

Lewis Creek Technical Advisory Committee Meeting #2

June 29, 2021

Attendees

Mark Hollberg, VADCR	Fred Blanton, Shenandoah Green/Lewis Creek Adv. Com
Randolph Bertin	Carolyn Dull, Staunton City Council
Tom Shapcott, Friends of Middle River	Rachel Winter, Headwaters SWCD
Meade Anderson, VADEQ	Rebecca Joyce, Central Shenandoah PDC
Sara Bottenfield, VADEQ	Felicia Fred, Draper Aden Associates
Howard Kato	Dallin Walker, VADEQ
Courtney May, City of Staunton	Pete Kesecker, City of Staunton
Karen Kline, VT BSE	Emily Smith-McKenna, VT BSE
Ashley Hall, Stantec	Tom Yeago, Lewis Creek Water Quality Adv. Comm.
Courtney Marquette, VADEQ	Nesha McRae, VADEQ
Mark Richards, VADEQ	Wendy Eikenberry, Augusta County
Richard Sedgley, VAMWA	Brian Benham, VT BSE

Meeting Summary

Mark Richards (DEQ) began the meeting with introductions and objectives for the meeting. The audience was polled as to the extent of their involvement in the project to date:

Attended the first public meeting:	13%
Attended public and technical advisory committee meetings:	60%
This is my first meeting but I am familiar with the project:	13%
This is the first I am hearing of it:	0%

Mark moved on to provide a brief re-cap of the TMDL development process. He shared a map of the Lewis Creek watershed indicating the segment of Lewis Creek identified as impaired due to PCBs in the stream and in fish tissue. Mark discussed the VA Department of Health's criteria for issuing fish consumption advisories along with DEQ's criteria for listing streams as impaired by PCBs. Mark explained that if the Department of Health has issued a fish consumption advisory for a water body due to PCBs in fish tissue, DEQ will list that stream as impaired. Additionally, if DEQ's water quality threshold of 640 pg/L is exceeded in two or more water samples, or if DEQ's fish tissue threshold of 18 ppb is exceeded in two or more fish samples, the stream is listed as impaired. Mark reviewed the timeline of the PCB impairment listing and subsequent TMDL development process for Lewis Creek to date, which ended with the first TAC meeting in February 2020. One participant asked whether parts per billion (ppb) and picograms per liter (pg/L) are equivalent. Mark explained that these measurements are not equivalent, and that pg/L is a much smaller unit than ppb (640 pg/L = 0.00064 ppb).

Mark and Nesha McRae (DEQ) introduced Felicia Fred with Draper Aden Associates to provide an update on the City of Staunton's recently awarded Brownfields grant from the Environmental Protection Agency (EPA). Felicia explained that Draper Aden Associates assisted the city with preparation of their grant proposal for the project. Their work to help the city introduce the Brownfields program to the community and prepare the proposal was done pro bono. Felicia explained that Brownfields are

properties that have the potential for expansion, beneficial reuse or redevelopment, but have not been redeveloped due to the potential presence of hazardous materials including any kind of pollutants, petroleum substances or other contaminants. Felicia provided an overview of the EPA Brownfields Grant program and explained that the City of Staunton applied for a community wide grant. This grant will be used to establish a Brownfields Program in Staunton. The city was awarded a \$300,000 grant for a 3-year period. This grant will be used to complete environmental assessments, conduct community outreach, and do some redevelopment and remediation planning. Felicia reviewed targeted areas identified for these assessments by the city including the Unifi Manufacturing Facility, the Chestnut Hills Shopping Center and the Nabisco Warehouse/Rose Time Scrap properties. The City of Staunton is currently working on submitting their application to EPA so that their funds can be put to use. Once the money is awarded, the city will issue an RFP to solicit a contractor to help them manage the funds. The funding will be used to develop a Brownfields inventory and to identify additional sites within the West End area. The city will also be able to conduct Phase 1 environmental site assessments of properties, which are essentially record searches of former and current site uses. If it is warranted, Phase 2 environmental assessments will be conducted, and will include environmental sampling from these sites. This information will be made available to developers who are interested in any of these properties. Felicia noted that at their most recent meeting in April, they conducted a survey of the local community to identify potential uses of these sites. Responses included a grocery store, a community center for seniors and students, or a park. One participant asked whether it can be assumed that the original proposal was submitted with the knowledge and blessing of the property owners of the three highlighted properties. Felicia responded that the property owners were aware and supportive of the inclusion of these sites in the proposal. The participant also asked what the expectation of these property owners is with respect to participation in the program. Felicia responded that there are no expectations beyond agreeing to allow the site assessment to take place. Felicia explained that the intent of this program isn't to assess these properties and place their owners on the hook for remediation efforts, but rather to realize the full potential of these properties for redevelopment by understand and removing barriers. The participant asked to what extent the PCB issue was included in the proposal. Felicia responded that it was not. The participant followed up asking whether the PCB issue can be included in the project now that it has been awarded. Felicia explained that the grant cannot be used to remediate PCBs if they are identified at sites in the target area through a Phase 2 assessment, and that the grant funds are limited to conducting site assessments and identifying contaminants present at sites in the target area. The City of Staunton could apply for a remediation grant through DEQ's Voluntary Remediation Program to address PCBs at these sites. Another participant asked whether the site assessments are looking for specific contaminants at sites, or if they are more of a general survey. Felicia responded that they are a general survey based on past uses of properties.

Cortney Marquette with DEQ's Voluntary Remediation Program provided the group with an update on remediation activities at the CSX site on Middlebrook Avenue. The site is the former Staunton Metal Recyclers property, which is contaminated by PCBs. The EPA has been involved with this site through its Toxic Substances Control Act (TSCA) program. EPA becomes involved in remediation efforts at sites where PCB concentrations exceed a threshold of 50 ppm. We are moving ahead with clean-up efforts at the site now. CSX and their consultant have put together a plan to remove 8,300 cubic yards of contaminated soil from the site. This area is a regulated floodplain. They are looking to place 5,500 cubic yards of clean soil back at the site. The reduced soil volume at the site will also reduce the risk for

erosion and downstream transport of contaminated soil. This plan has yet to be approved by EPA and may shift with respect to the extent of soil to be removed based on EPA review. The EPA is only addressing contaminated soil, concrete and light nonaqueous phase liquid (Inapl). Other contaminated media such as groundwater and surface water will be addressed through DEQ's Voluntary Remediation Program. Meade Anderson (DEQ) added that CSX has elected to enroll the site in DEQ's Voluntary Remediation Program in order to address contaminated media falling below EPA's threshold for the TSCA program.

Mark Richards provided an overview of the TMDL process to address PCBs, which includes a multimedia approach (air, land and water) that is used to develop a TMDL equation. Mark described how the TMDL endpoint is based on either a site specific target or the DEQ water quality criterion. There are two thresholds that must be met in order for a PCB impairment to be removed. These include the TMDL endpoint and the fish tissue concentration threshold. Mark discussed the options for determining the TMDL endpoint including using the existing water quality criterion (640 pg/L) or calculating a site specific value based on water quality data and fish tissue data. Mark explained that DEQ's water quality criterion is based on the dissolved fraction of PCBs in the water, which is the fraction of the total PCB concentration that is biologically available. The dissolved component is typically 20-30% of the total PCB value we see in a waterbody since PCBs attach readily to sediment and organic matter. In many cases, our average in stream concentration is well below the water quality criterion, but we have fish tissue in exceedance of the threshold value. In using a site specific endpoint, we can provide greater assurance that both criteria are met. In addition, there are other mechanisms for exposure that are not accounted for by using the water quality criterion as the TMDL endpoint. Mark reviewed how a site specific value is determined for an impaired stream and discussed the fish tissue dataset used for deriving that value for Lewis Creek. Water quality targets were calculated for four species of fish found in Lewis Creek. Those species with values above the water quality criteria cannot be used to establish the TMDL endpoint (this would not be allowed by EPA). Water quality targets for the torrent sucker and white sucker were averaged to derive a water quality target of 440 pg/L for Lewis Creek. Participants were polled on their level of support for the approach used to identify a TMDL endpoint for Lewis Creek:

Fully support:	62%
Support with reservations:	31%
Do not support, it is too conservative:	8%
Do not support, it is not conservative enough:	0%

A participant asked if only four species of fish were considered in calculating an endpoint. Mark explained that due to the small size of Lewis Creek, this was all that DEQ was able to collect. Another participant asked whether there are streams across the state without a measurable concentration of PCBs, and if so, why aren't we aiming for an endpoint of zero. Mark explained that there is a ubiquitous background concentration of PCBs in waterbodies across the state (typically about 100 pg/L), and that meeting an endpoint of zero would be cost prohibitive if not generally impossible. Another participant asked if there were characteristics of the two types of suckers that define the rate at which they absorb PCBs. Mark explained that age and size could be a factor along with fat content. A participant asked if these four types of fish absorb PCBs in the water directly through their skin or through feeding on other fish. Mark explained that bottom feeders can accumulate PCBs through uptake of contaminated food

along with other material ingested indirectly. He also noted that there are no major predators in Lewis Creek due to its size, which tend to experience a greater degree of bioaccumulation of PCBs.

A participant asked Cortney Marquette about the degree of technical oversight that will take place at clean-up efforts at the CSX site. Cortney responded that EPA will be on site to oversee remediation efforts. Additionally, there will be a requirement that CSX collect verification samples to ensure that they have removed all of the contaminated materials. Meade Anderson added that EPA and DEQ staff will be present at the remediation site at different points in time, though it won't be every day during the active remediation period.

A participant asked whether DEQ has the authority to set the water quality target for the TMDL as long as it is justifiable. Mark explained that DEQ tries to work with a technical advisory committee to select this endpoint and to ensure that it is protective enough. While a 10% exceedance rate of the site specific value derived for a stream is allowed when establishing the TMDL equation, EPA also requires that the TMDL be developed to ensure that 640 pg/L water quality criteria never be exceeded. Another participant asked why we can't use any of the higher target values like those of the blue head chub or green sunfish, noting that just because they exceed the 640 pg/L water quality criteria, they should not be removed from consideration. He added that he should use whatever real data we have from the stream to establish the target. He also expressed his concern about the requirement from EPA that the water quality criteria should never be exceeded, noting that factors such as duration and frequency of violations allowed should be left up to the state. Mark explained that unless the state includes a detailed explanation of how their criteria is to be applied with a footnote in the Water Quality Standards, EPA will default to the most conservative approach. The participant reiterated that this decision as to application of standards should be left to the states. Mark noted that EPA has the final call on approval of the report, which gives them additional leverage. Mark also noted that there are very few sunfish in Lewis Creek, and that the blue head chub is really a true minnow, meaning that it is unlikely to be consumed. This makes these species less appropriate to base endpoint development on.

Mark reviewed the TMDL process for Lewis Creek, explaining we gave most recently been working on determining source reductions needed to meet the TMDL endpoint. Mark shared a pie chart showing relative contributions to PCB concentrations at the watershed outlet from each source. Mark pointed out that while sediment is a component of the overall loading to the system, when it comes to allocating loads, it is close to impossible to get any appreciable reduction from streambed sediment unless there is a clear area of deposition that can be removed. Mark reviewed the TMDL reduction scenario that has been developed for Lewis Creek, showing allocated loads and associated reductions for each source. Existing and allocated loads were reviewed for each source category including contaminated sites, point source runoff from MS4 regulated areas, and non point source runoff from non regulated areas. The audience was polled on the reductions presented for sources in Lewis Creek:

Fair and reasonable:	82%
Unfairly distributed:	18%
Unreasonable:	0%
Not protective enough:	0%

A participant asked how we can come up with a means to achieve an 82% reduction for those areas where we don't know where the PCBs are coming from. Mark explained that he would be sharing an

interim implementation strategy that could help to address this question if the participant wouldn't mind holding their question. Another participant asked how the Biscuit Warehouse property owners can voluntarily be included in the solution given that they have not participated in the TMDL process or remediation programs to date. Mark explained that we do suspect the property is a source given the previous land use and its similarity to Staunton Metal Recyclers when it comes to potential contamination. That said, it doesn't make sense to exclude the property from the TMDL development process based on voluntary participation. Implementation of the targets is a different story though. Nesha added the emphasis on public participation in the TMDL program can be used to raise local awareness and encourage engagement and active participation in clean-up efforts following completion of the project.

Mark discussed the implementation process for PCB TMDLs. If point sources exceed the wasteload allocation, they have to submit a Pollutant Minimization Plan. MS4s are the only relevant point source in the Lewis Creek watershed and have a specific implementation process to be followed. On the non point source side, there is additional monitoring that can be done to determine sources along with source fingerprinting to hone in on specific areas and investigate hotspots. Once we have determined the sources, we look for the appropriate remedial program and funding to support remediation. Mark reviewed specific implementation strategies for MS4s. MS4s are asked to submit a TMDL action plan for approved TMDLs that include their regulated area. It will be up to the MS4s to determine where the pollution is coming from within their system and to complete some level of BMP implementation to address these sources. Implementation can be approached through adaptive management where practices are continuously evaluated following implementation.

Mark presented an interim implementation strategy based on the establishment of priority subwatersheds within Lewis Creek. Based on this strategy, BMPs could be prioritized in areas with ongoing remediation (subwatershed 6) such as the CSX site since these areas are already a priority. While the target sites associated with Staunton's Brownfields grants have not been tested for PCBs, they fall within this subwatershed and could be target remediation sites if site assessments show evidence of PCBs. Additionally, watersheds where monitoring has shown high concentrations of PCBs could be prioritized for additional site assessments in order to identify and remediate sources. Subwatersheds 3-5 could be included in this category since monitoring has shown spikes in water column concentrations in this area (beginning at river mile 6.9) during wet weather events. Mark shared a chart showing expected reductions in PCBs for three stages in which 1) existing remediation priority areas (subwatershed 6) are addressed 2) source investigations are completed in subwatersheds with high PCB concentrations (3-5) and addressed and 3) overall TMDL targets are met. Mark noted that there is no timeline associated with these stages, just priorities. The audience was polled in their opinions of the targeting strategies presented:

Cost effective and efficient:	45%
Insufficient to make meaningful progress:	0%
Lacking monitoring data to support targeting:	36%
Missing other problem areas:	0%
Help to address concerns I had about overall TMDL reductions:	18%

A participant asked whether there will be adequate resources or funding available to provide for sampling of the unregulated sources to fine tune the TMDL. Mark responded that this would be more of an implementation component. That sort of follow up work to determine exact sources of PCBs in the watershed typically falls in the implementation phase of the overall TMDL process.

Mark discussed next steps in the process including incorporation of the interim scenario into the draft TMDL shared previously with the committee and a final public meeting to present the TMDL to the community. The audience was polled as to their preference for another technical advisory committee meeting and associated format:

No, I can review the TMDL on my own:	36%
Yes, I prefer an outdoor meeting:	36%
Yes, I prefer an indoor meeting:	14%
Yes, but I'm unlikely to attend an in person meeting:	14%

Nesha and Mark agreed to discuss meeting options following the meeting and share next steps with the group. A participant noted that 64% of participants responded that they would like to have a third meeting, but varied on their format preferences. Nesha noted that DEQ will be required to hold these meetings in person after June 30, once the Governor's State of Emergency expires.

Mark asked the group for any additional questions. A participant asked whether the CSX clean-up effort is really the sole solution to wrap up the TMDL. Mark responded that regulated stormwater will have to take some action as well under the guise of their permits. This can be accomplished through a number of programs and actions, and the approach that is taken is really up to the locality. Another participant asked whether the City of Roanoke has ongoing PCB TMDL implementation underway. Mark responded that they do, and that they have taken a great approach to meeting TMDL targets. They have performed some comprehensive GIS analyses to figure out current and historical land uses at sites, and have been able to devise a good approach to collect samples as well.

Nesha and Mark thanked participants for attending and for their great questions and comments. Nesha noted that she would prepare and distribute a meeting summary and share a link to the meeting recording.