Crooked Run, Stony Creek and Pughs Run Clean Up Study Final Public Meeting

Shenandoah County Government Complex, Woodstock VA
April 9, 2025

Attendees

Vito Gentile (landowner)
Michael and Nancy Suddarta (landowner)
Sallie Raynor (landowner)
Sandra Funkhouser (landowner)
Robert Showman (farmer)
Laura Bennett (FNFSR)
Tom Heung
Jason Bushong (landowner)
Peter Dalke (landowner)
Rob Arner
Dean and Elaine Jones (landowners)
Mary Gessner (LFSWCD)
Renate Stewart
Hazel Leland
Ethan Showman
Nesha McRae (VA DEQ)
William Funkhouser (landowner)
Dana Gochenour (LFSWCD)
Karen Andersen (FOSR)
Wayne Webb
Donna Leigh Devier (landowner)
Jim Fagan (LFSWCD)
Kevin Moomaw (Shrine Mont)
Aaron Bushon (landowner)
Rich Church
Kevin Tate (Alliance for the SV)
Mark Frondorf (Shenandoah Riverkeeper)
Kenny Koontz
Ricky Collins
Phil Daley (landowner)
McKenzie Allen (Shenandoah Co)
Tara Wyrick (VA DEQ)

Meeting Summary

Nesha McRae (Virginia Department of Environmental Quality, Valley Regional Office) kicked off the meeting with a presentation on the clean up study, also known as a Total Maximum Daily Load (TMDL), that was developed for Crooked Run, Stony Creek and Pughs Run. Nesha explained the aquatic life use designation that Virginia's waterways must meet and described how attainment of this designated use is determined. Sediment has been identified as the primary pollutant responsible for the impairment of this use in Crooked Run, Stony Creek and Pughs Run. Nesha reviewed the evidence supporting these conclusions and moved on to describe the TMDL process including how pollutant sources are identified and how reduction scenarios are developed. Nesha presented a pie chart showing the amount of sediment coming from different sources in each watershed in addition to the current land use distribution. Nesha shared sediment reductions called for in each watershed.

Nesha explained that the next step in the TMDL process is to develop a clean up plan, which details actions that can be implemented to accomplish the pollutant reduction goals established in the TMDL. She explained that these plans are implemented on a voluntary basis using an incentive based approach. Nesha described the components of a clean up plan, and noted that this TMDL has been prioritized for clean up plan development. She could not provide an exact timeline for when this next step in the planning process would begin.

Nesha concluded her presentation and introduced a panel of speakers from local partner organizations including:

- Dana Gochenour: Lord Fairfax Soil & Water Conservation District

- Kevin Tate: Alliance for the Shenandoah Valley
- Seth Coffman: Trout Unlimited
- Mark Frondorf: Shenandoah Riverkeeper
- Karen Andersen: Friends of the Shenandoah River
- Laura Bennett: Friends of the North Fork Shenandoah
- McKenzie Allen: Shenandoah County Community Development

Panelists were asked to introduce themselves, describe the work that their organization does and explain how community members can get involved in their work. Following the panel presentation, participants asked a series of questions about the clean up study.

A participant asked whether any of the tributaries of the impaired streams have also been monitored by the Department of Environmental Quality (DEQ) and if they have been designated as impaired too. Nesha explained that some of these smaller tributaries have not been monitored while others have, and that if they were also designated as impaired, that would be noted on the map shown at the beginning of the meeting. Nesha commented that she will try to differentiate between segments that have not been assessed, those that are fully supporting and those that are impaired when making maps like this in the future.

A participant asked if the study identified particular properties that are contributing a large amount of sediment to the streams, noting that this would allow for a more efficient use of funding. Nesha explained that these studies do not call out particular properties and landowners since they are implemented on a voluntary basis. She noted that follow up monitoring can be used to target areas of the watersheds contributing the greatest amount of sediment with outreach to maximize cost effectiveness.

A participant asked whether the clean up study takes into account the regulations for new development and stormwater management that were implemented in 2005 (stating that there should be no sediment runoff from new development). Nesha explained that the study is based on post 2005 data with respect to land cover and development rates. However, some degree of sediment runoff is assumed from all land uses in the watersheds.

A participant asked Dana Gochenour if having a completed TMDL study covering their property increases their ranking (priority) when Lord Fairfax Soil and Water Conservation District (LFSWCD) is evaluating applications for agricultural BMP cost share funds. Dana responded that having an approved plan increases an applicant's ranking.

A participant asked how drought is impacting aquatic life in these streams. Nesha explained that participants in previous meetings discussed the role that drought might be playing in the impairment of these streams, but that as the data was further explored, it became more and more challenging to pull out trends in precipitation and stream health. Karen Andersen added that we don't have sufficient data to draw clear conclusions regarding drought and water quality in these streams. She noted that our weather patterns are changing and that now we have extended periods of drought followed by very heavy rainfall events. This pattern presents numerous challenges in terms of water quality.

A participant asked what happens next in this process. Nesha explained that the next step will be to develop the clean up plan. Watersheds are prioritized for clean up plan development based on local

interest in implementation of best management practices and the likelihood of meaningful water quality improvement. Nesha noted that these watersheds show great promise in these areas. Karen Andersen added that success will really depend on local stakeholders, and that if the interest isn't there, any plan that is developed will just sit on the shelf.

A participant asked if there is any funding available to install sediment traps in older urban areas. Dana noted that LFSWCD has funding for urban and residential stormwater best management practices through the VA Conservation Assistance Program (VCAP). The participant responded that he didn't think that this program funded sediment traps. Nesha added that if funding was not available for specific BMPs of interest for the watersheds, there are other grant programs and funding opportunities that could be explored.

A participant asked how progress would be measured once implementation begins. Nesha explained that progress will be based on actual monitoring data. She noted that DEQ usually waits two years after implementation has started before beginning to collect data. This gives practices installed some time to mature and begin functioning as designed. Participants noted the importance of having baseline data to compare post implementation data with.

Kevin Tate noted that ultimately, success will be achieved by the local community and that the conservation organizations on the panel are here to assist those efforts. He noted that the role of these partner organizations is to encourage advocacy by local landowners and their neighbors.

A participant asked why DEQ chose these three watersheds for TMDL development. Nesha explained that a TMDL is required for all of Virginia's impaired waters. Watersheds are prioritized for TMDL development based on local interest and the likelihood of meaningful water quality improvement. He asked how far back DEQ's monitoring data went and whether there was a clear trend in water quality improvement or degradation over time. Nesha noted that DEQ has water quality data dating back to 1998. She could not remember the dates upon which the stream segments were listed (follow up: Crooked Run listed in 2008, portions of Stony Creek listed in 2008 and 2016 and Pughs Run listed in 2012). No distinct changes in water quality over time have been observed since those initial listings. A participant asked if DEQ's criteria for impairment had changed over time, noting that management of agricultural land in these areas has improved quite a bit over time. It would make sense that stream health would be improving over time as a result. Nesha noted that may be the case in Stony Creek, maybe also in Pughs Run, but that there has also been an increase in development. This may be contributing to the borderline impairment observed in Stony Creek.

A participant noted that airborne pollutants from highways and roadways along with emerging contaminants like microplastics are impacting water quality now too. These problems are very complex and will be even more difficult to address over time.

A participant asked why stream bank erosion is so great and how we can prevent runoff from pastures. He added that it looks like there is a very large difference between the amount of runoff that comes from pasture versus forest. Nesha responded that very little erosion occurs in forests as a result of interception of rainfall by the tree canopy, the extent of leaf litter on the forest floor and the extent of organic matter in forest soils and their high level of permeability. While pastures are covered with grass, these soils are more easily eroded. Nesha explained that by rotating livestock through a grazing system, fencing them out of streams and established vegetated stream buffers helps keep pastures covered with vegetation and filter sediment out of runoff before it enters streams. With more development, water

moves through stream channels faster, creating more erosion. Another participant added that 90% of sediment in the Valley's streams makes its way there during the highest 10% of streamflow events. Nesha explained that the objective of the study is not to create a pristine forested condition in these watersheds, but that we are looking for a breakpoint between impaired and unimpaired. She added that streams are supposed to have some amount of sediment in them naturally.

A participant asked whether DEQ works with the VA Department of Transportation (VDOT) on these projects since roadways are probably contributing a lot of pollution to streams. Nesha responded that DEQ works most closely with VDOT on TMDLs in urbanized areas where stormwater from VDOT roadways is regulated through their Municipal Separate Storm Sewer Permit (MS4).

Nesha thanked everyone for their participation in the TMDL process for these streams. She noted that there is a 30-day public comment period for the draft plan, closing on May 9th. The study is available for download on DEQ's website and comments must be sent in writing to Nesha. She explained that DEQ will prepare responses to all comments received during the public comment period.