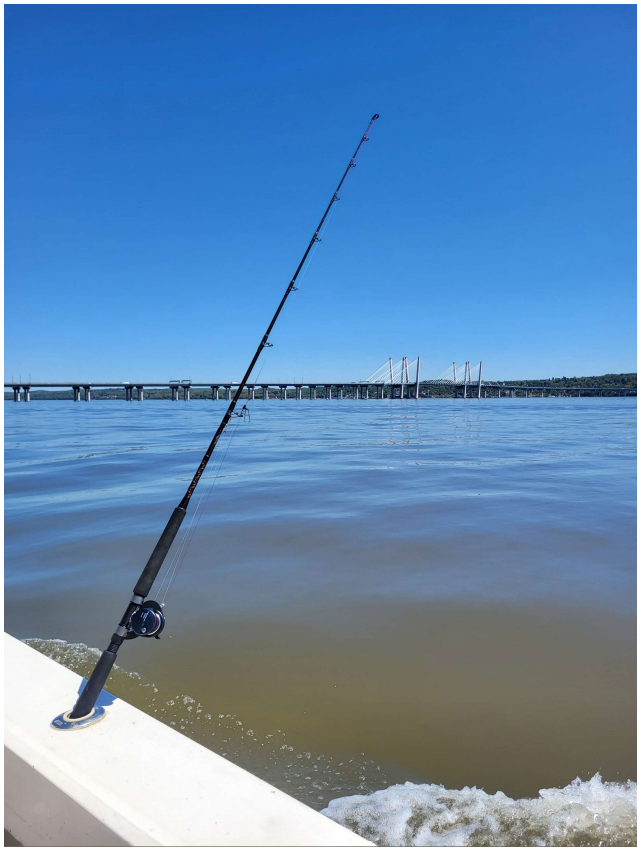
New York City Battery

The items shown in this figure represent a subset of activities and do not encompass all operations conducted at the site.

Hudson River PCBs SUPERFUND SITE

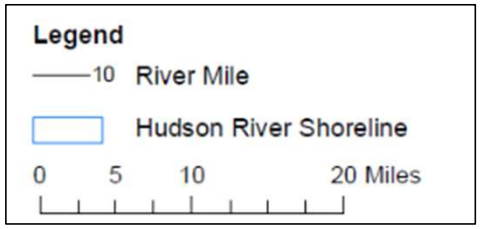
Lower Hudson River Update

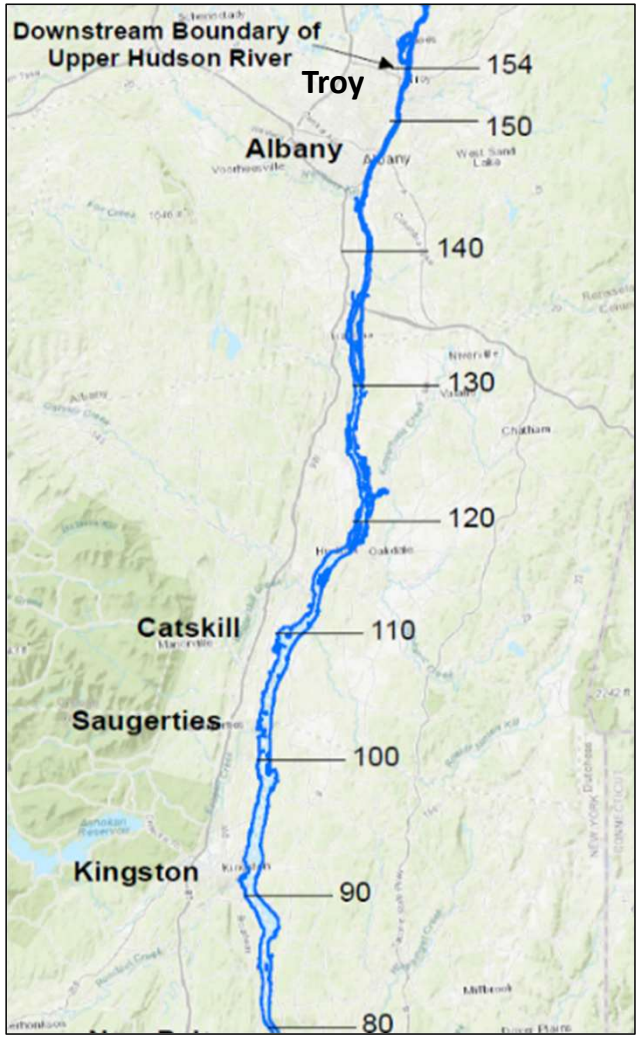
- Dividing the river – for discussion purposes
- Summary of supplemental studies data
  - Sediment
  - Fish
  - Water
- Next steps



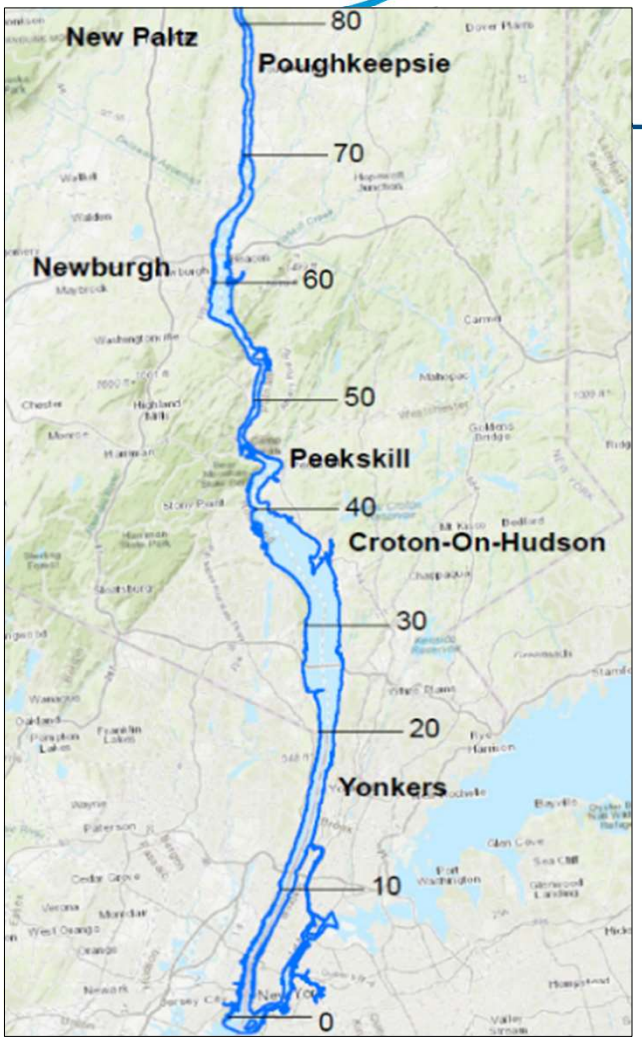
Lower Hudson River Overview

- ~160 miles
- Extends from the Federal Dam in Troy to the Battery at Manhattan
- Estuary with mix of fresh water and saltwater
- Saltwater can extend upstream as far as Poughkeepsie



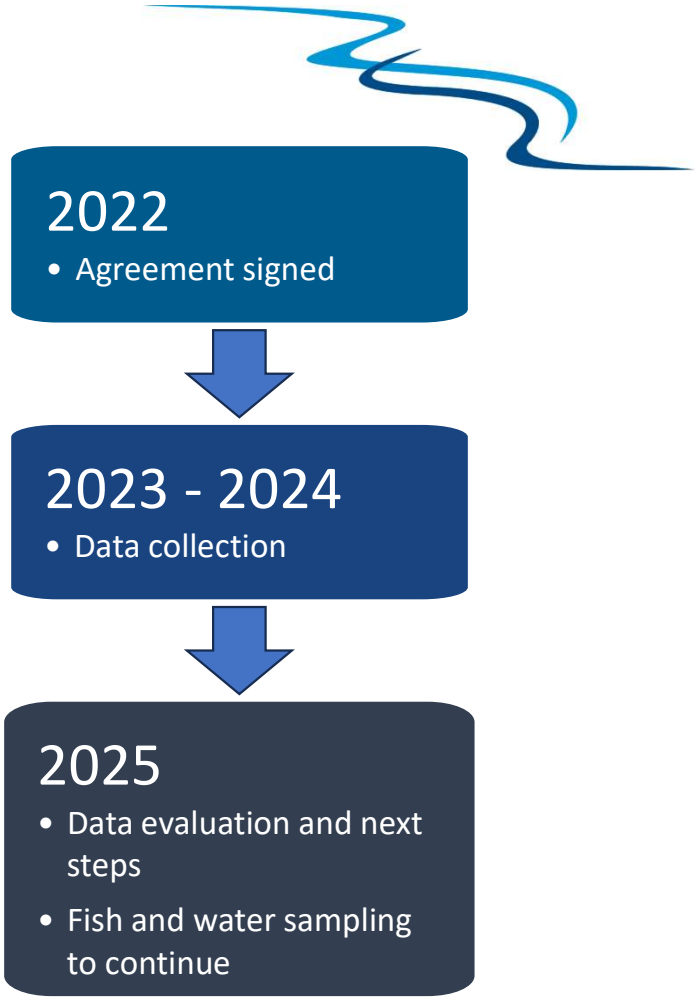


Direction of Flow



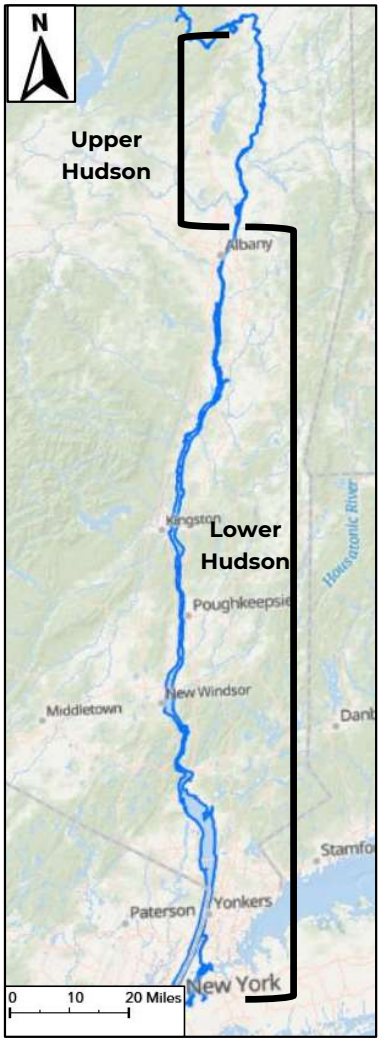
Supplemental Studies Timeline

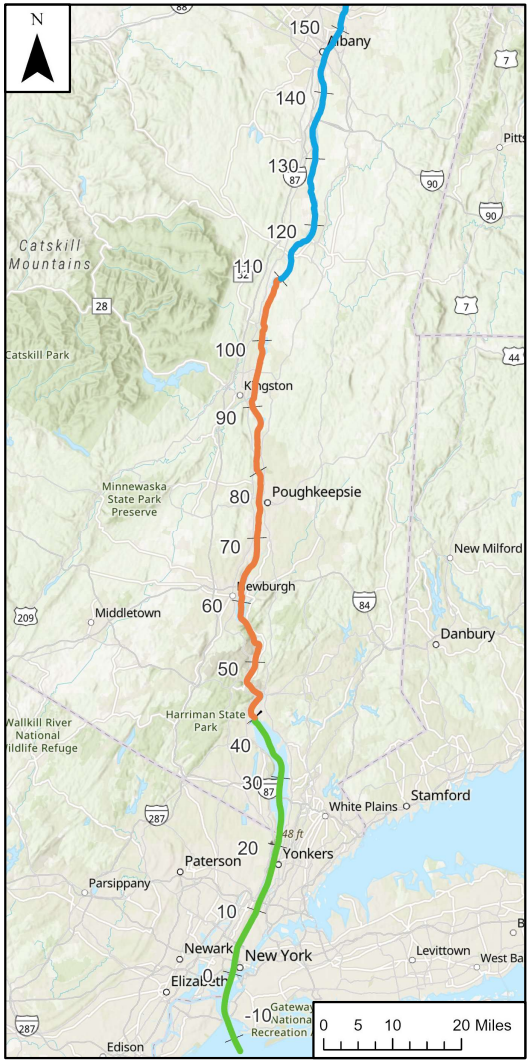
- Agreement signed in fall 2022
  - Fish, water and sediment sampling programs
  - Focus on PCBs - additional contaminants also tested
  - Data being used to inform decision making and next steps
- Field work conducted 2023 through 2025
  - Fish and water to continue into 2026
- Data evaluation in progress
  - High resolution coring – analysis in progress
  - Water and fish data is being evaluated as it is received



Why Divide the Lower Hudson River?

- Dividing the river into smaller parts will help guide discussions with the project team and the public
  - Common practice in Superfund
  - Help simplify and define complex river system
  - Technical considerations and related investigations may differ in each section
- Lower River considerations (~ 160-mile river section)
  - Ecosystems; freshwater and saltwater
  - Hydrodynamics (how the river flows)
  - Sediment type
  - Land use
  - Contaminants
  - Others



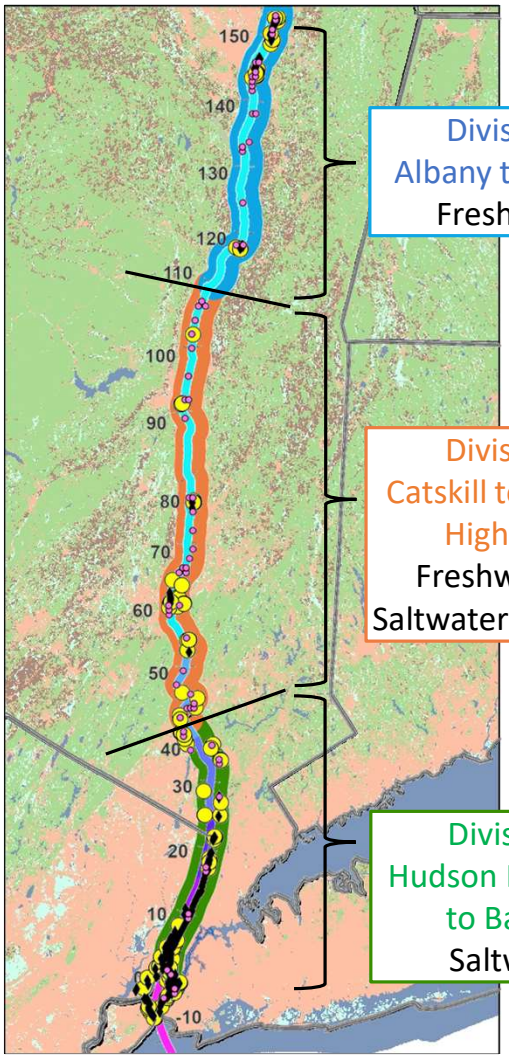


Preliminary Approach to Dividing the River

- Considerations include:
  - **Physical:** sediment type, salinity, hydrodynamics and land use
  - **Chemical:** contaminant distribution

Division A	Division B	Division C
Albany to Catskill RM 154 to ~110	Catskill to Hudson Highlands RM ~110 to ~40	Hudson Highlands to Battery RM ~40 to 0

Physical Characteristics



Division A
Albany to Catskill
Freshwater

Division B
Catskill to Hudson Highlands
Freshwater to Saltwater Transition

Division C
Hudson Highlands to Battery
Saltwater

0 5 10 20 Miles

N

Salinity (ppt)

0.078

22

- Superfund Site
- CSO
- Waste Water Treatment Plant

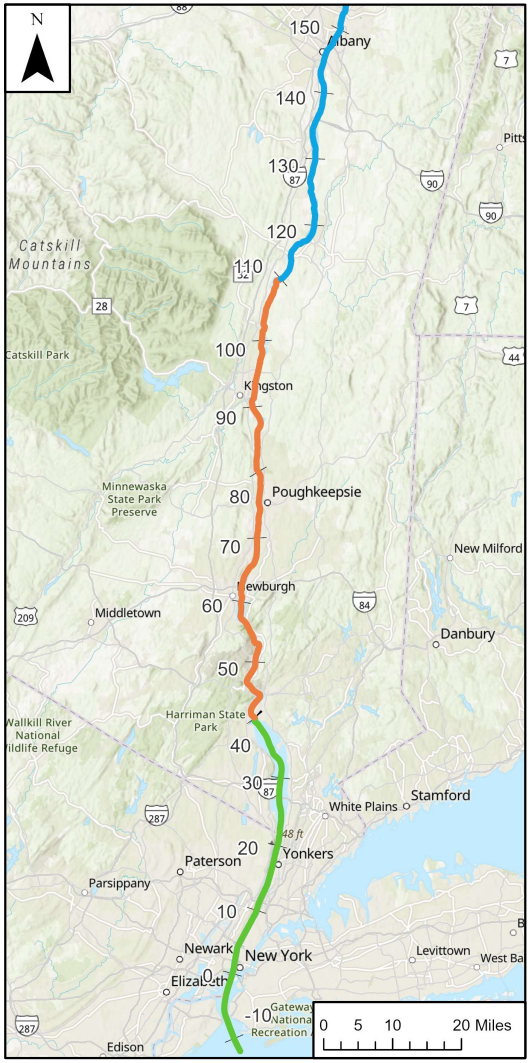
Preliminary Divisions

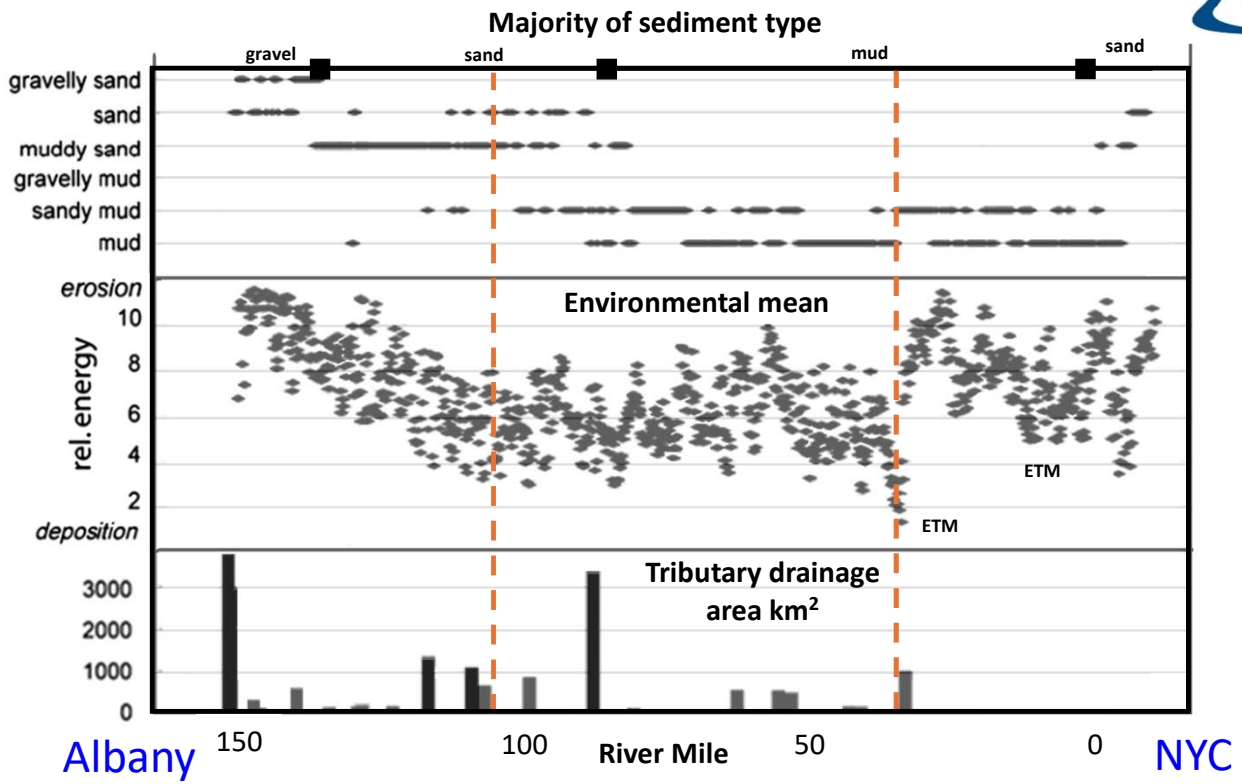
- Division A (Albany to Catskill)
- Division B (Catskill to Hudson Highlands)
- Division C (Hudson Highlands to Battery)

Land Cover Type

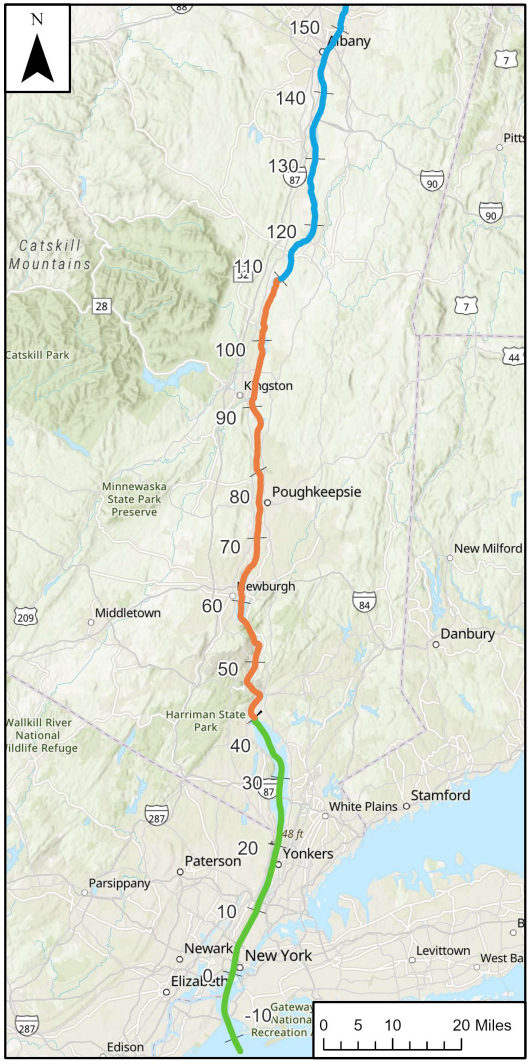
- Developed
- Forest
- Barren Land
- Grassland/Herbaceous & Shrub/Scrub
- Agriculture
- Wetland
- Open water

Physical Characteristics – Cont.





Division A	Division B	Division C
Albany to Catskill	Catskill to Hudson Highlands	Hudson Highlands to Battery



Physical Characteristics – Cont.

Factors	Albany to Catskill	Catskill to Hudson Highlands	Hudson Highlands to Battery
Water Type	Freshwater	Transition	Saltwater
Land Use	Rural	Transition	Urban to densely urban
Energy Level	Transition (Erosional to Depositional)	Depositional	Erosional
Sediment	Coarse-grained (gravel/sand)	Transition	Fine-grained (muddy)
Hydrodynamics	Tributary Influence	Complex hydrodynamics	Tidal driven

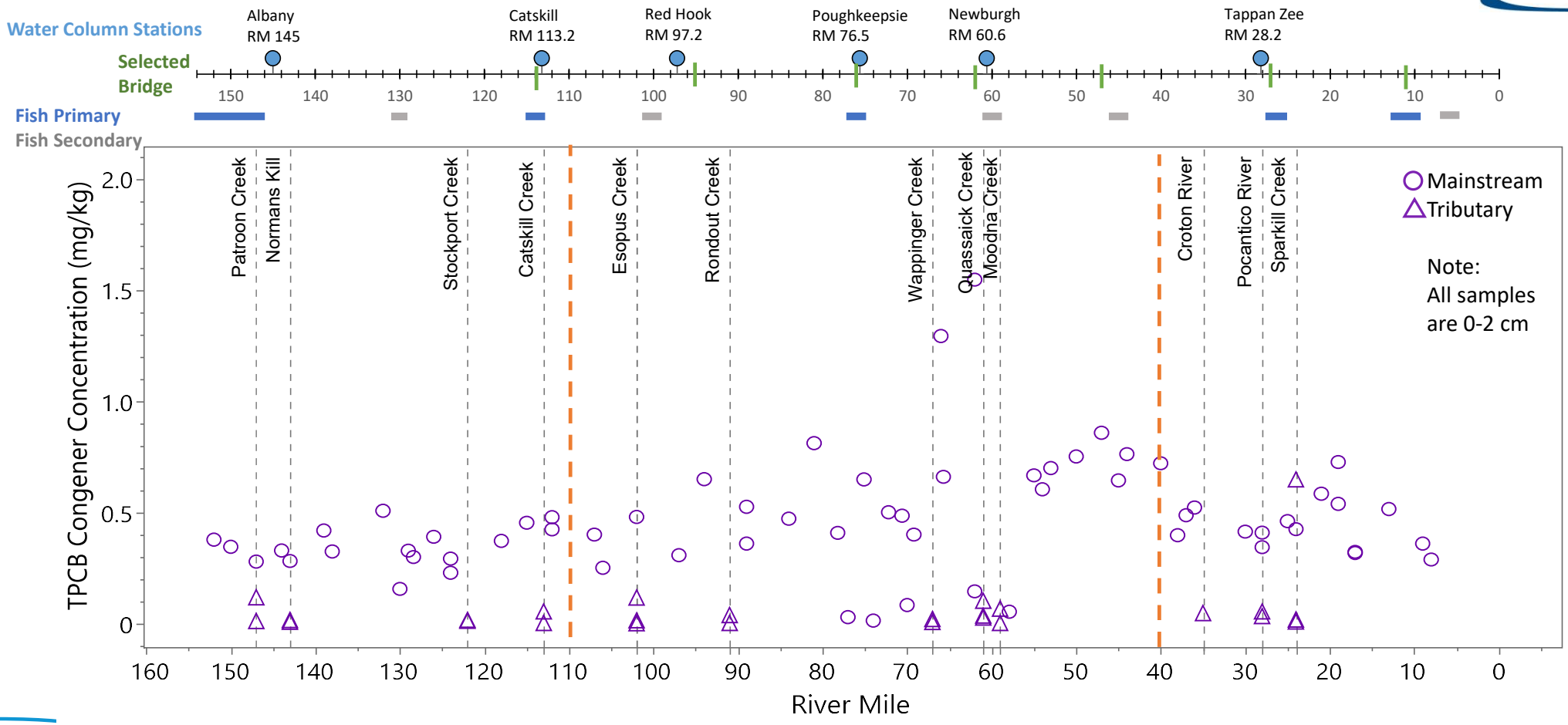
Summary of Supplemental Studies Data

Recently-Deposited Sediment Sampling Purpose

- Understand the PCB concentrations of recently suspended and actively depositing sediment throughout the Lower River and tributaries

Area	Samples Collected (0 to 2 cm)	Samples Analyzed for PCBs
Main Stem	150	64
Tributary	61	28

Recently-Deposited Sediment PCB Concentrations

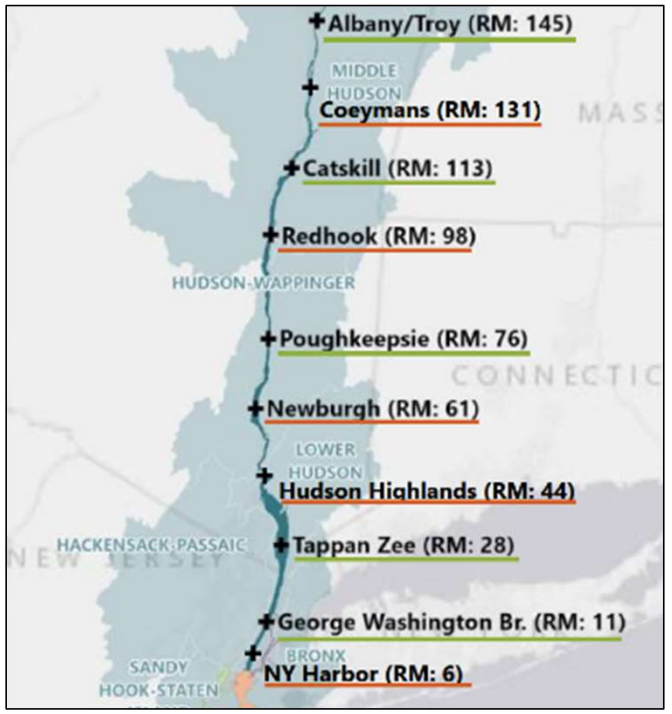


Supplemental Sediment Sampling Purpose

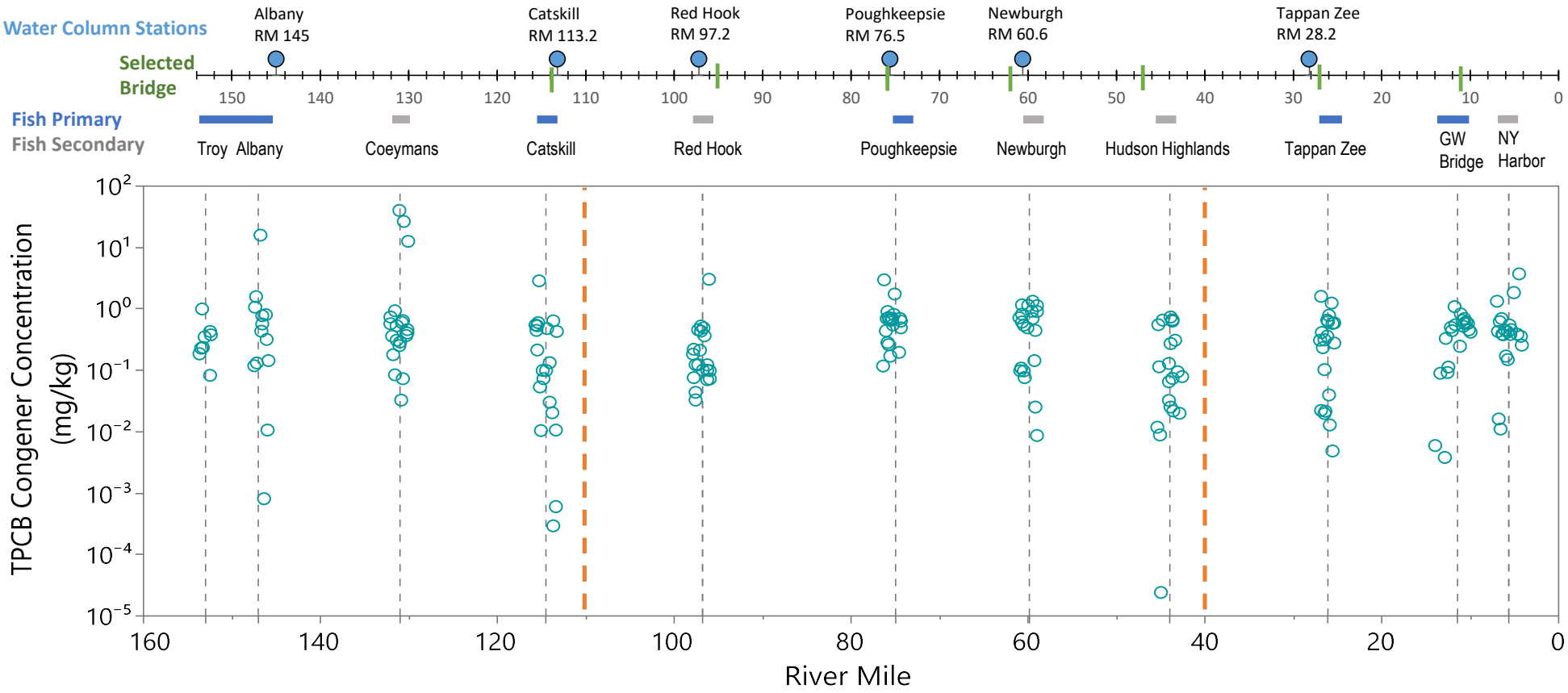
- Understand PCB concentrations in sediment throughout the Lower River
  - Examine local and river-wide patterns of PCB concentrations
  - Explore relationship with fish and water

Supplemental Sediment Sampling Locations

- 200 locations sampled in 10 areas
  - Collected in areas where fish were collected
- Surface-layer samples (0 to 6 inches) were submitted for PCB analysis
- Deeper layers (> 6 inches) were archived

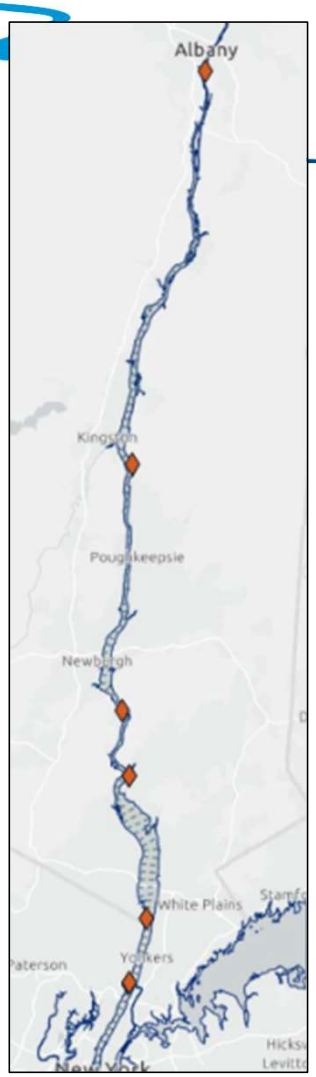


Supplemental Sediment (0 to 6 inch) PCB Concentrations



High-Resolution Sediment Coring Program

- Understand how PCB concentrations in depositional areas have changed over time throughout the Lower River
  - Cores collected from depositional areas
  - Cores are finely divided (2 to 4 cm) and dated based on the presence of radionuclides
  - Results show PCB concentrations of sediment deposited over time
- Cores collected from 6 areas – sample analysis ongoing
- Goal is to get dateable cores
  - Some follow up analysis may be needed



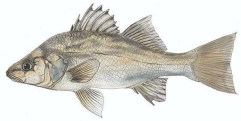
Fish Sampling Purpose

- Understand PCB concentrations in various fish species throughout the Lower River
  - Represent different habitat types
  - Inform ecological and human health risks
  - Explore relationship with sediment and water
  - Data will also be used by NYSDOH related to fish advisories

Fish Sampling Locations

- Total of 867 fish collected in 2023 and 2024
- Targeted 10 to 30 of each species per location
- Fresh and saltwater species
  - Striped bass, white perch, American eel, channel catfish, white catfish, and carp
- Freshwater species
  - Pumpkinseed, smallmouth bass, spottail shiner, brown bullhead, yellow perch, and walleye
- Saltwater species
  - Bluefish, blue crab, hogchoker, and Atlantic silverside
- Routine fish collection continues

Striped Bass

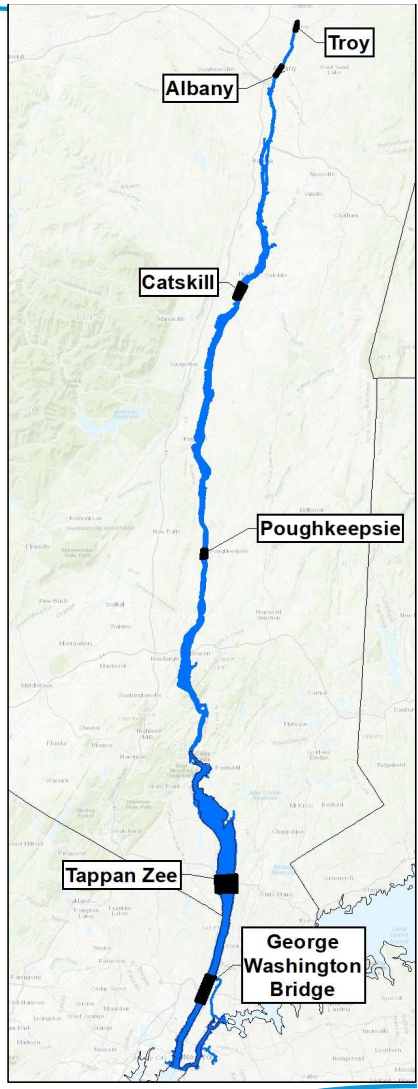


White Perch

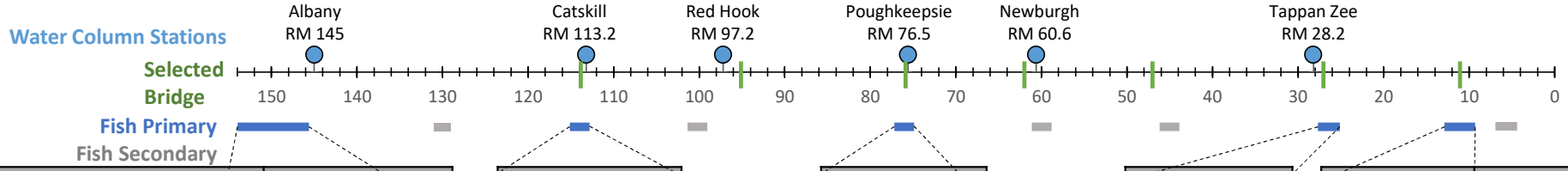
White Catfish

Smallmouth Bass

Blue Crab



Fish Wet-Weight Total PCB Concentration



Species	Albany/Troy	Catskill	Poughkeepsie	Tappan Zee	GWB	Spatial Trend
Carp	3.5	3.0	1.4	1.7		
Walleye	1.2					
American Eel				1.1		
Channel Catfish	1.3	0.47	1.5			
Blue Crab (Hepatopancreas)*				1.2	0.75	
White Catfish				0.78	0.89	
Smallmouth Bass	0.75	0.60	0.50			
White Perch	0.53	0.23	0.49	0.56	0.53	
Spottail Shiner	0.25	0.48	0.67			
Striped Bass	0.59	0.48	0.27	0.46	0.49	
Pumpkinseed	0.35	0.47	0.45			
Bluefish*				0.28	0.28	
Hogchoker*					0.26	
Atlantic Silversides*				0.25	0.26	
Brown Bullhead		0.16	0.22			
Yellow Perch		0.17				
Blue Crab (muscle)*				0.049	0.028	

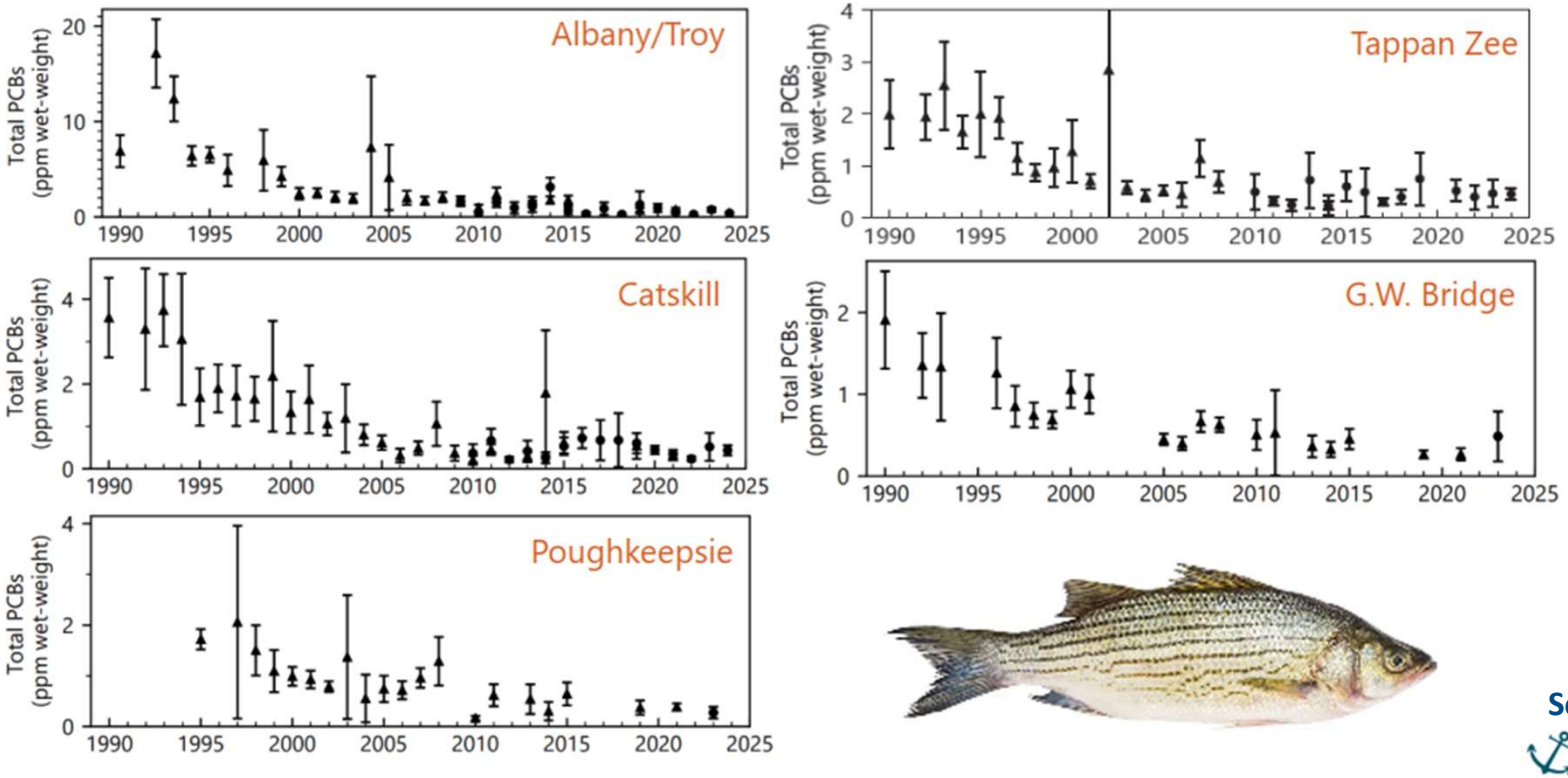
Fish Wet-Weight TPCB Concentrations (mg/kg)

- < 0.05
- 0.05 - 0.2
- 0.2 - 0.4
- 0.4 - 1
- > 1

*Saltwater Species Species ordered by concentration

Long-Term Fish PCB Concentrations

Striped Bass



Source:

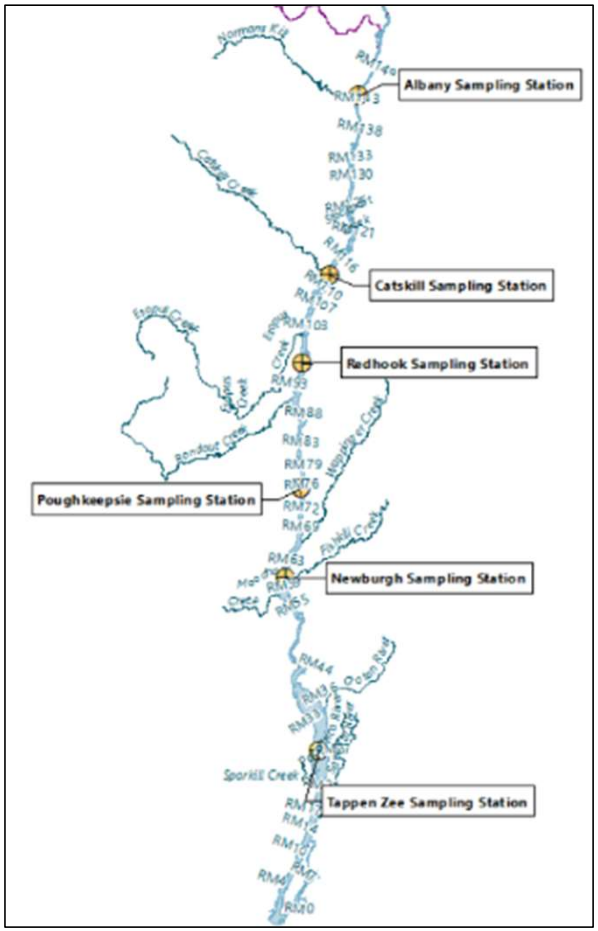
ANCHOR QEA

Water Column Sampling Purpose

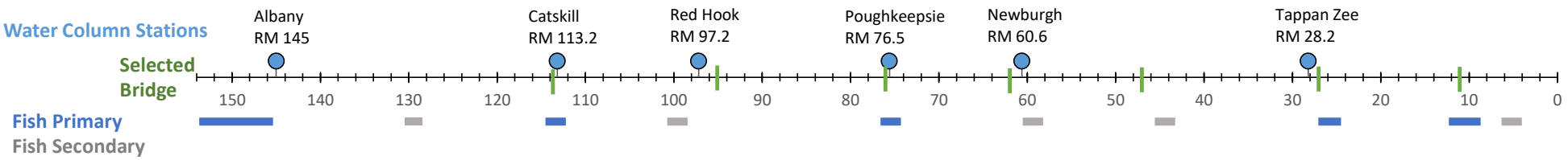
- Understand water column PCB concentrations throughout the Lower River
  - Explore relationship with sediment and fish

Water Column Sampling Stations

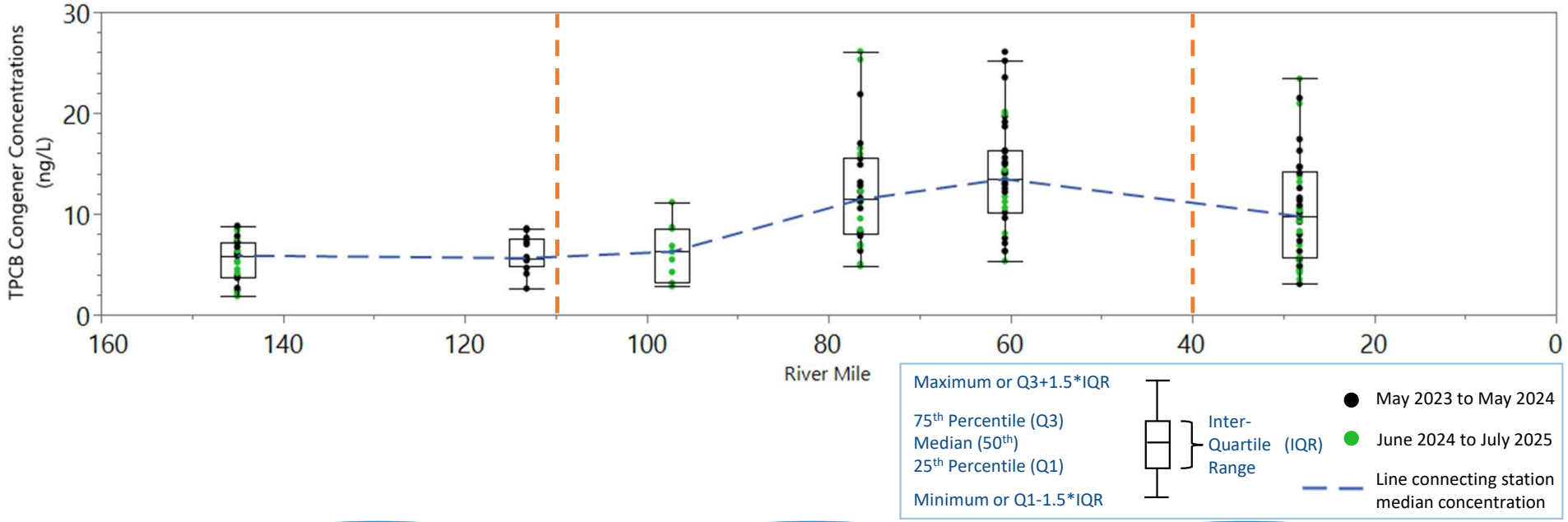
Location	Samples Collected in 2023 to 2025
Albany	25
Catskill (05/23 to 05/24)	12
Red Hook (Starting 07/24)	11
Poughkeepsie	26
Newburgh	37
Tappan Zee	50
Total	**161**



Water Column Sampling Results



Total PCB Concentrations by Station



Lower River Next Steps

- Continue analyzing high-resolution sediment cores
- Continue collecting routine water column and fish samples
- Consider other contaminants of concern (e.g., dioxin, PAHs, metals)