Chesapeake Bay Program's
Toxic Contaminants Workgroup (TCW)

Quarterly PFAS Meeting
Meeting Minutes

Wednesday, February 8, 2023
1:00 - 3:00 PM
Meeting Materials

Summary of Action Items

Action: The TCW leadership will consolidate the JamBoard feedback from the group and determine any next steps (if appropriate) for the TCW.

Action: Please contact Emily Majcher (emajcher@usgs.gov) or Greg Allen (allen.greg@epa.gov) if you would like to participate in the small PCB monitoring group.

Meeting Minutes

1. **Introductions and Announcements**
    - Thank you to those who participated in and contributed to the cross-program contaminant group - PCB symposium. Stay tuned for follow up.
    - Enhanced PCB monitoring effort - call for small working group member interest (e.g., where to conduct, how to fund, what design details are needed?)
        - Scott Phillips (in chat): The TCW developed a discussion paper on approaches for PCB in a pilot area. Next steps is some more details on which place and what it would cost.
        - **Action:** Please contact Emily Majcher (emajcher@usgs.gov) or Greg Allen (allen.greg@epa.gov) if you would like to participate in the small PCB monitoring group.
    - 2022 Update to the PCB Story Map
2. **Objectives of Quarterly PFAS Meetings**
    - 2023 Update to Research Logic and Action plan, request to MB
        - Management Strategies + Logic and Action Plans posted to the calendar page

- Pending release of STAC workshop report
    - Scott Phillips (in chat): STAC PFAS workshop and associated report focused on sources, transport, and ecological effects of PFAS in the watershed. Have recommendations for comparable monitoring and analytical among the CBP partners.

3. **Technical Presentations: Working towards common analytical and field methods and approaches for PFAS studies in the Chesapeake Bay**
    - Dr. Yingtao Chai, US EPA Region 3 Laboratory – PFAS Analytical Methods: approval status, recommended methods, methods in development (including targeted and non-targeted).
    - Dr. Lee Blaney, UMBC – Use of non-targeted methods and passive samplers for PFAS environmental investigations.
    - Dr. Andrea Tokranov, USGS New England Water Science Center– Field sampling methods and considerations.

Discussion: Yingtao Chai Presentation

Mark Mank MDE (in chat): Has any side-by-side 533 and 537 same sample analysis been performed and published for surface water by the Region 3 lab and, if so, is this publication available?
Yingtao Chai: Region 3 lab has not done the side-by-side comparison. Behavior should be the same on the same compound.
Joe Duris (in chat): Will the 1621 method be validated by multiple labs? Or is it a single lab validation?
Yingtao Chai: It's ongoing. We have multiple lab validation. It is sent to different labs and when it is sent back to us we can look at the recovery to finalize the QC criteria.

Discussion: Lee Blaney Presentation

Tom Parham (in chat): How long can you keep them out before they become fouled?
Lee Blaney: These projects are ongoing. In our projects, we've done 70 day deployments in the lab. We've worked with complex waters, lots of biological activity, and we didn't see any impacts of fouling. Opportunities on the sampler device itself (copper screens) to reduce the biological activity on the surface. Hasn't been an issue for us and other teams haven't expressed issues yet with their materials either.
Leonard Schugam (in chat): How long is the equilibration period to capture the full range of analytes? How long do the samplers need to be deployed?
Lee Blaney: This is one of the reasons we focused on ion exchange membranes, which can be pretty thin. We have fixed positive charges, similar to lily pads, that PFAS jump across to get to the center of the membrane. As long as there is a little bit of mixing/stirring, equilibrium can be reached in 3 days. In the field, it depends on the mixing location. Don't want to deploy too long or too short, maybe like a 1-2 week deployment to hit equilibrium with these ion exchange membranes.
Dev Murali (in chat): Is there a commercial lab doing the PFAS analysis on passive samplers? What is the cost/sample?
Lee Blaney: One start up project is using Osorb Media, which is a commercially available material. They've developed little sampling devices as well, sized to fit in a centrifuge tube. Not exactly sure what the cost per sample is. Cost of analysis probably similar to 1633 and material costs on top of that.

Dev Murali (in chat): Do you have any data for the sediments, fish, water?
Lee Blaney (in chat): Dev - most of our work so far has been focused on the development stage of the passive samplers. We do have some other ongoing efforts with Emily Majcher, Michelle Lorah, and MDE folks on water, wastewater, sediment, and biosolids samples - but those data were not from the passive samplers.

4. **Working Session: How can we move towards standardized and unified approaches on key elements for PFAS studies in the Chesapeake Bay?**
    - **Link to JamBoard:** https://jamboard.google.com/d/1y16ZaaWExIQf0b33uGvtltjxM2FjlFeLJoeJfb4c1jA/viewer?f=0
    - JamBoard to gather information for comparison, identify gaps, and identify further activities or actions needed
        - Guidance to support SOP/SAP/QAPP development
        - Environmental program analytical methods
        - Data storage, data considerations specific to PFAS (e.g., validation, interpretation).
    - PFAS Analytic Tools | ECHO | US EPA
    - **Action:** The TCW leadership will consolidate the feedback from the group and determine any next steps (if appropriate) for the TCW.

Discussion
[JamBoard 1]
Lee Blaney: Gap in how to analyze short chain PFAS.
Yingtao Chai: I suggest contacting Mark Strynar (EPA) for further information on that development.
[JamBoard 2]
Yingtao Chai: A website for nontargeted method collaboration website - "Benchmarking and publications for non-targeted analysis" - BP4NTA – Benchmarking and Publications for Non-Targeted Analysis (nontargetedanalysis.org) - A working group formed to address challenges in non-targeted analysis studies using mass spectrometry.
John Cargill (DE): DNREC has done some nontargeted analysis and I recommend aligning with academic partners to conduct this.

Participants

Jackie Pickford, CRC
Emily Majcher, USGS
Scott Phillips, USGS
Lee Blaney, UMBC
Tony Timpano, VA DEQ
Nathalie Lombard, UMBC
Yingtao Chai, EPA Region 3
Raffaela Marano, EPA R3
Andrea Tokranov, USGS
Pete Key, NOAA
Sophia Grossweiler, MDE
Ke He, UMBC
Bel Martinez da Matta, MDE WSA
Steve Bieber - COG
John Cargill, DE DNREC
Charlie Brown, EPA R3
Vicki Blazer, EESC-USGS
Mindy Neil, WVDEP

Casey Leach, MDE WSA
Jenna Dodson, West Virginia Rivers Coalition
Sushanth Gupta - MD DNR
Heather Preisendanz, Penn State
Kelly Kosiarski, Penn State
Paul Hlavinka, MDE
Regina Poeske USEPA Region 3
Fred Pinkney, US Fish and Wildlife Service
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