Microplastics in the Potomac: Strategies and Solutions —Summary of Sept 18, 2025 workshop for CBP Plastic Pollution Action Team April 9, 2026

Renee Thompson, Water Resources Planner, Interstate Commission on the Potomac River Basin

Workshop: Microplastics in the Potomac: Strategies and Solutions

September 18, 2025
9:00am – 12:00pm (virtual Teams)
Workshop Objectives:

1. Understand Current Efforts: Review existing research, monitoring programs, and initiatives related to microplastics.
2. Identify Opportunities: Explore ways to integrate and expand current work to enhance microplastic monitoring and mitigation.
3. Develop Action Plans: Create actionable strategies for leveraging existing resources and collaborations.

This event was organized in alignment with the recommendations outlined in the **Potomac River Basin Comprehensive Water Resources Plan**, which highlights the growing concern around emerging contaminants—including microplastics—and their impact on aquatic ecosystems and public health. This workshop aims to bring together key stakeholders to leverage existing work on microplastics, enhance collaboration, and develop actionable strategies for addressing microplastic pollution in the Potomac.

Workshop Planning Team

Name	Organization	Title
Renee Thompson	ICPRB	Water Resources Planner
Claire Buchanan	ICPRB	Emerita Dir. of Program Operations
Heidi Moltz	ICPRB	Director, Program Operations
Mike Selckmann	ICPRB	Ecologist; Associate Director of Aquatic Habitats
Carlington Wallace	ICPRB	Environmental Scientist; Associate Director of Water Resources

Workshop Participants

Burns & McDonnell	American University	EPA Chesapeake Bay Program Office	Interstate Commission on the Potomac River Basin	Tetra Tech	Loudoun Water
Catholic University of	Virginia Department of Health Office of Drinking	Rutgers University	WSSC Water	Virginia Coastal Zone Management Program	Tetra Tech
Georgetown University, Earth Commons Institute	Water Research Foundation	Virginia Institute of Marine Science (VIMS)	William & Mary	PA Department of Environmental Protection	

ICPRB potomacriver.org

Workshop Participants

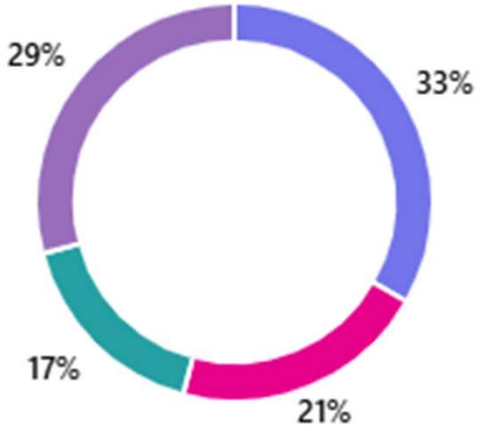
Name	Organization	Title
Charles Balkenbusch	Burns & McDonnell	Process Engineer
Barbara Balestra	American University	Senior Professorial Lecturer
Claire Buchanan	ICPRB	Emerita Dir. of Program Operations
Amanda Cano	Tetra Tech	Environmental Toxicologist
Christina Davis	Loudoun Water	Senior Environmental Engineer
Jason Davison	Catholic University of America	Assistant Professor
Robert Edelman	VDH ODW	Director, Division of Technical Services
Nicole Fahrenfeld	Rutgers	Professor
Robin Forte	WSSC Water	Environmental Scientist
Renee Bourassa	ICPRB / Interstate Commission on the Potomac River Basin	Communications and Education Director
Jesse Meiller	Georgetown University, Earth Commons Institute	Co-Director of Environment & Sustainability Program, Teaching Professor
Julie Minton	WRF	Senior Account Manager
Heidi Moltz	ICPRB	Director, Program Operations

Workshop Participants

Name	Organization	Title
Judd Mahan	Tetra Tech	Project Director
Christine Knauss	Tetra Tech	Environmental Scientist
Rikke Jepsen	ICPRB	Aquatic Ecologist
Keith Bollt	US EPA	Chesapeake Bay Program Toxic Contaminants Workgroup Coordinator
Matt Robinson	EPA Chesapeake Bay Program Office	Program Analyst
Meredith Seeley	VIMS, William & Mary	Assistant Professor
Bradley Schmitz	Loudoun Water	Senior Scientist
Jim Siriano	Water Research Foundation	Regional Liaison
Mike Selckmann	ICPRB	Ecologist; Associate Director of Aquatic Habitats
Renee Thompson	ICPRB	Water Resources Planner
Rebecca Whiteash	PA DEP	Water Program Specialist
Will Isenberg	Virginia Coastal Zone Management Program	Coastal Planner
Carlington Wallace	ICPRB	Environmental Scientist; Associate Director of Water Resources

Workshop Participants

Biological Monitoring	8
Drinking water and Pre Treatment	5
Policy (landscape scale)	4
Other	7



Agenda

Workshop Agenda:

9:00 AM – 9:10 AM: Welcome and Introduction – Renee Thompson, ICPRB

- **Welcome Remarks**: Introduction by the workshop facilitator.
- **Objectives and Agenda Overview**: Outline the goals and structure of the workshop.

9:10 AM – 9:40 AM:

- **Overview of Existing Microplastic Research and Monitoring Programs**
  - Speaker: Bob Murphy – Tetra Tech
  - Topics: Current research, monitoring frameworks, and key findings from studies in the Potomac and the Chesapeake Region.
- **Q&A Session**: Open floor for questions and discussion.

9:40 AM - 10:30 AM:

- **Panel Discussion: Leveraging Existing Work and Opportunities – Moderated by Bob Murphy, Tetra Tech**
- Topics: Opportunities for integrating microplastic sampling into existing programs, potential collaborations, and funding sources.
  - **Panelists**
    - **Nicole Fahrenfeld, Rutgers University and Christina Davis, Loudoun Water**
    - **Jason Davison, Catholic University -** Development of a Microplastics Lab in Washington D.C.
    - **Sydney Samples, The Water Resources Foundation**
  - **Q&A Session**: All Panelists

Agenda

10:35 AM – 10:50 AM:

- **Interactive Activity: Mapping Current Efforts – Lead by Renee Thompson, ICPRB**
  - Participants will work as a group to map out current efforts and opportunities for integration.

10:50 AM - 11:00 PM: Break

11:00 AM - 11:45 PM: Identifying Opportunities, Gaps and Developing Action Plans – Facilitator – Mike Selckmann, ICPRB

- **Group Activity: Action Plan Development**
  - Participants will spend 10-12 minutes developing actionable strategies in 3 focus areas for leveraging existing work on microplastics.

  Focus Areas:

  1. Monitoring integration
  2. Policy advocacy
  3. Community engagement
- **Discussion**
  - Open discussion to refine and consolidate strategies.

11:45 AM – 12:00 PM: Closing Remarks – Renee Thompson, ICPRB

- **Summary of Key Takeaways**: Recap of the workshop's main points and action items.
- **Next Steps**: Outline the follow-up actions and future meetings.
- **Thank You and Adjournment**: Closing remarks and appreciation for participants' contributions.

Framework for Monitoring Plastic Pollution in the Chesapeake Bay

Contract No. 68HERC22D0026
July 2024

PRESENTED TO

U.S. EPA &
Chesapeake Bay Program
Plastic Pollution Action Team

PRESENTED BY

Tetra Tech, Inc.
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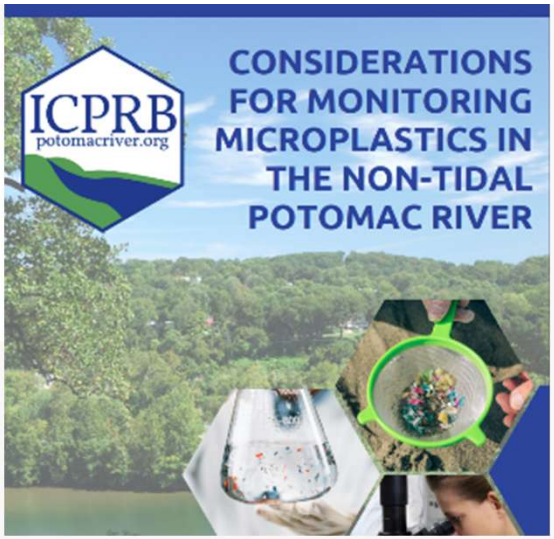
Microplastics in the Chesapeake Bay and its Watershed: State of the Knowledge, Data Gaps, and Relationship to Management Goals

STAC Workshop Report
April 24-25, 2019
Woodbridge, VA

STAC Publication 19-006



Microplastic Source Tracking: Preliminary Investigation Data Report Potomac River, Maryland

PREPARED FOR

U.S. Environmental Protection Agency

PREPARED BY

Tetra Tech, Inc

Contract No. 68HERC23F0271

April 2025

Microplastics in the Potomac: Workshop Context and Goals

Workshop Purpose and Alignment

The workshop aimed to address microplastics as an emerging freshwater contaminant aligned with the Potomac River Basin water resources plan.

Microplastics Concerns

Microplastics smaller than five millimeters pose ecological, drinking water, and human health risks in the Potomac River Basin.

Cross-sector Dialogue

The workshop promoted integration across researchers, utilities, agencies, nonprofits, and funders to identify gaps and collaboration opportunities.

Regional Coordination

The workshop strengthened ties with Chesapeake Bay Program Plastic Pollution Action Team to boost regional microplastics management efforts.

Why Microplastics Matter for the Potomac and Chesapeake Bay

Sources of Microplastics

- Microplastics come from plastic debris breakdown, synthetic fibers, industrial discharge, stormwater, wastewater, and atmospheric deposition.

Environmental Persistence

- Microplastics persist for long periods, accumulate in sediments, and are ingested by aquatic organisms at multiple levels.

Scientific and Management Challenges

- Inconsistent research methods hinder basin-wide understanding, complicating treatment, monitoring, and communication efforts.

Regional and Policy Importance

- The Potomac spans diverse areas, making it critical for coordinated policies addressing microplastics pollution regionally.

Bob Murphy – Tetra Tech Overview of Existing Microplastic Research and Monitoring Programs

- High-level overview of microplastics in the Potomac and Chesapeake Bay, including definitions, sources, and impacts
- Highlighted major pathways into waterways (runoff, wastewater, atmospheric deposition) and challenges in measuring concentrations
- Emphasized ecological risks such as ingestion by aquatic life, food chain transfer, and sediment contamination
- Outlined regional progress since 2019, including the creation of the Chesapeake Bay Program's Plastic Pollution Action Team (PPAT)
- Identified four priority needs: monitoring, research on pathways and fate, lab capacity, and policy development

Panel Discussion – Key Takeaways (Leveraging Existing Work & Opportunities)

- Focused on integrating microplastics sampling into existing monitoring and utility programs
- Highlighted the importance of standardized methods and collaboration between utilities and researchers to improve data quality and comparability
- Identified challenges in detection and analysis, including contamination and low concentrations, reinforcing the need for robust lab capabilities and controls
- Showcased emerging resources and infrastructure, including new regional lab capacity and advanced analytical technologies (e.g., FTIR, Raman)
- Emphasized opportunities for collaboration, funding, and participation through organizations like the Water Research Foundation and academic partnerships
- Underscored the value of innovation (e.g., AI tools, community engagement) to expand monitoring and public awareness
- Q&A reinforced strong interest in coordination, shared data, and scaling regional efforts

Innovation, Laboratory Capacity, and Funding Resources

Advanced Microplastics Laboratory

A new high-throughput lab uses FTIR, Raman microscopy, and laser infrared imaging to analyze microplastics efficiently.

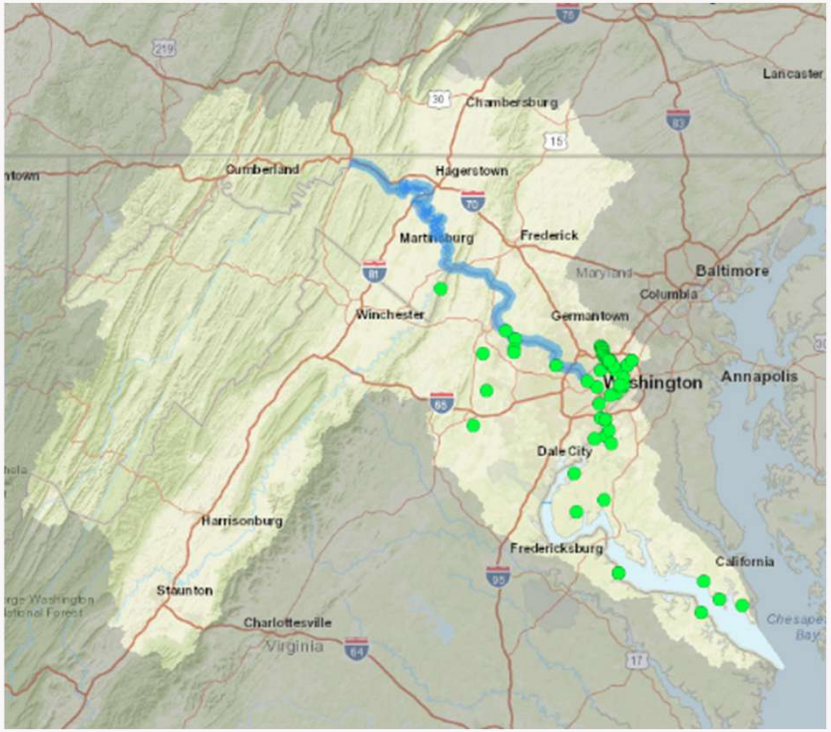
Emerging Tracking Technologies

AI-assisted tools and drones enhance tracking of plastic debris in waterways, complementing traditional sampling methods.

Funding and Collaboration

Multiple funding pathways support microplastics research through collaborations, priority projects, and knowledge-sharing forums.

Interactive Mapping and Data Coordination



Collaborative Mapping Exercise

Participants contributed to a live ArcGIS microplastics map highlighting sampling locations and monitoring efforts.

Identifying Data Gaps

The exercise revealed clusters of activity and significant data gaps, especially in headwater streams and jurisdictions.

Value of Visualization

Visualization helped coordination by showing overlapping efforts and highlighting areas for new investments.

Future Development Needs

Workshop emphasized data standards, governance, and map expansion for regional planning and transparency.

https://arcg.is/0mjD441

Group Discussion (Mike Selckmann, ICPRB) – Key Takeaways

1. Monitoring & Integration

- Reinforced need for standardized methods and regional coordination (e.g., Chesapeake Bay monitoring framework, ASTM protocols)
- Identified gaps in data compatibility, funding for field sampling, and field-to-lab workflows
- Consensus on integrating microplastics into existing water quality programs across the watershed

Next Steps:

- Expand adoption of standardized monitoring framework
- Identify funding sources (e.g., local gov, collaborative grants)
- Develop shared data repository and improve program integration

2. Policy & Advocacy

- Highlighted regulatory gaps and uneven progress across states
- Discussed EPR (Extended Producer Responsibility) and stalled legislation in DC/Maryland; more activity in Virginia
- Noted need to better connect science → policy decisions and improve access to policy data

Next Steps:

- Create a regional (Mid-Atlantic) policy/data hub
- Use research to support pilot programs and inform legislation
- Encourage industry partnerships and voluntary actions

3. Community Engagement

- Strong and growing public interest driven by health concerns and media attention
- Active role of NGOs and local organizations in outreach and stewardship
- Need for clear, balanced messaging to inform without causing alarm

Next Steps:

- Leverage existing communication resources (e.g., WRF Project 5155 guidance)
- Expand partnerships with community groups, schools, and local institutions
- Use polling and public input to shape engagement strategies

Next Steps and Relevance for PPAT

Near-Term Actions

Encourage wider adoption of the CBP Microplastics Monitoring Framework and integrate sampling into Bay programs.

Coordination and Outreach

Re-engage PPAT to connect research with policy and outreach for effective microplastics solutions.

Medium-Term Pilot Projects

Pursue pilot projects testing coordinated monitoring, messaging, and leverage laboratory and funding resources.

Strategic Role of PPAT

PPAT serves as a roadmap to advance science-based approaches for reducing microplastics pollution regionally.

Thank you!

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