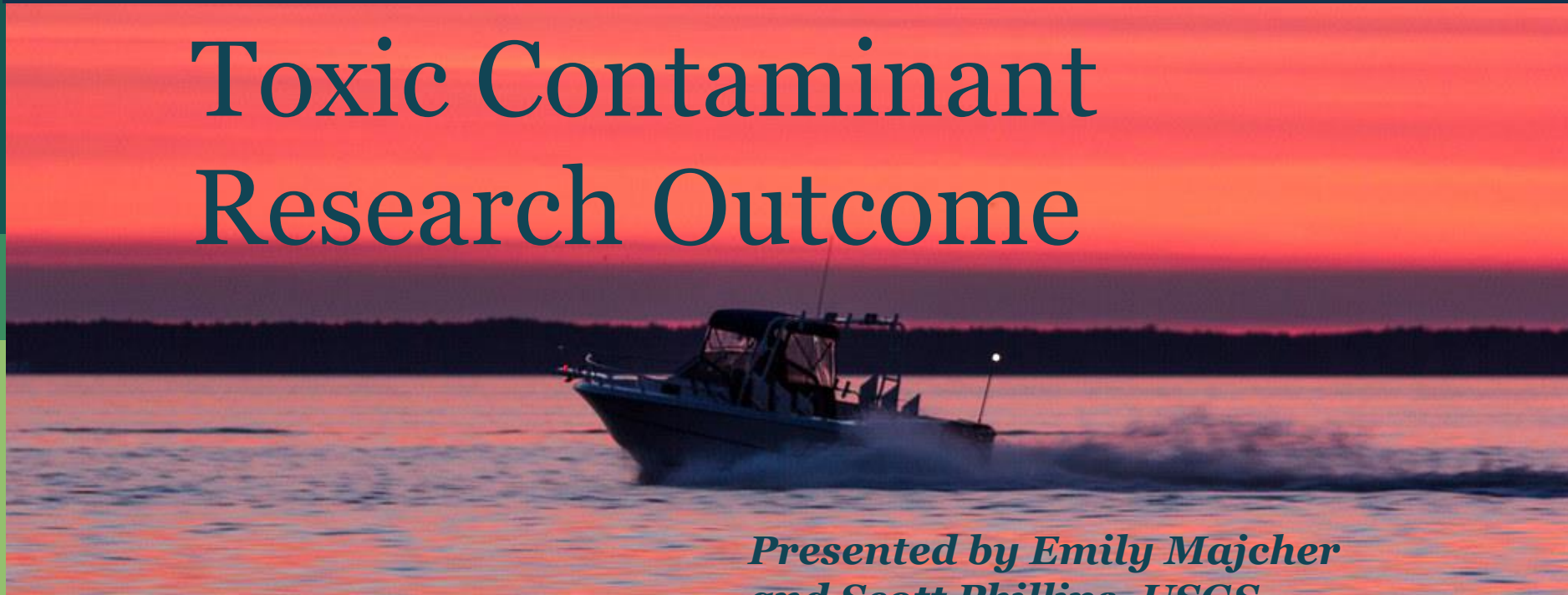
QUARTERLY PROGRESS MEETING – August 2020
Chesapeake Bay Program

Toxic Contaminant Research Outcome



Presented by Emily Majcher

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

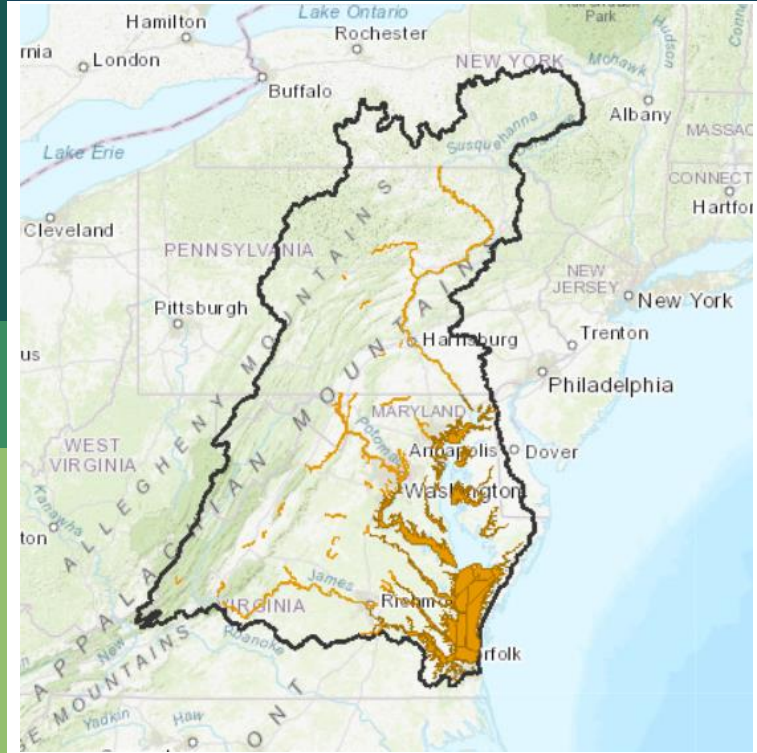
Outcome:

- CONTINUALLY **INCREASE OUR UNDERSTANDING** OF THE IMPACTS AND MITIGATION OPTIONS FOR TOXIC CONTAMINANTS.

- DEVELOP A RESEARCH AGENDA AND FURTHER CHARACTERIZE THE **OCCURRENCE, CONCENTRATIONS, SOURCES AND EFFECTS OF MERCURY, POLYCHLORINATED BIPHENYLS (PCBS) AND OTHER CONTAMINANTS** OF EMERGING AND WIDESPREAD CONCERN.

- IN ADDITION, IDENTIFY WHICH **BEST MANAGEMENT PRACTICES MIGHT PROVIDE MULTIPLE BENEFITS OF REDUCING NUTRIENT AND SEDIMENT POLLUTION AS WELL AS TOXIC CONTAMINANTS IN WATERWAYS**.

How You Can Help



- Making Good to Fair progress

- <u>Need MB to help</u>:
  - Next steps for mercury
  - Coordinated plans for PFAS

  - Enhanced consideration of toxic contaminants in 2-year milestones
- Approve CBP response to STAC workshop report

Learn

What have we learned in the last two years?

MANAGEMENT APPROACHES FOR RESEARCH OUTCOME

MA1: Supply information to make fish and shellfish safe for human consumption

MA2: Understanding the influence of contaminants in degrading the health, and contributing to mortality, of fish and wildlife

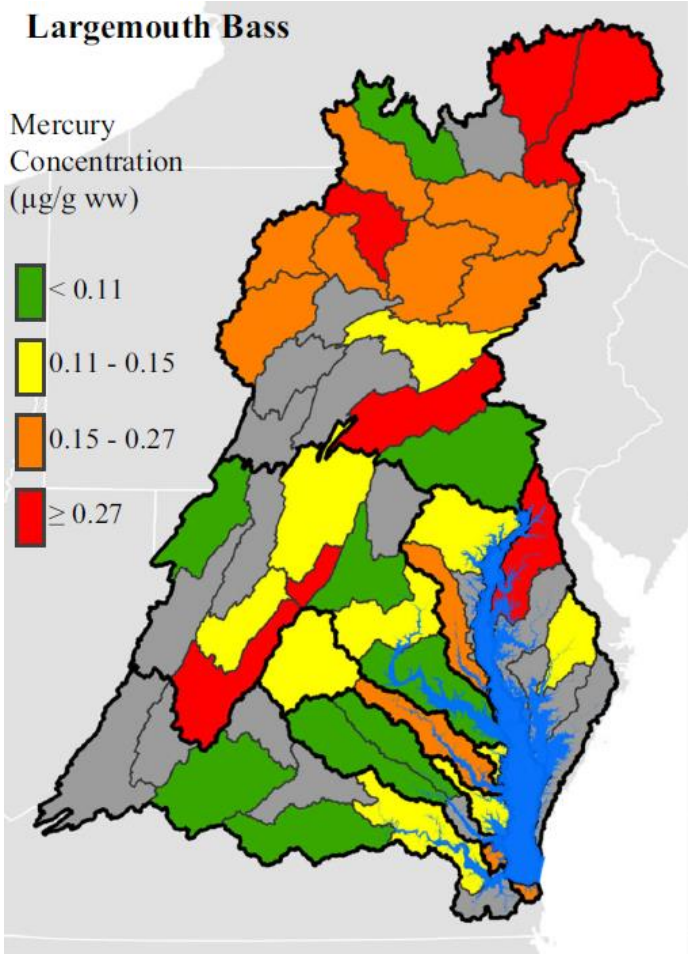
MA3: Document the occurrence, concentrations, and sources of contaminants in different landscape settings

MA4: Science to help prioritize options for mitigation to inform policy and prevention

MA5: Gather information on issues of emerging concern

What did we learn: Mercury (MA1)

- Mercury widespread in freshwater fish
- Concentrations pose risk to fish, birds, humans
  - Did not assess rockfish in tidal waters
- Mercury concentrations in fish not consistent with air deposition
  - Current management approach may not be adequate
- Difficult to assess trends since watershed-wide network



Effects on fish (MA2)

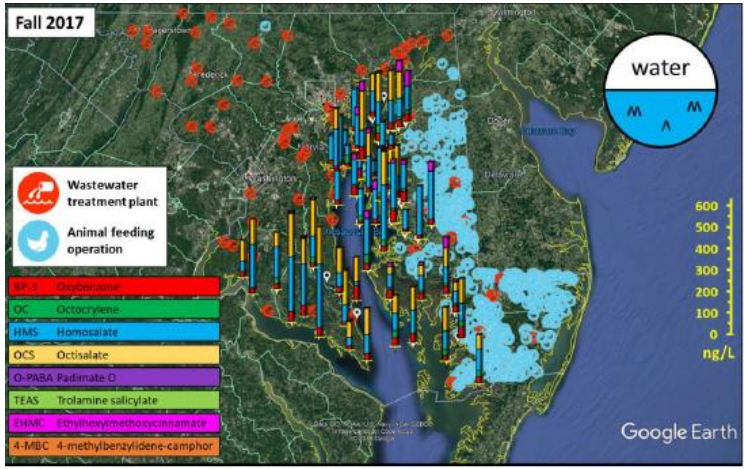
Fish in urban areas:

- Abnormal tissue growth
- reduced reproductive success

Ag areas:

- Fish kills
- Variety of fish-health issues

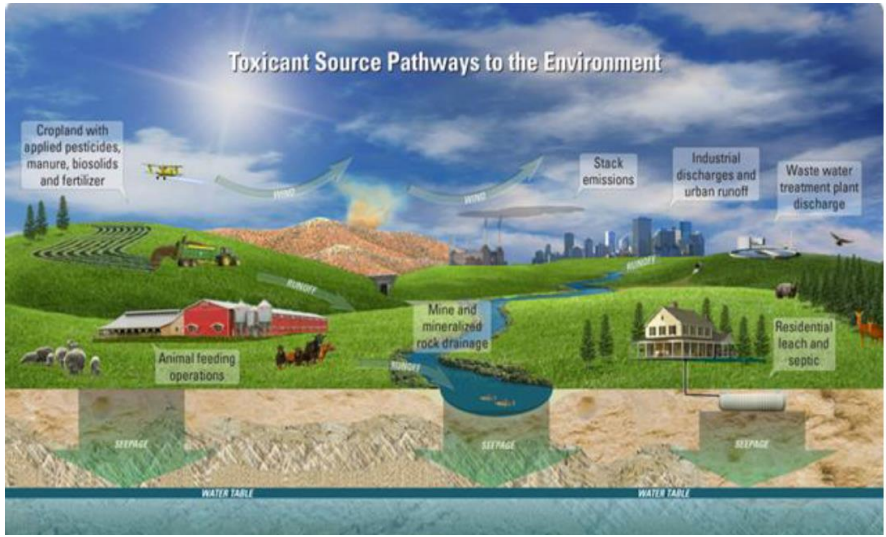
Connection with state wildlife agencies



What did we learn: BMPs (MA4)

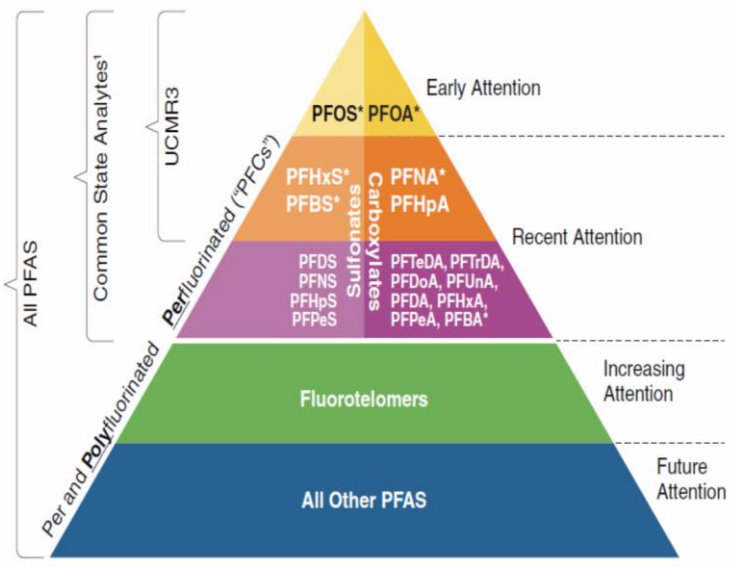
- STAC workshop and report
  - New urban BMPs considered in other places of US.
  - Sources known in ag areas but not effects of BMPs

- Lack of removal efficiencies so limited applications for nutrient and sediment reduction in CBP tools



What did we learn: issues of emerging concern (MA5)

- Knowledge transfer – 6 emerging issues,
  - PFAS prioritization
- Microplastics workshop planning and execution
- Too many emerging issues



What is our Expected and Actual Progress?

- Further characterize the occurrence, concentrations, sources and effects of mercury, PCBs and other contaminants– **Good**
- Identify which BMPs might provide multiple benefits of reducing nutrient and sediment pollution as well as toxic contaminants **– Fair**

On the Horizon

- **Science:**
  - Existing studies to reduce PCBs
  - Mercury and EDC findings
  - PFAS and microplastics toxicity

- **Policy:** Mercury Emissions, PFAS thresholds, Microplastics regulations

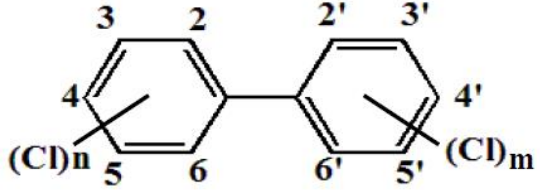
- **Fiscal:** COVID-19 impacts

A

Adapt

How does all of this impact our work?

Based on what we learned, we plan to …



- MA1: Mercury and PCBs
  - Mercury – Opportunity for integrated monitoring
  - PCB sources from existing studies
- MA2: PFAS- Nature and extent of in surface waters and impacts on fish
- MA3: Contaminants in targeted areas
  - Wastewater and urban areas
  - Select ag settings

Based on what we learned, we plan to …

- MA4:
  - GIT funding proposal to explore approaches to including toxic contaminants in CB decision tools
  - CBP responses to STAC report

- MA5: Support the microplastics action team, limit focus on other issues

Help

How can the Management Board lead the Program to adapt?

Help Needed: Science

- Coordinated monitoring network for mercury
- Better assess if air reductions are working
- Asses needs for other management actions.
- Compare risk of mercury to fisheries and humans

- Coordinated science approach for PFAS
- Focus on occurrence and ecosystem efforts
- Takes advantage of existing and planned studies.

Help Needed: Policy

Policy: Encourage jurisdictions and federal agencies to consider toxic contaminants two-year milestones for in N, P, sediment management actions

- Approve and implement CBP responses to STAC CEC report

Help Needed: Policy

Proposed CBP responses:

- Enhance Interaction with stakeholders for contaminant information
- Take advantage of Phase 3 implementation/2-year milestones
- Enhance communication materials to inform decisions
- Compile results and expand BMP studies of contaminant mitigation and relation to nutrients and sediment reductions.
- Include selected BMP results into CBP tools

Discussion

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