Mine Run, Mountain Run, and Lower Rapidan River TMDL Implementation Plan

First Public Meeting

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VADEQ, Office of Watersheds and Local Government Assistance
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1

1

Welcome and Introductions

- DEQ Staff
- Meeting Attendees

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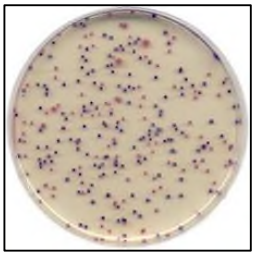
Purpose and Objectives of this Meeting

- Ensure meeting participants understand:
  - Implementation Plan project area and environmental concerns
  - Key elements of an Implementation Plan
  - Value of an IP for project area environmental restoration
  - Process and Schedule for IP development
  - How to comment on and participate in IP development



- Too much bacteria (E.coli) in the watershed
  - Poses human health concern
  - Indicator of pathogens in the water
  - Impacts on livestock health

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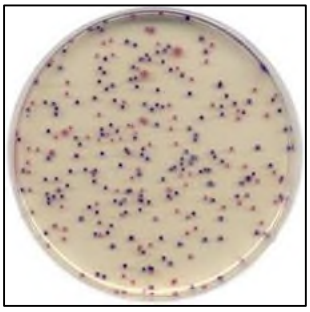
Bacteria Impairments: Background

- **Fecal bacteria** levels are used to assess the **Recreational Use** water quality standard.
  - Fecal bacteria organisms originate in the feces of warm-blooded animals. Fecal bacteria, parasites, and viruses can cause both acute (diarrhea and infections) and chronic (ulcers and arthritis) effects in humans
- How are **excessive** fecal bacteria levels determined?
  - DEQ collects and sends water sample to laboratory
  - Results compared to water quality standard for recreation in fresh water



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Virginia's Water Quality Process

- Water Quality Monitoring & Assessment:
  - Collect and analyze data
- Reporting
  - Identify impaired waters, 303(d) list under CWA
- Cleanup Studies
  - Plans for restoring impaired waters (TMDL)
- Cleanup Implementation Plans
  - Plans for actions needed to restore water quality (NPS pollution)
  - **We are HERE!**
- Implementing Control Measures
  - Permits (TMDLs), best management practices, cleanup actions
  - 319 Grant funding available for IP NPS BMPs

5

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5

What is a TMDL?

Total Maximum Daily Load is the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards.

A TMDL includes:

1. Identifying sources of pollution
   - Bacteria
   - 2005 and 2007 TMDLs for this study
2. Modeling their path to the stream
3. Determining the reductions needed from each source to meet the standard.

TMDL= Waste Load Allocation (point source) + Load Allocation (nonpoint source) + Margin of Safety

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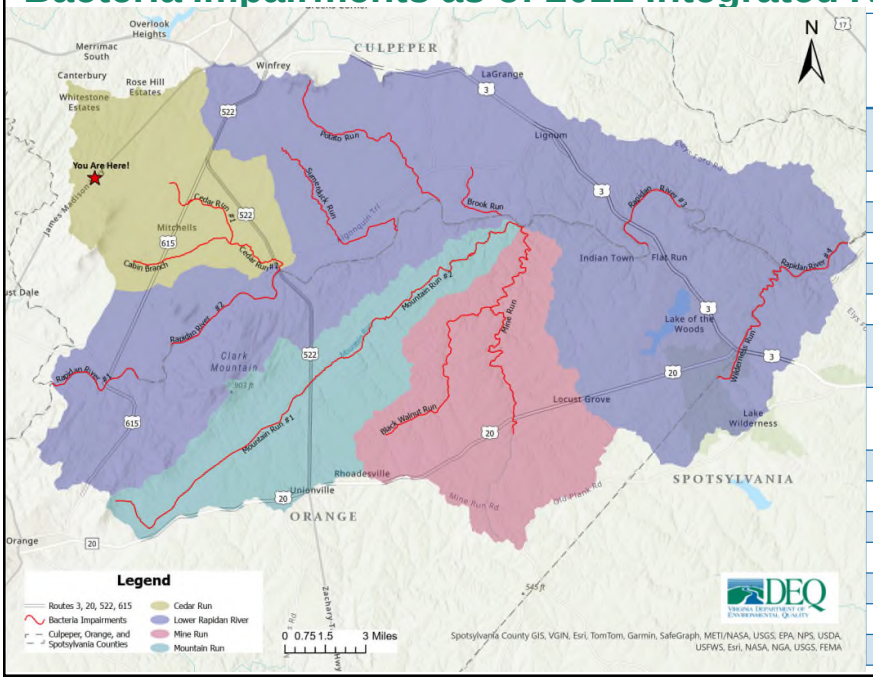
Bacteria Impairments as of 2022 Integrated Report



Impairment Name	Initial Listing Year	Impairment Miles
Black Walnut Run	2006	6.48
Brook Run	2018	2.51
Cabin Branch	2022	3.19
Cedar Run #1	2006	3.54
Cedar Run #2	2018	2.26
Mine Run	2002	10.50
Mountain Run #1	2006	7.46
Mountain Run #2	2002	10.11
Potato Run	2014	6.84
Rapidan River #1	2008	3.40
Rapidan River #2	2006	4.66
Rapidan River #3	2008	3.41
Rapidan River #4	2006	2.59
Sumerduck Run	2014	6.21
Wilderness Run	2008	5.56

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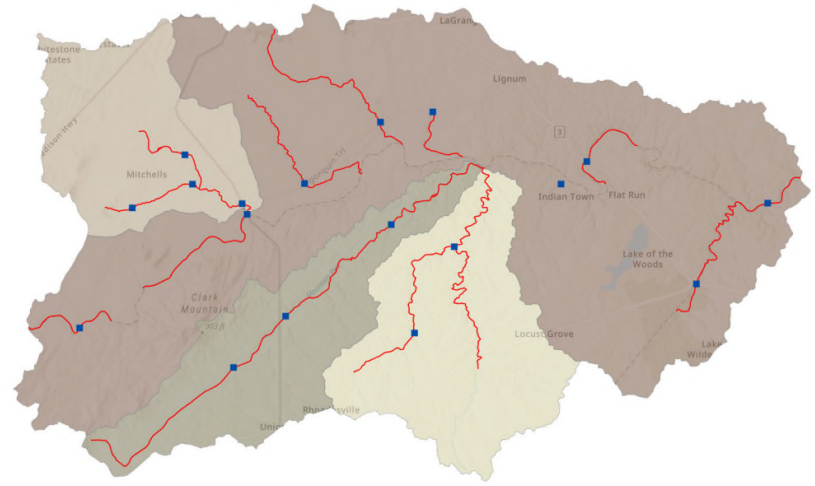
7

Water Quality Monitoring Stations

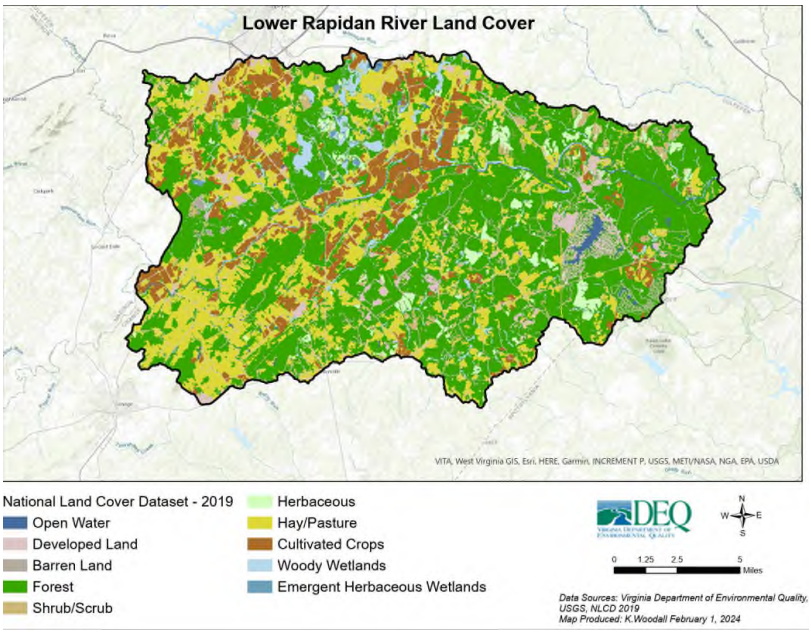


Spotsylvania County GIS, VGIN, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS, Esri, NASA, NGA, USGS, FEMA

8

8

NLCD Land Use 2019



Land Use Categories	Percent of Acreage
Open Water	0.8%
Developed Land	8.1%
Barren Land	0.2%
Forest	49.4%
Shrub/Scrub	2.1%
Herbaceous	0.6%
Hay/Pasture	22.8%
Cultivated Crops	9.9%
Woody Wetlands	3.1%
Emergent Herbaceous Wetlands	0.6%

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9

9

Potential Bacteria Sources

- Residential/Developed Lands
  - Straight pipes, failing septic systems, pets
  - Direct to stream
  - Developed land stormwater runoff
- Agricultural
  - Dairy, beef, horse, sheep
  - Direct to stream; pasture & cropland runoff
- Wildlife
  - Deer, turkey, goose, ducks, muskrat, raccoon, beaver
  - Direct to stream; forest & agricultural landuse runoff

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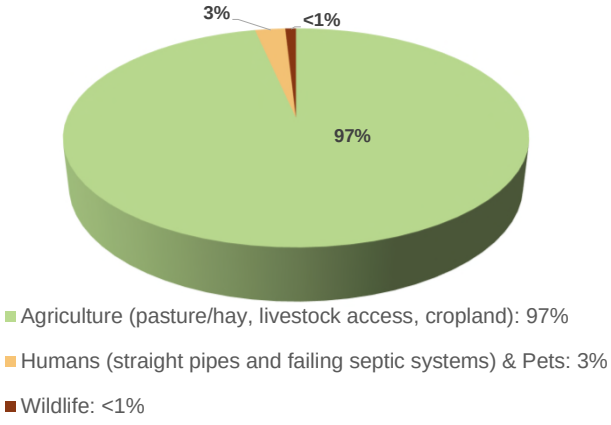
Review of the TMDL study Lower Rapidan River:
Bacteria Source Assessment



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11

Review of TMDL Study: Bacteria Load Reductions

IP Area	Failed Septic Systems & Straight Pipes	Livestock Direct Deposition	Agricultural: Cropland and Pasture	Developed Land	Wildlife Direct Deposition
Mountain Run	100%	100%	94%	94%	0%
Mine Run	100%	100%	40%	40%	0%
Cedar Run	100%	89%	89%	89%	0%
Rapidan River	100%	75%	46%	46%	0%

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What is a Clean Up Plan… aka Implementation Plan (IP)?

What the plan is….

- a document that details actions/strategies to achieve load reductions for nonpoint source pollutants as defined by the TMDL

1. Reviews TMDL
2. Actions to improve water quality (corrective actions)
   - BMPs, education & outreach, incentives, etc…
3. Cost-Benefit Analysis
4. Measurable goals
5. Timeline to achieve water quality goals/objectives
6. Public participation

Tells us "how" to improve water quality for nonpoint sources

What the plan isn't…

- A regulatory tool for nonpoint source pollution
- A static document

13

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Potential Agricultural Control Measures

Livestock Exclusion Fencing

Vegetation Cover

Water Trough

Rotational Grazing

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Potential Residential Control Measures

Septic System Pump out

Conventional Septic System Replacement

Septic System Repair

Alternative On-site Sewage Disposal System

15

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15

Pet Waste and Stormwater Control Measures

Pet Waste Station


Bio Retention (Rain Garden)


Vegetated Buffers


Street Sweeping


Streambank Stabilization

16

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16

What is your role in developing the Plan?

IPs are only as good as the information received/assessed

Need your help to know what's realistic… What are the real needs & interests?

Provide comments/feedback on:

- Land use practices
- Failing septic systems and straight pipes
- Livestock, wildlife and pet population estimates
- Are there particular management strategies that will work well in this area?
- Are there strategies that should be avoided?

Join the Planning Process!

Recommend outreach activities & funding sources

Identify potential partner organizations

17

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Timeline/Next Steps for the Clean Up Plan process

	Tentative Date
First Public Meeting	**February 21st, 2024** (Public comment period February 21st, 2024 – March 22, 2024)
Community Engagement Meetings	
# 1	April or May 2024
# 2	June or July 2024
Final Public Meeting	**August/September 2024** (Public comment period 30 days after Final Public Meeting)
EPA Acceptance	Winter 2024/Spring 2025 Eligible to apply for DEQ 319 funding in 2025, funds will be received to accepted applicants in 2026

18

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18

Submit comments to:
(Include name, organization (if any), mailing address and telephone number)

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Questions?

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