Toxic Contaminants Workgroup

Wednesday, March 11th, 2026
1:00 – 2:30 PM

Visit the meeting webpage for meeting materials and additional information.

Purpose: This is the monthly meeting of the Toxic Contaminants Workgroup (TCW). Main agenda items included a presentation on a recent Imidacloprid study, a presentation on the 2025 update to the Toxic Contaminants Policy and Prevention Outcome Indicator, and a discussion on potential Indicator(s) for the new Toxic and Emerging Contaminants Outcome.

Minutes

I. Welcome and Announcements

Lead: Tony Timpano, TCW Co-Chair

- Workgroup Membership Update: workgroups have been asked to postpone new member confirmation until changes to structure and governance are solidified in June 2026. In July, we expect to send another call for the remaining two at-large member vacancies and one co-chair vacancy, and confirm all new members including the 3 nominations for at-large members received so far.

Actions:

1. If you have used ChesapeakeProgress and would like to provide feedback to inform potential product improvements, please complete this brief feedback form by Friday, April 10.

Decisions:

1. TCW members approved the January 2026 TCW Meeting Minutes

II. Trend Study: Imidacloprid in US Rivers, 2013-2022

Lead: Sam Miller, USGS

Sam presented a recent trend study on Imidacloprid, a neonicotinoid insecticide used in a variety of agricultural, urban and forestry contexts. This study looked at pesticide samples collected routinely from 77 sites in the National Water Quality Network, including three sites in the Bay: Accotink Creek, Potomac River at Chain Bridge and Susquehanna River at Conowingo. They found that 72/77 sites had at least one detection, 44% of sites had a median concentration that exceeded the chronic benhmark, and half of sites had an increasing trend. Sam highlighted

Accotink Creek, which has the highest average concentration in the national network, and the Potomac River site, which was among the largest relative concentration increase in the national network. Imidacloprid's widespread presence, benchmark exceedances, and increasing trends suggest potential hazard to aquatic life and risk to ecosystem health. Management implications and challenges to monitoring and management are highlighted on the presentation slides.

Materials: Presentation, Paper, Riparian Buffer Study

Actions:

1. If you have any questions for Sam Miller on the Imidacloprid study, please reach out to him (smiller@usgs.gov).

Discussion:

- Marel King, CBC asked if there is research on the ability of practices like riparian buffers to mitigate the presence of imidacloprid and similar substances in streams.
    - Sam responded that because imidacloprid is relatively soluble and mobile, it gets into the water phase pretty easily and buffers are better are stopping sediment bound particulate pesticides.
    - Sam shared a study on the transportation dynamics of neonicotinoids and a study on the impact of riparian buffers on transport.
- Tony asked what proportion of the imidacloprid delivered to aquatic environments remains in water phase vs. particulate phase? What proportion is taken up by aquatic flora? Curious about the implications for exposure and groundwater vs. sediment targets for mitigation.
    - Sam responded that water vs. solid phase was not explored in their study – all data were "dissolved" water-column samples. Other researchers may have data on the topic, including seed treatment research from Penn State.
- Tom Parham, MD DNR asked how quickly imidacloprid degrades to a non-toxic form.
    - Sam responded there's a range of half-lives reported depending on the environmental setting, potentially in the order of dozens of weeks. But a lot of these studies are done exposed directly to sunlight, which wouldn't be the case for seed treatment underground or when applied to turf which gets into the root zone. So, degradation in these cases would be slower.
    - Tony asked if there is research on how toxic the metabolites are, independent of how long they last.
    - Sam responded their work is focused on camparing it to the aquatic life chronic and acute benchmarks. Without benchmark concentrations for metabolites, the toxicity of these metabolites is more of an unknown.
- Tony asked about the relative cost savings of ELISA vs. mass spectrometry methods.
    - Same responded that ELISA is approx. 10x cheaper, but has higher detection limits (approx. 5x greater than the chronic benchmark).
    - Tony noted that ELISA may at least be cost effective as an additional screening tool.

III. TCPP Outcome Indicator 2025 Update

Lead: Petra Baldwin, TCW Staffer

Petra presented on the latest data update completed in 2025 for the Toxic Contaminants Policy and Prevention (TCPP) Outcome Indicator. The Indicator identifies the percentage of Chesapeake Bay tidal segments that were fully or partially impaired by toxic contaminants based on data from tidal jurisdictions' Clean Water Act Section 303(d) listings as reported in their biennial Integrated Reports. Based on data from the 2024 Integrated Reports, 80.4% of tidal segments are fully or partially impaired by toxic contaminants. Of note, 5 segments were delisted for PCBs and 22 new PFAS listings were reported by jurisdictions. Petra highlighted the chart and web map presented on ChesapeakeProgress for stakeholders to examine impairments temporally and spatially.

Materials: Presentation, 2025 Indicator Snapshot, Indicator Map Viewer, Blog Post, 2025 Bay Barometer

IV. Toxic and Emerging Contaminants Indicator Discussion

Lead: Tony Timpano, TCW Co-Chair and Keith Bollt, TCW Coordinator

Building off the previous presentation, Tony led a discussion with the workgroup about what a future Indicator (or Indicators) should be for the new, combined Toxic and Emerging Contaminants Outcome. Participants shared feedback and ideas via a Canva Board. This was an initial discussion and will continue as guidance on Management Strategies and other partnership changes with the revised *Watershed Agreement* are solidified.

Materials: Canva Board Feedback (PDF), TCW Geonarratives, Recent STAR Meeting on Indicators

Actions:

1. Please provide additional feedback about an Indicator for the new Toxic and Emerging Contaminants Outcome and other TCW tools via the Canva Board or via email to TCW Leadership. Any thoughts to guide future TCW discussion on this are welcome.

Discussion:

- Written comments from members from the brainstorming session are on the Canva Board.
- Tony shared a few comments: it could be valuable to break down the spatial resolution of the current TCPP indicator to local watersheds; there is a need to better define "impairment" to ensure it is congruent across jurisdictions; and there is a need to balance how to leverage additional available information without creating a new workload that's excessive.
- KC Filippino, HRPDC shared that from a local perspective, having a clearinghouse of information, tools and products to help manage local TMDLs, for example, would be useful. KC suggested that restructuring meetings to focus on an annual symposium on toxics, instead of monthly meetings, might also be more helpful for information sharing.
    - Keith asked if it would be more helpful for that information to come from EPA or the Bay Program/TCW.
    - KC responded that the dual sources of information and distinction between those two has always been an issue. Regardless, having resources from TCW would serve a

purpose in helping local jurisdictions implement management strategies, even if they are voluntary. Even something like a list of products that shouldn't be used, would be a tangible output coming from this group.

- KC posed the importance of defining our audience. Tony responded that connecting amongst other CBP workgroups is valuable in addition to sharing information with the public. KC noted Local Government Leadership Workgroup is a good venue to continue to engage as well.

V. Wrap-Up

Lead: Petra Baldwin, TCW Staffer

VI. Adjourn

Next Meeting: April 8, 2026

Attendees:

Tony Timpano, VADEQ (TCW Co-Chair)
Keith Bollt, EPA CBPO (TCW Coordinator)
Petra Baldwin, CRC (TCW Staffer)
Sam Miller, USGS
Cassie Davis, NYSDEC
Amanda Shaver, VADEQ
George Onyullo, DC DOEE
John Cargill, DNREC
Sakinat Ahmad, DNREC
Nick Murray, WVDEP
Len Schugam, MDE
Maggie Woodward, CBC
Charles Brown, EPA
Sushanth Gupta, MWCOG
Emily Majcher, USGS
Carol Howe, USGS
Kelly Somers, EPA R3
Katie Davis, EPA
Tami Sundquist, EPA
Anna Robuck, EPA
Katie Ayers, EPA CBPO
Marel King, CBC
Dev Murali, DC DOEE
Anthony Cario, VADEQ
Max Wheeler, VADEQ
Amy Williams, PADEP
Rob Allen, MDH
Tom Parham, MD DNR
KC Filippino, HRPDC
Ruth Berlin, MPEN
Ellen Egan, AquaLaw
Jeremy Hanson, CRC