

Robinson River, Little Dark Run TMDL Implementation Plan Development

Thursday, January 6, 2011

7 P.M.

Madison County Volunteer Fire Company, Virginia

Public Meeting #2

Attendance:

James Arrington, Madison Co. BOS	Leslie Jones, Eastern View High School
Jenny Biche', RRRC	James Kale, Citizen
Evan Blumenstein, Culpeper SWCD	Steve Korfanty, Citizen
Bruce Bowman, Citizen	Bud Kreit, Citizen
Cynthia Bowman, Citizen	Delano Kries, Citizen
Jennifer Carlson, VA DEQ	Cherri Lawson, Citizen
Deirdre Clark, RRRC	Janice Mayhugh, Eastern View High School
Sidney Coates, Citizen	Bill McDermott, Citizen
Cindy Crook, Rapidan Better Housing	Peggy Mocarski, Citizen
Diane Cross, Citizen	Peter Mocarski, Citizen
Harvey Dalton, Citizen	Ed Napier, Citizen
Jane Dalton, Citizen	Dale Poland, Citizen
Stephanie DeNicola-Turner, Culpeper SWCD	Marilyn Poris, Citizen
Bonnie Dixon, Citizen	Alex Ramey, Eastern View High School
Dwayne Dixon, VA Dept. of Health	Robin Ramey, Eastern View High School
Celia Dollarhide, Citizen	Gloria Roberts, citizen
Jacki Eisenberg, Citizen	Tom Roberts, Citizen
Pete Elliot, Madison Co. BOS	William H. Seale, Citizen
Aaksel Falk, Citizen	Jim Smith, Citizen
Jeff Farry, Citizen	Kim Smith, Citizen
Kristin Ford, VA Outdoors Foundation	Jackson Spivey, Citizen
Joe Goodall, Citizen	Bryant Thomas, VA DEQ
Ray Goodall, Madison Co. Planning Commission	Leri Thomas, Citizen
Alfred Goossens, Citizen	Charlie Thornton, Citizen
Kevin Grandpre, Citizen	Billy Tobib, Eastern View High School
Doug Graves, Citizen	Byron Petrauskas, Blue Ridge Env. Solutions
James Graves, Citizen	Harry Shepherd, Citizen
Jim Graves, Citizen	Bob Slusser, VA DCR
Lynn Graves, Citizen	Bryant Thomas, VA DEQ
Matt Graves, Citizen	Albert Utz, Citizen
W. Wallace Harvey, Citizen	Sylvia Utz, Citizen
Phil Hawkins, Citizen	Jim Wetzel, Citizen
R. Clay Jackson, Madison Co. Planning Commission	Greg Wichelns, Culpeper SWCD
Brad Jarvis, Madison County Extension	Spencer Yager, Culpeper SWCD
W.T. Jenkins, Citizen	
Jack Johnson, Citizen	

Introduction: Attendees were welcomed and staff introductions were made. Special guests Board of Supervisor James Arrington and Eastern View High School Envirothon students and their coaches were recognized. Attendees were asked to hold all questions until all presentations had been completed.

Robinson River, Little Dark Run TMDL Draft Implementation Plan:

Through the use of a power-point presentation, copies of which were provided to attendees, Mr. Petrauskas reviewed:

- The TMDL program background, phases of the TMDL IP process and steps to be followed in developing a water quality improvement plan;

- Details of the impairment histories of each stream, along with bacteria sources and reductions required to meet bacteria standards;
- Implementation actions including the identification of control measures, quantification of technical assistance needed, estimation of costs and determination of benefits;
- Measurable goals and milestones, stakeholders and possible funding sources;
- Examples of control measures; and
- Examples of agricultural and residential estimated funding scenarios.

Next steps:

- 30-day comment period ending February 7, 2011;
- VADEQ review and approval of the proposed implementation plan;
- USEPA review and approval of implementation plan;
- Continued encouragement of participation in cost-share programs offered through Culpeper Soil and Water Conservation District and the Virginia Department of Health.

Water Quality Monitoring Protocols

Bryant Thomas, VADEQ, provided information on DEQ's water quality monitoring standards, practices and procedures as follows:

- The recreation use criteria:
 - 126 E. coli colonies in 100mL of water geometric mean if at least four samples per month, taken weekly.
 - If less than four samples per month, assess against 235 e. coli colonies in 100mL of water
- Sampling procedures and scheduling include:
 - ◇ The two-year schedule includes sampling either monthly or every other month for a two year period;
 - ◇ The six year sampling schedule includes switching sampling locations every 2 years with some locations remaining fixed, while others are rotated, or new stations are added;
 - ◇ If more than 10.5% of the samples taken exceed 235 colonies/100 ml, river is placed on the Impaired Water List.
 - ◇ Duplicate and blank samples are taken 10% of the time.
 - ◇ Conditions such as drought, flood, flow, etc. are noted and considered;
 - ◇ Samples are collected and transported according to a specific procedure that includes temperature control.
- The Implementation Plan can include recommendations for additional sampling stations, increase number of samples, etc.

Upper Hazel TMDL-IP: A Project in Progress

Greg Wichelns, Culpeper Soil and Water Conservation District, provided an overview of the Upper Hazel River TMDL-IP program, noting the following:

- The project began two years ago;
- The Culpeper Soil and Water Conservation District provides technical assistance and information about cost-share programs and funding sources available.
- Typically, 50% cost share has been available for septic programs with an average cost of \$150 for pump out, \$2,000-3,000 for repairs, \$4,000 for conventional septic system replacements and \$10,000 for the installation of alternative septic systems;
- All agricultural BMPs are voluntary;
- Many who participated were skeptical and hesitant at first, but were satisfied with the end results;
- Over 100 projects have been completed and approximately \$200,000 in cost share spent for a total of about \$400,000 in improvements;
- Cost share programs assist landowners in improving their property while improving water quality, as well;
- Cost share for streamside fencing was increased from 75% to 85% in the Upper Hazel, and farmers were given the option of reducing the required 35 foot setback to 10 feet at 50% cost share; and
- An additional funding opportunity includes \$0.50 per foot stream exclusion fencing; this is currently available to farmers in the Robinson River and Little Dark Run watersheds.

Mr. Wichelns announced that Virginia recently released \$4 million for stream exclusion fencing in the Chesapeake Bay watershed to be used by July 2011. Additional funding is expected in the future.

Mr. Johnson, Madison County farmer, was not available to provide information on his experience with cost-share programs.

Due to the time constraints and the interest in answering all attendees' questions, the video, "Streamside Livestock Exclusion – Everybody Wins, by *The Downstream Project* was not shown.

Questions and Comments:

In response to questions from attendees, the following information was provided by project staff including Bryant Thomas (VA DEQ), Byron Petrauskas (Blue Ridge Environmental Solutions, Inc.), Bob Slusser (VA DCR), Greg Wichelns (Culpeper Soil and Water Conservation District), Dwayne Dixon (Virginia Department of Health), and Deirdre Clark (Rappahannock-Rapidan Regional Commission).

If the sources were addressed in the Upper Robinson and Little Dark Run, would there still be a problem in the Lower Robinson River?

Yes. There would be improvement, but the water would still be impaired.

If the E. coli bacteria levels get worse, who will be responsible for posting “No Swimming” signs along the rivers?

Closure postings apply to public swimming areas such as beaches and community lakes. The Health Department makes those decisions. Exceedence of the bacteria standard increases the incident of gastrointestinal problems, based on full body immersion. The Health Department doesn't sample water or post warnings along rivers, except to recommend avoidance of fish consumption. There are very few public water access points in the Lower Robison River.

What's the difference between the bacteria standard of 126 E. coli colonies per 100mL of water and 235 E. coli colonies per 100mL of water?

A sample taken once a week would be compared to the 126 E. coli colonies per 100 mL of water standard and a sample taken once a month would be compared to the 235 E. coli colonies per 100mL of water standard. It is based on statistical probability. To get high confidence in results, you need a high number of samples. The two numbers are used to address the probable variability in the number of samples taken.

When did the EPA establish the bacteria standard?

During the mid 1980s.

When did the EPA eliminate fecal coliform from the standard and why?

The DEQ began to phase out using fecal coliform numbers in approximately 2002 and eliminated it completely around 2005. E. coli was determined to be a better indicator of pathogens in the water. Note: subsequent to the meeting, the final date for implementing the E. coli criterion was confirmed to be June 30, 2008 and not 2005 as indicated in the meeting.

Is there a limited timeframe set from when the sample is taken and when it is analyzed at the lab? For example, say you leave your office at 8am, what time would you collect the sample? How long after would it be analyzed?

We would collect samples starting around 9 or 10 A.M. and the sample would be in Richmond and analyzed within 24 hours. There are protocols in place to preserve the sample collected, such as placing the sample on ice which prevents more bacteria growth, to ensure accuracy of the data. Testing has been done to make sure the protocol is efficient and accurate to include holding time studies to evaluate the effect of extended holding times on bacteria samples

After the implementation plan projects are underway, is data collected to evaluate the progress or effectiveness of the plan?

Yes, testing continues after the implementation plan has been initiated and we document the results. Thumb Run is an example where DEQ has implemented testing after implementation measures have been incorporated.

This TMDL-IP looks at bacteria levels in the streams in Virginia. However, the Chesapeake Bay TMDL looks at nutrient management. Why don't you just incorporate both problems into one forum?

TMDL is pollutant specific. Pollution budgets must be addressed specifically. However, implementing a bacteria TMDL-IP will have the benefit of addressing sediments and nutrients as many of the BMPs aimed to reduce bacteria levels will also mitigate nutrients and sediment.

Will there be two sets of rules, one for bacteria and one for phosphorus and nitrogen?

BMPs installed to achieve bacterial reductions will capture some phosphorus and nitrogen and will be credited toward phosphorus and nitrogen reduction, if and when those reductions are required. Also, Phase II of the IP will include an expanded list of BMPs that may be used.

I've spent money installing a compost storage facility, and some on fencing. Listening to your presentation, it seems the data sampling is inconsistent and relies on statistics. You mention that the data is taken for 2 years, and then you change the location, and it's not always done at the same time, sometimes monthly, sometimes every other month, different times of the day, sometimes E. coli, sometimes fecal coliform. The TMDL-IP will take several years and cost \$20 million. If we are going to spend that, I want the data to be absolutely right. You're looking at spending \$250,000 on one farm for exclusion fencing and alternative water supplies. It wouldn't cost that much to monitor data more consistently.

The testing is done consistently. If a sample indicates impairment, DEQ does go back to the same spot to take samples when evaluating changes or considering the water for delisting.

You can't farm if it costs you \$250,000 for exclusion fencing and alternative water supplies. There is also the loss of land due to the riparian buffer/fence set backs. And what happens when it floods and the fence goes with it? Or there is sediment erosion?

The state is looking at maintenance programs and extending contracts. Farmers have more flexibility in flood prone areas.

The power point presentation showed a goal of 56% reduction in bacteria loads after 12 years. Why is this percentage so low? Why not higher?

56% is the amount of reduction needed to meet the 10.5% standard and have the river taken off the impaired waters list. Ultimately it would be the goal to have 0% exceedances of the bacteria criteria

When doing the statistical analysis on the water samples, do you look at a weighted average when determining whether or not the sample exceeds 10.5%? Or is it a pass/fail process?

If 100 samples are taken, and 11 or more exceed 10.5%, the river is placed on the impaired waters list.

So you don't get any points for having a really good sample or loose points if you have a really bad sample?

That is correct. It's a pass/fail process.

Is there any enforcement to the TMDL-IP? How do you deter people from using straight pipes?

Participation is voluntary. In Agriculture it is incentive induced. On the Residential side, it is illegal to have a straight pipe. Discharge permits for wastewater treatment plants are enforced by DEQ. These dischargers are required to meet the water quality criteria at the point of discharge.

What about those residences that have been grandfathered in?

There is no such thing as a grandfathered straight pipe. Any untreated sewage is illegal. DEQ does enforce waste water treatment plants through permits and monitors them and can take corrective action if needed.

You stated there were 149 identified straight pipes in the watershed. Whose job is it to contact the landowner and enforce the penalty?

The Implementation Plan will include strategies for addressing straight pipes.

Let's say there is complete compliance with the livestock exclusion fencing with riparian buffers. Won't that create prime wildlife habitat and draw them to the stream and increase their contribution to the bacteria load?

The benefit of the buffer would need to be assessed—run off versus wildlife. However, the goal is to manage what we can. We can't manage wildlife but we can manage livestock.

I noticed you didn't have the National Park Service listed in the Acknowledgement slide, did they not participate?
We invited them to come to the Steering Committee meeting, but they were not able to attend. They did come to the Upper Hazel River TMDL-IP meetings. They do not currently have any funds available to anyone outside of the park. The park does water quality testing and monitors the waste stations for their recreational vehicle and camping areas and has been cooperative throughout the TMDL process.

Have the straight pipes been physically seen and accounted for?
The number of estimated straight pipes was derived through statistical analysis, but as Greg Wichelns stated earlier, the estimated number is more realistic than you might think. As we move forward in the IP, we can find out for sure, creating strategies to identify and make sure straight pipes aren't discharging into streams. Sometimes you can't see them from the stream, they may no longer be located at the edge of the stream due to flooding, overgrowth of plants, etc. Grey water, discharge from a kitchen sink or a washing machine is classified as sewage in the state of Virginia and is illegal to discharge into streams or ground water.

Will there be a cattle buy off?
No. Streams are a public resource and our goal is to help you help us—improve a public resource that everyone can use. We will work with you to find funding. We hear what you are saying and will carry that forward.

This will eliminate acreage for the farmers.
Farmers who have participated in the BMP's have lost fewer calves, had less disease among their herd, seen greater weight gain and have been happy with the results. BMP's aren't just about exclusion fencing. Farmers can plant trees, grow hay in the riparian buffer, etc. It's still your land and you can still do a lot with it.

Why blame cattle? Why not wildlife or straight pipes?
The bacteria levels are due to a combination of sources. We can manage impacts from cattle and straight pipes. DEQ's Stanton Office performed a study showing how much bacteria cow feces has versus raccoon feces and other wildlife. Cattle feces are much worse than raccoons or other wildlife.

How do you know it's a combination?
Bacteria source tracking was performed and identified the sources and their contributions.

Is the TMDL study on your website?
Yes, the TMDL study can be accessed through the RRRC's website and DEQ's.

Will there be money to do follow up on which practices did the best job? Will there be a post study that shows what is the real impact of the livestock exclusion or elimination of the straight pipes?
The study would need to compare apples to apples. In other areas of the state, we did monitor for bacteria levels that had had high livestock use, and 60 days after bmps we saw a huge difference. We would have no problem at all showing you the benefit of the IP.

You can calculate the density of cattle, straight pipes, so why can't you sample at the same time, same location? Why can't the study be based on the calculated density, rather than random samples? It doesn't give us confidence.
Density calculations represent potential impacts, whereas sampling captures actual impacts as present at the time the sample is taken.

What is the number that the bacteria are over the limit?
235 E. coli colonies per 100 mL of water for the DEQ samples

On December 27, 2010, I took a sample at 10:15 A.M. and took the sample to a lab. The stream had cattle in it. The reading was 79.8 E. coli colonies per 100 mL of water. There was close to no E. coli in that one sample.

Our data is available to view. You will see many samples well below the 235 E. coli colonies per 100 mL, and there are days where it's above. This could be due to higher flows, storm events, as well as dryer conditions that explain the contradictions.

If you want us to spend over \$20 million, the data needs to be consistent and funding needs to be there to evaluate the results. There needs to be consistency in the data first, and we need to evaluate the progress. We need to know how well we will do if we do all of this.

Funding for monitoring is separate from funding for the IP. DEQ will continue to monitor the streams. The IP can recommend increase monitoring, and citizen monitoring can help identify hot spots. There is a plan in place to evaluate progress. Monitoring will tell if there has been progress.

How will we ensure that the data and monitoring will be done to show progress?

Results will be compared before and after the IP.

Why not test at the headwaters?

Some testing has been done at the headwaters. USGS also performed some testing at the headwaters. USGS had 1 in 12 samples with exceedences and DEQ had 0 out of 12 samples with exceedences. We didn't find any exceedences.

How many permitted discharge facilities are there in the watershed?

Twelve. This may include 1 or 2 alternative residential systems. The water quality must meet discharge standards at the point of discharge.

I participated in something similar with a livestock exclusion program in 1968. It was on an 18,000 acre farm and we excluded livestock from the stream. Beavers moved in and farmers couldn't access the stream to remove the beavers. Stream side areas flooded and farmer lost grazing land. Who will help remove beavers that move into these streams?

Fish and Wildlife can help remove beavers from streams due to flooding.

When was the impaired waters list first established?

When the Clean Water Act was first enacted – 1972. DEQ has been doing assessments of data for many years, however, the first 303(d) impaired waters list was in the mid-1990,

What's Next?

Attendees were encouraged to contact project representatives with comments or questions. Contact information was provided. It was noted that all documents, including meeting agendas, notes, maps, and presentations may be viewed on-line at http://www.rregion.org/tmdl_hhr.html.

The thirty-day comment period on information presented at this meeting ends Monday, February 7, 2011.