

Hat and Black Creek Community Engagement Meeting Summary

Nelson Memorial Library, Lovingson VA

September 9, 2024

Attendees

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| Mike Yager (TJSWCD) | Reid Copeland (landowner) |
| Emily Hjulstom (Nelson Co.) | Courtney Harlow Humphries (TJSWCD) |
| Jim Saunders (landowner) | John Pfaffe (TJSWCD) |
| Tara Wyrick (DEQ) | Yvette Stafford (landowner) |
| Dick Whitehead (landowner) | Robert McSwain (Nelson County Service Authority) |
| Nesha McRae (DEQ) | |

Meeting Summary

Nesha McRae (DEQ) welcomed participants and began the meeting with a round of introductions. Nesha noted that it had been some time since the group last met and provided a brief recap of the last community engagement meeting in February. During the meeting, the group reviewed and prioritized agricultural best management practices (BMPs) that could be used to achieve sediment and phosphorus reduction goals for Hat and Black Creek. At our next meeting, we were planning to prioritize urban BMPs, review draft agricultural and urban BMP implementation scenarios along with projected costs and a timeline for implementation.

Nesha explained the basis for the original decision to shift from developing a Total Maximum Daily Load (TMDL) to an Advance Restoration Plan (ARP) at the beginning of the process. TMDLs and an ARPs have a number of things in common, including identification of target pollutants, an assessment of pollutant loads coming from different sources in the watershed, and estimation of the reductions needed from each source to restore the stream. However, there are some differences. TMDLs include development of wasteload allocations for permitted pollutant sources. These allocations are then integrated into VPDES permits after the TMDL is completed. ARPs do not include this additional regulatory aspect. Unlike a TMDL, an ARP also includes descriptions of actions to be taken to accomplish reduction goals along with a schedule and milestones. In the TMDL process, TMDL Implementation Plans are developed following completion of a TMDL study. These plans include implementation actions, milestones and other components also found in an ARP. ARPs are near-term plans that are based on a timeline of implementation that is more immediately beneficial or practicable to restoring impaired streams. If implementation of an ARP does not occur, or if it occurs at a rate that is significantly slower than planned, a stream may be re-prioritized for TMDL development.

We began with the traditional route of TMDL development for the Hat and Black Creek watersheds, then shifted to an ARP after determining the level of phosphorus reductions needed from the Nelson County Regional STP (Facility). Representatives from the Nelson County Service Authority expressed a willingness to explore different treatment options making an ARP a viable and expedient option. This collaborative approach would not require modification of the Facility's VPDES permit and could result in a significant near term reduction in phosphorus concentrations in Black Creek. Since sediment reductions needed in both Hat and Black Creek were relatively low, this approach appeared acceptable to address both of the pollutants in the near term. Nesha noted that DEQ staff visited the Facility this spring to provide feedback on treatment operations and discuss treatment options to accomplish phosphorus reductions. Nelson County Service Authority staff expressed concerns about costs

associated with phosphorus removal upgrades at the Facility, particularly in light of significant upgrades that have recently occurred or are occurring at their other water and wastewater treatment facilities. DEQ staff explored a few options to help fund upgrades at the Facility including the DEQ Revolving Loan Fund.

In addition to the financial concerns expressed by the Service Authority, EPA staff expressed concerns about the likelihood of implementation of the ARP in the absence of any regulatory controls over discharge from the Facility during a call with DEQ staff. EPA reiterated that an ARP is intended to serve as a near term plan, and that if it was not successfully implemented following completion, a TMDL would still be required which would include a phosphorus wasteload allocation for the Facility. While near term is not explicitly defined, Nesha explained that the expectation would be for implementation to begin shortly after the plan was completed.

After consideration of feedback from EPA regarding their expectations of the timeline for implementation of an ARP, and after multiple discussions with the Nelson County Service Authority regarding their ability to make upgrades to the facility on Black Creek in the near term, it was determined that an ARP was not a reasonable option for the watersheds. Consequently, DEQ has decided to pivot back to TMDL development for both watersheds (Hat and Black Creek) and for both pollutants (sediment and phosphorus).

One participant asked what the timeline would be for the Facility to meet the reductions in the TMDL and when they would be incorporated into their permit. Nesha explained that this typically occurs with the next reissuance of the permit. TMDLs do not include a timeline for accomplishing reductions. DEQ Water Permitting staff will work with permittees to determine the best path forward for accomplishing the reductions along with the timeline for implementation. One participant asked if an acceptable mitigation strategy would be to divert the discharge from the Facility to Tye River. Nesha responded that it would no longer be considered a source of phosphorus and sediment if this occurred but was not sure how cost effective this would be in comparison to additional treatment of phosphorus. The group discussed the fact that the geology of the surrounding area may be contributing to the phosphorus load coming from the Facility. There are a number of homes on private wells in the service area, where Nelsonite is prevalent. This rock is high in phosphorus and may be elevating concentrations in well water. The group discussed options to specifically address this portion of the service area but generally felt it was most efficient to treat everything at the Facility. It was noted that any treatment option will likely be expensive. Nesha responded that staff from DEQ's Clean Water Financing Program had been in touch with the Nelson County Service Authority regarding grant opportunities that could be used to support this effort.

Nesha reviewed the path forward to complete the project for the watersheds. She explained that the TMDL study was close to complete and that this would be done soon. There will be one more meeting during which participants will review BMP implementation scenarios along with associated costs and a timeline for implementation. After this meeting, Nesha will draft a separate implementation plan. Nesha explained that all of the work that has been done for this project is still relevant and applicable, but that pivoting back to a TMDL will take a little more time. Once both reports are done, a final public meeting will be held to present the material to the public.

The group moved on to review updated sediment and phosphorus reduction scenarios. Nesha explained that an error had been made in calculating sediment loads from pasture land in both watersheds, which resulted in the need for a great level of reduction in both watersheds. As a result, the pasture reduction in Black Creek was increased to 34%, while reductions needed from all sources in Hat Creek were slightly increased. After calculating cost effectiveness of BMPs to address phosphorus in Black Creek, Nesha determined that it was far more cost effective to focus on the greatest sources of phosphorus in the watersheds rather than applying an equal reduction to all sources. By increasing the reduction needed for the greatest sources of phosphorus in the watershed by 3%, Nesha was able to reduce the reductions needed from smaller sources from 50% down to 8%. This equates to savings of hundreds of thousands of dollars. One participant noted that they thought the sediment load coming from streambank erosion in Hat Creek was far greater, noting that this load should be greater than the load coming from pasture and hayland. Significant straightening of the stream channel occurred throughout the watershed as the Army Corp of Engineers attempted to correct damage from Hurricane Camille. As a result, the stream is trying to meander back through the floodplain, cutting into unconsolidated materials as it goes and causing erosion. Participants asked how many miles of stream there are in the Hat Creek watershed. Nesha offered to circle back with participants on the final total number. One participant asked about beaver ponds given how well they seem to trap sediment. This is not something that government agencies have programs to assist with. The group discussed the value of identifying areas experiencing the greatest degree of erosion. Nesha suggested including plans for a stream walk in the implementation plan to identify high priority projects. These are usually more successful if they are conducted by a local group rather than a government agency due to private property rights issues. The group discussed how costly streambank restoration work is. This is not something that Soil and Water Conservation Districts had adequate funding the pay for. While they have plenty of funding for traditional agricultural BMPs, streambank restoration would be a good practice to pursue supplemental grant funding to support. Nesha noted that this is usually something property owners are excited to have completed on their property and that they key will be finding good project sites.

A participant asked about the best ways to encourage BMP implementation. Nesha responded that it can be helpful to highlight projects that have been completed successfully by local landowners who are known and trusted. If people can see these projects working well, it helps with their interest and willingness to consider them. The group reviewed the phosphorus reduction table for Black Creek and asked about the urban land cover categories, specifically developed impervious. Nesha explained that this is paved or hardened surfaces like roadways, parking lots, driveways and rooftops. Participants questions the extent of this land use sown for Hat Creek. Nesha calculated that it comprises around 1% of the total watershed area, which seems about right. Participants asked how phosphorus and sediment would be treated from this load, how would multiple roof tops be treated? Nesha explained that with rooftops, one rain garden or other stormwater BMP would be installed to treat water from the downspout for each home. One participant questioned how effective this would be, noting that the distance of some of these homes from the stream probably allows for filtration of a lot of runoff before it reaches the stream. The participant asked whether load calculations consider how close a piece of property is to the stream. Nesha explained that the model breaks the project area up into smaller subwatersheds, but that it is not that spatially explicit in terms of identifying proximity of each acre of land to the stream. The participant commented that the pasture loads were probably too high as a

result and that stream bank erosion likely made up a greater proportion of the total sediment load in the watersheds.

A participant asked how sediment and phosphorus loads are determined (are they measured). Nesha explained that the loads are estimated based on watershed characteristics and land cover types. However, DEQ also measures phosphorus concentrations in the stream to ensure that estimates are accurate. Quite a bit of information goes into development of load estimates including slope, elevation, soil type, land cover, weather data and more.

A participant returned to the discussion about the role that streambank erosion is playing in impairment of the two streams. Nesha asked if participants would like to increase the reduction for streambank restoration and decrease for pasture or developed pervious areas. Participants liked this idea. Nesha noted that she could reduce developed pervious, gravel and turfgrass sediment reductions by 1% and increase the streambank erosion reduction by 6% in the TMDL. Participants liked this change. The group discussed the updated phosphorus reductions for Black Creek. Nesha recommended not increasing reductions for agricultural land beyond 53% since it will begin to get very challenging to accomplish these goals as a result. Nesha noted that groundwater is one of the greatest sources of phosphorus in the watershed, but not a source for which reductions can be prescribed. This makes it challenging to address the other sources.

Nesha explained next steps for the project, noting that the TMDL will be finished first, and then the implementation plan. Nesha explained that the implementation plan will be a voluntary plan that landowners will not be forced to implement. We rely on incentives to encourage landowners to participate in BMP implementation programs. Nesha explained that once the implementation plan is complete, conservation organizations like Soil and Water Conservation Districts can apply for funds to implement different portions of the plan. They could focus on streambank restoration in a proposal and then do additional outreach and education to encourage adoption of other practices such as rotational grazing. A participant suggested that if we want good attendance, the final public meeting should be held in the evening. It's always nice when food can be offered as well. Nesha noted that she hopes to be ready for the next meeting in late October/early November and that the final public meeting will be in early December or late January to avoid the holidays. Nesha thanks participants for attending and the meeting was adjourned.