

Toxics Advisory Committee (TAC)
Meeting Minutes
February 28, 2024

Members and Alternates:

Delaware

John Cargill (DNREC)

New Jersey

Roop Guha (NJDEP)

New York

Jason Fagel (NYSDEC)

Pennsylvania

Maria Schumack (PADEP)

EPA Region 2

Makini Valentine

EPA Region 3

Kuo-Liang Lai

U.S. Fish and Wildlife

Sean Bugel

Other Attendees:

Benjamin Deatrich (AECOM)
Joella Posey (AECOM)
Maggie Reilly (Aqua America)
Meg McGuire (Delaware Currents)
Will Lutkewitte (Dema Law)
Bailey Adams (DRBC)
Thomas Amidon (DRBC)
Jake Bransky (DRBC)
Beth Brown (DRBC)
Pam Bush (DRBC)
Karl Heinicke (DRBC)
Kristen Kavanagh (DRBC)
Avery Lentini (DRBC)
Chris McCann (DRBC)
Elaine Panuccio (DRBC)
Kevin Pregent (DRBC)
Namsoo Suk (DRBC)
Steve Tambini (DRBC)
Timothy Walsh (DRBC)
John Yagecic (DRBC)
Li Zheng (DRBC)
Tim Maguire (Drexel/ANSU)
Nicholas Corso (Eurofins)
Karen Davis (Fox Rothschild)

Academia

David Velinsky (Drexel/ANSU)

Agriculture

Scott Sheely

Environmental/Watershed (2 members)

Tracey Carluccio (DRN)

Diana Oviedo-Vargas (Stroud)

Industry

Scott Northey (Chemours)

Public Health

Eric Bind (NJDOH)

Municipal

Jason Cruz (PWD)

Kristian Fried (Integral)
Michael Dillon (Manko, Gold, Katcher, Fox, LLP)
Brenda Gotanda (Manko, Gold, Katcher, Fox, LLP)
Sandra Goodrow (NJDEP)
Steven Seeberger (NJDEP)
Josephine Bonventre (NJDEP)
Daniel Millemann (NJDEP)
Brian Pachkowski (NJDEP)
Gloria Post (NJDEP)
Bidya Prasad (NJDEP)
Bonnie Boylan (PADEP)
Lisa Pfeifer (Pepco Holdings)
Helen Gregory (PSEG)
Matt Fritch (PWD)
Dalia Ghobrial (Trenton Sewer Utility)
Shannon Jones (U. Delaware)
Mi-Ling Li (U. Delaware)
Izak Hill (U. Rhode Island)
Doug Austin (USEPA)
Michaela Cashman (USEPA ORD)
Anna Robuck (USEPA ORD)
Greg Voigt (USEPA R3)
Carl DuPoldt
Joan Farb

1. Call to Order and Introductions – John Cargill (DNREC)

Jeremy Conkle took Committee Member attendance (see list above)

John Cargill welcomed Scott Sheely, the new Committee Member representing Agriculture

John Cargill called for motions to approve 2 sets of minutes. Tracy Carluccio (Delaware Riverkeeper Network; DRN) motioned to approve the June 2022 minutes. The TAC member seconding the motion was not recorded. The motion was approved with no opposition. Roop Guha (NJDEP) motioned to approve the June 2023 meeting minutes. The TAC member seconding the motion was not recorded. The motion was approved with no opposition

2. Freshwater ammonium criteria updates – Jeremy Conkle

DRBC requested updates from each of the basin states on their efforts to adopt the USEPA 2013 Freshwater Ammonia Aquatic Life criteria. Roop Guha (NJDEP) stated that the EPA-recommended criteria were adopted state-wide in New Jersey, except for the Pine Barrens. Bhanu Paudel Ph.D. (DNREC) confirmed that Delaware has adopted the EPA-recommended criteria.

Dr. Suk asked Dr. Paudel if the EPA criteria that were adopted included Delaware Bay? Dr. Paudel replied that their criteria is only for acute freshwater ammonia levels. Delaware uses salinity to filter out the freshwater from bay-influenced water, and Delaware did not adopt estuarine or saline criteria.

Josh Lookenbil (PADEP) stated that Pennsylvania has adopted EPA's 2013 freshwater ammonia recommendations. Jason Fagel (NYSDEC) added that NY has not yet adopted criteria for ammonia, but they are under consideration. NYSDEC needs to update definitions and procedures to set standards within our regulations before any new water quality standards can be set.

3. PCB TMDL Update – Ashley Geiger (TMDL Coordinator, EPA R3)

PCB TMDLs are in effect in Delaware River Zones 2-6. They were established in 2003 for Zones 2 - 5 and 2005 for Zone 6. While they were established with the best available data, it could be beneficial to update TMDLs using newer data and studies. There have been substantial and successful efforts to reduce PCB levels since the TMDLs were implemented, resulting in less restrictive fish consumption advisories. DRBC has carried this burden for many years by studying PCBs in the water column, air, sediments and other environmental media. Delaware legally certified DRBC's PCB criteria in 2014, followed by NJ (2014) and PA (2015). The Co-Regulators have been key in implementing the PCB TMDLs. There have been 2 draft of Stage 2 for review (2017 and 2020). Working with the states, comments on the drafts were reviewed and documents were drafted to address those comments and issues. Unfortunately, there have been many delays due to changes in personnel. The EPA is taking a hard look at how adjustments can be made to the existing version of the document. DRBC supports the EPA in this effort. A revised draft is expected in spring 2024, which will undergo internal review at the EPA before being sent out to the states for final review. There is no proposed timeline for establishment yet and public comments would occur after the states. Therefore it is likely that this won't happen until 2026.

Preston Luitweiler (Aqua) comment, Nice summary of the history of PCBs. Can you share a copy of the summary your presented.

4. DRBC Project Updates – Jeremy Conkle

https://www.nj.gov/drbc/library/documents/TAC/022824/Conkle_DRBC-Updates.pdf

Dr. Conkle updated the TAC on DRBC's toxics-related projects. For Year 2 of the PA Coastal Zone Management grant, sampling is complete and DRBC is waiting on some of the data. For the Partnership for the Delaware Estuary Bipartisan Infrastructure Law grant (PDE BIL), all sampling is complete, and the DRBC is awaiting some of the data. The Year 2 National Fish and Wildlife Foundation (NFWF) PFAS project final report is nearing completion and is expected to be released in a few months. Last, all sampling is complete for the Year 3 NFWF grant and DRBC is waiting on data.

Dr. Conkle also mentioned upcoming projects. In collaboration with the NJ Water Supply Authority, DRBC will be deploying PFAS passive samplers in the Delaware and Raritan (D & R) Canal sometime between late March and early April. The goal of the effort is to identify sources of PFAS in the D & R Canal. DRBC will also be measuring PCBs in the mainstem Delaware River using Passive Samplers, as well as in tributary sediments at the same locations where they were monitored in water for the PDE BIL grant. Last, DRBC was awarded new NFWF funding to sample 6-PPDq in Upper Delaware trout streams. That project is expected to start in spring 2024.

Tim Maguire (ANSU) asked how many samples were collected per site for the Summer 2023 NFWF PFAS project? Dr. Conkle responded that there was one sample per site, but replicates were sampled at 10% of sites.

Joe Duris (USGS PWSC) asked if the samples were collected under similar tidal conditions. Dr. Conkle responded that DRBC targeted low tide samples in 2023 and we will look up tidal cycle to assess how they may have impacted the concentrations in prior years. Anna Robuck (USEP ORD) stated that there is a method to normalize the data collected across a tidal range for past data.

Tracy Carluccio asked what is the PB site you mentioned? Dr. Conkle responded, Paulsboro, and it is next to a drainage ditch at PHL that drains a firefighting training area, and can be seen on Google Earth.

Roop Guha asked if DRBC would you be attempting to collect data to calculate partition coefficients For the 2024 sediment study in the 12 tribs? Dr. Conkle responded, we may.

Kuo-Liang Lao asked if the 106 grant for PCBs would include Fish Tissue samples? Dr. Conkle responded, it would not, it is just sediment and passive samplers.

Stef Kroll asked if there are any measures recommended at this time to reduce the PFAS runoff? Or input from the outlet. Dr. Conkle responded that we could use the collected sediment samples to compare with previous data to get an idea of source contribution. Dr. Suk followed up that DRBC worked with EPA to isolate sites and reduce the impact of previous pollutants. This strategy of source reduction will be used eventually.

Dr. Conkle resumed sharing information about the upcoming 6-PPDq study. DRBC will sample quarterly at 10-15 locations, with a particular focus on the upper Delaware. We plan to focus on sampling after storm events to capture spikes of 6-PPDq occurring after rainstorms. DRBC will also be synthesizing all publicly available PFAS data for the Delaware River Basin with a long-term goal to identify sources and work towards source reduction.

Roop Guha requested the link to the EPA PFAS analytics tool. Joe Duris shared the link in the chat: <https://echo.epa.gov/trends/pfas-tools>

John Cargill asked if there are there are any cumulative effects data related to 6-PPDq and Eric Bind asked what we anticipate doing with the 6-PPDq data in the long-term? Dr. Conkle responded that we aren't sure

yet, but there is no data for the Delaware River Basin yet, so we're trying to figure out what the data looks like. John Cargill replied, reach out to DNREC about any help needed.

Dave Velinsky commented, we might need to get the tire manufacturers engaged. Dr. Conkle replied, the tire manufacturers are on top of this and engaging with researchers and agencies. I met with some of their reps at the SETAC meeting in Pittsburgh in November 2022 before I joined DRBC.

Patricia Libbey stated that Rubber bits are used on sports fields and playgrounds. Is there some way to help schools/orgs dispose of their old fields? Dr Conkle stated, Great comment, I agree. I'm not sure what programs are out there for crumb rubber disposal, but my guess is landfills disposal.

5. *Per- and polyfluorinated alkyl substances (PFAS) in PA surface waters: a statewide assessment, associated sources, land-use relations, and next steps* – Sara Breitmeyer (USGS PWSC)

https://www.nj.gov/drbc/library/documents/TAC/022824/Breitmeyer_PFAS_PAsurface-waters.pdf

There are many potential PFAS sources: Sinkholes, water pollution control facilities, military installations, airports, fire training schools, CSOs, oil & gas wells, land recycling cleanup locations, superfund sites, major groups of EnviroFACTS industries (manufacturing, service facilities with permitted dischargers). PFOA, PFHxA, PFOS, PFBS, and PFPeA were the most often found in the study, with detection of 1 or more compounds occurred in 76% of streams. The USGS assessed urbanization & PFAS, finding that upstream development was the most significant variable. Another important source was electronics manufacturing facilities. These include manufacturing of electrical industrial apparatus, household appliances, electric lighting & wiring, radio & tv, phones, electronic components and accessories. The USGS also assessed factors influencing total PFAS yield. Factors associated with greater impact from development included total nitrogen, water pollution control facilities counts and elevated concentrations of chloride and ammonia. Furthermore, elevated PFAS was found in areas where chloride was >30 mg/L. Future PFAS research interests include predicting aquatic exposure effects in PA stream reaches, PFAS source relation to detections of PFAS in public water supplies, determining the relationship between detections in surface, ground, and public water sources, evaluating concurrent trends in source water and the public water supply and elucidating sources.

Tracy Carluccio ask if the slides be shared? Dr. Conkle replied that, slides will be shared along with the rest of the TAC meeting materials. Joe provide a link to the open access journal article: (<https://pubmed.ncbi.nlm.nih.gov/37196959/>)

John Cargill: Does PA or anywhere else have experience with the Total Oxidizable Precursor (TOP) analysis? It is confusing to compare the TOP with individual compounds. Joe replied, there are sites were TOP matters and others where it doesn't matter as much (when oxidizable compounds are detected). In order to keep the statewide paper clean, focused on early 1633 method with 33 compounds. TOP will be useful to ID sources. Emily Woodward (USGS) also added that, TOP analysis was incorporated in an upcoming PFAS load paper (just completed study). John Cargill commented, the forced oxidation step prior to analyzing the sample (lets you know if there are other things in the sample that are not quantifiable in the moment, but will lead to quantifiable compounds when eventually oxidized)

Scott Sheely (Agriculture Rep): Is there any differentiation between commercial fertilizers used in agriculture and fertilizers used by homeowners as sources of nitrogen and such? Joe Duris replied that, oxygen and nitrogen isotopes were not part of this assessment. Urban and rural areas are both sources of nitrogen (levels differ across sites, but the types of sources of nitrogen are important and related to total

PFAS yield). Scott followed up with, well, what do we do about it? At some point, someone is going to ask this question. If people are over-fertilizing their lawns, how do we address that? How do we remediate any of these if and when we get to that point?

Tracy Carluccio asked Sara and/or Joe, in the PFAS identification sampling targeting croplands, was there any attempt to differentiate agricultural fields where biosolids are applied? Sara replied, no, we did not get that in-depth, but it'd be worthwhile to see. Joe followed up, Sara's study is still a bit preliminary because we're just getting ideas of the PFAS yields. The data where biosolids are applied is not clear. Field with biosolids permits doesn't mean they have used biosolids on those fields. Sara added, PFAS has been found in pesticides, which could be linked to agricultural. It leaches from their containers. Joe said, this is from fluorinated HPDEs. John Cargill added that the EPA did a study on this. And Dr. Conkled provided a link to the study, <https://pfasproject.com/2023/09/28/got-plastic-with-a-no-2-recycling-symbol-beware-a-toxic-problem/>

David Velinsky asked, can nitrate, oxygen, and oxygen isotopes be used to separate out sources? Joe Duris responded, yes, absolutely, if we go down to a catchment scale (urban vs ag sources), would definitely integrate source contribution using isotope sampling.

Dan Deeds commented, we are in discussion with PSU researchers, to look into biosolids and PFAS. Sara Breitmeyer replied, it would be great to look into how PFAS affects food crops

Scott Sheely stated, Chesapeake Bay researchers may have some BMPs and nitrogen source data.

Emily Woodward stated, we are leading a pilot study on the co-transport of PFAS and pesticides in ag dominated watersheds in CA, focusing on specific pesticide formulations that have been identified as potential PFAS sources. We are hoping to do similar work in PA.

6. Other business – Jeremy Conkle

Dr. Conkle briefly described DRBC's plans to update Water Quality Criteria as a work in progress. There were no additional questions, comments or concerns from the TAC members.

7. Public comments – John Cargill

No comments were made.

8. Motioned to adjourn – John Cargill

Tracy Carluccio made the motion to adjourn and was seconded by Roop Guha at 10:57 am.