



*Welcome!*

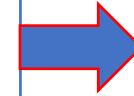
*Improve the Understanding and  
Coordination of Science Activities for PFAS  
in the Chesapeake Watershed*



# Improve the Understanding & Coordination of Science Activities for PFAS in the Chesapeake Watershed May 17-18, 2022

## Session 1: Current Understanding & Efforts to Address PFAS (DAY 1)

Presentations on assessing ecological risks of PFAS, current understanding and overview of inventory response  
Panel session on PFAS investigations of fish and wildlife in other watersheds



What is known about PFAS – both in the Bay watershed and in other large watersheds

## Session 2: Considerations for Establishing PFAS Thresholds: Consumption Advisories & Identifying Potential Effects on Aquatic Organisms (DAY 1)

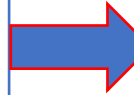
Presentations on components to develop fish consumption advisories and studies of toxic effects on aquatic organisms  
Small group discussions and report outs



Information and options for developing fish consumption advisories and information on studies to assess effects of PFAS on fish and other aquatic organism.

## Session 3: Considerations for Developing a Coordinated Monitoring Effort for PFAS in the Chesapeake Bay: Sampling & Analysis (DAY 2)

Presentations on the inventory and existing methods  
Small group discussions and report outs



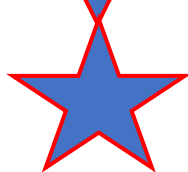
Appropriate selection/pros/cons of various methods in water and tissue and how to coordinate monitoring efforts

## Session 4: Develop Recommendations to Address Science Gaps for a More Coordinated Research & Monitoring Effort for PFAS in the Chesapeake (DAY 2)

Small group discussions and report outs



Options and recommendations for research and coordinated monitoring of PFAS in the Bay watershed



**Science Gaps, Research Needs, and Recommendations  
for Coordinated PFAS Monitoring in the Bay**

# Housekeeping Notes

- In-person Participants
  - Push-to-talk microphones – one person at a time
  - Meg Cole to call on persons with actual raised hands
- Remote Participants
  - Use of chat and Raise Hand
  - Turn web cams on when speaking or asking a question, and while in small group discussions
- All Participants
  - Introductions will be conducted in the small group discussions
  - Participate with Menti polling questions
  - Announce your name when speaking
  - Use of Google documents in breakouts
  - Plenary and virtual breakout sessions are being recorded for note taking purposes
  - Reference materials on meeting site
- Workshop Presenters
  - Turn webcam when you present and respond to questions
  - Facilitator will turn her webcam on to signal you to wrap up your time
  - If you wish to drive your slides, share your presentation via Zoom, select “Stop sharing” when done. If you wish for support, send slides to [colem@chesapeake.org](mailto:colem@chesapeake.org) in advance

## 10:30 am Small Group Discussion

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1. What are barriers to having more consistency in approaches to monitoring and analyses across the watershed?
2. Which methods should be utilized and how do we recommend consistency? (e.g., EPA methods, non-target analysis (NTA); total oxidizable precursors (TOP); extractable organofluorine (EOF))?
3. Which chemicals or bulk groupings (e.g., PFOS/PFOA; precursors; 24 or 40 compounds)?
4. What tissues should we analyze (specific organ vs. whole animal)? And how (e.g., specific raw/cooked, etc.)?



# 10-minute Break

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Return at 11:20 pm



# Lunch Break

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**Return at 1:00 pm**



## Session 4:

Develop Recommendations to Address  
Science Gaps for a More Coordinated  
Research & Monitoring Effort for PFAS in  
the Chesapeake

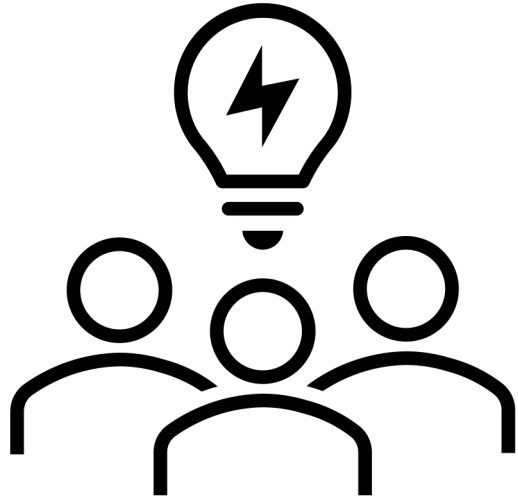


# Session Goals

- Address the high priority **science gaps** identified during Session 1 and 2 and
- develop **actionable recommendations** for a more **coordinated monitoring** of PFAS including an integrated and cost-effective approach for monitoring, modeling, and **innovative research** across the watershed.







- **Monitoring:** the assessment of the quality of the environment in order to control the risk of pollution. More specifically, it is the process of sampling and analyzing specific environmental media (e.g., soil, water, tissue) for evidence of changes in contaminant levels over time.
- **Research:** a careful and detailed study into a specific problem, concern, or issue using the scientific method. A systematic investigation including development, testing and evaluation designed to develop or contribute to generalizable knowledge and the establishment or revision of theories or laws.

Of the priority questions identified during sessions 1-2, which questions should be included in monitoring efforts, and which are research questions?



## 1:15 pm Small Group Discussion

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- What are the science gaps that require a more uniform approach?
- What efforts and approaches are most promising for a coordinated study design?
- What are the major technical and programmatic considerations that need to be addressed for a coordinated study design?



- Better understanding of what land-uses are most likely to contribute and can we use the information to predict occurrence, delivery, and load. Including WW and biosolid applications.
- Temporal and spatial assessment of PFAS occurrence in tributaries, first order streams to determine where loadings are coming from with an emphasis on both point and nonpoint sources (WW and biosolid applications).
- Coupled fish and surface water samples to develop species specific bioaccumulation factors (“early warning system”) including more regional studies to related SW and tissue PFAS concentrations across a range of species. This could include expanding the data available on PFAS profiles and concentrations Bay wide.
- Development of a uniform bioconcentration factor approach regionally between the states to drive fish consumption advisories.
- Information on effects of PFAS on different life stages of fisheries in estuarine and freshwater systems.
- Cumulative effects of PFAS and other contaminant and biological stressors on aquatic species, synergistic effects that have the potential to enhance the risk of PFAS.
- Studies designed to provide information on chronic toxicity for larval oysters and blue crabs with an emphasis on long-term exposures
- Emphasize/prioritize more studies directly assessing the interface between the aquatic and terrestrial environments (e.g., ducks and other avian species).
- Studies addressing the biological effects of PFAS at lower concentrations.
- Studies directly designed to address food chain/biomagnification of PFAS