

Lynch and Reed Creek 3rd Technical Advisory Committee Meeting Minutes

2/17/2021 1:00- 2:40

GoToWebinar- Virtual only due to State of Emergency

Attendees: Lucy Smith (DEQ), Katie Shoemaker (WSSI), Rob Breeding (DEQ), James Moneymaker (DEQ), Robert Brent (JMU), Jen Rogers (DEQ), Kelly Hazelgrove (DEQ), Stacy Horton (DCR), Sonya Wolen (DRBA), Matt Poirot (VDOF), Kevin Dawson (VDOF), Kelly Hitchcock (CVPDC), Jessica Lacks (Pittsylvania SWCD), George Devlin (DEQ), Mike Aust (Virginia Tech)

Recording: <https://attendee.gotowebinar.com/recording/8349278298036635149>

Lucy introduced the goals of the TAC and meeting objectives.

Katie Shoemaker gave an overview of topics covered in previous meetings including a summary of the water quality improvement process, stressor identification, and model development.

Katie explained that with the help of the TAC members, the barren piece of land was identified to be more shrub/scrub than barren. She recommended that we reclassify that piece of land to match its current condition.

- Kevin Dawson drove by the site today and saw that the land owner had built a house on the property and besides the drive way and yard, the remainder of the property was regenerating cut over and agreed with the reclassification of shrub/scrub.

Katie also proposed applying an 83.38% reduction to sediment from 'Harvest/Disturbed' based on conversations with DOF and a paper (Cristen et al. 2019) recommended by Dr. Aust. This reduction efficiency represents the average between the BMP standard rate and BMP + rate. Based on feedback from DOF, we determined that the BMPs efficiencies fall somewhere between standard and plus. 83.38% is an average of the standard and plus.

- Matt Piorot asked about reduction rates that account for the amount of sediment that is lost between the site and stream.
 - Katie described the sediment delivery ratio. This delivery ratio accounts for the sediment lost on its way to the stream. **Information provided after the meeting:**
*Sediment Delivery Ratios in the GWLF model were **0.27** for Lynch and **0.16** for Reed – these are applied to all of the land covers and adjusts the raw sediment loads to represent the estimate of what actually reaches the outlet of the watershed being modeled.*

If it's helpful, here's the explanation from the MapShed Users Guide (better description than the original GWLF manual, but same reference)

Sediment Delivery Ratio

A sediment delivery ratio is based on the premise that a certain percentage of the material eroded from the land surface (usually the heavier soil particles) is deposited prior to reaching nearby water bodies. Empirically, the amount that does reach the outlet of a given watershed (called sediment yield) has been related to watershed size. Following the procedure described in Vanoni (1975), sediment delivery ratios calculated using MapShed are based on the relationship:

$$SDR = 0.451(b^{-0.298})$$

where:

SDR = sediment delivery ratio, and

b = size of the watershed in square kilometers.

There were no objections to using 83.38% as the reduction to sediment from 'Harvest/Disturbed'

Katie then described the permitted outfalls in the watersheds. Reed Creek has one stormwater outfall. We recently discovered a stormwater permit with two outfalls in Lynch Creek. The following allocations do not include this permit but the areas are small so the numbers will change only slightly. **An updated permit table is below with the additional permit in Lynch Creek added (added after the meeting).**

Permit Number	Facility Name	Type	Watershed	Allocated Load (lb/yr TSS)
VA0083399	Dominion – Pittsylvania Power Station	VPDES Individual Permit (stormwater discharge only from Outfall 002)	Reed Creek	1,188
VAR051341	Graham Packaging Company	VPDES Industrial Stormwater General Permit (2 outfalls)	Lynch Creek	

There were no construction permits in the watersheds in the past 5 years but we have included 1% of TMDL as a part of the future growth to account for future construction activities. BMPs reductions were included regardless of expiration date because TAC members determined that the practices were most likely still on the ground reducing sediment. The table shows each individual practice in the watershed. Katie provided an overview of the methods used to determine the pollutant target and the resulting reductions required to meet the target. We have selected 10% Margin of Safety and 2% future growth for this study.

Lynch Creek allocation scenarios include an even distribution of reductions from agricultural and urban land uses (1), greater reductions for agricultural land uses (2), or greater reductions for urban land uses (3). There was not a strong feeling on if agricultural communities were interested in BMPs in this watershed. There were no applications for assistances this year in the watershed and based on the BMP data shown it appears that there has been little interest. James Moneymaker stated that the land may be rented and that could be the reason for the lack of interest. The TAC agreed that even reductions to agricultural and urban land uses would make the most sense.

Katie then presented the allocation scenarios at the downstream station on Reed Creek. These scenarios represent reductions for the whole watershed. Again, 3 scenarios were presented with varying reductions called for across different land uses. The next table (slide 30) showed the allocation scenarios for the middle station on Reed Creek and represented reductions needed in the upstream watershed. Kelly Hazelgrove pointed out that there is an upstream station that represents a reference condition and the headwaters are mostly forested. BMPs would need to be installed throughout the middle and lower portion of the watershed. The TAC requested an additional allocation scenario for Reed Creek to see if upstream reductions eliminate the need for downstream reductions. It will be important to the success of implementation for the whole watershed to be within a TMDL watershed; therefore, there may be few benefits of having two separate reduction scenarios for upstream and downstream watersheds.

Katie will run the requested scenario and send to the group in a few weeks for the TAC's review. If TAC members have strong feelings on the direction we move, then they may contact Lucy with their thoughts or request another meeting. Otherwise, DEQ, WSSI, and JMU will review the scenarios and make the final decision.

The next steps of this project is to review the draft TMDL and hold a final public meeting. Lucy will notify TAC members when the Draft TMDL is available. After that we will schedule our final public meeting to review the draft report. There will then be a 30-day comment period prior to sending the report to EPA and SWCB for approval.

Please send lucy.smith@deq.virginia.gov any questions or comments.