

Mattaponi TMDL Implementation Plan: Residential Workgroup Meeting

January 9, 2019

The Mattaponi TMDL Implementation Plan (IP) Residential Workgroup met on Wednesday, January 9, 2019 from 1:00 pm – 3:00 pm at the Caroline County Public Library, Ladysmith Branch, at 7199 Clara Smith Drive, Ruther Glen, VA.

Attendance

Seventeen (17) individuals, including three Department of Environmental Quality (DEQ) staff and a member of Streams Tech., Inc. (DEQ's contractual support) participated in the meeting. Participants are listed alphabetically below:

1. Tony Ayers, Virginia Connection
2. Ben Bradley, Stantec, for VA Dept. of Transportation
3. Kevin Byrnes, Regional Decision Systems LLC
4. Sayedul Choudhury, Streams Tech., Inc.
5. Edie Curry, Caroline County resident
6. Robert Drewry, Virginia Attorney General's office
7. David Evans, Dept. of Environmental Quality
8. Dr. Charles Gowan, Randolph-Macon College
9. Priya Gunduboina, Dept. of Environmental Quality
10. Ken Hardt, Attorney
11. Etta Lucas, Tri-County City SWCD
12. David McIntire, King and Queen County
13. Olivia Mills, Fort A.P. Hill
14. David Nunnally, Caroline County
15. Marta Perry, Tri-County City SWCD
16. David Rababy, Lake Caroline POA
17. Ashley Wendt, Dept. of Environmental Quality

Meeting Summary

The meeting began with participants introducing themselves, followed by an opening presentation by Dave Evans, DEQ's Nonpoint Coordinator for the Northern Regional Office. The presentation summarized the TMDL IP process, summary information and analysis of Mattaponi watershed water quality, identified typical septic system and developed lands best-practices to address bacteria contamination, and the role of the residential workgroup in plan development. There were a couple questions about water quality data: (1) how many samples does DEQ take to make an impairment finding and (2) is E.Coli the best measure of bacterial contamination? DEQ makes water quality bacteria impairment decisions based on a minimum of 12 samples within the most recent six year timeframe, when >10.5% of the samples exceed the water quality criterion of 235 colony forming units/100 milliliters. And DEQ stated that E.Coli is the preferred measure of bacterial contamination in streams because it has the best correlation with the presence of the type of bacteria that cause human health impacts.

Two additional speakers presented information to inform workgroup discussions. Kevin Byrnes of Regional Decision Systems, LLC presented septic systems analysis he recently completed to inform the George Washington Regional Commission's Chesapeake Bay TMDL Watershed Implementation Plan, Phase III work with local jurisdictions. Kevin shared (pro bono) with DEQ this detailed, geographically referenced, information on area septic systems' location and maintenance records which has been "cropped" to focus on the Mattaponi Implementation Plan (IP) watershed. The final report of Mr. Byrnes analysis was anticipated to be completed within another week.

Dr. Charles Gowan, a professor of Biological Sciences at Randolph-Macon College, then summarized research conducted by students in one of his applied environmental science classes. Students in his class collected water quality samples from numerous locations in Ashland, VA to identify bacteria hot-spots, and then conducted additional pin-pointed locational sampling/analysis to zero in on pet wastes and sanitary sewer system leaks that proved to be the sources of elevated bacteria levels in local streams. He noted that future student research could contribute to Mattaponi watershed planning and implementation efforts.

Lake Caroline: during the water quality part of the presentation, a participant inquired whether DEQ monitors water quality in Lake Caroline, which is a 277 acre lake in the IP area. DEQ responded that it conducts WQ monitoring of the larger lakes in the Commonwealth, and would respond to this specific inquiry in follow up to the meeting. *Update:* As a privately owned lake, DEQ does not monitor Lake Caroline water quality. Lake Caroline residents conduct extensive monitoring of lake water, and their Executive Director offered to share this data with DEQ. It was also noted that Lake Caroline has plans to dredge the lake, has received Army Corps approval and is currently awaiting DEQ approval of its dredging plan. DEQ staff offered to follow up internally to identify the status of DEQ's consideration of the dredging plan.

After these presentations, Mr. Evans facilitated a group discussion of several questions included in a handout provided to workgroup members to guide their input to plan development. The specific issues discussed and key points made during the meeting follow:

Septic Systems Discussion: there was a well-rounded discussion of perspectives and ideas for addressing bacterial contamination that comes from septic systems. Key points discussed included:

- In Caroline County, not all county properties with septic systems are subject to the Chesapeake Bay Preservation Act's (CBPA) five year pump-out requirements, because part of the County falls outside of the Chesapeake Bay watershed. Initial efforts to apply the pump-out requirement county-wide were challenged at the local level (Board of Supervisors) and the requirement is applied to CBPA's Resource Management (RMA) and Resource Protection Areas (RPA) that are located close to water/wetlands. Written notifications are sent on Year 1 to all RMA/RPA properties, and in subsequent years letters are sent out to homeowners in individual magisterial districts within Caroline County
- CBPA requires homeowner notification of septic system pump-out requirements, but does not require homeowners to repair septic systems that are not functioning properly.
- Lake Caroline has a total of 2,096 original lots, with 1,187 homes in place. All homes are on individual septic systems. The Lake Caroline Owners Association has the ability to levy fees and closely enforces a local requirement to pump septic systems every five (5) years and at the

time of property sales. The Owners Association maintains detailed records of septic system maintenance.

- A participant noted that Lake Land-or has a wastewater treatment plant that was built for the community by Aqua, VA. It was stated that user fees are quite high and the owner may have interest to expand its service area as an opportunity to reduce household user fees. Lake Caroline residents are not interested due to current user fee rates.
- The septic data analysis that Kevin Byrnes has compiled has been shared with VDH and all local jurisdictions to enhance their ability to oversee septic system maintenance and to provide justification for State and/or federal cost-share financial assistance to incentivize proper septic system maintenance and repair to help achieve Chesapeake Bay TMDL WIP III and local stream bacterial TMDL goals.
- The Caroline County government participant noted that enforcing septic maintenance requirements at the local level is extremely burdensome/labor intensive for counties with small staffs. Current enforcement measures require a judicial hearing for each case requires a judicial hearing, and the staff workload to prepare for such hearings is substantial. After acknowledging this workload impediment, another participant commented that a select few successful septic maintenance enforcement cases that were publicized locally could lead to improved septic system compliance with CBPA requirements. A Tri-County/City SWCD participant noted that the localities do not have in place enforcement mechanisms such as fines. She affirmed that basic implementation, let alone enforcement, is a challenging task for smaller localities to undertake without additional funding or support.
- Another impediment to septic system maintenance that was raised was perceived tensions between local jurisdiction health departments and the Virginia Department of Health (VDH). Local jurisdictions are reluctant to accept a lead role in septic maintenance – seeing this as VDH’s role. There is one General Assembly bill that proposes to return the lead for septic system notification and oversight from local jurisdictions to VDH in three planning districts. Currently data on septic system inventories and system maintenance is very incomplete, and improved coordination between VDH and local health departments was advocated.

Developed Lands Discussion: Less time was available for discussion of needs and opportunities to address bacteria sources from developed lands. The following points were made:

- The role of Stormwater ponds in bacteria management was raised, and one participant observed they may be ineffective as they often attract geese that could be a source of increased bacteria.
- A participant noted that it would be valuable to conduct new research on the bacteria reduction efficiencies of various stormwater management best practices. There currently is very limited information on bacteria reduction efficiencies for commonly used stormwater BMPs.
- A recently constructed stream restoration project in Ashland includes side-channel constructed wetlands that will divert and retain water during peak flow events. Randolph-Macon students will conduct comprehensive water quality analysis of these wetlands that will include information on bacteria reductions for water retained in the constructed wetlands.
- Residents of Lake Caroline are very concerned for sound environmental management practices given their multiple (recreation and drinking water source) uses of Lake Caroline water. The community’s drinking water is a blend of lake and groundwater sources. The biggest environmental concern of Lake Caroline is sediment runoff, which has led to the need for the planned lake dredging project.

- Pet waste discussions included an observation that county license records for pets may be worth analyzing, but the records are incomplete. Another participant suggested it may be valuable to conduct pet waste management outreach to apartment complex residents. Due to their proximity to water, another comment was that lake communities could be the most important area of focus for pet waste education. A participant shared a concluding comment to the pet waste discussion that the IP should definitely include a pet waste component, particularly in jurisdictions with pet leash laws, and there was no dissent to this suggestion.

Bio-Solids: A question was asked whether DEQ believes that bio-solids applied in the IP area may be a source of bacterial contamination.

- DEQ responded that Class A bio-solids, which are products sold commercially that do not require permits, are treated to ensure harmful bacteria levels are not present. DEQ noted that some people believe that long term storage of these products before their application might allow for regrowth of bacteria, but that DEQ is not aware of data that corroborates this concern.
- Class B bio-solids are bulk delivered products that are subject to DEQ-issued permits. DEQ specifies the terms of their storage and use, and these permit conditions are written to avoid negative water quality impacts. DEQ acknowledged that if bio-solids are not stored and applied in a manner consistent with the terms of the permit that water quality impacts could occur.

One meeting participant provided a few additional comments/suggestions in writing at conclusion of the meeting for items to include in the implementation plan..

- DNA testing would be valuable to have more precise understanding of bacteria sources to inform implementation actions.
- Community-based social marketing around pet waste would be an important strategy for creating voluntary changes.
- Funding to assist localities and property owners with managing septic pump-outs and repairs would be valuable to enhance septic system maintenance.

Steering Committee Representatives: DEQ requested volunteers to participate in the Steering Committee that will review and comment on the draft Mattaponi Implementation Plan. While no one volunteered, Mr. Evans noted that he expects that the County and SWCD representatives will participate in the Steering Committee, and a few additional volunteers would be valuable.

Next Steps in IP Development: The current schedule calls for a draft implementation plan to be ready for Steering Committee review in spring 2019. Many times DEQ convenes a Government Workgroup to inform final IP development, and this may or may not be done for Mattaponi; governmental agency workgroup participants will be kept informed of plans for such a meeting. A final Public Meeting will be held, with a 30 day public comment period on the draft IP, to seek public input on the draft plan before it is finalized. DEQ's goal is to have a final IP ready to submit to EPA for approval in summer 2019. EPA approval of the IP will make the plan area eligible for Section 319 Nonpoint Source grant funds from EPA.