



Maryland
Department of
the Environment

PCB Source Trackdown in Maryland: June 2023 Update

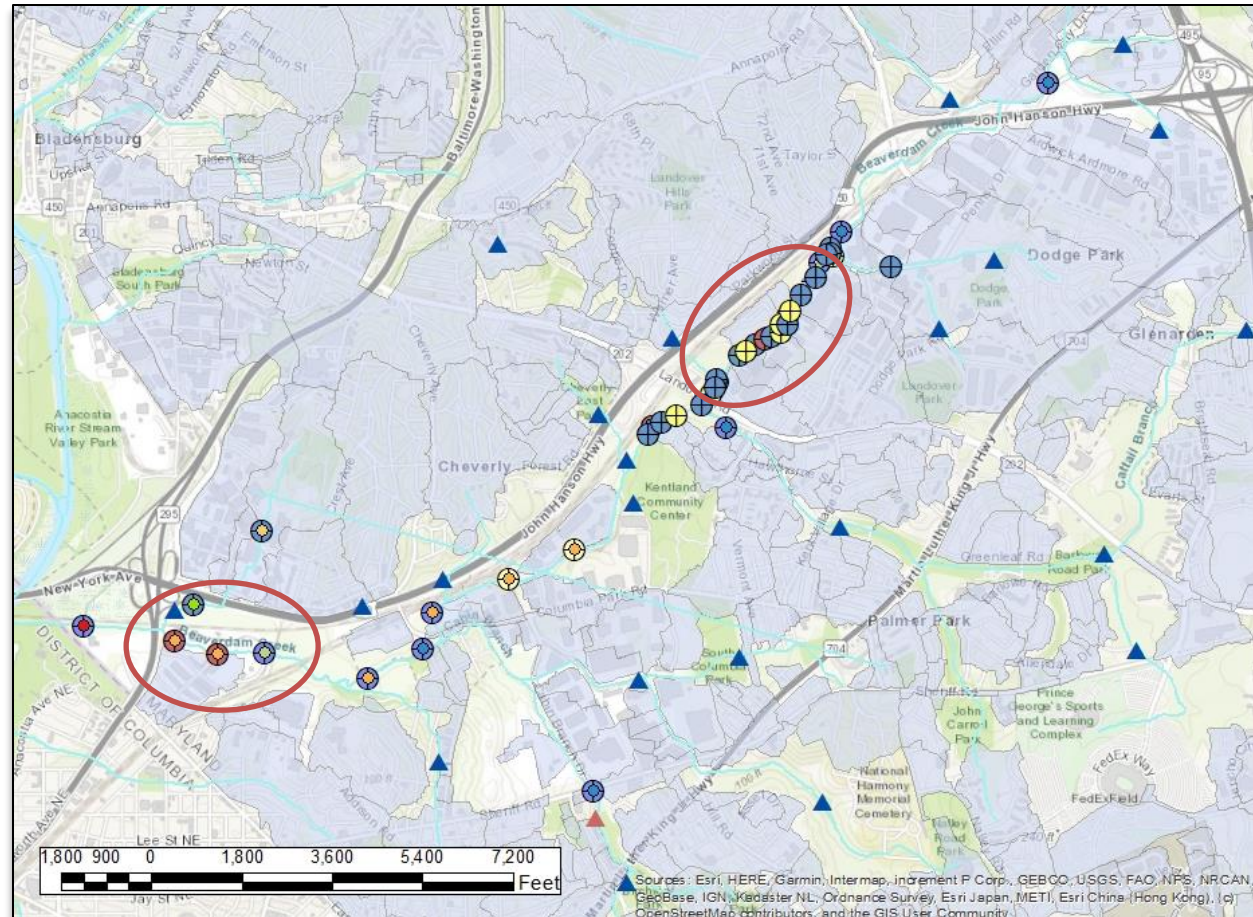
MDE WSA – Water and Science Administration
MDE LMA – Land and Materials Administration

Leadership Council for a Cleaner Anacostia River
June 8, 2023



Lower Beaverdam Creek: Areas of Concern

- Data collected since 2019 indicates two primary areas of concern for PCBs in Lower Beaverdam Creek:
 - Joseph Smith and Sons Property
 - Pennsy Drive





Joseph Smith and Sons: Site overview

Site-Wide Characterization:

- Fall 2020: Development and implementation of Initial Sampling and Analysis Plan Report
- June 2021: JSS submitted Sampling and Analysis Plan Report
 - Initial characterization of soil, surface water, sediment, and groundwater
 - One soil location, G-6, had greater than 50 milligrams per kilogram (mg/kg) total PCBs
- June-December 2022: Development and implementation of Site-Wide Characterization Work Plan
- January 2023: JSS submitted draft Site-Wide Characterization Report.
- March 2023: Additional data submitted from groundwater wells for Site-Wide Characterization Report
- May-June 2023: Comment resolution, finalization of Site-Wide Characterization Report expected soon

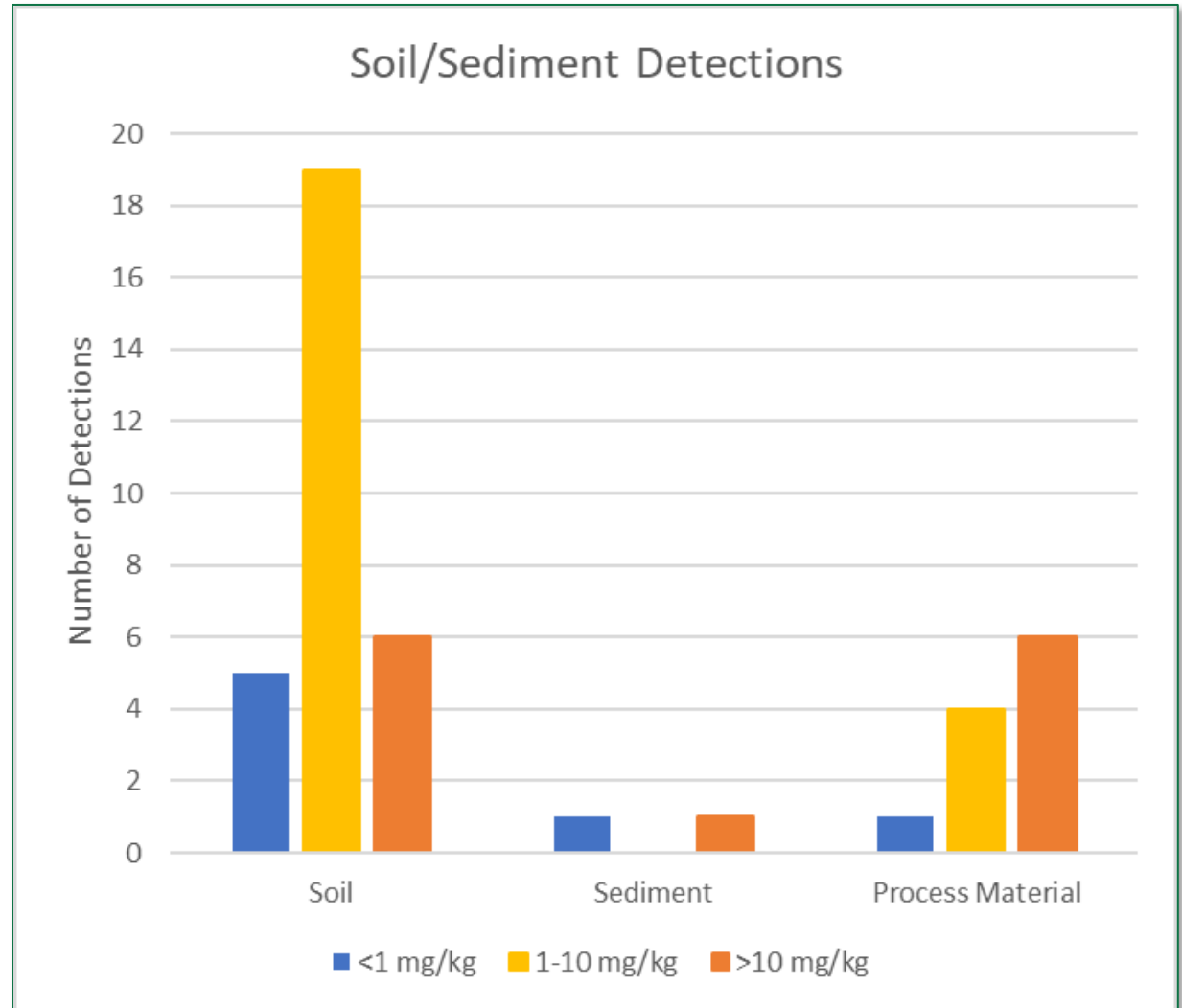
G-6 Hot Spot:

- June 2021: MDE and EPA requested additional delineation of G-6 hot spot.
- August 2021: G-6 Sampling and Analysis Plan approved by EPA and MDE
- November 2021: JSS submitted results of delineation of G-6 hot spot
- March 2022: All soils > 50 mg/kg in the vicinity of G-6 hot spot were removed, and bank stabilization put in place



Joseph Smith and Sons: Site-Wide Characterization Report

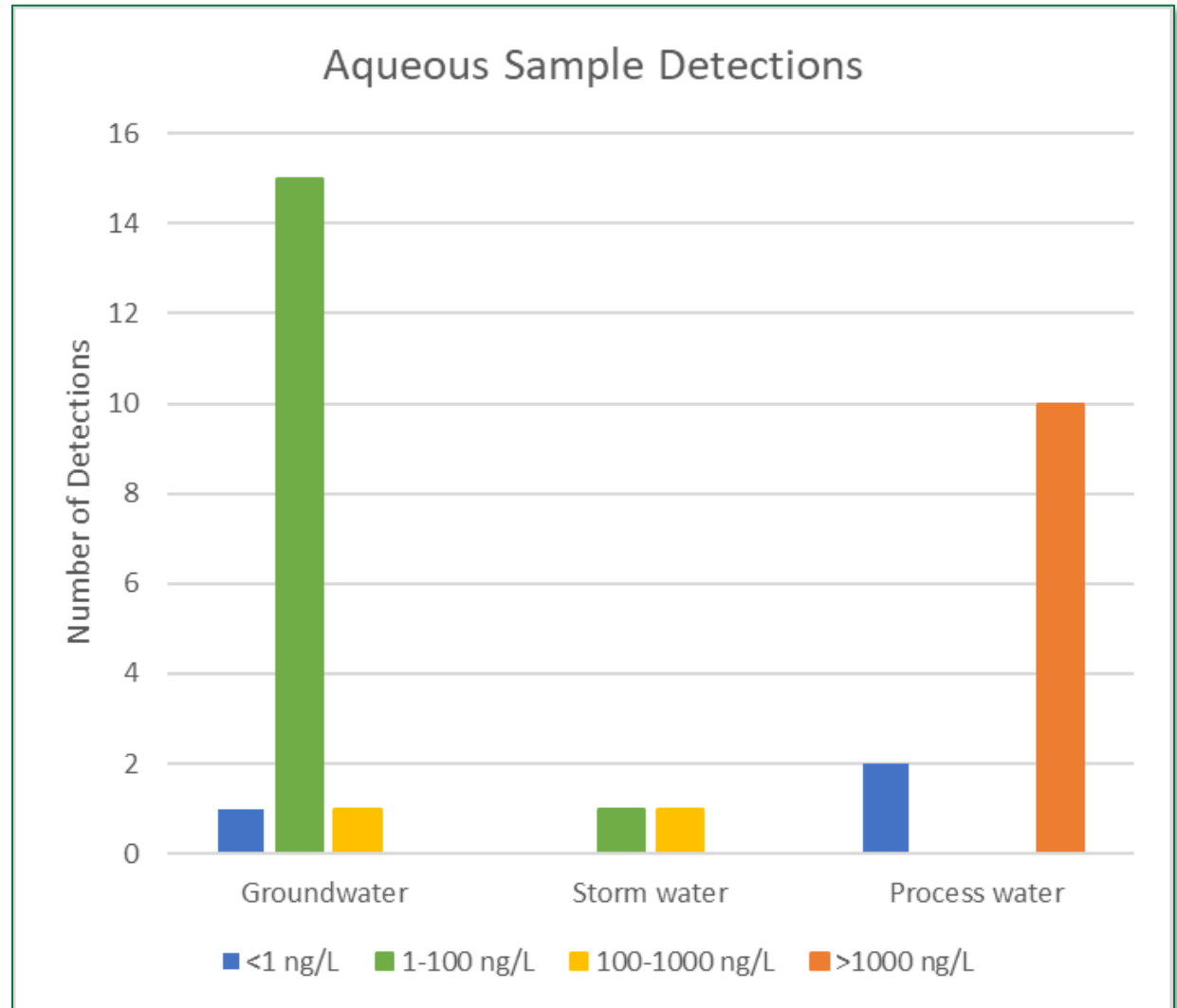
- 30 soil samples
 - 0.1 – 30 mg/kg
 - Primarily LBC bank samples
- 2 sediment samples
 - 0.36-18 mg/kg
 - Drainages at east and west ends of property
- 11 process material samples
 - 0.11 – 69 milligrams per kilogram (mg/kg) total PCBs
 - Interior to the site





Joseph Smith and Sons: Site-Wide Characterization Report

- 16 groundwater samples
 - 0.6 – 210 nanograms per liter (ng/L)
 - Interior to the site, mostly near the banks of LBC
- 2 storm water samples
 - 4 – 160 ng/L
 - Drainages at east and west ends of property
- 12 process water samples
 - Non-detect – 37,000 ng/L total PCBs
 - Interior to the site, areas where water collects





Joseph Smith and Sons: MDE sampling of LBC outfalls



Surface Water sample date	OF-06 (ng/L)	OF-11 (ng/L)
Feb 2021	917	1190
Oct 2021	560	11.4
Nov 2021	215	NS
Mar 2022	136	23.1
May 2022	127	NS
Dec 2022	23.4	1160

Sediment sample date	OF-06 (ug/kg)	OF-11 (ug/kg)
May 2022	355	NS
Dec 2022	330	3600





Joseph Smith and Sons: Next Steps

- Comment resolution and regulatory approval of Site-Wide Characterization Report
- Development of Response Action Plan (RAP) for MDE, and Risk-Based Disposal Approval Application (RBDAA) to meet requirements of EPA under TSCA
 - JSS has agreed to this process
 - Development of Remedial Action Objectives focused on mitigating migration of PCBs to Lower Beaverdam Creek and protecting site workers and natural resources
- On-going characterization efforts along lower portion of LBC independent of the JSS property



EPA Pennsy Drive Project

- Phase I: Historical research
 - Aerial photographs of this area were shared at the last LCCAR meeting
 - Draft Historical Research Report expected to be completed soon
- Field Sampling and Analysis Plan:
 - Draft plan expected to be completed within the next few months
 - Sample outfall locations requested by MDE and outfall locations in the vicinity of Old Landover road and the former GE facility.
 - Conduct video studies in the MS4 system and dye tracer studies to determine the integrity and flow of the MS4 system.
 - Attempt to collect sediment in the MS4 system and may need to install passive samplers if sediment is not available.
 - Will collect sediment, surface water, and porewater in Lower Beaverdam Creek analyzing for PCB Aroclors and PCB congeners.



Fish collection throughout LBC watershed

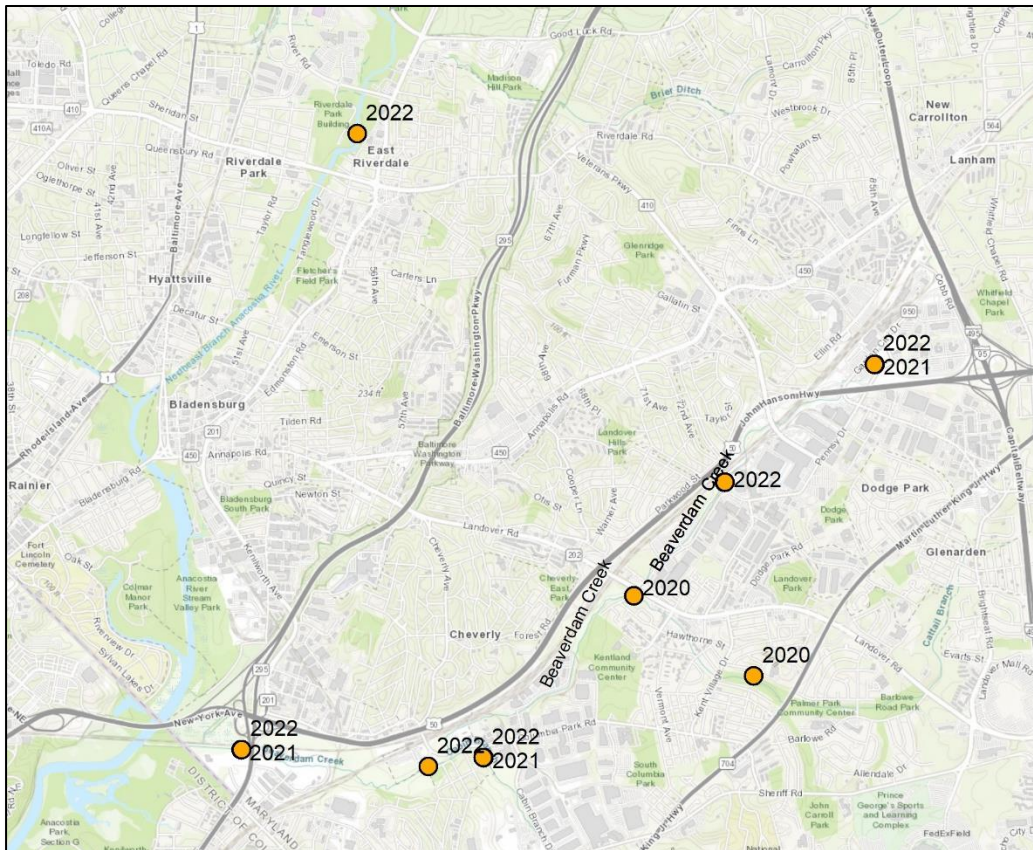
- Fish collection by electroshocking in July 2022
- Initially planned to collect mummichog and banded killifish
- Low population of these species in the upper reaches of LBC, pivoted to sunfish
 - Also small, also bioaccumulate PCBs, very populous throughout all of LBC
 - Most difficult spot to find was in the Northeast Branch (Riverdale Park)
- Thanks to COG staff for sharing their time and expertise





2022 Fish collection

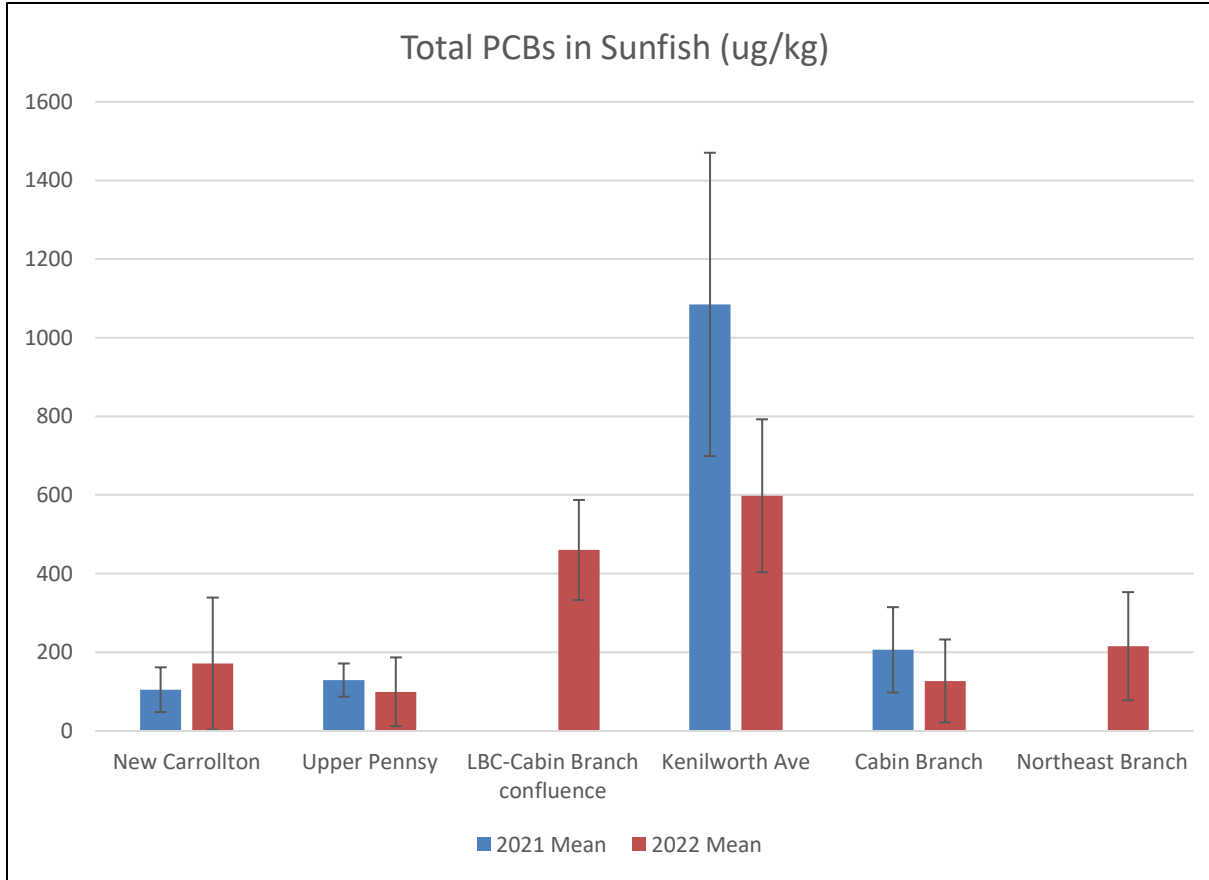
- 35 samples were analyzed from six different locations, and two different species



Location	Fish Species	Number of lab samples
New Carrollton	Sunfish	6
Upper Pennsy	Sunfish	6
LBC-Cabin Branch Confluence	Sunfish	6
Kenilworth Ave	Sunfish	5
Kenilworth Ave	Banded Killifish	2
Cabin Branch	Sunfish	4
Northeast Branch	Sunfish	6



2022 Fish collection results

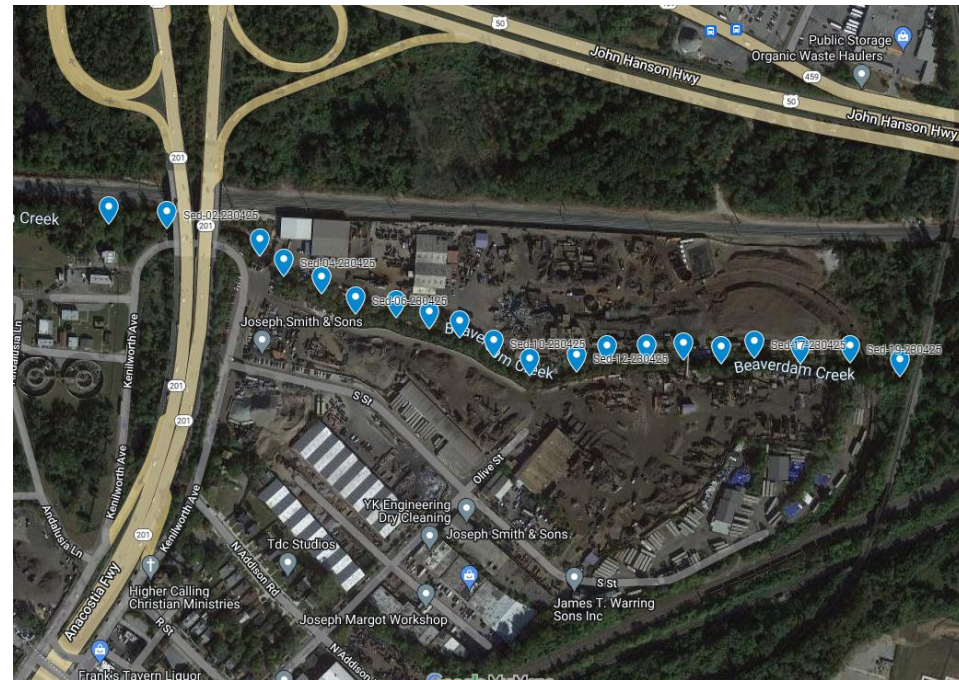


Banded killifish total PCBs (ug/kg)	2020	2021	2022
Upper Cattail Branch	54	Not Sampled (NS)	NS
Lower Cattail Branch	72	NS	NS
Kenilworth Ave	NS	555	47



Ongoing MDE characterization efforts

- On-going fish tissue collection and analysis throughout LBC watershed
 - Next round scheduled for Summer 2023
- Surface water and sediment characterization within stretch of LBC that bisects JSS property
 - Sampled surface water and sediment along transect through JSS completed in March 2023
 - Compare to previous surface water data collected in 2021
 - Very coarse, sandy sediment through this stretch of LBC
 - Awaiting results from lab
- Additional source trackdown efforts
 - Surface water and soil sampling in the vicinity of JSS along the lower reaches of LBC





Upcoming activities within LBC

JSS property

- Finalize Site-Wide Characterization Report
- Develop RAP and RBDAA to control PCB migration from the site

Pennsy Drive area

- MS4 stormwater network mapping
- Continued sampling and source trackdown, introducing new methodologies
- Funding from EPA Region 3 Site Assessment

Lower Beaverdam Creek

- Surface water through JSS property
- Fish sampling planned for summer 2023
- Thanks to COG for assistance with fish collection and identification

