New River PBC Total Maximum Daily Load Study – 3rd Technical Advisory Committee meeting

Radford Public Library, Radford, VA

9 May 2017

1:30 p.m. – 4:00 p.m.

Agenda:

1. Welcome and introductions (DEQ)
2. Review the role of the Technical Advisory Group & public participation (DEQ)
3. Meeting #2 recap – 1/19/2017 (DEQ)
    a. Responses to Comments
4. PCB TMDL Model Updates (BSE)
5. Implementation Strategies (DEQ)

Attendees:

Technical Advisory Committee Members: Laura Walters (New River Conservancy), Cheri Strenz (Friends of Claytor Lake), John Burke (Town of Christiansburg), Eric Gates (Celanese), Vicki Houk (Friends of Peak Creek), Lauren Keim (VT-SID), Ashley Hall (Stantec on behalf of VDOT), Kafi Howard (Town of Blacksburg), Michael Gottfredson (NRV Regional Commission), David Ridpath (City of Radford), Ryan Hendrix (Town of Christiansburg), Clarke Wallcraft (Pepper's Ferry Regional Wastewater Treatment Authority), Lawrence Hoffman (CHA), Jim Laine (WVDEP), Scott Woodrum (Montgomery County), Rick Roth (Friends of New River)

Public Participants: Megan Scott (VDOT), Robert Graham (Pepper's Ferry Regional Wastewater Treatment Authority), Mindy Ramsey (WVDEP)

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

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

Meeting Summary:

Mark Richards welcomed the Technical Advisory Committee (TAC) members and participants. He then asked everyone to introduce themselves and state their affiliations. Mark recapped the previous meetings regarding the New River PCB TMDL and provided an overview of the role of the TAC. Mark explained there had been an oversight on DEQ's part to meet West Virginia's water quality criterion (45 pg/L) at the state boundary. As a result of this oversight, some of the TMDL numbers have changed especially for the Lower New River which BSE will explain later in the meeting.

Question from TAC – Lawrence Hoffman: Why such a large difference between Virginia and West Virginia?

Mark – Virginia's criteria is based on a human health criteria at a risk level of 1 in 100,000 and West Virginia's criteria, derived in the late 1990s, is based on a risk level of 1 in 1,000,000.

Mark explained a fish consumption advisory for PCB contamination on parts of the New River prompted the development of the PCB TMDL on the New River and some of its tributaries. A source identification study was conducted by the Blue Ridge Regional Office in 2004. Up to 80 facilities were surveyed and samples were collected at 18 facilities and two streams. The results of this study were used to inform PCB monitoring for TMDL development which began in 2009. The contribution by TMDL source category table is located in Chapter 5 of the TMDL document.

Mark also explained there is some uncertainty regarding sources in the Reed Creek and Upper New River portion since this area hasn't undergone such an intensive source screening as the rest of the watershed. However, the PCB levels in fish tissue are lower in these areas.

Question from TAC – Clarke Wallcraft: Are MS4 permits calculated in the Waste Load Allocation?

Mark – Yes

Mark continued the presentation describing the use of uncharacterized versus unknown sources. The uncharacterized sources are a mixture of all source categories and may contain loading from point sources that has not yet been captured.

Question from TAC – Clarke Wallcraft: What was the driving force behind using uncharacterized versus unknown? Has EPA been given the opportunity to review this language?

Mark – Uncharacterized is still unknown and will not change if the TMDL is approvable. Upon completion of the draft TMDL document, it will be sent to EPA for preliminary approval prior to approval by the State Water Control Board.

Mark then began going over the responses to comments from TAC members following the last meeting. There is a handout available that includes the comments and responses from DEQ which are also available online on the New River PCB TMDL webpage.

The first comment concerned a low quality model and insufficient data. Mark explained that the model used for the New River PCB TMDL adequately represents observed data.

The second comment concerned an incomplete source assessment because of the unknown sources. Mark explained the loads were calculated based on existing contaminated sites. Other PCB TMDLs, including the Potomac and the Roanoke also call for reductions to unknown sources at 86-98% and 99%.

Question from TAC – Ashley Hall: Is there a precedent for attributing such a large load to unknown sources because it has been used in the past? VDOT is asking for more and better data in developing TMDLs.

Question from TAC – Clarke Wallcraft: For the Potomac River PCB TMDL, do we have additional data that identifies any of the unknown sources.

Mark – Not at this point. There has been some additional municipal screening but the process has changed since 2007.

Question for TAC – Lawrence Hoffman: Have implementation plans been developed for the Roanoke and Potomac?

Mark – No

Question from TAC – Clarke Wallcraft: Are we dependent on method 1668 to determine compliance for VPDES permits?

Mark – DEQ is not requiring water quality based effluent limits (WQBELs) but rather a BMP based approach so it's not a limitation per se. The objective is to reduce the load in the permits which is determined using method 1668. Typical compliance methods like method 608 are not sensitive enough to detect PCBs in effluent and therefore cannot show load reductions.

Question from TAC – John Burke: Rail yards are included but not linear rail lines?

Mark – Linear rail lines are not included because they are not regulated by the VPDES program.

Comment from Ashley Hall - In the TMDL, the fish threshold BCF translates to a number for the water quality standard. It is difficult to determine what the water quality standard is for any given stream in the New River PCB TMDL.

Mark- DEQ is using site specific data to calculate the endpoint for each individual stream for the New River PCB TMDL. This approach is more scientifically defensible than using the WQC as it accounts for all PCB exposure pathways including trophic transfer through the food chain. The BCF only accounts for exposure over the gills of fish. Mark defended this approach as being more protective of the impaired waters and provided greater reasonable assurance that the fish consumption use will be restored.

Comment from TAC – John Burke: There are concerns over using West Virginia's criteria.

Mark – This is a promulgated standard and we have to meet West Virginia's criteria at the state line.

Comment from TAC – John Burke: We are really looking for the reasonable assurance that this will actually address the concerns.

Mark – Based on issues that have been raised by the TAC, he TAC has really helped take this TMDL to the next level as it relates to implementation. Having an implementation plan opens more opportunities for potential funding including §319 finding. DEQ is willing to explore other options and to go beyond what has historically been done in other watersheds. The New River PCB TMDL includes iterative adaptive implementation and is not really a candidate for a phased TMDL.

Question from TAC – Clarke Wallcraft: How would an MS4 meet its WLA?

Mark – Looking at the land use and trying to form a historical basis is a good starting point. Ideally screening would include monitoring outlets and working upstream to identify potential sources.

Wesley Tse (BSE) presented the updates to the draft report. A new concept introduced in this PCB TMDL is a WLA for future conditions. This is to allow room for facilities that may have been excluded or newly identified. This will also help avoid a modification of the TMDL if new sources are identified. The future condition has been included within the total WLA for each segment. This will be especially helpful in the Reed Creek and Upper New River watersheds that have not been screened to the extent as other segments.

Wesley then explained the load from MS4 permits is calculated from the permitted area, not the stream outlet. Reductions to the MS4 area are dependent on uncharacterized, contaminated sites, and rail site reductions.

Question from TAC – John Burke: What is background atmospheric deposition?

Mark and Wesley explained the uncharacterized sources include atmospheric deposition. However, the loading from atmospheric deposition is much lower than we thought to the New River watershed. We started with literature based values derived from the late '90s in the Chesapeake Bay region which proved to be too high since the model could not be calibrated at base flow condition.

Wesley also explained the new allocation reductions which affect the endpoint for the Lower New River outlet at the state boundary. Additional reductions are needed in the Walker Creek and Stony Creek watersheds, which are tributaries to the Lower New.

Walker Creek's new endpoint to meet the West Virginia Department of Environmental Protection's (WVDEP) criterion is 307 pg/L. There are no known permitted sources in this watershed.

Stony Creek's new endpoint is 56 pg/L. This number was back calculated from the new WLA and is necessary to meet the West Virginia criterion. The loads from uncharacterized sources and from known contaminated sites now require a 98% reduction.

The Lower New River's endpoint is 45 pg/L. The WLA for permitted dischargers in the lower New River was kept at the current BAF calculated concentration of 222 pg/L. However, the loads from uncharacterized sources, contaminated sites, and railyards now require a 99% reduction.

The requirement for a 30% reduction from Claytor Lake was also discussed. By meeting reductions from Peak Creek and the upper New River, the 30% reduction from Claytor Lake should be attained.

Comment from TAC – Clarke Wallcraft: There is no equation for Claytor Lake so if loadings from Peak Creek and the Upper New could be reduced, the load for Claytor Lake could be reduced.

Mark – Yes, that is the conclusion from this study.

Comment from TAC - Is sediment loading from Big Reed Island Creek greater than the load from Peak Creek.

Mark – No.

Question from TAC – Rick Roth: Why had Little River not come up?

Mark – it is very rural and not impaired for PCBs. Little River was screened (3 samples) for PCBs and all samples were less than 200 pg/L.

Lucy Baker (DEQ) presented information on the implementation of the PCB TMDL. She explained for VPDES point sources if the existing condition is greater than the WLA the permittee will submit a Pollutant Minimization Plan (PMP) to DEQ. The PMP outlines how the facility will try to backtrack and identify sources, re-evaluate the baseline load, and remediate.

Lucy also explained a PMP for an MS4 permittee could go two routes. A top down approach, where you identify high–risk industrial sites, search existing databased for Superfund and spill information, and collect data to confirm contaminated sites. The other option is a bottom up approach where you can collect data and use "fingerprinting" analysis to identify potential sources.

Lucy explained using "fingerprinting" for nonpoint sources where you identify a specific pattern or "fingerprint" of congeners that could be indicative of a pollution source. The Blue Ridge Regional Office has done some experimentation with EPA's Positive Matrix Factorization Model (PMF) in the Peak Creek watershed.

The PMF is a really easy model to use with plots of each factor or fingerprint. Lucy said this method could be used to detect uncharacterized sources, investigate hot spots and deliberate monitoring locations.

Funding options for implementation include the Virginia Emergency Responses Fund, EPA Section 319 funds, and the Virginia State Revolving Fund.

Question of TAC – Clarke Wallcraft: Do we know budget numbers for the VEERF and 319 funding?

Mark – Not right now, but believes there may be other funding sources related to different programs within DEQ.

Mark also reiterated the final public meeting is tomorrow night at Radford University and the public comment period on the draft TMDL ends on June 9.

Comment from TAC – Clarke Wallcraft: In section 6.6.1 of the draft, there is to be no daily average that is allowed to exceed the outlet at the Lower New River. This is not representative of anything realistic and should be an annual load and not daily.

Mark – It is really hard to justify exceedances on a contaminant that bioaccumulates. This will require further investigation and will be discussed with EPA.

Question from TAC – Clarke Wallcraft: Is the comment in other PCB TMDLs?

Mark – Not that I recall.

Meeting materials and project documents are posted on DEQ's New River PCB TMDL webpage:
http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/PCBTMDLs/NewRiverTMDLPCB.aspx