Moores and Mill Creek Preliminary Technical Advisory Committee Meeting

September 7, 2021

Meeting Objectives

- Provide background on the clean-up study (Total Maximum Daily Load) process
- Explain the role of the Technical Advisory Committee
- Discuss watershed characteristics including land use and development patterns
- Discuss existing monitoring/restoration efforts in the watersheds
- Discuss how to engage the local community in development of the study

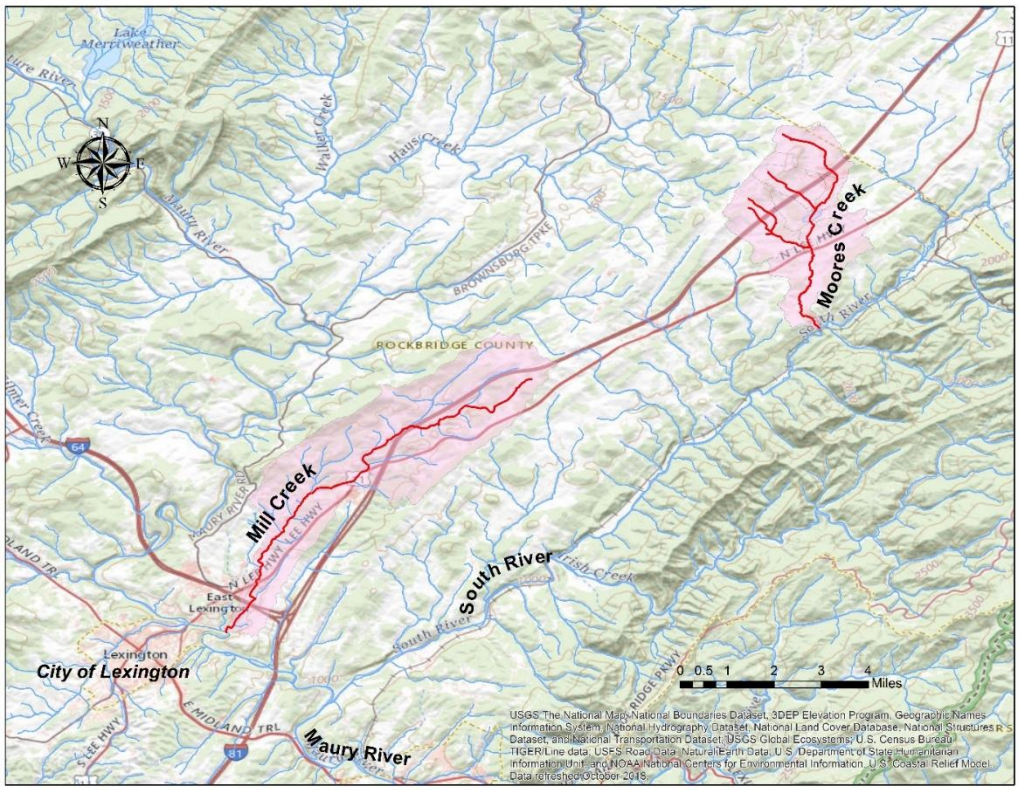

Figure 1. Mill and Moores Creek watersheds

Biological (Stream Health) Impairments

Monitoring of aquatic macroinvertebrates (insects) in Moores and Mill Creeks has indicated that they do not support the healthy and diverse population of aquatic life. The Stream Condition Index (SCI) is a multimetric index that is used to measure overall stream health of Virginia's waterways. The SCI score accounts for characteristics of aquatic life found in our waterways including how tolerant they are of pollution. The score also considers diversity and abundance of aquatic life. SCI scores for Moores and Mill Creeks over time are shown in Figures 2 and 3. A score below 60 indicates impairment.

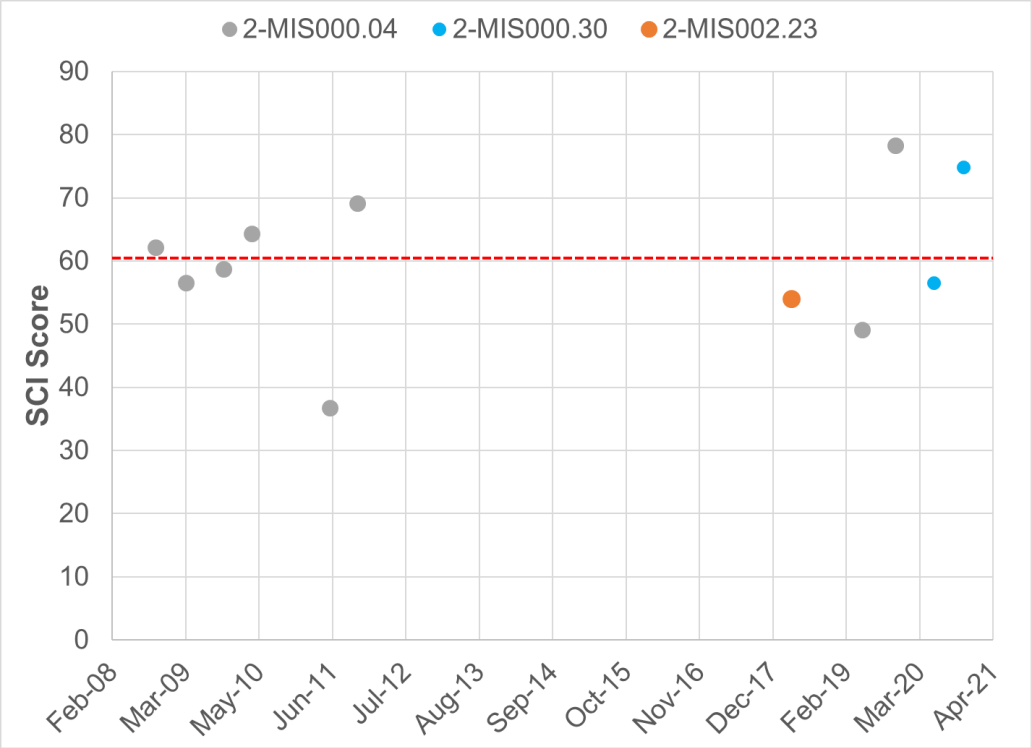

Figure 2. Mill Creek Stream Condition Index (SCI) scores (2008-2020)

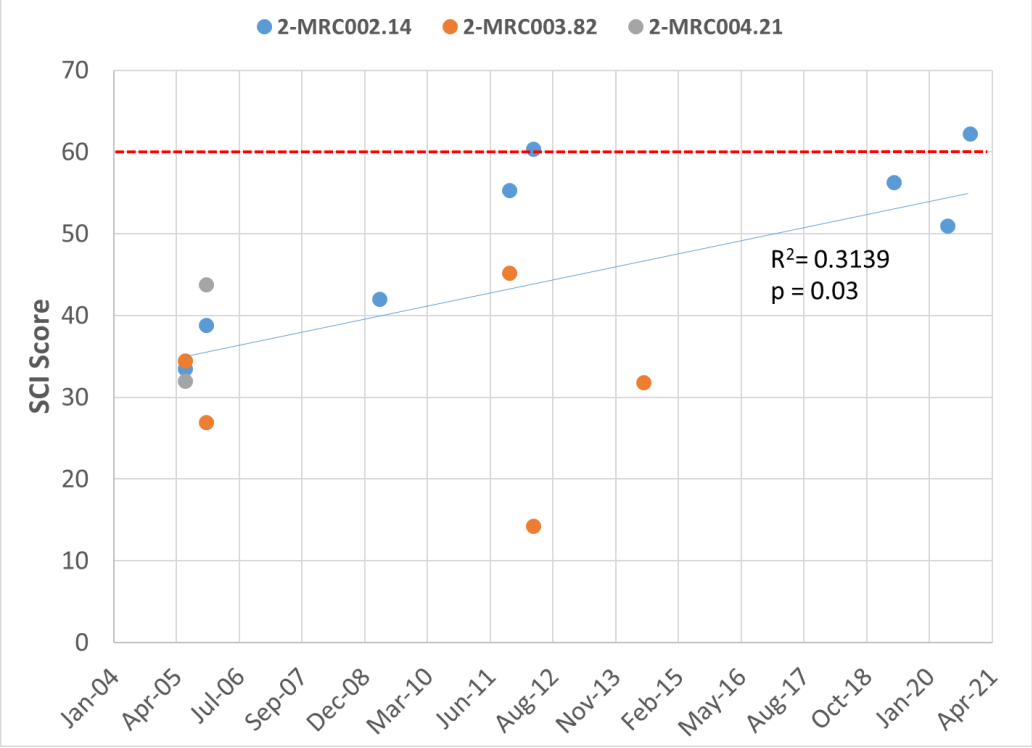

Figure 3. Moores Creek Stream Condition Index (SCI) scores (2005-2020)

The Clean-Up Study (Total Maximum Daily Load) Process

1. Identify impaired waterways in Virginia (Monitoring)
2. Determine the causes/sources of those impairment (TMDL study)
3. Identify the pollutant reductions needed to restore the waterway (TMDL study)
4. Develop a clean-up plan that identifies actions needed to achieve pollutant reductions (TMDL implementation plan)
5. Work with partners to implement the clean-up plan (Implementation)

The first step in developing the clean-up study for Moores and Mill Creeks is to complete a *benthic stressor analysis*. The goal of this analysis is to identify pollutant(s) that are impairing the benthic community. Once the responsible pollutants are identified, reduction targets can be established. Preliminary results suggest that sediment may be the primary pollutant responsible for the aquatic life impairment in Moores and Mill Creeks.

- Have you observed areas of excess erosion in the watersheds or along the streambanks?
- Have you observed excess sediment in the streams?
- Have you observed evidence of other pollutants entering the streams?
- Are there local organizations that would be interested in implementing a clean-up plan?
- What has the level of interest been in agricultural BMPs in this area over time?

The Technical Advisory Committee

A committee will be formed to provide input on the development of the clean-up study. The group will meet 3-4 times over a 9-12 month period. The committee is typically made up of local government, SWCD, NRCS, nonprofit and state agency staff. We try to enlist local landowners as well. Content discussed at these meetings includes:

- Biological and chemical monitoring data
- Land use data
- Non point and point sources of pollution
- Watershed model development
- Pollutant source reduction scenarios

- You have been identified as a potential committee member given your knowledge of the area. Is this a role that you are comfortable serving in?

Watershed Characterization

As part of the clean-up study, we will collect current and historical information about the watersheds. Both streams, but particularly Mill Creek, are influenced by karst. Agriculture and forest are the predominant land uses. Development in Moores Creek appears to be focused in the upper reaches of the watershed, with the truck stop on I-81 and the Willow Lake subdivision below it. In Mill Creek, development appears to be concentrated in the lower portion of the watershed. Both streams appear to be influenced by I-81.

- What can you tell us about historic agricultural land use in the watersheds? Have there been significant shifts in management practices in recent years?

- Do developed areas in the watersheds have adequate stormwater management? Did you notice any changes in the streams during or after periods of development?
- Are you aware of plans for future development in the area?
- Do you have observations of springs, sinkholes or other karst features in the watersheds?
- Have you observed over application of road salts before winter storms in the area?

Watershed Monitoring/Restoration Efforts

We would like to incorporate watershed and water quality data collected by other organizations into the clean-up study. We would also like to know who was involved in these efforts since they are likely key stakeholders to engage in this planning process.

- Are you aware of any organizations that are monitoring these streams?
- Are you aware of any land use studies completed for the watersheds?
- We have a record of agricultural BMPs implemented in the watersheds from DCR, are there any practices planned or currently underway in the watersheds?
- Are there any recently completed or planned stormwater management or streambank restoration practices in the watersheds?

Public Participation and Engagement

As part of the clean-up study development process, we want to engage the local community in a series of public and advisory committee meetings. This helps to ensure that the study is accurate, and that we have had some degree of buy-in from the local community that will help advance implementation efforts.

- Are there key organizations we should engage in this process?
- Are there key stakeholders including local landowners we should engage in this process?
- Would stakeholders prefer meeting outside/inside, in-person/virtually?
- Are there days of the week or particular times to avoid holding meetings?
- Are there locations that you think would be good for large and small meetings?
- What is the best way to get the word out about meetings?

Next Steps

A community meeting will be held to kick off the clean-up study. An overview of monitoring data collected for the streams will be shared with the community along with a description of the TMDL process. We are considering holding this meeting this fall.

- Would local residents be interested in attending an outdoor meeting? What would be a good venue?
- Would 5:00 or 5:30 be an acceptable meeting start time? What is the ideal meeting length?