

**Upper Rapidan Watershed
Total Maximum Daily Load (TMDL) Implementation Plan
Steering Committee Meeting
Madison County Virginia Cooperative Extension Office
July 10, 2015, 10:00 a.m. - 12:00 noon**

Attendees:

Jenny Biche, Rappahannock-Rapidan Regional Commission
Jaylan Cummings, Shenandoah National Park
Jane Dalton, Citizen/Old Rag Master Naturalists
Michelle Edwards, Rappahannock-Rapidan Regional Commission
Kathleen Harrigan, Friends of the Rappahannock
Charlie Lunsford, Department of Environmental Quality
Kip Mumaw, Ecosystem Services
Byron Petrauskas, Blue Ridge Environmental Solutions
Alyson Sappington, Thomas Jefferson Planning District Commission
May Sligh, Department of Environmental Quality
Greg Wichelns, Culpeper Soil and Water Conservation District
Whitney Wright, Virginia Department of Health

Welcome & Introductions

Jenny Biche welcomed attendees and distributed hand outs. Introductions were made.

WORKING GROUP REPORTS:

Kip Mumaw provided the following Agricultural Working Group Report to the Steering Committee:

- Land Use – A brief discussion took place regarding land use accuracy and trends/changes that are/have taken place in the watershed which may trigger/require an adjustment to the model. The consensus was that a lot of hay fields and timber tracts have been cleared and converted for agricultural use in the last five years. In addition, a number of poultry farms have also grown via the addition of new facilities, or expansion of existing facilities.
- Horses – Horse rescue and other high density facilities are of concern in the watershed in relation to runoff and water quality. It was estimated by Culpeper SWCD that an average of 10 horses per acre are found on these grazing intensive operations. DEQ suggested if certain BMPS such as rotational grazing or composting should be included in the IP and the workgroup concluded that education/outreach targeting horse owners and including horse experts when approaching these individuals is important and hopefully prove to be effective. Creative partnerships with equine groups also could be considered.
- Stream/Riparian Buffers – The consensus of the group is that willingness of the landowner to participate is the deciding factor. As you move higher up into the watershed, it becomes more difficult as landowners may have to give up more land to establish buffers. A suggestion was made to vary the setbacks depending on the specific circumstances and amount of land to be retired. Another suggestion is to have DCR/DEQ establish a no setback BMP for farms that contain many

small tributaries that need fencing. It was agreed that farms with no stream buffers be targeted first.

- Flash Grazing – Currently, flash grazing in buffers is not included in the fencing BMP specification. Past abuse of the system and farmers not following a grazing management plan is an issue. Suggestions on improving this primarily revolved around the face to face outreach from recognized SWCD staff. Building trust and being visible are two key components of successful outreach and progress.
- BMPs were ranked for consideration/inclusion into the TMDL IP (see attached PDF) and the top ranked BMP was streamside livestock exclusion fencing followed by rotational grazing and streamside buffers (forest and grass)
- A list of obstacles to implementing the streamside exclusion fencing BMP was ranked by the group as well (see below). Top ranked obstacle was the landowner/famer cannot afford to retire land out of AG use with the 35 foot buffer. Other obstacles that ranked high were the general maintenance of fencing is too costly and secondly the cost of installing the fence and providing alternative water sources for livestock is too high and cost share does not help enough.
- Aerial map was provided showing where existing livestock fencing is and where more is needed. It was suggested that more recent aerial imagery is needed in combination with field inspections to verify the accuracy of the desktop review/assessment. The contractor responded that he used the most recent available aerial views for this exercise (ESRI basemap layer 2010).

Best management practice	Description	Rank (1-7)
Streamside livestock exclusion fencing	Excluding livestock from streams with fencing, providing alternative water sources or limited access points to the stream	1
Rotational grazing	Establishing a series of grazing paddocks with cross fencing and rotating livestock to maximize forage production while preventing overgrazing	3.6
Forested streamside buffers	Planting trees and shrubs in strips (35 foot minimum) along streams adjacent to pasture and cropland	3.7
Grassed streamside buffers	Planting grasses in strips (35 foot minimum) along streams adjacent to pasture and cropland)	3.7
Forestation of crop, pasture or hayland	Convert existing pasture, crop or hayland to forest (hardwood or conifers)	5.6
Continuous no-till	Cropland is planted and maintained using no-till	5.3

	methods, only effective in reducing bacteria for cropland receiving manure applications (not commercial fertilizer)	
Manure composting/storage facilities (equine) or other animal waste storage facilities (dairy, beef, poultry)	Construction of planned system designed to manage solid equine waste from areas where horses are concentrated either through composting or storage OR animal waste storage lagoons for dairy, beef cattle or poultry	5.1

Ranking of obstacles to streamside livestock exclusion:

In order to address the bacteria problem in the Upper Rapidan River watershed, livestock will have to be excluded from the stream. In order to identify the best way to accomplish this, it's important to understand the obstacles to fencing livestock out. Please rank the following obstacles to fencing livestock out of streams 1-5 with 1 being the most common and relevant obstacle to address and 5 being the least common or relevant obstacle.

Obstacle	Rank (1-5)
The cost of installing fencing and off stream water is too high, even with cost share assistance from federal and state programs	3.3
Cannot afford to give up the land for a 35 foot buffer	1.3
General maintenance of fencing is time consuming and expensive	2.9
Grazing land is rented with short term leases and landowners are not interested in installing and/or maintaining streamside fencing and off stream water	4.3
People do not trust the government and do not want to work through state and federal cost share programs to installing fencing systems	4

Other: One write-in mentioned that **tax implications** were his number 1 concern

Greg Wichelns provided the Residential Working Group Report to the Steering Committee. Highlights, recommendations and challenges include:

- The group recognized that septic system maintenance and repairs are frequently neglected until problems arise, which often leads to failure.
- Significant discussion was spent on “flushable products” that are not, in fact, “flushable” and can contribute to maintenance and repair issues. The group recommended an educational component be developed to address this issue.
- Based on its experience with residential cost share programs, Culpeper Soil and Water Conservation District noticed many homeowners feel a perceived threat from the regulatory community, including the Health Department, causing a reluctance to participate in the Department’s residential cost share program. It is noted that educational efforts will be especially important if and when this occurs.
- Care should be taken not to spread negativity about cost-share programs, particularly when discussing the lack of availability of cost share funds. Word spreads quickly throughout the community and can affect the participation rate in the program.
- Education on pet waste management is needed, but should focus more on kennels and hunt clubs rather than towns and parks.
- Storm water Best Management Practices such as rain gardens should also play a role in residential areas to address pet waste.

Following Greg Wichelns’ summary, an inquiry was made as to the definition of confined canine unit, to which May Sligh replied that it referred to kennels. There is no specific set of minimum requirements that need to be met, such as a specific numerical threshold of animals, however some towns issue kennel licenses for homes and businesses over a certain number of dogs. It was also stated that HOWS (Houses of Wood and Straw, a non-profit serving confined outdoor dogs with houses and straw in winter) expressed an interest in assisting with pet waste management education and outreach. There are many existing pet waste education programs and partnerships available that can share success stories to be used as models.

Whitney Wright provided the Government Working Group Report to the Steering Committee. The following key topics and recommendations resulted from the meeting:

Residential Septic

- The \$15,000 listed average cost of an Alternative Onsite Sewage Disposal System should be increased.
- To better determine an average cost of residential practices it was recommended that a survey of existing TMDL practices be examined.
- Support of the implementation of program bid requirements for residential practices.
- Due to the topography in the Upper Rapidan watershed it was projected that more RB-4P practices (conventional onsite sewage system with a pump) may be required, particularly in Garth Run.
- Agreed that the term “Failed” in Table 1 should be changed to “In need of repair”.
- Town of Orange and Stanardsville were identified as potential public sewer connections.

Agriculture

- Average length of fencing for SL-6 Stream Exclusion with Grazing Land Management increased when DCR cost-share was increased to 100%.
- It is projected that an increase in CREP will occur and the estimated distribution of cost-share funding should reflect this trend.
- It was determined that there was no regulatory requirement for livestock buffers. Although it is voluntary it is projected that farms will install exclusion fencing.

Potential Funding Sources

- Southeast Rural Community Assistance Project, Inc. (SERCAP) helps small rural towns and communities needing aid in upgrading their water and wastewater systems.
- VDOF reported that they were unaware of any current funding sources, although there is some money available for tree planting that may be available next year (VA Trees for Clean Water).
- Rapidan Better Housing and USDA Rural Development were suggested as potential funding sources.
- There are two urban cost share programs designed to address homeowner/commercial stormwater issues serving the Rappahannock watershed at this time. RRRRC has partnered with Friends of the Rappahannock (FOR) to promote the FOR Rainscape Retrofit Program and the Virginia Conservation Assistance Programs (VCAP), administered through participating SWCDs, has been reaching homeowner and commercial properties with best management practices geared towards nutrient and sediment reductions. The practices constructed through both of these programs will provide some benefit to bacteria reductions in certain situations.

Programs and Tools

- Suggested adding a 100% cost share rate for straight-pipe conversion as a pilot program due to the difficulty in identifying them.
- Recommended added WP-4 and SL-9 to go on AG list.
- Explore possibilities of creating a database for existing septic systems similar to the one done by Madison County for Robinson River TMDL-IP with WQIF funding.
- No mandatory pump out requirements for Counties located in this watershed.
- Including a monitoring component in the IP for monitoring "hot spot" locations during the project phase may help further target implementation. There will be several targeting scenarios identified in the IP based on livestock densities and stream access areas by subwatersheds as well as numbers of failing septic systems and straight pipes by subwatersheds. "Hot spot" type monitoring by citizen monitors and other groups may help direct BMP implementation within one of those subwatersheds
- The Center for Natural Capital student interns from Woodbury Forest and Madison County 4H wildlife club could be possible groups interested in monitoring.
- It was suggested that targeting older homes and/or dog owners for mailing outreach.
- It was suggested that partnering with utility companies could also be a targeted mailing outreach tool.

REVIEW OF THE DRAFT UPPER RAPIDAN TMDL IMPLEMENTATION PLAN & DISCUSSION:

Byron Petrauskas provided a review of the Draft Upper Rapidan TMDL Implementation Plan to the Steering Committee through a power point presentation. The following comments and recommendations were made:

Byron inquired as to whether or not the six animal waste structures recommended in the plan needed to have a location identified. Charlie Lunsford suggestion that they not be mapped, but instead note the watershed in which the structures are located. Mr. Petrauskas went on to explain his methodology for determining the recommended animal waste structures and asked the Steering Committee if his approach was acceptable, to which the attendees agreed.

Greg Wichelns stated four of the six structures were beef dry stacks in Orange County and the Orange Agriculture Cooperative Extension Agent offered to assist with education and outreach for them. Mr. Lunsford commented that 319 funds will not provide cost-share for animal waste structures, and inquired as to whether the animal waste structures were planned for Phase 2 of the plan, or if they should be in Phase 1. Greg Wichelns recommended they be put in both phases.

Greg Wichelns asked how cover crops fit into the modeling. Byron stated that cover crops provide a 20% bacteria load reduction. He assumed 65% cover crop in each impairment. The question was raised whether the bacteria is coming from manure or poultry litter in this case? The Agricultural Working Group was asked when they met if cover crops were prevalent, to which they responded yes, but maybe not for manure application, probably poultry litter.

Alyson Sappington inquired if cost share was available for cover crops if manure is applied, to which Charlie Lunsford stated there are currently no 319 funding available for cover crops for bacteria impairments. In watersheds with sediment impairments, cover crops have been funded by 319 funds. There are no reductions in the Chesapeake Bay Model for implementing cover crops unless manure is used, which then would require a nutrient management plan.

Greg Wichelns inquired as to whether or not farmers with no buffers should be targeted first or if monitoring data should direct priorities (addressing page 14, paragraph 3 in the draft plan). Byron stated that the information in that section of the plan was taken out of the working group meetings. Charlie Lunsford stated that recommendations of working groups are to be considered during implementation but may not be fully carried out because of program restrictions, policies and guidance. Charlie added that the monitoring data is often limited and therefore may not be effective in pinpointing priority areas. Greg stated that in the Upper Hazel, for example, there are some areas where the loading is obviously higher, and recommended rewording the draft plan to use "multiple criteria."

Greg Wichelns questioned the validity of the cost to install a retention pond used in the plan, feeling that \$150/acre treated is much too low. Attendees agreed. The cost of a dry pond is \$6,000/acre treated and a retention pond is \$8,000/acre treated. Charlie Lunsford recommended the funding for WP-1 (retention ponds) be increased. For the Upper York TMDL-IP the cost used was \$2,000/acre treated, which attendees felt was not unrealistic depending on topography, soil, etc. Charlie also recommended that "Sediment Retention, Erosion or Water Control Structures WP-1" be used instead of the term retention basin.

Greg pointed out that the draft plan suggests that 11 square miles of land will drain to retention ponds, which is lot of square miles and they cannot be located near a stream. Byron responded that these facilities are used in the plan as a backstop when the bacteria load reduction cannot be met using pasture management, buffers, etc. However, streams have been delisted without implementing any of the WP-1 practices called for in the TMDL Implementation Plans.

Byron Petrauskas asked for feedback on the number of FTEs allocated in the draft plan, and how the FTEs should be distributed between the two soil and water conservation districts. Alyson Sappington stated that only 500 acres of the watershed is within the Thomas Jefferson Soil and Water Conservation District. Charlie Lunsford stated that the plan only needed to identify how many FTEs needed to be funded, but did not need to determine where they would be located. Greg Wichelns and Alyson Sappington felt that \$50,000 for the Agriculture FTE and \$50,000 for the Residential FTE was too low. It was recommended that the figures be increase to \$60,000 for both.

Byron Petrauskas asked if the cost share percentages for SL-6 needed to be changed. Charlie Lunsford replied that both 319 and VACS are now funding SL-6 at 80% cost-share. The LE-1T practice is at 85% cost-share.

Greg Wichelns asked how CCI fits into the plan. CCI is a VACS practice that pays \$1 per foot to maintain existing fencing that is not under contract. Byron researched what is currently available and then made future predictions, assuming potential for expansion.

Kip Muman stated that NGO conservation grants and programs should be considered as funding sources in the IP as they can have funding available for fencing, water alternatives, etc with more flexibility on compensation. Examples include National Fish and Wildlife Foundation, Nature Conservancy, etc. that have been used in past TMDL implementation. These private sources may be especially useful in cases where a farmer is disinclined to work with government, and can also help with outreach. May Sligh inquired as to whether or not these programs are restricted to specific areas. Kip replied that the target areas vary each year according to need, and since the IP has such a long time span (15 years), it would be good to include them so that the watershed can be considered in the future if not already included in their current target area. May agreed that they should be included as funding sources.

Byron Petrauskas asked if \$1,000 each for Greene, Madison and Orange/Albemarle Counties was sufficient for pet waste education. Alyson Sappington stated that Thomas Jefferson Soil and Water Conservation District had a very difficult time getting residents to participate in pet waste composter cost share programs and could not even give them away for free. Jenny Biche stated that the Rappahannock-Rapidan Regional Commission had similar results, adding that the pet waste composters could only be used 6 months out of the year since they do not work when ground temperatures are below 40 degrees. Greg Wichelns pointed out that the residential workgroup had determined that kennels would be a better target than individual pet owners. Charlie Lunsford stated that there is not currently enough data available to determine what the impact of kennels are to the bacteria load, and recommended engaging local governments in discussions to assist in determining the impact. May Sligh stated that she has received some data from Orange County on kennel licensing and that she will share that information with Byron to be included in the IP. Attendees suggested workshops be held for this sector early on to get a dialogue started and gather information on current practices.

It was recommended that pet waste management programs start with education and outreach, then identify the best way to use funding to address it. \$20,000 for Phase 1 for the entire watershed was

suggested. Kip Muman stated that the James River Roundtable utilized 319 funds for pet waste education. Watershed Organizations can help with pet waste outreach and can share successful models and lessons learned.

It was recommended that the number of pet waste digesters be further than 2.5% to some nominal amount if not eliminated and the number of pet waste stations be changed from 10 to 20, with the bulk of them located around Orange. Input from Citizen Monitoring Groups and localities can help identify where to place the pet waste stations. The Town of Gordonsville has a pet waste ordinance, but the Town of Orange does not. It was recommended that Pet Waste Ordinances be encouraged.

With regard to roles and responsibilities, it was decided that Ag would fall under Culpeper Soil and Water Conservation District and pet waste would fall under the Rappahannock-Rapidan Regional Commission (with cost share responsibilities to remain with Culpeper Soil and Water Conservation District).

With regard to Table 12 & 13 in the draft plan, Greg Wichelns stated that Virginia Cooperative Extension be removed as a funding source and to follow up with them to see if they would be willing to help with education and outreach.

For Table 11, Charlie Lunsford stated he did not understand why the tracking system from VDH was in the plan and recommended that it be removed. Whitney Wright stated that all septic implementations will be tracked by VDH. He said that any alternative system installed after December 2011 will have sampling requirements and that the Virginia Department of Health would have that data available. What is needed is a way to get that VDH data on RB-5s spatially located by the TMDL watersheds and reported to DEQ.

Jane Dalton stated she would send her comments to the Steering Committee for their review and consideration.

REVIEW OF POWER POINT PRESENTATION FOR FINAL PUBLIC MEETING:

May Sligh invited attendees to the final public meeting at Montpelier's Lewis Hall on August 13, 6:00-8:00pm. Byron Petrauskas provided an overview of the draft power point presentation for the public meeting to the Steering Committee. The following comments and recommendations were made:

- Byron will update the list of acknowledgements to include attendees from this meeting.
- The slide showing the 15 year timeline should remove the 0% exceedance rate statement since the stream would be delisted once the bacteria loads were less than 10.5%, and instead add "water quality criteria".
- CCI are unit costs of \$1 and should add words "stream exclusion maintenance" to the slide
- Charlie Lunsford stated that IPs haven't built in CCI in the past, don't know what is being gained by including it
- "Implementation Reduction by Source" slide should be changed to total, not broken down by source
- "Cost of Implementation" slide should take out the numbers

- Charlie recommended removing total cost and instead use cost for delisting by watershed in the public document.
- Emphasize how much money comes into the localities, boosts economic development
- Kathleen Harrigan recommended that Charlie have IP success story publications available to share at the Final Public Meeting
- Measurable Goals & Milestones Slide—change meet water quality standards-put into stage I & II, include in both stages
- Remove Wetland Reserve Program (WRP) from the Potential Funding Sources slide; it is no longer available. Greg Wichelns will send Byron an update on WRP easement program.