

New River PCB TMDL 4th Technical Advisory Committee Meeting

Date: 25 January 2018

Location: Radford Public Library, Radford, VA

Time: 1:30pm – 3:30p.m.

Agenda:

- Welcome and introductions
- TMDL Refresher
- Explain comments received from May (5/9/2017) draft report
- Overview of how comments were addressed
 - Harmonic Mean Flow statistics
 - Modeled scenario/allocations
 - Compare/contrast revised allocations vs. allocations from May (5/9/2017) report
- Next Steps (Comment Period)

Attendees:

Technical Advisory Committee Members: Jay Johnstone (STANTEC), Eric Gates (Celanese), Dick Sedgley (Aqua Law), Megan Scott (VDOT), Clarke Wallcraft (Pepper's Ferry RWTA), Ashley Hall (STANTEC), Kafi Howard (Town of Blacksburg), Grady Devilbiss (Radford University Environmental Safety & Health), Michael Gottfredson (New River Valley Regional Commission), Katelyn Kast (VT Site and Infrastructure), April Connel (AEP Hydro Generation), G Kirkpatrick (Environmental STDS), John Burke (Montgomery County), Cathy Hanks (Friends of Peak Creek), Don Orth (VA Tech), Patricia Colatosti (Town of Christiansburg)

Public Participants:

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

Department of Environmental Quality: Lucy Baker – Blue Ridge Regional Office, Paula Main, Blue Ridge Regional Office, Mark Richards – Central Office, Rob Breeding – Central Office, Martha Chapman, Southwest Regional Office

Meeting Summary:

Mark Richards welcomed the Technical Advisory Committee (TAC) members and participants. He then asked everyone to introduce themselves and state their affiliation.

Mark gave a quick recap of the timeline of TAC meetings for the project, May 26, 2016, January 19, 2017, and May 9, 2017. Mark explained it was necessary to hold a fourth TAC meeting to discuss comments received on the May 9th draft TMDL report, to provide DEQ's responses to the comments, and to explain how the comments led to subsequent changes to the TMDL.

Mark presented a review of the components of this TMDL including the fish consumption advisory issued by the Virginia Department of Health and noted the area below Claytor Lake is more heavily contaminated. Mark explained the PCB water quality criteria and that this TMDL study has used site-specific values to calculate a lower, more protective water quality value. He also explained that the West Virginia Department of Environmental Protection's water quality criterion of 44pg/L must be met at the West Virginia/Virginia boundary. This TMDL has two endpoints, the fish tissue threshold and the water quality criterion.

TMDL Study Summary: DEQ conducted sampling from 2010 to 2015 that has been used for source identification and model calibration/validation. Fish tissue, water column at base and high flows, and sediment samples were collected. This sampling helped to identify hot spots and was performed concurrent with Virginia Pollution Discharge Elimination System (VPDES) facilities generating PCB data. The data were also crucial in the development of the TMDL model.

Mark showed a plot of water column PCB concentration that summarized the monitoring data.

Mark then provided an overview of the model with an explanation of how it was used. Watershed inputs are used to develop the model. The model then simulates watershed processes such as flow, pollutant fate and transport. The model is calibrated then simulated pollutant levels are compared with water quality standards. The model allows for evaluation of multiple reduction scenarios and eventually a complete TMDL. Outputs from the model aid in developing plans to achieve pollutant reductions.

Mark continued the presentation discussing the relative daily contributions by source. The table indicates the most heavily contaminated area as the Lower New River.

Question from TAC – Clarke Wallcraft: What are the footnotes on this slide (slide 10)?

Mark: Not sure, but this table was taken directly from the TMDL document and the footnotes are explained in Chapter 5, Table 5-6 of the report.

Mark then spoke to the uncharacterized sources, explaining they are a mixture of all source categories including point source loading that may have been underestimated, contaminated sites inadequately remediated or unknown PCB spill sites, and localized atmospheric deposition.

Mark went on to explain the implementation process including pollutant minimization plans for point sources and source “fingerprinting” for nonpoint sources.

In the next part of the presentation, Mark began reviewing the comments received by DEQ in June 2017 on the draft TMDL. Both the Virginia Municipal Wastewater Authority (VAMWA) and the Virginia Municipal Stormwater Association (VAMSA) submitted comments.

The first comment questioned the application of West Virginia’s WQC or endpoint (as applicable to the lower New River) within the TMDL study. Concerns were raised about allowing 0% exceedance of TMDL endpoints and the commenter contended that instream PCB data should be applied as long term averages. Mark explained there is federal regulation that says the State shall take into consideration the water quality standards of downstream waters and presented a table with details on West Virginia’s water quality standard.

The next comment questioned the use of critical conditions for setting TMDL allocations and that the use of harmonic mean flow is more appropriate to reflect long term averages. The commenters also mentioned the Potomac River PCB TMDL used harmonic mean flow and the New River PCB TMDL should be consistent.

Mark explained that in response to these comments DEQ asked BSE to model different allocation scenarios using the harmonic mean flow. Different allocation scenarios were modeled using harmonic mean flow at different instream exceedance rates. Scenarios were run at 50% (i.e., long term average) and 10% exceedance rates. The WVDEP criterion requires 0% exceedances, so scenarios for the Lower New River and its tributaries (Walker and Stony Creek) were set at 0% exceedances.

At the 50% (i.e., long term average) exceedance rate, Reed Creek required no reductions. This presents a problem since the fish are impaired and no plan would be required to address the impairment. The more protective $\leq 10\%$ exceedance rate was used because it accounts for a reduction in observed magnitude when the endpoint is exceeded, it reduces the PCB load to Claytor Lake, and it is consistent with DEQ’s assessment approach for listing/delisting impaired waters. This resulted in revised TMDLs for Reed Creek, the Upper New River, and Peak Creek.

Mark passed out a plot to illustrate the different scenarios. More specifically, the plot which included a time series with different allocation scenarios, was requested by VAMWA in advance of the TAC 1/25/2018 meeting.

Question from TAC – Dick Sedgley: Can you explain this?

Mark: This shows how much reduction is needed to meet the daily concentration at the boundary condition. The model gives 24 values per day and the average daily output value is used. It also shows both the 50% and 10% exceedance scenarios. The

revised TMDL require a $\leq 10\%$ exceedance of the endpoints for Reed Creek, The Upper New River, and Peak Creek.

Comment from TAC- Dick Sedgley: Disagrees with the interpretation of West Virginia's criterion where it states: " Conc. not to be exceeded".

Mark: DEQ has consulted with West Virginia and EPA on this matter and received no indication that the wording is to be interpreted in any other way than as 0% exceedance.

Mark explained the revised TMDLs use a 1-year allocation period representative of the harmonic mean flow. However, WV has not yet approved use of the harmonic mean flow for water quality regulation. There are interim TMDLs using 5-year allocation periods for Walker Creek, Stony Creek, and the Lower New River in appendix H of the TMDL report.

Mark continued the presentation, explaining the harmonic mean is calculated from the entire observed flow record for a USGS gage. A comparison was made of the harmonic mean flow of the last 15 years and the year with the smallest absolute difference to the observed record harmonic mean flow is the harmonic mean flow year (HMFY). Flow and PCB inputs from tributaries affect the percent exceedance of TMDL endpoints on the mainstem of the New River. The same HMFY allocation period used on the mainstem (both Upper New and Lower New) is also used for the tributaries. The Upper New River HMFY is used for Reed Creek and the Lower New River HMFY is used for Walker Creek and Stony Creek.

Mark then began a review of the PCB allocation scenarios for each TMDL segment.

In order to meet 0% exceedance rate at the boundary condition, there was a need to reduce loadings coming from Claytor Lake. Mark explained that this TMDL has been shared with EPA and since there is a reduction for Claytor Lake, they would like to see a TMDL equation. To make understanding the allocation scenarios easier, Mark explained that the existing condition refers to PCB sources modeled with calibration loads and the baseline condition refers to PCB point sources adjusted to the permitted limits.

Mark then showed a slide with the full TMDL equations for each segment.

Next, Mark reviewed the interim TMDLs for Walker Creek, Stony Creek and the Lower New River. The interim TMDLs apply to only these watersheds because they are impacted by the WVDEP criterion.

The next slide showed a plot of the alternate allocation runs (10% and 50% [i.e., long term average]) for the Lower New River. Mark explained this slide was provided as a visual example only since it did not conform to the West Virginia WQC. This plot was also requested by VAMWA in advance of the TAC meeting.

Question from TAC – Dick Sedgley: Is this dotted yellow line the same as the last plot?

Mark: The blue line represents the 10% exceedance scenario; the orange represents the 50% exceedance scenario (i.e., long term average); the dotted yellow line represents the TMDL allocation (0%) scenario. 222pg/L was retained for calculating the wasteload allocations.

Brian (BSE): We will share/post to the DEQ website the data used to develop this plot.

Comment from TAC – Clarke Wallcraft: I want to go on record to say I have concerns about reasonable assurance of this TMDL. I feel the report doesn't adequately address reasonable assurance.

Mark: DEQ believes that reasonable assurance is adequately addressed in the report. Considerable time and effort was spent addressing this issue during the 3rd TAC meeting.

Mark explained that during the next permitting cycle a special condition will be added to permits with a WLA that will request more PCB monitoring. If effluent is too high, a PMP will be required.

Mark thanked everyone for their participation and closed the TAC meeting by saying the 30-day public comment period begins today and ends on February 26.