QUARTERLY PROGRESS MEETING – AUGUST 2022
Chesapeake Bay Program

Toxic Contaminants Research Outcome

Emily Majcher,
USGS, vice-chair Toxic Contaminant Workgroup

Through the Chesapeake Bay Watershed Agreement*, the Chesapeake Bay Program has committed to…*

Goal: Ensure that the Bay and its rivers are free of effects of toxic contaminants on living resources and human health

Outcome: Continually increase our understanding of the impacts of and mitigation options for toxic contaminants through research.

What is our Outlook and Recent Progress?

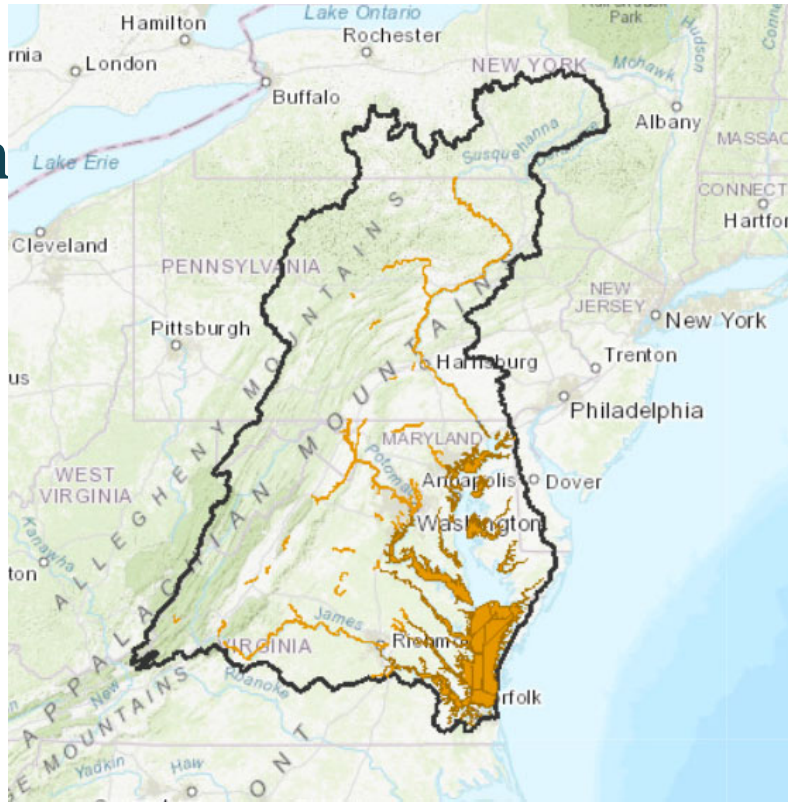
- Further characterize the occurrence, concentrations, sources and effects of mercury, polychlorinated biphenyls (PCBs) and other contaminants of emerging (PFAS) and widespread (agricultural chemicals) concern.
    - **Progress: Good,** progress has continued to be made on mercury across the watershed and other contaminants of interest in local areas. Regional characterizations improved for agricultural chemicals in the Potomac, Susquehanna, and PCB restoration efforts in Anacostia watershed, and complex mixtures of contaminant in the Shenandoah.
- Identify which best management practices might provide best benefit, or multiple benefits of reducing nutrient and sediment pollution as well as toxic contaminants in waterways.
    - **Progress: Fair,** progress has been made to better understand reduction of specific contaminants in specific management actions (e.g., PCBs in gray infrastructure) and relevant response timelines from BMP implementation, but stormwater BMP removal efficiency studies continue to be limited. Additionally, jurisdictions WIPs don't have much emphasis on addressing co-benefits for contaminant reduction or have a way to quantify the reduction.

Learn

What have we learned in the last two years?

Successes and Challenges

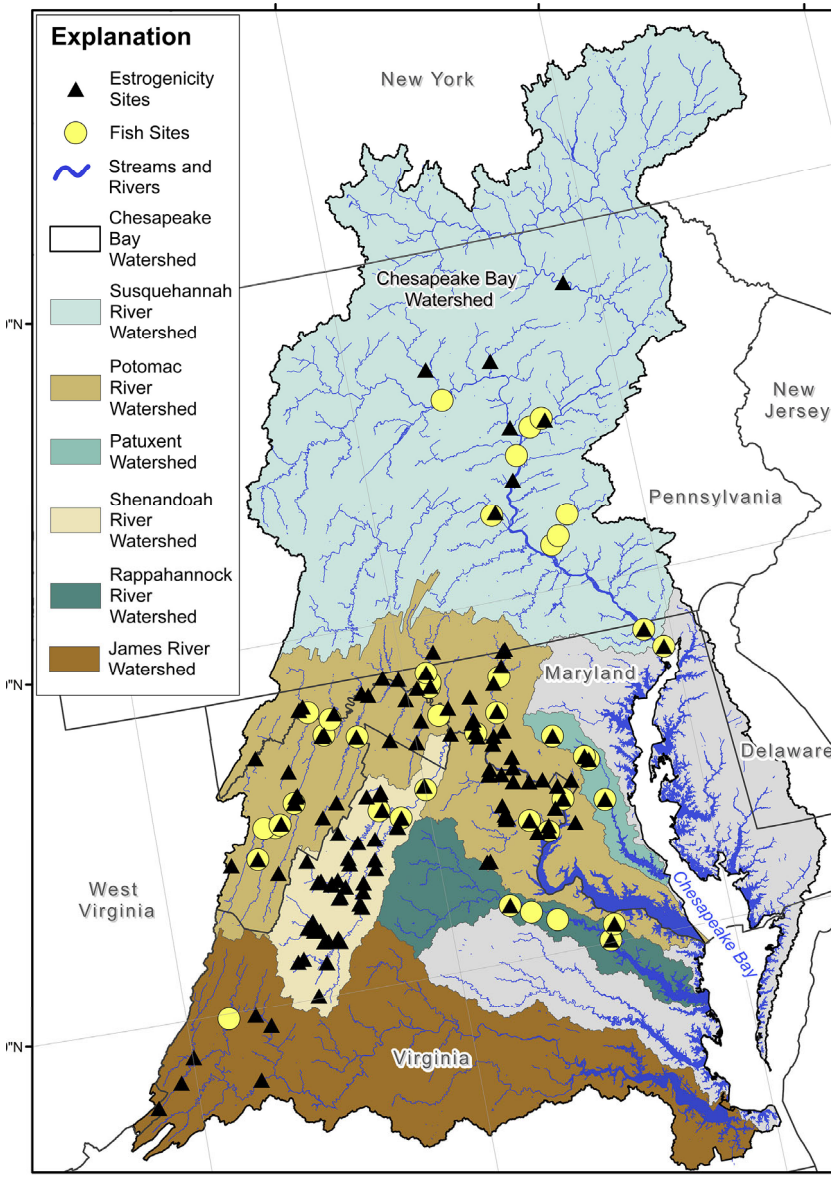
- MA1: Synthesize scientific information to make fish and shellfish safe for human consumption - **Mercury and PCBs**
  - Success: Further consideration of coordinated monitoring for mercury
  - Success: Updates on PCB science (best practices, source investigations)
  - Challenge: Interaction with SFGIT on fish consumption advisories/story maps



Successes and Challenges

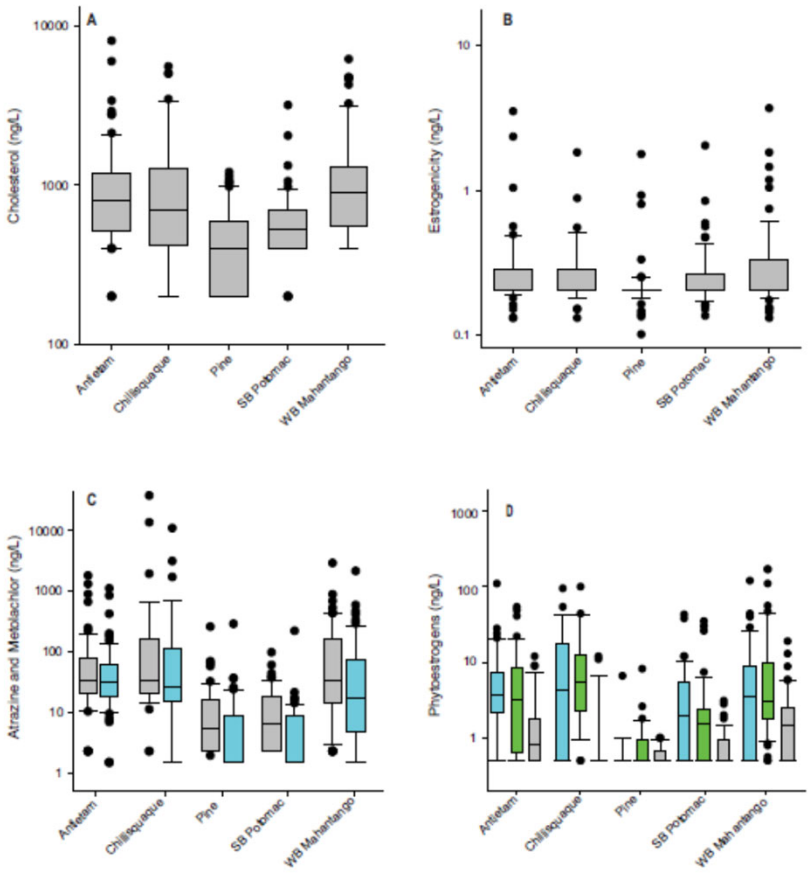
- MA2: Understand the influence of contaminants in degrading the health, and contributing to mortality, of fish and wildlife
  - Success: Effects of EDCs on fish conditions, relationships between fish health, land use, estrogenicity, risk modeling
  - Challenge: Interfacing with SFGIT to consider contaminants in fish habitat assessments.

(Blazer and others, 2021)



Successes and Challenges

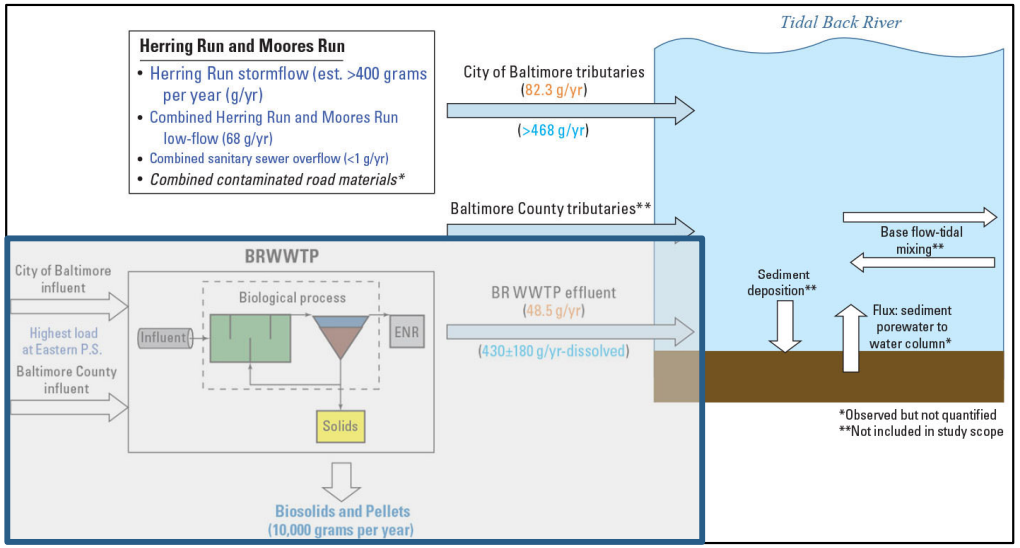
- MA3: Document the occurrence, concentrations, and sources of contaminants in different landscape settings
  - Success: Drivers of contaminant conc. and co-occurrence in ag watersheds, PFAS inventory
  - Challenge: Examine the co-occurrence of toxic contaminants with nutrients and sediments to inform co-benefit analysis



(Smalling and others, 2021)

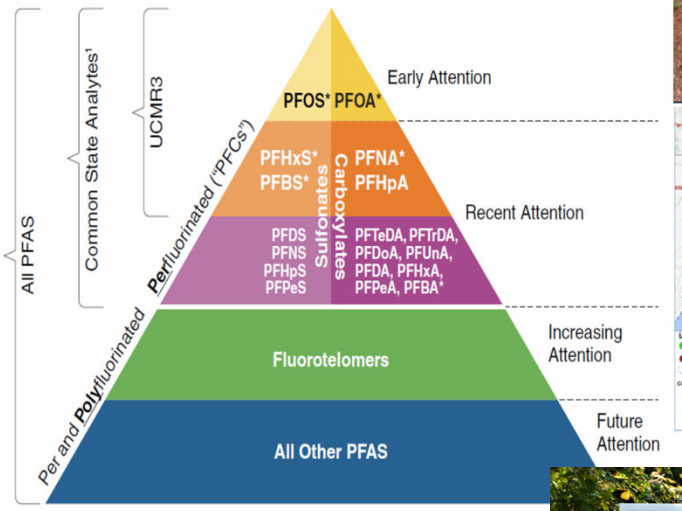
Successes and Challenges

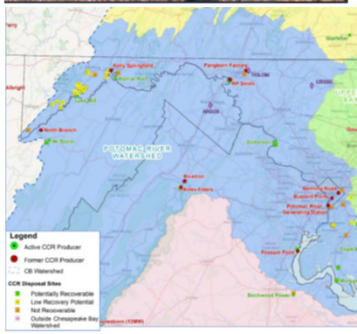
- MA4: Synthesize and promote science to help prioritize options for mitigation to inform policy and prevention
  - Success: management relevant timelines to detect BMP response, WW source tracking Back River
  - Challenge: Identifying appropriate method to link BMP science to stakeholder tools



Successes and Challenges

- MA5: Gather information on issues of emerging concern
  - Success: PFAS workshop
  - Success: PPAT briefing
  - Challenge: Even with reduced number of emerging issues, challenge to address all (limited focus on chloride/road salt)





On the Horizon

- Science-related: PFAS studies in the watershed, microplastics risk assessment, EDC findings
- Policy-related: fish advisories for PFAS
- Fiscal-related: reduction in sampling for certain contaminants (e.g., PCBs) to allow for PFAS focus

Adapt

How does all of this impact our work?

Based on what we learned, we plan to …

- Have a larger emphasis on PFAS across most management approaches (out of emerging issues)
- Ongoing PCB TMDL implementation progress, associated science advances
- Microplastics /inclusion of PPAT into TCW

Equitable and inclusive restoration …

Cross-collaboration partnerships

- Baltimore Urban Waters Partnership
- Anacostia Urban Waters Federal Partnership + Source control team
- Reimagine Middle Branch

Fish Consumption- PCBs, Hg, PFAS, microplastics

Fill the Gap

How can the Management Board help achieve the Outcome?

Filling the Gap

- With increased priority on PFAS by our members and an opportunity to coordinate the science efforts, TCW will dedicate ¼-1/3 of meeting time in 2023-24 to this topic.
- With ongoing PCB TMDL implementation, ARP pilot and restoration via other efforts (e.g., Anacostia sediment project), TCW will continue to transfer science and restoration management advances and evolve our working document on PCB TMDL implementation and management.
- With increased priority on microplastics by the CBP, PPAT will become more integrated with the TCW

Filling the Gap

- Capacity is lacking to move action items identified by the group beyond simply knowledge and technology transfer and into relevant and meaningful actions to help us collectively achieve the goal.

- Capacity is lacking to integrate disparate studies into broader watershed assessments.

Filling the Gap

- Cross-workgroup and GIT benefits are apparent and wide-reaching (e.g., urban stormwater, ag, wastewater treatment, stream health, sustainable fisheries GIT) but capacity is lacking to make this meaningful.

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Chesapeake Bay Program

Discussion

ChesapeakeProgress Icons

RECENT PROGRESS
INCREASE

RECENT PROGRESS
DECREASE

RECENT PROGRESS
NO CHANGE

RECENT PROGRESS
COMPLETED

OUTLOOK
ON COURSE

OUTLOOK
OFF COURSE

OUTLOOK
UNCERTAIN

OUTLOOK
COMPLETED