THIS MEETING IS BEING RECORDED

CBP Water Quality Goal Implementation Team
Toxic Contaminants Workgroup
Meeting Minutes

Date: *Wednesday, February 9, 2022*
Time: 1:00 - 3:00 PM
Location: Conference Call (remote only)
Calendar Page: Link.

Chesapeake Bay Program
A Watershed Partnership

Agenda Item and Desired Outcome	Time	Background Docs, Notes, and Action Items
1. Introductions and Welcome to guests from Ag, Stream Health, and Wastewater Workgroups	1:00	
2. Technical Presentation: Watershed-Scale Risk to Aquatic Organisms from Complex Chemical Mixtures in the Shenandoah River, and expansion of study to the Potomac Watershed, Larry Barber, Research Geologist, and Kaycee Faunce, Geographer, U.S. Geological Survey	1:05	• Watershed-Scale Risk to Aquatic Organisms from Complex Chemical Mixtures in the Shenandoah River | Environmental Science & Technology (acs.org)
3. Recap and Follow-up on TCW Meetings Priorities in 2022 and Future Collaborations Jamboard asking members about relevant outside groups in which they participate, identifying opportunities for engagement and technical exchange	2:05	• Mentimeter Survey Results • Jamboard
4. Announcements • Presentation of draft updated indicator map • Update: PFAS Workshop dates May 17-18, 2022 • Final call: 2022 PFAS STAC workshop and Request for Information - Web Survey Tools | QuestionPro Survey • EPA Webinar Feb 23: Assessing the Toxicity of PFAS Chemicals to Aquatic Organisms • Per- and Polyfluoroalkyl Substances (PFAS) | Integral Consulting (integral-corp.com) • Experimental evidence for recovery of mercury-contaminated fish populations | Nature • Update on the Benefits of PCB Congener-Specific Analyses | Ecological Risk Assessment Support Center (ERASC) | Environmental Assessment | US EPA • PCB Congeners by Low-Resolution GC-MS - Method 1628 (Not yet approved) | US EPA	2:35	• ~~Complete the toxic contaminant indicator~~ • Update the PCB Story Map • TCW will be added to an upcoming AgWG agenda to present on TCs in Ag watersheds.

5. Wrap Up and Adjourn	3:00	• ***Next meeting:*** **Wednesday, March 9, 2022**

Summary of Actions and Decisions

Action: TCW will follow up with Larry Barber and Kaycee Faunce as their work studying complex chemical mixtures continues. They will be invited back to the Workgroup to give a tutorial when the tools to help look at the data are released in the spring.

Action: Hilary Swartwood will send the link to the Jamboard to TCW to give other members a chance to provide input on updates/ progress from other partnerships and/ or progress.

Meeting Minutes

1. **Intro and Welcome**
2. **Technical Presentation: Watershed-Scale Risk to Aquatic Organisms from Complex Chemical Mixtures in the Shenandoah River, and expansion of study to the Potomac Watershed**
    - Discussion/ Q&A:

      Scott Phillips asked about what percentage of total streams involve the Potomac. Kaycee said that it's 20% of total streams impacted by wastewater and confirmed that the Potomac River portion should be published in late spring. The tool will be released at the same time of the report. Vicki Blazer asked if there was an ability to look at temporal changes and Kaycee said they are working developing data pipelines that will allow them to build any number of datasets. Larry followed up and said they've been trying to develop how to address the limitations, integrate real time stream gauge measurements and access the discharge data. Ideally, we would work through CBP Workgroups (TCW, WWTWG) to get information on different systems. Vicki Blazer said that they have years of fish data, and it would be interesting to use the tool on this information too. Larry said that is the nice thing about the tools is that they allow them to go back and look at predictive chemistry and interrogate those questions readily. Any suggestions on how to incorporate that real time data would be appreciated because these models are very flexible. They can be applied across the country, not just in the Bay Watershed.

      On the slide indicating the biological risk quotient, Greg Allen asked why normalization was needed. Larry said that when they go into the field the risk falls into 4 categories. Kaycee said that many of the constituents don't have predictive concentration available, so Larry went through the literature to come up with these predictive concentrations. Greg Allen said this paper tries to address the effects of the "chemical cocktail" by adding up risk quotients for chemical mixtures but doesn't consider truly synergistic effects yet. Kaycee agreed and said this is an area they are looking to improve on in the future. Greg Allen continued, asking if there were portions of the paper that analyzed co-occurrence of chemicals. Kaycee said this was not addressed in this paper, but is a focus that Larry is working on. Larry said that they could do PCA analysis on only some of the contaminants, but their data is rich for mining this information. These are things we are trying to do, and it is why we always test for Boron and Lithium because they are always present in WW. Emily Majcher was curious if the researchers saw similar groupings when validating and verifying and if there is a threshold of percentage wastewater that gives better correlations than others. Larry said in their work

with Rich Weitzman they used a similar analysis, and the threshold is about 1%; above 1% wastewater starts showing up at disinfection biproduct. For endocrine disruptor data, there was a similar threshold. One of the drivers for this work is that there was always this assumption that wastewater isn't important, but we are saying that WWTPs 20 miles upstream are contributing to this ratio. You need to have a comprehensive understanding before you can determine if wastewater is having an impact.

- **Action:** TCW will follow up with Larry Barber and Kaycee Faunce as their work studying complex chemical mixtures continues. They will be invited back to the Workgroup to give a tutorial when the tools to help look at the data are released in the spring.

3. **Recap and Follow-up on TCW Meetings Priorities in 2022 and Future Collaborations**
    - **Action:** Hilary Swartwood will send the link to the Jamboard to TCW to give other members a chance to provide input on updates/ progress from other partnerships and/ or progress
4. **Announcements**

Call Participants

Hilary Swartwood, CRC
Larry Barber, USGS
Kaycee Faunce, USGS
Matt Kundrat, PA DEP
Greg Allen, EPA
Emily Majcher, USGS
Scott Phillips, USGS
Doug Austin, EPA-SEE
Brittany Flaten, DNREC
Mark Richards, VA DEQ
Leon Tillman, NRCS
Bel da Matta, MDE
Dave Whitall, NOAA
Mark Dubin, UMD
Helen Golimowski, Devereux Consulting
Raffi Marano, EPA
Brandon Kiracofe, VA DEQ
Nathan Jackson, DNREC
Ping Wang, DNREC
Vicki Blazer, USGS
Kelly Smalling, USGS
George Onyullo. DOEE
Scott Stranko, MDNR
Claire Buchanan, ICPRB
Allan Brockenbrough, VA DEQ

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Andrew Hayes, UMCES
Fred Pinkney, USFS
Katlyn Fuentes, CRC
Jeremy Hanson, CRC
Marel King, CBC
Ken Staver, UMD
Rebecca Crane, EPA R3
Lisa Reynolds, MWCOG
Allison Ng, EPA