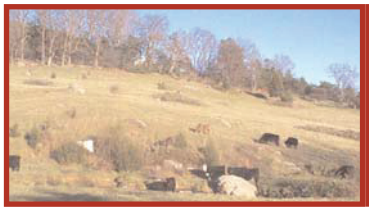
Moore's Creek Fecal Coliform TMDL Implementation Plan

Thomas Jefferson Planning District Commission

Prepared by the Thomas Jefferson Planning District Commission for the Virginia Department of Environmental Quality and the Virginia Department of Conservation and Recreation



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1.0 Executive Summary

This Total Maximum Daily Load (TMDL) implementation plan (IP) for Moore's Creek has been developed to establish an action plan to bring Moore's Creek into compliance with water quality standards. Achieving this goal will result in removing Moore's Creek from the 303(d) list of impaired waters. The plan was developed by the Thomas Jefferson Planning District Commission (TJPDC), working with a Technical Committee, and is based on plans and studies completed by agencies represented on the Committee.

Since Moore's Creek has been identified as an impaired waterway, Virginia was required to develop a TMDL for each pollutant. A TMDL is a "pollution budget" for a stream, setting limits on the amount of pollution that a stream can tolerate and still maintain water quality standards. The TMDL for Moore's Creek was prepared by the Department of Civil Engineering at the University of Virginia (UVA) and the Thomas Jefferson Planning District Commission (TJPDC). Virginia's Department of Environmental Quality (DEQ) and Department of Conservation and Recreation (DCR) submitted the TMDL to the Environmental Protection Agency (EPA). EPA approved the Moore's Creek TMDL in May 2002. The allocation scenario that met the TMDL target called for the removal of all non-permitted human sources (straight pipes, sewer system leakage, and failing septic systems) and all cattle from the stream, as well as reductions in grassland, residential, and urban loads.

This implementation plan (IP) outlines objectives and actions to achieve the following implementation goals:

- Remove cattle from the stream and achieve targeted reductions in grassland inputs.
- Implement stormwater best management practices to aid in reducing inputs from urban uses.
- Reduce inputs in residential and urban areas through removal of leaking sewers and failing septic systems.
- Reduce inputs in rural areas through removal of failing septic systems and straight pipes.
- Reduce inputs in urban, residential and rural areas through education.
- Through planning activities, identify and prioritize opportunities for stream protection and restoration, and ensure that codes and design standards are "water-quality" friendly.
- Perform inspection, monitoring and maintenance activities to eliminate illicit discharges, ensure proper stormwater system performance and prevent pollution.

Actions to realize these goals are to be implemented in a staged process. Implementation actions in the IP include:

- Agricultural best management practices (BMPs), including fencing, stream buffers, alternative watering systems, stream crossings, and a manure storage facility
- Stream bank protection and stabilization projects, consisting of erosion control measures

- Stormwater BMPs, including daylighting of streams, vegetated buffers, infiltration galleries, and creation of wetlands, ponds and floodplains
- Sanitary sewer system improvements, including smoke/dye testing of sewer lines, sewer line maintenance and inspection, upgrading of selected collector and sewer lines, manhole relining, and providing sewer service to areas with failing drainfields
- Correction of failing septic systems and straight pipes; including pumping and repair of failing septic systems at Southwood Mobile Home Park, developing a funding assistance program for septic problems, and developing a plan for straight pipe detections.
- Education programs, including public education on pet waste management, creating a website with the capacity to track citizen complaints, dovetailing water quality education with Standards of Learning in schools, creating and distributing brochures and fact sheets to homeowners and others, and expansion of the Adopt-a-Stream Program.
- Planning activities: completion of Albemarle's stormwater master plan, amendments to City Code, adoption of design standards, revision and improvement of UVA's stormwater master plan, and use of new development/redevelopment as opportunities for stream restoration
- Maintenance activities: enact an illicit discharge ordinance, develop mechanisms to detect and address illicit discharges, upgrade the storm drain Geographic Information System (GIS), enhance scope of the StreamWatch Program, perform stormwater maintenance and repairs, and develop mechanisms to prevent pollution

A number of these activities will be carried out as part of the regular budgets of Albemarle County, the City of Charlottesville and UVA. Others, such as sewer line extensions, may be accomplished through the regular budgets, but could be completed much more quickly with outside funding. Some activities, such as developing an assistance program for owners of failing septic systems, are unlikely to occur without outside funding. Sources of outside funding include grant programs such as the Chesapeake Bay Small Watershed Grants Program and EPA's Section 319 program, cost-share programs such as the Conservation Reserve Enhancement Program and Virginia Agricultural Best Management Practices Cost-Share Program, mitigation funds such as the Virginia Aquatic Resources Trust Fund, and loan programs such as the Virginia Water Facilities Revolving Loan fund.

Cost-benefit analysis indicates that the most "bang for the buck" can be obtained from agricultural BMPs, repair/replacement of septic systems and septic system owner education, and pet waste education. If funding is obtained and implementation occurs according to schedule, it is projected that approximately 68% of the water quality standard compliance goal should be achieved by 2010. A major revisitation of the plan should occur at that five-year point in order to ensure full compliance within ten years of the acceptance of the implementation plan.