

New River PCB TMDL Technical Advisory Committee

Radford Public Library

May 26, 2016

1:30 – 4:30 p.m.

AGENDA

Welcome and introductions (Irina Calos)
Role of the Technical Advisory Group & Public Participation (Irina Calos)
Problem Identification (Mary Dail)
 Fish Consumption Advisory
 2004 Source ID Study
2010-2014 PCB Monitoring and Results (Mary Dail)
PCB TMDL Development (Mark Richards)
 PCB TMDL overview (Mark Richards)
 TMDL Endpoints (BAF Approach) (Mark Richards)
 Model Development (Wesley Tse)
TMDL Implementation Approach (Mark Richards)
Timeline/next meeting (Mark Richards)
Adjourn

ATTENDEES

Technical Advisory Committee Members:

Lawrence Hoffman (CHA Consulting)	Don Orth (Virginia Tech)
Ryan Hendrix (Christiansburg Wastewater Treatment Plant)	Llyn Sharp (riparian landowner)
Clarke Wallcraft (Pepper's Ferry RWTa)	Samuel Kovach (New River Conservancy)
Vickie Houk (Friends of Peak Creek)	Rick Roth (Friends of the New River)
Cheri Strenz (Friends of Claytor Lake)	Ashley Hall (Stantec—representing VDOT)
Eric Gates (Celanese)	John Burke (Town of Christiansburg)
Michael Gottfredson (New River Valley Regional Commission)	Kafi Howard (Town of Blacksburg)
Doug Burton (Montgomery County)	Lauren Grimes (Virginia Tech MS4 Program)
	Pete Huber (Pulaski County)
	Jay Stewart (BAE Systems)

Project Consultants (Virginia Tech Biological Systems Engineering): Brian Benham, Karen Kline, Wesley Tse, Gene Yagow

Public Participants: Ann Marie Gathright (Environmental Standards, Inc.)

Department of Environmental Quality: Mary Dail—Blue Ridge Regional Office (Roanoke), Martha Chapman—Southwest Regional Office, Mark Richards—Central Office, Larry Willis (Blue Ridge Regional Office (Roanoke), Rob Breeding—Central Office, Greg Anderson (Blue Ridge Regional Office (Roanoke)

Facilitator: Irina Calos, Virginia Department of Environmental Quality, Central Office

Meeting Summary

Irina Calos welcomed the Technical Advisory Committee (TAC) Members and the Public Participants. She asked everyone to introduce themselves. TAC members, project consultants, DEQ staff, and public participants introduced themselves and explained their affiliations and interests in the watershed. Irina explained the collaboration process and guidelines including the requirement that this meeting summary would serve to document this public meeting, and that the minutes had to be posted on the Virginia Regulatory Town Hall within 10 business days. Recording of the proceedings is permissible. She outlined the Freedom of Information Act policies the group is required to follow, including precautions about discussing the business of this TAC when three or more people are gathered (either formally or informally) and using care not to discuss the TAC business in emails among three or more parties.

Mary Dail (DEQ) reviewed the agenda and overview. She described the Public Informational Meeting held in Radford on April 5 and discussed the project proceedings to date. She noted that researchers from Virginia Tech Biological Systems Engineering had been hired to produce the TMDL reports and to do the modeling. She presented a PowerPoint titled "[New River PCB TMDL: Problem Identification and Monitoring Data](#)".

Don Orth: Was West Virginia invited to participate?

Mary noted that the New River Conservancy represented some of West Virginia's interests but that DEQ has not reached out to the state. TAC members agreed it would be beneficial to do so.

Mary went on to describe the 2004 PCB Source Investigation.

Llyn Sharp: Were all the sample sites downstream of Claytor Lake?

Mary confirmed that sample sites included in the 2004 Source Investigation related to the original Virginia Department of Health fish consumption advisory and therefore focused on areas downstream of Claytor Lake. Mary then presented the sampling approach that began in 2010 to inform the TMDL. Martha Chapman confirmed that part of the recent sampling effort, data collection occurred in the Upper New River. The handout of raw data tables was distributed and Mary described the findings compared to Virginia's Water Quality Standards.

Llyn Sharp: Were any of the sampling locations near the quarry in the watershed near Claytor Lake Dam?

Mary stated the data was collected below the Little River Dam and below the Claytor Lake Dam. The area near the old quarry is being considered for additional sampling. She described the elevated levels of PCBs in Peak Creek and Wolf Creek, helping to hone in on sources, outlining the conclusions from the 2010-2014 sampling. She demonstrated the Mapping Tool developed by DEQ that indicates the basic information that is available at each sampling point in the watershed. Mary opened the floor for questions.

Ashley Hall: What assumptions were made about background concentrations of PCBs? What statistical breakpoint(s) are you using?

Mary replied that the comparison she was making referred to the 2004 study and a general observation was that a couple of sites were elevated compared to the rest of the sampling points. Mark Richards (DEQ) described the general background concentrations that do not account for hotspots. He said that 100 picograms per liter is a rough estimate of background levels in Virginia.

Kafi Howard: What about ongoing generation of PCBs?

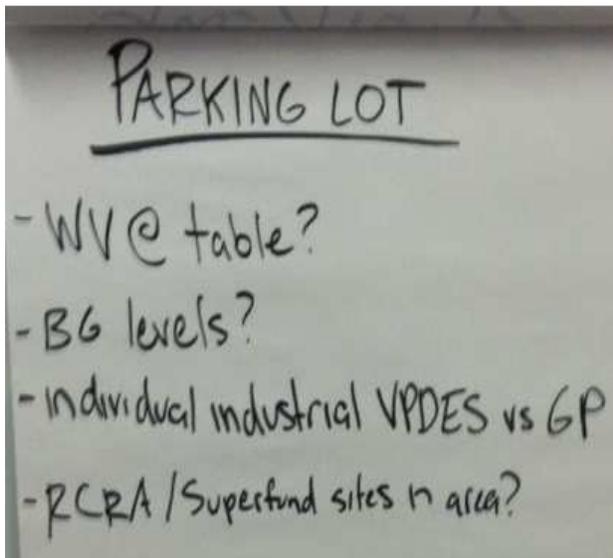
Mark answered that they discovered some particularly unusual or rare PCBs that aren't known in common Aroclor mixtures. Some pigments (Diarylide Yellow) that are still being manufactured have PCBs like PCB11 in them. PCB11 can be found in products like yellow "sticky notes". PCB 206, 208, and 209 are associated with white pigment from titanium tetrachloride production used in some paint.

Clarke Wallcraft: Did DEQ use "clean sampling" methods for collecting PCB samples?

Mark confirmed that DEQ did use clean methods (i.e., grab samples are collected directly into QC-verified PCB free bottles, using clean gloves and minimizing bottle cap/bottle exposure to the extraneous conditions).

Clarke went on to say that he appreciated DEQ's acknowledgement that some PCBs pass through treatment plants and are not generated by either the plants themselves or the treatment process.

Irina set up a "Parking Lot" for tangential issues that can be further discussed at subsequent meetings or answered in a "Frequently Asked Questions" (FAQ) document.



Will West Virginia be participating in the development of this TMDL? The New River is impaired all the way to the border as it enters West Virginia.

Regarding atmospheric deposition and water column concentrations, what are considered "background levels"?

Will TMDL allocations be assessed differently for industrial Virginia Pollutant Discharge Elimination System (VPDES) permittees than for General Permit permittees?

Are there any Resource Conservation and Recovery Act (RCRA, 1976) or Superfund (CERCLA, 1980) sites in the TMDL watersheds?

Mark Richards provided a presentation titled "[PCB TMDL Overview](#)".

Mark opened the floor to questions.

Vicki Houk asked three questions:

1. What is an outfall?

Mark provided the example of a discharge pipe and noted they were places where the water from sewer systems or overland runoff ran to a common discharge point.

2. What is an MS4?

Mark responded "municipal separate storm sewer system", and described their basic requirement.

3. When talking about NJ study, can you clarify what the gas absorption aspect is?

Mark responded that gaseous phase PCBs can flux from contaminated areas, become airborne and then deposit back to the terrain. This mode of deposition to the land surface is in addition to wet and dry atmospheric deposition.

Don Orth: Were there targeted areas for sampling concentrations like above dams where legacy sediments would be expected?

Mark talked about Niagara Dam in Roanoke as a good example of having legacy sediments. Don suggests focusing sampling in targeted legacy sediment locations (e.g. at Narrows above/around dam on Wolf Creek, at the Little River Dam, at Byllesby Dam) to capture the most problematic sites.

Ashley Hall: Are there any CERCLA/RCRA or Superfund sites in the watershed?

Mark said he wasn't aware of any CERCLA sites. Mary added that she believed Intermet and Celanese were evaluated under RCRA Corrective Action. The status of those projects was not immediately known.

Lawrence Hoffman: Was cleanup of the old quarry site not a regulatory requirement?

Mary suggested that cleanup was required to TSCA levels which isn't protective of current fisheries and human health standards.

Clarke Wallcraft: Have permits issued to Intermet been suspended?

Mary said she believed the permits were allowed to expire but there were no suspensions that she was aware of. Clarification will be sought from DEQ's water Permitting Program.

Ryan Hendrix: Are facilities of concern regulated by VPDES or GP?

DEQ answered that they fall under both types of permits depending on the facility.

Lawrence Hoffman: Is the data on the handout corrected data?

Mark said that it was.

Mark discussed the state water quality criteria and described the BAF process that has been employed in the development of this TMDL (see "[PCB TMDL Endpoints](#)" starting on slide 13).

Mark opened up the floor for questions.

Ashley Hall: Are there different water quality criteria for each tributary?

Mark stated the site-specific numbers that were described in the presentation are not "criteria" in the official sense of the word. These are benchmark levels calculated for the specific geographic areas that will serve as TMDL modeling endpoints considered protective for that waterbody, but they are not sanctioned criteria.

Don Orth: Three different species were used for the endpoints in the Potomac River basin, one for the Virginia portion, one for Maryland, and one for Washington, DC. Is it OK to use different species?

Mark confirmed that the use of three different species makes sense, because the methodology is intended to be site-specific so one species might be a better indicator of the degree of contamination in one part of the river or tributary, but another species may be more appropriate for another location. The site-specific endpoints are developed based on empirical data collected in those particular areas/tributaries.

Ashley Hall: One source indicates that 0.00064 micrograms per liter is a criterion for PCB levels. You mention 640 picograms. Is 640 picograms per liter the actual criterion for the state?

Mark: Yes! Older methods couldn't detect low levels (i.e. such as the criterion) as we can today.

Cheri Strenz: How are sampling sites chosen and how do the ones you used account for Claytor Lake?

Mark Richards: We know Claytor Lake is contaminated with PCBs based on fish tissue collections from the lake. In general, impoundments are considered "sinks" for hydrophobic contaminants like PCBs and not contributing sources. The primary sources are the "upper" New River, Peak Creek, and atmospheric deposition. Controlling upstream sources and controlling those in Peak Creek should keep "new" contamination from entering Claytor Lake.

Wesley presented "[Modeling PCBs in the New River](#)" that describes the role of modeling in the development of the TMDL.

Llyn Sharp: Has there been sampling upstream of the study watershed?

Mark said yes, that fish samples upstream of the TMDL watershed had concentrations below Virginia Department of Health's consumption threshold and DEQ's screening value, while fish within the study watershed had concentrations that were above these levels.

John Burke: Did DEQ do sampling upstream and downstream of the watershed boundaries to determine where the actual impairment begins?

Mark confirmed that DEQ had done so.

Clarke: Can you provide clarification on the air deposition concentration numbers that were input into the model?

Wesley said the number comes from research on air deposition of PCBs in the Chesapeake Bay. The numbers from the literature, due to their proximity to this watershed are considered to be the best available data.

Rick Roth: Do we plan to check the actual atmospheric deposition in this watershed since the Chesapeake Bay study area is very different from here?

Mark explained that we did not have the funds to perform an atmospheric study in the watershed as this type of study is not routine. For example, DEQ, in partnership with scientists from VCU, Texas A & M University, and Rutgers University designed and submitted a proposal to obtain funding for such a study within the tidal James watershed. The proposed study was not funded. DEQ understands the need for this information but in lieu of data must default to literature based values.

Don Orth: Do we ever actually derive a PCB load into the water only?

Wesley said we will be calculating a water load. Karen pointed out that a sediment load will be calculated that allows PCB loads to be estimated.

Kafi Howard: Why focus on rail yards or "rail spurs"?

Wesley and Brian answered that train transformers from historic use are concentrated in maintenance areas. Leakage sources were more common in these spots than in places along the railways. We'll incorporate these data as point sources in the model.

Ashley Hall: Regarding instream sediment samples, do we have many?

Karen said that DEQ has sampled throughout the watershed and accounted for gaps in data. A significant number of sediment samples were taken, though only recent ones appear on the handout. (See actual data [here](#).)

Ryan Hendrix: Were wet and dry samples taken and incorporated into the model?

Mark said yes. Wet/dry and low flow sampling conditions were captured.

Llyn Sharp: asked about the map and the "Upper New River", why not use HUC so that we can communicate better?

Gene and Brian said the watersheds were subdivided based on the impairment segments.

Ashley Hall: What is the actual model you're using? HSPF? How are you dealing with the relationship between the sediment and PCBs in this model?

Wesley said they have parameters to model the rate of PCB adsorption/desorption to sediment, and can simulate the concentration of PCBs attached to sediment and the concentration of freely dissolved PCBs in the water.

Wesley said they set parameters based on attachment affinity, then modeled as sediment.

Ashley Hall: Can HSPF actually do this for you?

Karen said HSPF has a module that models PCB (chemical) sediment attachment/detachment.

Mark described the process for "[PCB TMDL Implementation](#)".

Kafi Howard: asked if the challenge will be with so many WWTPs in the watershed.

Mark described the solutions that some municipalities in NJ (Delaware River PCB TMDL) have developed to manage contaminated wastewater, and several have reduced their contamination levels.

Clarke described a cost of \$5000 per event for normal monitoring. Isn't it going to be cost-prohibitive to backtrack in order to determine which of the six entities delivering water to his facility may be partially responsible?

Mark suggested that the process is evolving and costs are considered when recommending options for contamination cleanup and reduction from point sources. Analysis on a per sample basis using the low level method is nowhere near \$5,000 (actually between \$700-\$1,000 per sample depending on the lab selected).

Vicki Houk: How much lead time will there be for the TAC can make recommendations on the draft TMDL?

Mark says a draft TMDL is anticipated by fall (November). BSE confirms that November is realistic and there are intermediate steps where we can solicit review and input on parts of the TMDL report from the TAC.

Ashley Hall: Will there be only the standard 30 days to review the draft TMDL?

Mary said on some past projects, the TAC had early access, so they were able to review the draft simultaneously with DEQ's internal review. Mark agreed that the TAC members should be able to review the draft early.

Clarke offered his concern that the TMDL will be very influential in shaping the Implementation Plan and wanted to make sure they had ample time to provide input. Mark responded that there won't be a formal Implementation Plan for this project.

Kafi Howard: Will there be an opportunity to modify aspects of the plan iteratively?

Mark mentioned the TAC will have ample opportunity to provide comments for consideration by DEQ. DEQ will certainly consider modifications that lead to improvements within the report.

Ryan Hendrix talked about pretreatment as an inflow and infiltration opportunity to reduce PCBs through permitting. Clarke and Ryan are very interested in seeing TMDL drafts as far in advance as possible. Mark brought up the final agenda item about timeline, and suggested that DEQ should be able accommodate ample time (e.g., 60 day comment period) to review the TMDL report chapters before the report is finalized by Virginia Tech.

Irina thanked the participants for their valuable input and closed the meeting.