



Toxic Contaminants Workgroup Kick-Off Meeting
Meeting Summary
November 5, 2014
10am-3pm

Action Items & Decisions:

- **ACTION:** TCW staff will reach out to the Delaware Estuary Program or the San Francisco Bay TMDL program for insight on their success outside of existing regulatory programs. TCW staff will coordinate a time for a presentation from DRBC Tom Fikslin to hear lessons learned.
- **ACTION:** TCW staff will work with Treda Grayson to identify a representative from EPA HQ OCSPP and ORD to access the data that they have available as a resource.
- **ACTION:** TCW staff will coordinate with the GIS team at the Bay Program to create a watershed map with current PCB TMDLs.
- **DECISION:** The Policy and Prevention group will begin meeting every two weeks by conference call, with 1-3 face to face meetings before March.
- **DECISION:** The Research group will meet on an ad hoc basis.

Minutes:

I. Welcome, Introductions – Greg Allen

- Greg Allen, EPA CBPO/TCW Coordinator, introduced the new workgroup.

II. Overview of Toxic Contaminants Goal, Outcomes, and Management Strategy Process – Scott Phillips and Greg Allen

- Scott Phillips, USGS, provided an overview of the new Chesapeake Bay Watershed Agreement and the Toxic Contaminants Goals and Outcomes.
- Greg Allen overviewed the Toxic Contaminants Summary Report 2012.
 - The report addressed the extent and severity of ten groups of contaminants and their effects on fish and wildlife. This was an attempt to look across multiple sources of information to determine the extent of contaminants and severity of likely effects. In each of the areas of extent and severity, the terms widespread, localized, or uncertain were used. The report also has a chapter of the degraded conditions of fish and wildlife and the relation to toxic contaminants.
 - This report is being proposed as a starting point and as a framework to start the two management strategies (MS).
 - Dave Montali, WV: Are any of these contaminants associated with the recent fish kills in the Potomac and Shenandoah?
 - Vick Blazer, USGS: Reproductive effects on fish are associated with endocrine disruptors and we are looking into contaminants like arsenic for its effect on parasites.
 - WV: In terms of research, we may need to deviate from the Report to address contaminants like arsenic, and potentially link it to nutrient and sediment reduction.

- Ann Swanson, CBC: The concern related to endocrine disruptors was a strong motivator for getting toxic contaminants in the agreement. We do not have sufficient data in the Report to address that.
- Rod Kime, PA DEP: We are finding the same complications in the Susquehanna River. It has to go beyond the scope of what is in the Report.
- Greg Allen, EPA CBPO: The chapter of the Report on biogenic hormones can serve as a starting point for contaminants causing feminization of male fish, but it falls short on everything that we need to do. The research group should be mindful of broader thinking that is contributing to the total estrogenicity.
- Scott Phillips led a discussion on the conceptual framework for the two toxic contaminants outcomes.
 - MS will be the roadmap of what we want to get done to carry out the outcomes and must be completed by June 2015. The two toxic contaminant outcomes will be combined into one MS. The MS draft for public review must be completed by March. There is latitude to choose whatever time horizon is appropriate to address all of the issues in the two year work plan element of the MS. We don't have to all have all of the answers by March, but we need a work plan to get to those answers.
 - TCW members discussed determining current efforts and gaps by examining current policy and programs and looking for ways to enhance them to accelerate improvement.
 - PCB and other toxic contaminant TMDLs exist in many areas, but may not be implemented actively.
 - A major goal of this workgroup will be to leverage resources to prioritize strategies that have multiple benefits with nutrient/sediment reduction and toxic contaminant reduction.
 - **ACTION:** TCW staff will reach out to the Delaware Estuary Program or the San Francisco Bay TMDL program for insight on their success outside of existing regulatory programs.
 - **ACTION:** TCW staff will work with Treda Grayson to identify a representative from EPA HQ OCSPP and ORD to access the data that they have available as a resource.

III. Policy and Prevention Breakout Discussion

Brainstorming session for Policy and Prevention MS content.

- The MS will be developed by the members of the Toxic Contaminants Workgroup; however, new participants may join the workgroup as time goes on.
- The 2012 Report will be used as a starting point for MS development; however, new research will likely be considered during MS development.
- The MS and workplan will primarily focus on addressing PCBs, allowing room to address other contaminants (e.g., pesticides, pharmaceuticals, personal care products) at a later date. As the MS is developed, we will seek to address how to enhance existing programs and find synergies across the jurisdictions, filling in gaps with new programs/policies.
- Baseline information will be gathered from existing TMDLs to inform an understanding of existing sources. Build layers of maps to see where to target implementation efforts.
- **ACTION:** TCW staff will coordinate with the GIS team at the Bay Program to create a watershed map with current PCB TMDLs.
- **ACTION:** TCW staff will coordinate a time for a presentation from Tom Fikslin to hear DRBC lessons learned.
- **DECISION:** The Policy and Prevention group will begin meeting every two weeks by conference call, with 1-3 face to face meetings before March.

IV. Research Breakout Discussion

Brainstorming session for research agenda. The research outcomes call for the agenda to be developed.

- Scott Phillips introduced the goals and focus of the Research breakout discussion. Members discussed relevant research to determine the baseline/extent of the group's knowledge and to build from several ongoing studies: Anacostia, intersex fish in PA, toxic contaminant studies the Susquehanna and Potomac addressing both intersex fish conditions and link to fish kills. .
- Based on the discussion, the group developed the major components of a reteach agenda:
- Focus first on areas where fish and wildlife have been degraded and where there are human health concerns.
 - Where TMDLs that have been issued.
 - Fish consumption advisories exist.
- Second, look at the correlations to the contaminants causing the effects.
 - Mixtures will make it more difficult to identify just one contaminant group.
- Identify sources and inputs of the contaminants.
 - Make connections with nutrient and sediment sources.
 - Take advantage of TMDLs that have been issued.
- Provide implications for using nutrient and sediment BMPs to reduce contaminant effects.
 - Work with the policy and prevention group and compile success stories.
- Research will build on existing baseline information and ongoing research efforts.
- **DECISION:** The Research group will meet on an ad hoc basis.

Additional Notes from Research subgroup:

1. Scott Phillips introduced the goals and focus of the Research breakout discussion. Members discussed relevant research.
2. DE is mostly focused on implementation with superfund projects. Toxics TMDLs are based on fish tissue levels. Mostly PCBs. Seeing declines in all toxics. DE has done some coring work to look at the history of toxics and they are seeing cleaner sediments over time. Have not yet looked at the dual benefits of nitrogen and sediment reductions. Recommend the group consider what the benefits to other contaminants would be when reducing PCBs.
3. U.S. Fish and Wildlife Service research on indicators of fish health. PAHs in sediment and their effects on catfish tumors.
4. Leadership Council for Cleaner Anacostia group's sediment chemistry study is funded by the DC government. Expected to cover current sources of PCBs and PAHs in the Anacostia. Looking at legacy contaminants.
5. Blue Plains has monitoring requirements in its permit including mercury, nutrients, CSOs. Recommend looking at where pollutants are generated when determining where they can be controlled. Anacostia has years of watershed assessment data for multiple contaminants. Q: Have there been assessments of before and after nutrient control? A: Not yet.
6. PA is studying fish tissue, water column samples, passive sampling, etc. in the Susquehanna and tributaries. Some of the agricultural streams have been better than expected. Not seeing many pesticides. Holistic study looking at fish communities, macro-invertebrates, algae. Looking at all ten contaminant groups on the TCW list. EPA's CADDIS program looking at decline in smallmouth bass.
7. USGS (Blazer) : Tagging study to look at where the adults are spending majority of their time to tie with sources of contaminants. Still seeing high herbicide concentrations at certain times. Looking at sites in both Potomac and Susquehanna to compare the health of adults and young of the year. Tying in contaminant loads with nutrients. Coordinating with water quality monitoring to use the samples and analyze for hormone activity – to help understand whether the management activities

to reduce nutrients are also helping reduce emerging contaminants. Yellow perch females seem to be more affected in urban tributaries.

8. DE: Are we sure that biogenic hormones are the cause of intersex fish?
 - a. USGS: Yes, although that may not be the only cause.
9. MWCOG: are you linking effects to the land uses and sources?
 - a. USGS: Yes.
10. USGS (P. Phillips): Have looked at sources of hormones from CSOs. In other regions have looked at before and after upgrades of wastewater treatments plants, as well as effect of septic systems.
11. USGS (P. Phillips): Non tidal network of 125 stations monitoring nitrogen, phosphorus, and sediment. That is an opportunity to build on. Already collecting information about land use characteristics. USGS has been collecting pesticide information at several sites for 20 years, data is publicly available.
12. Nonylphenols have decreased due to retailers cutting back on sales.
13. Recommend showing where the responses have been positive, to help prioritize and help with communication.
14. USGS (Rattner): Conducted osprey study in 2001-13. Recently published findings related to 24 pharmaceuticals. Many were found in water, few in fish and only one in osprey.
15. MD Fisheries: Cooperative lab with national ocean service. Collected information on contaminants in sea turtles and marine mammals.
16. NOAA: Water quality, sediment quality, toxicity assessments, SAV research. Oxford lab is in the watershed. Status and trends program includes national databases.
17. UMBC: Studying PCBs, PAHs, pesticides, mercury. Research on bioavailability of pollutants. Using this bioavailability understanding to use controls to reduce impact of exposure. Fish monitoring with MDE for fish consumption advisories.
18. EPA Office of Water: sampling rivers and streams, wetlands, lakes, coastal. Water column, community abundance, tissue contamination, sediment contaminants and toxicity in the coastal survey. Focused on the first 5 contaminants, moving toward surveying for emerging contaminants as well.
19. EPA Air Protection Division has research on bromides in drinking water.
20. Anacostia Watershed Association: Advocacy group focusing on the known toxic sites on the Anacostia River.
21. MWCOG: Note that some data is available as snapshot, some available as a trend.

Discussion of next steps and recommendations

1. MWCOG: Are the contaminants listed in any particular order?
 - a. Rationale was to focus on the widespread (water, sediment, fish tissue) and most severe contaminants
 - b. PCBs, PAHs. Mercury, some herbicides
2. PADEP: Will be difficult to understand the extent of certain contaminants until a more complete database is available showing cause and effect.
3. MWCOG: Recommend defining the research priorities without trying to meet regulatory requirements.
 - a. PADEP: However, if it is not regulatory than the driving factor will be a lawsuit.
4. FWS: Recent study showed fish populations degrade as soon as 10% impervious is reached. Recommend exploring if there is a way to tease out the cause.

5. MWCOG: Recommend group members define their top three priorities.
6. MWCOG: Is there need for additional PCB research?
 - a. UMBC: Gap is the link from PCB sources to the fish. There aren't major superfund sources in Anacostia, rather lower concentrations over a large area.
 - b. Would there be a benefit of doing a sewershed analysis to figure out sources?
 - c. Members described various examples of inadvertent PCB production in the watershed.
7. FWS: Recommend identifying additional priorities beyond PCBs based on the effects.
8. USGS: Can the DE characterization of PCB sources help us in the CB region?
9. Note that each water body will be different. There will be different source types, how do they translate to the effects?
10. AgWG coordinator: Wastewater residuals are often being applied in agricultural fields. which is effectively transferring the contaminants to another setting. Addressing the source itself will be more effective than filtration.
11. MWCOG: Recommend looking at the sources: human vs. sediment
12. Note that addressing toxics will be different from nutrients and sediment. Not evenly distributed on the landscape, and there are more compounds.
13. Note that sediment BMPs may be good or bad for toxics depending on how clean the sediment is.
14. Compilation of successes stories will be critical.
15. WVA asked that fish kills and relation to algal toxins also be part of the research agenda.

Summary

1. Focus first on areas where fish and wildlife have been degraded and human health concerns.
 - a. TMDLs that have been issued
 - b. Fish consumption advisories
2. Then look at the correlations to the contaminants causing the effects.
 - a. Mixtures will make more difficult
3. Identify sources and inputs of the contaminants.
 - a. Make connections with nutrient and sediment sources
 - b. Take advantage of TMDLs that have been issued
4. Provide implications for using nutrient and sediment BMPs to reduce contaminant effects
 - a. Work with policy and prevention group
 - b. Compile success stories
5. Research will build on existing research efforts.

Overall Meeting Attendance:

David Montali, *WV DEP*

John Schneider, *DNREC*

Marel King, *CBC*

Ann Swanson, *CBC*

Rod Kime, *PA DEP*

Joshua Rodriguez, *DDOE*

George Onyullo, *DDOE*

Mark Richards, *VA DEQ*

John Kennedy, *VA DEQ*

Steve Early, *MD DNR*

Bruce Michael, *MD DNR*
Sherm Garrison, *MD DNR*
Dinorah Dalmasy, *MDE*
Len Schugam, *MDE*
Barnett Rattner, *USGS*
Joel Blomquist, *USGS*
Scott Phillips, *USGS*
Pat Phillips, *USGS*
Vicki Blazer, *USGS*
Greg Allen, *EPA CBPO*
Dianne McNally, *EPA R3 WPD*
Michelle Knabb, *EPA R3 WPD*
Angie Garcia, *EPA R3 WPD*
Evelyn MacKnight, *EPA R3 WPD*
Cathleen Van Osten, *EPA R3 APD*
Ellen Schmidt, *EPA R3 APD*
Jacqueline Guerry, *EPA R3 LCD*
Humane Zia, *EPA R3 ORC*
Renee Searfoss, *EPA R3 EAID*
Treda Grayson, *EPA HQ OW*
Fred Pinkney, *FWS*
Dennis McMenamin, *DHS*
Ian Hartwell, *NOAA*
Ruth Berlin, *MD Pesticide Network*
Lindsay Dodd, *DE-MD Agribusiness Association*
Patrick Fanning, *VA Municipal Wastewater Agencies*
Dan Smith, *Anacostia Watershed Society*
Lori Baranoff, *Anacostia Watershed Society*
Dottie Yunger, *National Church*
Joe Rieger, *Elizabeth River Project*
David Flores, *Blue Water Baltimore*
LJ Ingram, *Chart, LLC*
Emily Russell, *VA Conservation Network*
Upal Ghosh, *UMBC*
David Velinsky, *Drexel University*
Mark Dubin, *CBP Agriculture Workgroup*
Tanya Spano, *CBP Wastewater Treatment Workgroup*
Norm Goulet, *CBP Urban Stormwater Workgroup*
Mary Gattis, *LGAC*
Jessica Blackburn, *CAC*
Samantha Watterson, *CRC/CBPO*
Emma Giese, *CRC/CBPO*

Policy and Prevention Breakout Session Attendance:

Greg Allen, *EPA CBPO*
Dan Smith, *Anacostia Watershed Society*
Joshua Rodriguez, *DDOE*
Dinorah Dalmasy, *MDE*

Len Schugam, *MDE*
Mark Richards, *VA DEQ*
Jacqueline Guerry, *EPA R3 LCD*
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Research Breakout Session Attendance:

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