



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

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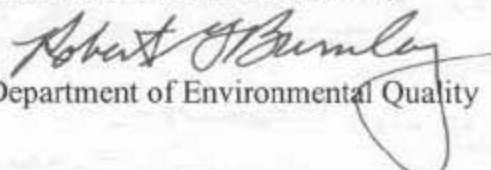
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March 17, 2004

**TO:** The Honorable Mark R. Warner  
Governor of Virginia

The Honorable Members of the General Assembly

**FROM:** Robert G. Burnley   
Director, Virginia Department of Environmental Quality

**SUBJECT: REPORT ON WATERSHED PLANNING AND PERMITTING**

The Department of Environmental Quality has finalized its annual report on watershed planning and permitting activities and the Watershed Planning and Permitting Coordination Task Force (established under §10.1-1194 of the Code of Virginia).

The report summarizes how the participating agencies worked to coordinate and promote watershed planning and permitting in the Commonwealth. It includes information on the Chesapeake Bay Tributary Strategies, the Total Maximum Daily Load Program, efforts to eliminate straight-pipe discharges, ways to improve implementation of the Agricultural Stewardship Program, EPA's Watershed Initiative grant program, and watershed roundtable activities.

The full text of the report can be found on the Department's web site at <http://www.deq.state.va.us/regulations/reports.html> or by calling Kathy Frahm, Director of Policy, at 804-698-4376.

**2003 ANNUAL REPORT  
ON  
WATERSHED PLANNING  
AND PERMITTING**



**SUBMITTED BY  
ROBERT G. BURNLEY, DIRECTOR  
DEPARTMENT OF ENVIRONMENTAL QUALITY**

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## EXECUTIVE SUMMARY

This report for the year 2003 is submitted to the Governor and the General Assembly in response to the requirement under §10.1-1193 of the Code of Virginia for an annual report on the Department's watershed planning and permitting activities, the Department's findings and recommendations and the findings and recommendations of the Watershed Planning and Permitting Coordination Task Force, the "Task Force" (established under §10.1-1194 of the Code of Virginia).

The Task Force is composed of the Directors, Commissioners or their designees from the following agencies:

- Department of Environmental Quality - [DEQ]
- Department of Conservation and Recreation - [DCR]
- Chesapeake Bay Local Assistance Department - [CBLAD]
- Department of Mines, Minerals, and Energy - [DMME]
- Department of Forestry - [DOF]
- Department Agriculture and Consumer Affairs - [VDACS]

The Virginia Department of Health [VDH], while not listed as a member of the Task Force in the Code, also participates.

In 2003, the Task Force met on April 3, August 20, and November 17. Discussions and presentations during those meetings focussed on the following issues:

- Chesapeake Bay Tributary Strategies
- Local Watershed Management Planning
- Total Maximum Daily Load [TMDL] Implementation
- Commitments under the Governor's Natural Resources Partnership Agenda, primarily with respect to the Agricultural Stewardship Act [ASA] and Straight Pipe Discharges/On-Site Systems
- US Environmental Protection Agency [EPA] Watershed Initiative Grant

In addition to the Task Force meetings, Task Force members were engaged in watershed permitting and planning activities throughout the year. This report also provides an overview of two major agency activities related to watershed permitting and planning, specifically the Total Maximum Daily Load [TMDL] program and the Roundtables Initiative.

## **1. INTRODUCTION**

Sections 10.1-1193 through 1197, Article 3, Chapter 11.1 of the Code of Virginia mandate the Department of Environmental Quality, with the assistance of participating state agencies, to coordinate and promote watershed planning and permitting by state and local agencies and authorities.

The legislation also created the Watershed Planning and Permitting Coordination Task Force ("Task Force") composed of the Directors, Commissioners or their designees from the following agencies:

- Department of Environmental Quality - [DEQ]
- Department of Conservation and Recreation - [DCR]
- Chesapeake Bay Local Assistance Department - [CBLAD]
- Department of Mines, Minerals, and Energy - [DMME]
- Department of Forestry - [DOF]
- Department Agriculture and Consumer Affairs - [VDACS]

The Virginia Department of Health [VDH], while not listed as a member of the Task Force in the Code, also participates. This report was prepared in accordance with the requirement to report annually on the watershed planning and permitting activities in Virginia.

## **2. TASK FORCE ACTIVITIES**

In 2003, the Task Force met on April 3, August 20, and November 17. Discussions and presentations during those meetings focussed on the following issues:

- Chesapeake Bay Tributary Strategies
- Local Watershed Management Planning
- Total Maximum Daily Load [TMDL] Implementation
- Commitments under the Governor's Natural Resources Partnership Agenda, primarily with respect to the Agricultural Stewardship Act [ASA] and Straight Pipe Discharges/On-Site Systems
- US Environmental Protection Agency [EPA] Watershed Initiative Grant

### **2.1. CHESAPEAKE BAY TRIBUTARY STRATEGIES**

The Task Force heard presentations on and discussed the process to develop and refine Chesapeake Bay tributary strategies. The process started in April 2003 with EPA's publication of water quality criteria for the Chesapeake Bay ("Bay"). The goal of the revised strategies will be to meet these newly developed tidal water quality criteria and designated uses. Tributary teams were established in summer 2003, with subsequent stakeholder meetings to review nutrient and sediment allocations, and to discuss and develop possible reduction scenarios. Revised strategies are expected to be completed by April 2004. The Secretary of Natural Resources



[SNR] web site contains a page dedicated to updates about the process.  
(<http://www.snr.state.va.us/Initiatives/TributaryStrategies/index.cfm>)

In November 2003, DEQ published a Notice Of Intent for Regulatory Action [NOIRA] to initiate the rulemaking process to adopt the EPA's criteria into the Virginia Water Quality Standards. Information about this process is available on the DEQ web site at <http://www.deq.state.va.us/wqs/rule.html>

## **2.2. LOCAL WATERSHED MANAGEMENT PLANNING**

The Task Force heard presentations on and discussed overviews and updates on local watershed management planning. In May 2003, DCR hosted six "Watershed Management Planning Workshops" describing the benefits of watershed management planning to local and regional government staff. **Attachment A** contains a summary table outlining the linkage between watershed management plans and other water-related planning activities in Virginia. The Task Force endorsed a letter from the SNR encouraging agency heads to send their affected staff to the training sessions. The challenges in working with local governments to implement an additional planning component were identified as both timing and funding, given the requirements from tributary strategies, TMDLs, urban stormwater programs etc. A goal of the training session was identified as determining the commonalities between program requirements. A guide on "Local Watershed Management Planning In Virginia" was distributed at the November Task Force meeting.

## **2.3. TMDL IMPLEMENTATION**

The Task Force continued to discuss the status of Total Maximum Daily Load [TMDL] implementation related to failing septic systems and straight pipe discharges as well as agricultural impacts.

### **Residential BMPs**

Since November 2001, staff from DEQ, DCR, and VDH held several meetings to discuss opportunities to enhance the correction of problem septic systems or straight pipe discharges into Virginia's bacteria-impaired waters. The initial focus of the effort was in three geographic areas currently being targeted with TMDL implementation plans [TMDL IPs]. The affected watersheds are located in Rockingham County, Washington County and Franklin County. **Attachment B** shows progress as of December 31, 2003, regarding BMP implementation for residential systems.

One of the issues identified during discussions with VDH was the impact of gray water discharges on the bacteria loadings from residential or urban areas. To address this additional source, DCR modified the residential BMP specifications to clarify that the removal and treatment of gray water discharges is eligible for cost-share funding.

## Agricultural BMPs

Since November 2001, staff from DEQ, DCR, and VDACS held several meetings to discuss opportunities to enhance the correction of agricultural problem sites contributing to Virginia's bacteria-impaired waters. The initial focus of the effort was in three geographic areas currently being targeted with TMDL implementation plans. The affected watersheds are located in Rockingham County, Washington County and Franklin County. **Attachment B** shows progress as of December 31, 2003, regarding agricultural BMP implementation.

## Other TMDL Implementation Updates

In addition to ongoing implementation efforts, five new implementation plan projects were initiated by DEQ, DCR and DMME in 2003: one urban TMDL IP in Northern Virginia was published for public comment (draft available at <http://www.deq.state.va.us/tmdl/tmdl/rpts.html#draftip>), TMDL IPs in Albemarle, Shenandoah and Loudoun County are currently under development and one TMDL IP for a mining-impacted stream was started in late 2003. A map showing the existing and new TMDL IP areas was distributed at the November Task Force meeting (**Attachment C**).

In July 2003, DEQ and DCR published a "Total Maximum Daily Load Implementation Plan Guidance Manual" for Virginia. The manual is available at DEQ's web site under <http://www.deq.state.va.us/tmdl/ipguide.html>

## **2.4. COMMITMENTS UNDER THE GOVERNOR'S NATURAL RESOURCES PARTNERSHIP AGENDA**

In April 2003, participants from key agencies and organizations met in the Governor's Natural Resources Partnership Summit to exchange ideas and to develop a proactive agenda dealing with Virginia's environmental and resource issues. Details can be found under the following link <http://www.snr.state.va.us/Initiatives/PartnershipSummit/> Two of the items identified directly relate to the activities of the Task Force:

Item 1: "Natural Resource agencies will work with local governments to identify and inventory illegal "straight pipe" discharges of raw sewage. Where appropriate, amnesty periods will be used to pursue compliance."

Following previous discussions by the Task Force, DEQ and DCR staff recommended the following strategy to respond to the Agenda commitment during the August meeting:

- Prioritize efforts on identifying and inventorying straight pipe discharges, and malfunctioning septic systems in those watersheds with waters impaired due to exceedance of the Virginia Water Quality Standards for bacteria.

A statewide tracking system recently developed by VDH will help in this effort. A process to



goals. The Roundtable is actively linked to the Elisabeth River, Lynnhaven River and other grassroots efforts.

**Eastern Shore Watersheds (Bay/Seaside)** - Building on three years of successful capacity building, monitoring and planning, the Eastern Shore Watersheds Network is hosting the Eastern Shore Tributary Strategy Revision process. The Network, a diverse group of Eastern Shore stakeholders has made great strides in coordinating and implementing the multitude of natural resource planning efforts on the shore since their formation in 2000. Further, the Network continues to work closely with VIMS, DEQ CZM, DCR, TNC and local stakeholders in building a seaside strategic conservation plan.

**Albemarle Sound** – The Southern Watershed Area Management Program, hosted by the Hampton Roads Planning District Commission (HRPDC) is currently working with the Albemarle-Pamlico National Estuary Program in an effort to exchange planning and environmental management information with the neighboring North Carolina counties. This effort will involve the sharing of data and planning tools that have been developed over the course of the SWAMP project such as Conservation Corridors Planning and Multiple Benefits Conservation Planning. Recently, North Carolina provided grant funds to expand the conservation planning efforts into the North Carolina portions of the watershed.

**Chowan River** – The Chowan Roundtable is continuing its work on capacity building within both the Virginia and North Carolina portions of the Chowan watershed. The Roundtable's work is focused on being bi-state project oriented and consistent with the goals and objectives of Virginia's agreement with North Carolina as a partner in the Albemarle Pamlico National Estuary Program. Recently the Chowan Roundtable, in coordination with the Blackwater RiverKeepers, has initiated a series of informational forums to educate and motivate local stakeholders towards voluntary stewardship. Further, the Roundtable partners have completed their second year of the oil recycling and tank cost share program. This program is a joint venture between Virginia and North Carolina stakeholders.

**Roanoke River** – The Upper Roanoke River Roundtable has gauged citizen interest and documented environmental issues of principal need by arranging a series of public meetings across the basin, from the headwater regions in Montgomery County, throughout Smith Mountain Lake, and down to Leesville Lake. The roundtable continues to work closely with North Carolina and the Virginia General Assembly's study committee working towards establishment of a bi-state river commission.

**New River** – The New River Roundtable recently unveiled the watershed's strategic plan, developed as a result of being named a National Heritage River. This plan is a dynamic, five-year working document with strong grassroots support, and is not intended to sit on a shelf. Initiatives in the strategic plan include: agriculture, forestry, urban, transportation, development, recreation, tourism, groundwater, surface water, wastewater, solid waste management and reclamation, education, and communication. Focus groups are presently developing the first annual plan for implementation.

the wastewater treatment plant operators, mini-grants to promote local watershed involvement, and it hosts an annual summit among policy-makers, citizens, and its diverse membership.

**Potomac Watershed** –The Board of Supervisor members on the Potomac Watershed Roundtable are extremely involved in local water quality activities and are helping to host and guide the Tributary Strategy planning process and its coordination with the Interstate Commission on the Potomac River Basin. The Roundtable is helping to convey that the pollution reduction methods cited in the Tributary Strategy need to be adopted by policy makers throughout the Potomac. The Potomac Watershed Roundtable works closely with Maryland, West Virginia and the District of Columbia to ensure that Virginia takes approaches complementary to those of the other jurisdictions.

**Rappahannock** - Workgroups of the Rappahannock River Basin Commission, in association with the Rappahannock Conservation Council, have an active role in a regional water supply planning process that allows local governments to evaluate water resource needs and make cooperative decisions regarding growth and future drinking water consumption. Other events sponsored by the workgroups include conservation training for real estate agents, GIS training for local planning staff, and the installation of a rain garden at a Spotsylvania middle school.

**York River** – The York Watershed Forum has generated interest among local governments, Randolph Macon College, the Nature Conservancy, and Planning District Commissions, leading to stewardship initiatives in Mechumps Creek in Hanover County and the expansion of conservation efforts in Dragon Run and Lake Anna. Strong partnerships between local, regional, and state stakeholders have been the key to expanding watershed-planning initiatives throughout the York basin.

**Upper James** – The Upper James River Roundtable is working in cooperation with local governments, Soil and Water Conservation Districts, the US Forest Service and waste water treatment owners to make the Upper James Tributary Strategy revision process a successful one. There has been a positive response from active citizens and community groups to participate on the planning team. Through this process, the Upper James River Roundtable aims to revitalize watershed based, natural resource protection initiatives.

**Middle James** - The Piedmont James River Roundtable's current focus is the Tributary Strategy. Over the past three years, it has sponsored presentations to each of the local government Boards of Supervisors to ensure progressive understanding of the water quality conditions and policies affecting county and city governments. An educational initiative supported by the Roundtable is the promotion of responsible use of fertilizer products for residential lawns via a modified fertilizer bag label (negotiated with the company) that was expected to be distributed with 7,000 tons of fertilizer products by the end of 2003.

**Lower James River** - The Lower James River Roundtable, hosted by the Hampton Roads Planning District Commission, has recently undertaken the planning process for the Lower James portion of the James River Tributary Strategy revision process. More than 65 diverse stakeholders have committed to helping to define and develop solutions to meet the new Bay

A draft concept paper for a multi-agency proposal entitled "Innovative Approaches To TMDL Implementation" was presented and discussed at the November meeting of the Task Force. After discussions with DCR, VDH, VDACS, and DMME, DEQ proposed a broad-based multi-partner concept for submittal to EPA. Building on issues raised and discussed at previous Task Force meetings, the concept paper described four components addressing 1) TMDL implementation linked to the ASA, 2) TMDL implementation linked to VDH efforts targeted at remediating straight pipes and failing septic systems, 3) TMDL implementation projects to mitigate mining impacts, and 4) a TMDL implementation project to address urban pollutant loadings.

The Task Force discussed the components themselves, the geographic areas suitable for implementing the innovative approaches and the option of linking the Virginia proposal with an interstate proposal by ORSANCO. The Task Force ultimately endorsed moving the concept paper to the proposal stage as well as exploring the possibility of joining with the ORSANCO proposal. By late December, ORSANCO members had voted to keep the two proposals separate and DEQ finalized the Virginia-only proposal on behalf of the affected agencies. If funded, the proposal is intended to demonstrate, measure and enhance the effectiveness of TMDL implementation strategies under a variety of conditions in Virginia (**Attachment E**).

In addition to the DEQ-led proposal, only two other proposals were received:

1. James River Watershed Restoration Program, submitted as an intrastate proposal (VA) by the James River Association
2. Shenandoah Valley Watershed Initiative, submitted as an interstate proposal (VA-WV) by the Northern Shenandoah Valley Regional Commission

On January 14, 2004, Governor Warner recommended all three proposals to EPA for funding. EPA is expected to announce selections in May 2004 and complete the grant award process by September 2004.

### **3. AGENCY WATERSHED PLANNING AND PERMITTING ACTIVITIES**

In addition to the Task Force meetings, Task Force members were engaged in watershed permitting and planning activities throughout the year. This section provides an overview of the agency activities related to watershed permitting and planning.

#### **3.1. VIRGINIA TMDL PROGRAM**

In order to meet its commitments under the 1999 Federal Court Consent Decree governing the Virginia TMDL Program, the Commonwealth developed ~ 30 freshwater TMDLs in 2003. Of these, 17 were approved by EPA prior to December 31, 2003. The remainder are pending approval at EPA, pending submittal to EPA or still open for public comment. DEQ's web site provides detailed information on public meetings, draft reports and EPA approval documents. <http://www.deq.state.va.us/tmdl/tmdlrpts.html>

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**New River** – The New River Roundtable recently unveiled the watershed's strategic plan, developed as a result of being named a National Heritage River. This plan is a dynamic, five-year working document with strong grassroots support, and is not intended to sit on a shelf. Initiatives in the strategic plan include: agriculture, forestry, urban, transportation, development, recreation, tourism, groundwater, surface water, wastewater, solid waste management and reclamation, education, and communication. Focus groups are presently developing the first annual plan for implementation.



**Upper Tennessee River** - Upper Tennessee River Roundtable, Inc. (UTRR) was awarded \$800,000 through EPA's national competition, the Watershed Initiative Grants Program. With the partners of North Carolina, Tennessee, the Canaan Valley Institute and the Tennessee Valley Authority, Virginia will be implementing the Roundtable's initial strategy action plan, bring much needed support for widespread grassroots attention to water quality issues throughout this region.

**Big Sandy River** – Using the standard abbreviations associated with Kentucky, West Virginia, and Virginia, the Big Sandy River Basin Coalition, Inc. (BSRBC) has developed a clever rally cry with “**Keep Your Watershed Vision Alive!**” The BSRBC includes nearly all of Southwest Virginia, and is casting a broader partnership net as they intensify their very promising courtship with the Ohio River Valley Sanitation Commission (ORSANCO).

**ATTACHMENT A – Relationship of Watershed Management Plans to Specific Virginia  
Planning Initiatives**

## The Relationship of Watershed Management Plans to Specific VA Planning Initiatives

Virginia Planning Initiatives	Relationship
<p><b>TMDL Implementation Plan (TMDLIP)</b> The second step in the TMDL process, the TMDLIP identifies the measures, costs, and timeframes needed to implement the previously developed TMDL.</p>	<p>WMP is broader than a TMDLIP since it addresses water quality and riparian and habitat issues. Since TMDLIPs include specific actions and timetables they are a starting point for a broader WMP. Incorporating the TMDLIP in the WMP puts the TMDL effort into the context of overall watershed protection efforts.</p>
<p><b>Tributary Strategies Plan</b> Tributary strategies planning identifies the general range and amount of management measures needed in a Chesapeake Bay tributary to reduce nutrients and sediments in accordance with the developed load allocation.</p>	<p>WMP can be the local planning unit upon which the basin-wide tributary plan is built and can also be the local implementation plan for the larger Trib Strategies basin plan. When a TMDLIP for benthic impairments is included in a WMP, the included load reductions for nutrients &amp; sediment could be integrated into local Trib Strategies implementation.</p>
<p><b>Storm Water Phase 2 Municipal Separate Storm Sewer Systems (MS4s)</b> The MS4 permits require municipal separate storm sewer system owners (usually local government or VDOT) to address 6 minimum control measures. Storm sewer planning can be a part of a local program.</p>	<p>WMP can provide the mechanism to meet as few as 3 and as many as 6 of the required minimum control measures, including public education &amp; stakeholder outreach, public participation and implementation of good housekeeping, pollution prevention measures. The purpose of WMPs is consistent with the stated pollution prevention goals for the MS4 program.</p>
<p><b>Comprehensive Plan</b> Local comprehensive plans guide the coordinated development of land within an jurisdiction. In Tidewater comprehensive plans must address water quality protection and include several WMP components.</p>	<p>WMPs can be the vehicles for environmental inventory and evaluation of a jurisdiction's natural resources related to land use. WMPs can be the vehicle for watershed-specific guidance in Comp Plan. Including WMPs and any TMDLIPs in the comprehensive plan will link future growth and development efforts to the specific implementation actions contained in the WMP &amp;/or TMDLIP.</p>
<p><b>303(e) Water Quality Management Plans (WQMP)</b> WQMPs focus on identified impairments or potential problems and consist of: 1) the Water Quality Management Plan Regulation - the waste load allocation (WLA) component of TMDLs, WLAs in non-TMDL waters, effluent limitations, and stream segment classifications and 2) non-regulatory requirements such as TMDLIPs, other NPS management and pollutant reduction activities, and municipal and industrial waste treatment needs.</p>	<p>WMP can be the local planning unit upon which the non-regulatory plans addressing nonpoint source pollution are based and can also be the local implementation plan for the same non-regulatory plans. When a TMDLIP for benthic impairments is included in a WMP, the included load reductions for nutrients &amp; sediment could be integrated into the regulatory plan implementation.</p>

**ATTACHMENT B – TMDL Implementation Status Report**

Table B.1. TMDL Implementation Progress – Residential BMPs

TMDL IPs	Estimated Units Needed *	Progress	
		Installed	Under Contract
Rockingham Co.	- 54	- 5 failing systems repaired	3
Washington Co.	- 209	- 83 septic systems pumped out - 3 straight pipes replaced - 4 failing systems repaired/replaced - 1 sewer connection of failing system	30
Franklin Co.	- 15	- 6 straight pipes replaced - 3 failing septic systems repaired	6

\*Estimated needs include sewer connections, septic system repairs, drainfield maintenance and/or alternative waste treatment systems

Table B.2. TMDL Implementation Progress – Agricultural BMPs

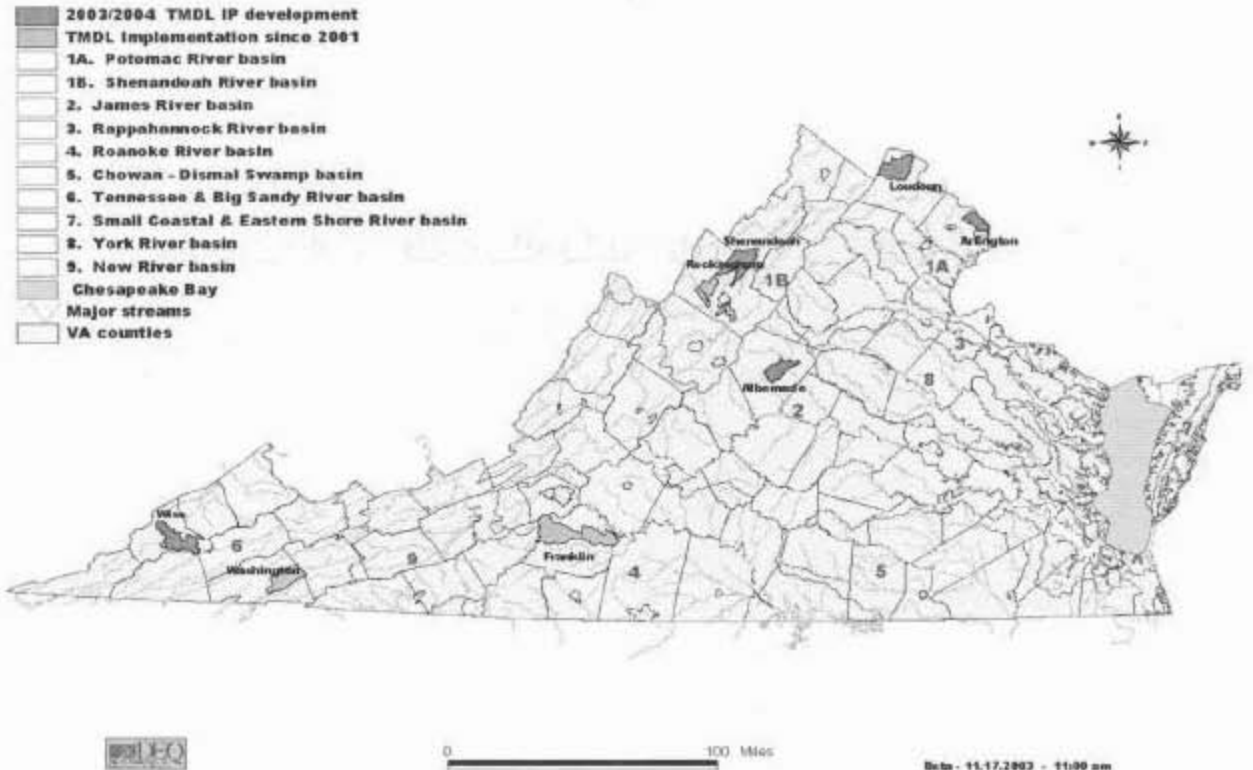
TMDL IPs	Estimated Units Needed (partial)	Progress	
		Installed	Under Contract
Rockingham Co.	- 116 miles of stream fencing - 18 dairy waste storage systems - 3 poultry waste storage systems	- 2.66 miles (807 dairy cattle and 299 beef cattle excluded) - 1 dairy waste storage system	13
Washington Co.	- 39 miles of stream fencing <sup>1</sup>	- 8.5 miles (1,250 livestock excluded)	12
Franklin Co.	- 70 miles of stream fencing	- 0.54 miles (16 dairy and 40 beef cattle excluded)	6

<sup>1</sup> The original estimate of 86 stream fencing miles shown in the Implementation Plan was recalculated taking into account pasture tracts that actually are being utilized as opposed to just mapping pasture land adjacent to all blue line and intermittent streams.





## Watersheds with TMDL Implementation Activities - November 2003



**ATTACHMENT D – DRAFT Memorandum of Agreement For On-Site Systems**

MEMORANDUM OF AGREEMENT

AMONG THE

VIRGINIA DEPARTMENT OF HEALTH,  
VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION,  
AND THE  
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TO ADDRESS

FAILING SEPTIC SYSTEMS AND STRAIGHT PIPE DISCHARGES

CONTRIBUTING TO THE IMPAIRMENT

OF THE WATERS OF THE COMMONWEALTH

November 17, 2003

*[DRAFT]*

## Introduction

In April 2003 Governor Warner issued a Natural Resources Partnership Agenda as a result of a Leadership Summit that was held in Williamsburg. The third item in the Agenda includes the following commitment:

*"Natural Resources agencies will work with local governments to identify and inventory illegal "straight pipe" discharges of raw sewage. Where appropriate, amnesty periods will be used to pursue compliance."*

Secretary of Natural Resources, Tayloe Murphy, tasked Robert G. Burnley, Director of DEQ, to take the lead on this item. The Director decided to coordinate this effort, among other Agenda items, through the Watershed Permitting and Planning Coordination Task Force, that he chairs. The Task Force consists of the Directors of DEQ, DCR, CBLAD, VDACS, DOF, and DMME. VDH was also requested to participate in the Task Force meetings via representation from the VDH Office of Environmental Health Services and/or Division of Onsite Sewage and Water Services to assist in developing a strategy in response to the Agenda commitment.

### I. Background

Exceeding the water quality criteria for bacteria is the most frequent cause for including waters of the Commonwealth on the 303(d) list of impaired waters. Over 3000 miles of Virginia streams are impaired due to levels of bacteria that make the waters unsuitable for swimming and other primary contact recreation activities.

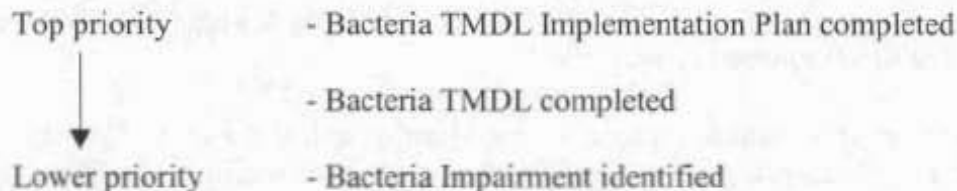
As of November 2003, the Commonwealth has developed Total Maximum Daily Load ["TMDL"] studies for 48 waters due to bacteria impairments. For the streams included in those TMDL studies, the source of bacteria are commonly due to agricultural activities, failing septic tank drainfields or straight pipe discharges, urban runoff and wildlife sources.

This Memorandum of Agreement ["MOA"] focuses on addressing actions that can be taken toward the goal of eliminating, or reducing, the incidence of inadequate on-site systems, such as failing septic tank/drainfields or straight pipe discharges of raw sewage.

It is also recognized by the signatories of this MOA that the key to successful implementation of the strategy is the need for collaboration among state agencies and local governments.

### III. Action Steps

The following paragraphs identify actions that state and local agencies can take to reduce the severity and extent of impaired waters in the Commonwealth due to exceedance of the bacteria standards from failing or inadequate on-site sewage disposal systems. Priority for action among the waters should be taken as follows:



1. Prioritize efforts to identify and inventory straight pipe discharges, and malfunctioning septic systems, in those watersheds where waters exceed the Virginia Water Quality Standards for bacteria.

A statewide tracking system recently developed by VDH will help in this effort. The implementation/enhancement of this tracking system for straight pipes and failing septic systems, coupled with increased inspections, pumpouts and outreach efforts in watersheds with bacteria TMDLs, will enable VDH to provide quantitative reporting on removing existing bacteria sources. Together with ambient monitoring, this tracking system would allow the state to evaluate the impact of targeted remediation on impaired waters. By generating increased awareness of the magnitude of the problem, the tracking system would also help with outreach efforts.

2. Identify strategies to enhance collaboration among VDH, DEQ, DCR, local health departments and Local Soil and Water Conservation Districts in watersheds with impaired waters to assist in the:
  - development of TMDLs;
  - development of TMDL Implementation Plans (IPs); and,
  - implementation of the IPs to achieve Water Quality Standards.

For example, feedback mechanisms need to be developed so that local health departments are alerted when straight pipe discharges or failing on-site systems are identified through the TMDL process.

In addition, when active implementation planning and implementation is underway in a watershed, the local health department can share information with DEQ and DCR when repair permits are issued or when straight pipe discharges are identified.

3. Local governments routinely rely on the following means to locate inadequate on-site

**“Innovative Approaches to TMDL Implementation –  
Tennessee/Big Sandy River Basin”**

**A Virginia Proposal Under the EPA Watershed Initiative**

**USGS Watershed Codes (HUC) targeted in the Tennessee/Big Sandy River Basin**

**06010205 – Clinch River – Guest River, VA Watershed Code P11**

**06010102 – Holston River – Three Creeks, VA Watershed Code O05**

**Contact Information:**

**Mr. Charles H. Martin  
Manager, Watershed Programs  
VA Department of Environmental Quality  
629 East Main Street  
Richmond, VA 23219**

**Phone: (804) 698-4462  
FAX: (804) 698-4116  
E-Mail: [chmartin@deq.state.va.us](mailto:chmartin@deq.state.va.us)**

**This proposal addresses hypoxia in the Gulf of Mexico.**



**ATTACHMENT E – Proposal for “Innovative Strategies in TMDL Implementation”**

The undersigned agree to support the implementation of the actions identified in this MOA.

\_\_\_\_\_  
Robert B. Stroube, MD, MPH  
State Health Commissioner

\_\_\_\_\_  
Date

\_\_\_\_\_  
Joseph H. Maroon  
Director  
Virginia Department of Conservation and Recreation

\_\_\_\_\_  
Date

\_\_\_\_\_  
Robert G. Burnley  
Director  
Virginia Department of Environmental Quality

\_\_\_\_\_  
Date

systems: complaints; shoreline surveys [associated with shellfish waters]; and TMDL studies.

By working with local governments the agencies agree to explore means of enhancing the local government efforts to identify inadequate on-site systems. Possible enhancements include using infrared aerial photography, identifying incentives for local governments to expand their efforts at identifying failing on-site systems, and exploring means of expanding access to private properties for conducting investigations of illegal connections, failing on-site systems, straight pipe discharges.

4. Promote existing funding mechanisms available through the Commonwealth to repair or replace malfunctioning septic systems and install septic or alternative waste treatment systems to replace straight pipes, such as:

- Loans available through the Virginia Revolving Loan Fund
- Grants available through funding sources such as the Water Quality Improvement Fund or Section 319.

DEQ and DCR will provide local health departments with information about these financial assistance programs when funds are available.

5. Conduct periodic conferences and other information exchange among DEQ, DCR, VDH, local health departments and Soil and Water Conservation Districts in the localities and watersheds with bacteria impairments. This enhanced communication will allow for the key parties to exchange information on experiences to date in: 1. identifying locations of inadequate on-site sewage systems; 2. communicating the status of correction actions; 3. identifying impediments to successful implementation; and 4. developing solutions for better coordination and support among agencies.

## **“Innovative Approaches to TMDL Implementation – Tennessee/Big Sandy River Basin”**

### **Abstract**

**Project Cost:** \$ 850,000 federal (74.01%)  
+ \$ 298,500 non-federal (25.99%)  
\$1,148,500 total (100%)

**Project Duration:** Three years

Virginia DEQ is proposing a broad-based, multi-partner concept to demonstrate, measure and enhance the effectiveness of TMDL implementation strategies under a variety of conditions in Virginia. This proposal includes one project for each short-term goal identified for several sub-watersheds in the Tennessee/Big Sandy River basin. The projects aim 1) to develop and implement a partnership between voluntary and regulatory state programs aimed at reducing water quality impacts from agriculture; 2) to develop and implement a state-local project aimed at identifying and remediating inadequate residential wastewater systems; 3) to implement a pilot project aimed at remediating impacts from mining activities; and 4) to develop and implement outreach materials targeted at urban pollutants.

## **WORKPLAN DESCRIPTION**

### **1. Introduction**

On behalf of several agencies charged with improving water quality, the Virginia Department of Environmental Quality (DEQ) is proposing a broad-based, multi-partner concept under the 2004 Watershed Initiative. Four projects will demonstrate, measure and enhance the effectiveness of Total Maximum Daily Load (TMDL) implementation strategies under a variety of conditions in Virginia. The applicability of the projects, while targeted to the Tennessee-Big Sandy Basin, is statewide and is expected to result in water quality improvements beyond the local impairments. Practices targeted for implementation are expected to reduce nutrient loads to the Mississippi River and thus to the Gulf of Mexico, assisting in the reduction of the hypoxia problem in that water body. Also, the proposed procedures and field studies will be useful in addressing nutrient and sediment issues linked to the restoration of the Chesapeake Bay.

#### **1.1. Description of Watershed**

The Virginia portion of the Tennessee-Big Sandy River Basin is located in southwest Virginia and is made up of the Holston, Clinch-Powell, and Big Sandy River subbasins. The Tennessee River eventually empties into the Gulf of Mexico via the Mississippi River.

#### **1.2. Threats to the watershed and overall goals**

In the 2002 305(b) report, approximately 165 river miles in the Tennessee-Big Sandy basins were listed for not supporting the swimmable use due to high bacteria levels. A similar number of stream miles did not support the aquatic life use as measured by benthic macro-invertebrate monitoring. Other water quality threats to the rivers in the watershed include unknown toxicity, habitat alterations, PCBs and metals (~ 2, 16, 58 and 83 miles respectively).

The overall long-term water quality goals for the watershed to be addressed by this proposal are to develop successful procedures and actions for remediating water quality impacts from agricultural practices, inadequate wastewater systems, mining activities and urban runoff. The related short-term goals are to 1) develop and implement a partnership between voluntary and regulatory state programs to reduce water quality impacts from agriculture; 2) develop and implement a state-local project to identify and remediate failing septic systems; 3) implement a pilot project to remediate impacts from mining activities; and 4) develop and implement outreach materials targeted at urban pollutants. The proposal has one project for each short-term goal.

These goals fit with other water quality concerns in the watershed, such as the prevalence of substandard septic systems, endangered species in the Clinch and Powell rivers, and the Upper Tennessee Roundtable work currently being funded under the EPA 2003 Watershed Initiative.

#### **1.3. Related assessments and plans completed to date**

Within the Tennessee-Big Sandy River Basin, four bacteria TMDLs were approved in the Three Creeks area of the Middle Fork Holston subbasin in 2002. The TMDLs required, among other things, livestock exclusion from streams and the identification and remediation of failing septic systems and straight pipes. A TMDL implementation plan (IP) was completed in 2001. Implementation using a voluntary approach has been occurring for the last two years. This proposal will test innovative approaches during TMDL implementation by 1) incorporating a

state regulatory tool for agricultural impacts in a consistent and targeted manner and 2) providing new tools for addressing residential wastewater treatment.

The Guest River sediment TMDL was approved in November 2003. The grassroots Guest River Group has been active in watershed restoration activities since 1996 and will develop a TMDL IP by fall 2004. Reclamation of abandoned mined lands and urban sediment control will be part of the Guest River TMDL IP. Funding from this proposal will be used for immediate on-the-ground implementation of two mining-related remediation actions as well as for outreach and other control actions targeted at urban sediment loads.

## **2. Description of the Proposed Study Projects**

This proposal consists of four projects aimed at improving water quality in watersheds with approved TMDLs and TMDL IPs. The projects address the short-term goals related to agricultural impacts, residential septic systems, mining activities and urban runoff. Specifically, the projects will 1) apply a complaint-driven regulatory process in a comprehensive way in several watersheds with currently existing TMDL IPs in order to increase nonpoint source implementation to achieve water quality standards; 2) apply a multi-pronged approach to the problem of identifying, tracking and remediating problem septic systems to watersheds with bacteria TMDLs IPs, 3) apply innovative and market-based approaches to reclaiming and restoring mined lands, and 4) develop and implement non-structural Best Management Practices (BMPs) for sediment control in urban areas.

### **2.1. Project impact on watershed health**

The benefits of the projects include: 1) development and field-testing of a new template linking voluntary and regulatory controls for agricultural water quality impacts, and installation of agricultural BMPs; 2) development and field-testing of an effective approach to identifying and remediating inadequate residential wastewater systems, increased repair, modification and replacement of failing septic systems, and reduction or elimination of straight pipes; 3) re-forestation of 1,000 acres impacted by mining, stabilization and re-vegetation of 500 ft stream-bank and 9 acres of coal refuse, while field-testing a market-based re-mining approach for broader applicability; and 4) sediment reductions from urban areas through outreach measures.

The overall results are expected to be attainment of the swimmable use and significant improvements in the benthic health for four streams in the Middle Fork Holston sub-basin due to nutrient and sediment reductions, as well as significant reductions in mining-related and urban sediment and nutrient loads for the Guest River. All four projects will also yield transferable methods and practices for use in other areas of the river basin and the state of Virginia.

### **2.2. Project Details**

#### **2.2.1. Field Studies for an Agricultural BMP Partnership**

The first project aims to integrate existing Virginia Agricultural Stewardship Act (ASA) regulations with TMDL implementation efforts, i.e. as a backstop where the standard cost share BMP programs have not secured participation of all parties that are causing or will cause the pollution of state waters. Funding will be used to support staff at the Virginia Department of Agriculture and Consumer Services (VDACS) to investigate operations that have not participated with voluntary implementation efforts in the TMDL watersheds. This effort is expected to result in the identification of problem sites and the implementation of appropriate BMPs to address the



resource concerns in those areas during the grant cycle, with expected measurable water quality improvements in the near future. The process used would also serve as a statewide template and may be transferable to other parts of the country.

The **project components** are 1) developing an inventory of near-stream farming operations believed to contribute to high bacteria concentrations and associated sediment and nutrient loads in the TMDL streams, 2) developing a template for TMDL-related ASA complaints and for outreach materials, 3) site visits to each complaint site by dedicated VDACS staff, 4) implementation of VDACS required BMPs using available funding mechanisms, and 5) water quality monitoring at the TMDL monitoring stations.

The **project schedule** (see Appendix A) calls for developing the landowner inventory and procedural templates, hiring staff, and initiating the process in year 1; developing the necessary corrective plans and starting implementation in year 2; and completing the necessary BMP installations with follow-up site visits and water quality monitoring in year 3. The overall **project cost** (see budget page) is expected to be ~ \$190,000, including grant funding of \$140,000 for dedicated staff, travel and equipment, and ~ \$50,000 in non-federal match from in-kind services or non-federal funding to install the required Best Management Practices. The **project milestones** are: 1. Completion of inventory and templates, 2. Hiring process complete, 3. Complaints filed, 4. Sites visited, 5. VDACS determinations made, 6. VDACS plans completed, 7. BMP implementation started, 8. BMP implementation completed, 9. Water quality monitoring initiated, 10. Water quality monitoring completed, 11. Data analysis.

#### **2.2.2. Field Studies for a Septic System Partnership**

The second project is to improve partnership with the Virginia Department of Health (VDH) to deal with failing septic systems and straight pipe discharges. Funding will be used for the identification of inadequate residential wastewater systems and likely straight pipe locations through infrared aerial photography as well as follow-up visits by VDH staff. This project builds on ongoing efforts to address these problems, namely the currently ongoing development and implementation of a VDH data collection and tracking system that covers (among other things) straight pipes and failing septic systems repairs and replacement, as well as local efforts in the TMDL implementation areas. This project will enable VDH staff, together with other local and state agencies, to systematically identify and address wastewater system failures and straight pipes in watersheds with bacteria TMDLs, thus preventing fecal organisms of human origin from entering bacteria-impaired streams. Together with ambient monitoring, this identification approach combined with the tracking system will allow the state to evaluate the impact of targeted remediation on impaired waters.

The **project components** are 1) developing an inventory of failing wastewater systems and likely straight pipes in watersheds with bacteria TMDL IPs through infrared aerial photography; 2) developing an approach for intensive targeting of the problem sites through site visits and follow-up; 3) working with homeowners and localities to identify the best solution for addressing the problem sites; 4) repair/replace individual systems using available funding sources; 5) application of the new VDH tracking system to the target watersheds, and 5) water quality monitoring at the TMDL monitoring stations.

The **project schedule** (see Appendix A) calls for acquisition of infrared aerial photography showing suspect wastewater systems, hiring of dedicated VDH staff, and developing the procedural approach during year 1, site visits and corrective plan development

during year 2, and BMP implementation and tracking as well as monitoring during year 3. The **project cost** is \$158,000, including grant funding of \$117,000 for aerial photography, staff, travel and supplies; and ~41,000 provided as in-kind services or non-federal funding for BMP match (see budget page). **Project milestones** are: 1. Completion of problem site identification, 2. Hiring process complete, 3. Problem sites visited, 4. Tracking data entry complete, 5. Corrective actions identified, 6. Corrective actions completed, 7. Water quality monitoring initiated, 8. Water quality monitoring completed, 9. Data analysis and recommendations.

### **2.2.3 AML Partnership Using Cooperative and Market-Based Approaches**

The third project addresses mining issues in a watershed with a sediment TMDL. One way to accelerate reclamation of abandoned mined lands (AML) is through re-mining. Two specific innovative corrective actions to be funded (carbon sequestration and AML enhancement, see fact sheets in Appendix B) have been identified by staff at the Department of Mines, Minerals and Energy (DMME). Both involve practices and partnerships outside the typical DMME AML projects and include measures to improve water quality and benefit the watershed.

The **project components** are 1) to reforest 1,000 acres on privately held lands mined prior to 1981, and 2) to re-vegetate 9 acres of coal refuse and stabilize 500 feet of stream bank. The **project schedule** (see Appendix A) calls for contract establishment in year 1; reprocessing the coal pile, procuring easements and establishing some vegetated areas in year 2; and finalizing the re-vegetation followed by monitoring in year 3. **Project cost** (see budget page) is \$770,000, including \$570,000 requested in federal funds for easements, plant materials and labor; and \$200,000 in non-federal matching funds provided by DMME, The Nature Conservancy and the DMME contractor. **Project milestones** are: 1. Initiate contract for re-mining and stream and surface stabilization, 2. Re-vegetation initiated, 3. Re-vegetation in progress/complete, 4. Easement procured, 5. Reforestation initiated, 6. Reforestation in progress/complete, 7. Water quality monitoring, 8. BMP tracking, 9. Data analysis, evaluation and recommendations.

### **2.2.4 Innovative Approaches to Urban Runoff Mitigation**

The fourth project addresses urban runoff issues related to sediment TMDLs. Controlling the sediment load from urban areas is a challenge and this project will allow the development of tools for dissemination in urban areas throughout the state. The Guest River Group has been working with great success to restore the Guest River and its tributaries. Lessons learned so far provide a building block for further efforts to address urban runoff issues. During the TMDL IP development process, various opportunities for innovative approaches to reduce sediment loading in areas impacted by urban runoff will be explored and be ready for implementation and tracking at the time of the grant award. Outreach activities for controlling sediment in urban areas of the watershed will be implemented and developed for technology transfer to other parts of the state. One specific project is to develop a workshop for local governments that addresses procedures local governments can utilize to support TMDL implementation in their communities. Information regarding the effectiveness of various BMPs in the watershed can be disseminated both statewide and nationally.

The **project components** are 1) to develop outreach materials for sediment targeted at residents in urban areas with high sediment loads (as identified in the TMDL and other Guest River Group projects), and 2) to implement other non-structural BMPs as identified in the IP. The **project schedule** (see Appendix A) calls for the materials to be developed in year 1 and for

## FACT SHEET 1

**PROJECT TITLE:** A Carbon Sequestration Project on AML<sup>1</sup> in the Guest River Watershed of Wise County Virginia<sup>2</sup>

**PROJECT LOCATION:** Headwaters of Guest River in Wise County, Virginia off Route No. 620 at Dixiana and Flat Gap.

**PROJECT AREA:** Approximately 1000 acres of AML on privately held lands mined prior to 1981. The area includes abandoned highwalls, spoiled outcrops, and poorly vegetated mine benches that contribute sediment to the Guest River.

Budget estimates are based on 1000 acres. Smaller projects are possible but marketing credits for areas less than 500 acres is not likely according to local utilities.

### **GENERAL PROJECT**

**DESCRIPTION:** Reclaim the lands to current environmental standards and re-establish forest. Obtain appropriate easements for the forested lands to guarantee long-term forest and qualify for carbon sequestration credits. The Virginia Department of Mines, Minerals, and Energy (DMME) could manage the project and work with The Nature Conservancy (TNC) and local utilities on planting, forest management and the carbon credits. TNC will monitor the carbon credits.

### **MEASURABLE**

**BENEFITS & BMPS:** Stabilization of land surfaces using regrading, topsoiling, drainage control, revegetation, and re-forestation to eliminate the lands' current contributions of sediment to the stream.

<b>GENERAL BUDGET:</b>	<b>Grant Funds Requested -</b>	<b>\$470,000</b>
	<b>Matching AML Funds Provided by DMME - (TNC provides monitoring for the Carbon Sequestration)</b>	<b>\$160,000</b>
	<b>Total Project Cost -</b>	<b>\$630,000</b>

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<sup>1</sup> Abandoned Mined Lands

<sup>2</sup> Narrative describing carbon sequestration project is attached.

lead agency in Virginia's TMDL program, DEQ staff is uniquely suited to implement this grant to ensure a holistic approach to watershed restoration and water quality improvements. Letters of support are included in Appendix C.

#### **4. Outreach Activities**

The outreach component will build upon outreach materials and activities developed in TMDL areas. Among the materials to be developed during the grant period are brochures on the TMDL process for distribution by VDACS and VDH staff. Numerous meetings with local stakeholders will be held to discuss and evaluate the success of each approach. Expected cooperators include Soil and Water Conservation Districts, county governments, citizen groups, and state and federal agencies. Results from the projects will be shared at the annual Watershed Initiative Conference for nationwide information transfer. The experiences gathered in the selected watersheds with all four projects will serve as models for other communities with TMDLs and TMDL implementation plans. The projects will further and enhance the public's understanding of the watershed issues and how various state and local programs and agencies can work together to effectively address them. It is expected that through the activities and materials developed with these projects, participation in these and other TMDL projects will be encouraged. The dissemination of results is ensured statewide because of numerous ongoing TMDL and TMDL IP development projects that involve the public on a regular and consistent basis.

**Table 1. Budget Information – EPA Watershed Initiative Grant Program**

**SECTION A – BUDGET SUMMARY (Preliminary)**

Watershed Project, Activity or Work Plan Element	Federal	Non –Federal 25.99%
<b>1. Agricultural BMP Partnership</b>	<b>\$140,000</b>	<b>\$51,000</b>
<b>2. Problem Septic Systems Partnership</b>	<b>\$117,000</b>	<b>\$40,000</b>
<b>3. Abandoned Mined Lands Partnership</b>	<b>\$570,000</b>	<b>\$200,000</b>
<b>4. Urban BMP project</b>	<b>\$23,000</b>	<b>\$7,500</b>
<b>Totals = \$1,148,500</b>	<b>\$850,000</b>	<b>\$298,500</b>

**SECTION B – BUDGET CATEGORIES (Preliminary)**

Watershed Project, Activity or Work Plan Element	Ag BMP project <sup>1</sup>	Septic System project <sup>2</sup>	AML project <sup>3</sup>	Urban BMP project <sup>4</sup>
a. Personal	2-yr position	2-yr 0.5 position	\$	\$7,500
b. Fringe Benefits	2x \$34,700 2x \$10,300	1x \$34,700 1x \$10,300		
c. Travel	2x \$6,000	2x \$6,000		
d. Equipment	2x \$10,000			
e. Supplies	2x \$6,000	\$10,000	\$100,000	\$10,000
f. Contractual	2x \$3,000	\$50,000	\$470,000	\$10,000
g. Construction	\$51,000	\$40,000		
h. Other			\$200,000	\$3,100
i. Total Direct Charges (sum line a-h)				
j. Indirect Charges				
Totals – (sum Line i-j)	\$191,000 incl. match \$51,000	\$157,000 incl. match \$40,000	\$770,000 incl. match \$200,000	\$30,500 incl. match \$7,500

\1\ Excerpted from Standard Form 424A, OMB Circular A-102.

<sup>1</sup> Annual estimated budget provided by VDACS

<sup>2</sup> Budget estimated by VADEQ (aerial photography \$50,000, supplies for outreach \$10,000, salary and travel for staff support)

<sup>3</sup> General budget provided by DMME, category breakdown estimated by VADEQ (supplies for plant materials \$100,000, contractual work \$250,000, other for easements \$220,000)

<sup>4</sup> Budget estimated by VADEQ (supplies for outreach \$10,000, contractual for other non-structural BMPs \$10,000, other for meetings \$3,100)



## Appendices

### Appendix A. Project Schedule

Activity	Year 1	Year 2	Year 3
<b>Ag BMP Partnership</b>	<ul style="list-style-type: none"> <li>-Develop inventory</li> <li>-Develop templates</li> <li>-Hire dedicated staff</li> <li>-Complaints filed by DEQ staff</li> <li>-Site visits by VDACS staff</li> </ul>	<ul style="list-style-type: none"> <li>-Develop corrective plans</li> <li>-Start/continue BMP implementation</li> <li>-Follow-up site visits by VDACS staff</li> </ul>	<ul style="list-style-type: none"> <li>-Continue/complete BMP implementation</li> <li>-Final site visits</li> <li>-Water quality monitoring at TMDL stations</li> </ul>
<b>Septic System Partnership</b>	<ul style="list-style-type: none"> <li>-Acquire aerial photographs</li> <li>-Hire dedicated staff</li> <li>-Develop site visit and follow-up approach</li> <li>-Identify funding options (SRF, 319, local)</li> </ul>	<ul style="list-style-type: none"> <li>-Site visits and follow-up by VDH staff</li> <li>-Initiate problem system tracking</li> <li>-Develop corrective plans</li> <li>-Start corrective action</li> </ul>	<ul style="list-style-type: none"> <li>-Continue/complete corrective actions and tracking</li> <li>-Final site visits</li> <li>-Water quality monitoring at TMDL stations</li> </ul>
<b>Abandoned Mined Land Partnership</b>	<ul style="list-style-type: none"> <li>-Contract for reining</li> <li>-Procure easements</li> <li>-Initiate reforestation</li> </ul>	<ul style="list-style-type: none"> <li>-Complete reining and begin stabilization/revegetation</li> <li>-Continue reforestation</li> </ul>	<ul style="list-style-type: none"> <li>-Complete reforestation</li> <li>-Carbon credit tracking</li> <li>-Water quality monitoring at TMDL stations</li> </ul>
<b>Urban BMP Project</b>	<ul style="list-style-type: none"> <li>-Select # of urban corrective actions from IP</li> <li>-Prepare outreach materials</li> </ul>	<ul style="list-style-type: none"> <li>-Start/continue BMP implementation and outreach activities</li> </ul>	<ul style="list-style-type: none"> <li>-Complete BMP implementation</li> <li>-Water quality monitoring at TMDL stations</li> </ul>



## Appendix B. Mining Project Fact Sheets

One way to directly involve the coal industry with DMLR's efforts to reclaim AML is AML enhancement projects. AML projects that involve the incidental extraction of coal are referred to as "enhancement" projects. Contractors are allowed to off-set the cost of construction and reclamation of AML with coal extraction at the AML site that is incidental to the work. Along Toms Creek, a tributary to the Guest River, is an abandoned pile of coal refuse that contributes sediment to the stream. Because it is classified as a priority three feature, a conventional AML project is not possible at the present time. Re-processing and reclaiming the refuse or "gob" pile could be an excellent example of AML enhancement. With some grant funds (approximately \$100,000) to assist DMME, a coal operator might agree to enter into a contract to clean up the pile. As a second project, the Virginia Department of Mines, Minerals, and Energy (DMME) and The Nature Conservancy (TNC) identified the potential for carbon sequestration projects in association with both abandoned and active coal mine sites in southwest Virginia. Project sites exist for mined lands in the Guest River Watershed of Wise County. Two fact sheets developed by DMME are attached.

## Appendix B. Mining Project Fact Sheets

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**PROJECT TITLE:** A Carbon Sequestration Project on AML<sup>1</sup> in the Guest River Watershed of Wise County Virginia<sup>2</sup>

**PROJECT LOCATION:** Headwaters of Guest River in Wise County, Virginia off Route No. 620 at Dixiana and Flat Gap.

**PROJECT AREA:** Approximately 1000 acres of AML on privately held lands mined prior to 1981. The area includes abandoned highwalls, spoiled outcrops, and poorly vegetated mine benches that contribute sediment to the Guest River.

Budget estimates are based on 1000 acres. Smaller projects are possible but marketing credits for areas less than 500 acres is not likely according to local utilities.

### **GENERAL PROJECT**

**DESCRIPTION:** Reclaim the lands to current environmental standards and re-establish forest. Obtain appropriate easements for the forested lands to guarantee long-term forest and qualify for carbon sequestration credits. The Virginia Department of Mines, Minerals, and Energy (DMME) could manage the project and work with The Nature Conservancy (TNC) and local utilities on planting, forest management and the carbon credits. TNC will monitor the carbon credits.

### **MEASURABLE**

**BENEFITS & BMPS:** Stabilization of land surfaces using regrading, topsoiling, drainage control, revegetation, and re-forestation to eliminate the lands' current contributions of sediment to the stream.

<b>GENERAL BUDGET:</b>	<b>Grant Funds Requested -</b>	<b>\$470,000</b>
	<b>Matching AML Funds Provided by DMME - (TNC provides monitoring for the Carbon Sequestration)</b>	<b>\$160,000</b>
	<b>Total Project Cost -</b>	<b>\$630,000</b>

---

1 Abandoned Mined Lands

2 Narrative describing carbon sequestration project is attached.

## **Carbon Sequestration Project on Abandoned Mined Lands in the Guest River Watershed**

The Virginia Department of Mines, Minerals, and Energy (DMME) and The Nature Conservancy (TNC) identified the potential for carbon sequestration projects in association with both abandoned and active coal mine sites in southwest Virginia. Project sites exist for mined lands in the Guest River Watershed of Wise County. The Nature Conservancy established an office in southwest Virginia in 1989 to conserve the extraordinary biological diversity in that region of the country. With rare freshwater fish and mussels, the Clinch and Powell rivers rank as the number one and number three rivers in the United States for imperiled species. The Conservancy's Clinch Valley Program is recognized as a national priority based on the area's ecological significance.

For many years DMME has been developing innovative tools for mined land reclamation at active and abandoned coal mine sites. As part of a nationwide cataloging of mined lands, the DMME maintains an inventory of abandoned coal mine lands (AMLs) in Virginia. This inventory lists approximately 39,000 acres of unreclaimed abandoned mine lands within the Commonwealth, of which approximately 8,000 acres are rated as Priority I and II sites. This rating means that these AML sites have features that are extreme dangers or adversely impact human health and safety. The estimated cost to reclaim the Priority I and II sites is \$115,000,000. The remaining 31,000 acres are rated as Priority III sites, meaning these are sites with environmental and aesthetic problems but are not a risk for human health or safety. Within the Clinch and Powell river watersheds, there are approximately 11,000 acres of Priority III lands. The estimated cost to reclaim all of the Priority III sites is \$314,000,000. Funds required to reclaim Priority III lands will never be available from the federal AML Fund, which was established in conjunction with the 1977 Surface Mine Control and Reclamation Act. Remining these lands remains the best option for reclamation; however, incentives must be created before a coal mine operator will assume the reclamation liability and remine the sites. DMME has developed incentives to encourage remining, and carbon sequestration projects could be an enhancement by providing a funding source for reforestation.

AML program guidelines dictate that state programs focus on reclaiming high priority sites before reclaiming Priority III areas. AML program funding for Priority III sites is therefore severely limited. Furthermore, fee collection from coal mine operators to support AML programs is set to expire in September 2004. Legislative proposals that would extend the program retain the limitations on Priority III reclamation or even eliminate Priority III reclamation under the AML program. Alternative funding sources are necessary to reclaim and reforest these AML sites. Without special initiatives, many of Virginia's Priority III sites will never be reclaimed. Implementing carbon sequestration projects on abandoned mine lands would not only sequester carbon but also are necessary to encourage reclamation of Priority III sites. Working together for nearly a decade, DMME and TNC have forged a strategic alliance to promote incentive-based approaches to mined land reclamation. Programs have included coal remining, forestation as a desirable post-mining land use, inventories of acid mine drainage, and promoting innovative treatments for those sites. Most recently, TNC and DMME entered into a formal Memorandum of Understanding in September 2000 to "promote the missions of both organizations through reforestation of mined lands in Southwest Virginia." With this proposal,



for protection of the lands enrolled in the program  
would ensure that lands stay in the program  
therefore, we estimate that approximately 75 tons  
from this project. In summary, an excellent opportunity  
Mines, Minerals, and Energy and The Nature  
carbon sequestration project in the Guest River  
with DMME, may reforest approximately 208 acres  
approximately 800 acres of active lands if the funds

## FACT SHEET 2

**PROJECT TITLE:** An AML<sup>3</sup> Enhancement Project in the Guest River Watershed of Wise County, Virginia<sup>4</sup>

**PROJECT LOCATION:** Toms Creek off Route No. 652 near Coeburn in Wise County, Virginia.

**PROJECT AREA:** Approximately 9 acres of abandoned coal refuse on privately held lands mined prior to 1981. The area includes the waste from coal processing and mining in the Banner Seam. The coal refuse pile contacts the stream bank over a 500 foot section and contributes sediments to the stream.

### **GENERAL PROJECT**

**DESCRIPTION:** Reclaim the lands to current environmental standards by contracting with a coal operator to re-process the coal refuse pile. Because the pile was created when coal cleaning and separating processes were not nearly as efficient as today, marketable coal remains in the pile. With an AML enhancement agreement and some supporting funds, a private coal operator or contractor would re-mine, completely eliminate the refuse pile, and reclaim the area. The project would involve design and re-construction of the stream and stream bank stabilization.

### **MEASURABLE**

**BENEFITS & BMPS:** Stabilization of land surfaces using regrading, topsoiling, drainage control, revegetation, and re-forestation to eliminate the lands' current contributions of sediment to the stream and to stabilize the stream bank.

<b>GENERAL BUDGET:</b>	<b>Grant Funds Requested -</b>	<b>\$100,000</b>
<b>Matching funds provided by DMME contractor - (DMME provides monitoring and inspection)</b>		<b>\$40,000</b>
<b>Total Project Cost -</b>		<b>\$140,000</b>

---

<sup>3</sup> Abandoned Mined Lands

<sup>4</sup> Narrative describing AML enhancement is attached.



## **An Abandoned Mined Land Enhancement Project in the Guest River Watershed**

The Virginia Department of Mines, Minerals, and Energy's Division of Mined Land Reclamation (DMLR) presently works toward the identification and reclamation of AML in the state. During the late 1970s and early 1980s, DMLR personnel canvassed the Virginia coalfields to develop an inventory of AML. The agency inventory teams focused their efforts on the identification and documentation of mine related human health and safety problems. These sites were rated as high priority or priority 1 & 2 and federal law mandates that AML funds be used first to correct these problems. Less attention was given to priority 3 AML features such as barren lands, spoiled outcrops, abandoned highwalls, and clogged streams, that are harmful to the environment - but posed no threat to human health and safety. Although some narrative data were recorded on these environmental problem areas, no extensive inventory was completed. The last AML inventory update was conducted in 1986 and 1987.

One of Virginia's streams identified as impaired due to historical coal mining is the Guest River in Wise County. The Department of Environmental Quality (DEQ) identifies 28 miles of stream from the headwaters to the Bad Branch confluence as not meeting the state's standard for aquatic life. Non-point source pollution from coal mining in the watershed has contributed to the degraded aquatic habitat and DEQ lists one of the impairment sources as resource extraction. The Guest River is located in Wise County and is part of the Clinch River Basin. The Guest River watershed consist of 53,922 acres of which 3,560 acres were classified as surface coal mines by regional planning districts in a 1975 208 planning report - this figure did not include underground coal mines. The current AML inventory identifies numerous features in the watershed. There are many priority 3 pre-law sites that contribute sediment to the Guest River.

Since the beginning of the state's AML program, DMLR has completed over twenty five projects in the Guest River watershed and has a couple more underway at the present time. Although the DMLR reclamation work has been primarily priority 1 & 2 projects such as landslide removal, portal closures, and highwall elimination, there have been valuable indirect environmental benefits from sediment control and land stabilization. In addition, DMLR is actively promoting re-mining of AML in Virginia's coalfields. When active coal mine operations incorporate AML features into their mining plans, they eliminate existing environmental liabilities and restore the land to current reclamation standards using current technologies. Surface mining operations in the Guest River watershed have included re-mining.

Another way to directly involve the coal industry with DMLR's efforts to reclaim AML is AML enhancement projects. AML projects that involve the incidental extraction of coal are referred to as "enhancement" projects. Contractors are allowed to off-set the cost of construction and reclamation of AML with coal extraction at the AML site that is incidental to the work. Along Toms Creek, a tributary to the Guest River, is an abandoned pile of coal refuse that contributes sediment to the stream. Because it is classified as a priority three feature, a conventional AML project is not possible at the present time. Re-processing and reclaiming the refuse or "gob" pile could be an excellent example of AML enhancement. With some grant funds (approximately \$100,000) to assist DMME, a coal operator might agree to enter into a contract to clean up the pile.

## Appendix C. Letters of Support

- Virginia Department of Mines, Minerals and Energy
  - Letter of Support
  - Letter of Match Commitment
- Virginia Department of Agriculture and Consumer Services
- Virginia Department of Health
- The Nature Conservancy
  - Letter with Match Commitment
- Guest River Group
- ORSANCO

G. GENE FISHER  
DIRECTOR



DIVISIONS  
ENERGY  
GAS AND OIL  
MINED LAND RECLAMATION  
MINERAL MINING  
MINERAL RESOURCES  
MINES  
ADMINISTRATION

# COMMONWEALTH of VIRGINIA

## *Department of Mines, Minerals and Energy*

Division of Mined Land Reclamation

P.O. Drawer 900

Big Stone Gap, VA 24219-0900

(276) 523-8100

FAX (276) 523-8148

December 15, 2003

Mr. Charles Martin  
Virginia Department of Environmental Quality  
Post Office Box 10009  
Richmond, Virginia 23240

Dear Mr. Martin

The Virginia Department of Mines, Minerals, and Energy is pleased to offer support for your Department's 2004 Environmental Protection Agency Watershed Initiative Grant application. Our Department is glad to be part of the broad-based, multi-partner proposal to demonstrate, measure, and enhance the effectiveness of several different watershed restoration and management practices in the Tennessee River basin of southwestern Virginia.

The Department of Environmental Quality's application work plan features concepts that our Department has been actively promoting; remining, carbon sequestration, and the enhancement of abandoned mined land reclamation projects. These concepts entail public and private partnerships to reclaim previously mined lands, improve water quality, and restore coalfield watersheds. Some existing resources for projects involving these concepts are available from our Abandoned Mined Lands program, local utilities interested in carbon sequestration credits, and the coal mining industry to act as match for grant funds that may be awarded to your Department.

Yours truly

A handwritten signature in black ink, appearing to read "Benny R. Wampler".

Benny R. Wampler  
Deputy Director

C. CONE DIEHNER  
DIRECTOR



**COPY**

DIVISIONS  
ENERGY  
GAS AND OIL  
MINED LAND RECLAMATION  
MINERAL MINING  
MINERAL RESOURCES  
MINES  
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**COMMONWEALTH of VIRGINIA**

*Department of Mines, Minerals and Energy*

Division of Mined Land Reclamation

P.O. Drawer 900

Big Stone Gap, VA 24219-0900

(276) 523-8100

FAX (276) 523-8148

January 9, 2004

Mr. Charles Martin  
Virginia Department of Environmental Quality  
Post Office Box 10009  
Richmond, Virginia 23240

Dear Mr. Martin:

The Virginia Department of Mines, Minerals, and Energy's Division of Mined Land Reclamation is pleased to offer support for your Department's 2004 Environmental Protection Agency Watershed Initiative Grant application. As indicated by Deputy Director Wampler's December 15, 2003, letter of support, our Department and Division are glad to be part of the broad-based, multi-partner proposal to demonstrate, measure, and enhance the effectiveness of several different watershed restoration and management practices in the Tennessee River basin of southwestern Virginia.

The Department of Environmental Quality's application work plan features concepts that our agency has been actively promoting; remining, carbon sequestration, and the enhancement of abandoned mined land (AML) reclamation projects. These concepts entail public and private partnerships to reclaim previously mined lands, improve water quality, and restore coalfield watersheds.

Resources will be made available through our Abandoned Mined Lands program in the amount of \$50,000 to act as match with grant funds being requested of EPA in the Watershed Initiative Grant application for the carbon sequestration and AML enhancement projects.

Sincerely,

*Roger L. Williams*  
Roger L. Williams  
Acting Division Director

Post-It® Fax Note	7571	Date	1/14	of pages	1
To	JUTA S	From	JOEY O		
Co./Dept.	DER	Co.	DMME		
Phone #		Phone #	276-523-8151		
Fax #	804-698-4116	Fax #			

OPPORTUNITY EMPLOYER  
1120 — Virginia Relay Center

DF0402



RECEIVED

DEC 16 2003

DEQ-OD

J. Carlton Courter, III  
Commissioner

## COMMONWEALTH of VIRGINIA

Department of Agriculture and Consumer Services

PO Box 1163, Richmond, Virginia 23218

Phone: 804/786-3501 • Fax: 804/371-2945 • Hearing Impaired: 800/828-1120

www.vdacs.state.va.us

December 12, 2003

### MEMORANDUM

To: Robert Burnley, Director  
Department of Environmental Quality

From: J. Carlton Courter, III, Commissioner *JCC III*

Subject: PROPOSED TMDL PILOT PROJECT

This concerns a federal grant proposal your agency is developing for addressing the implementation of TMDLs in selected watersheds through an interagency pilot project. Your staff indicated that you were seeking statements of support for this proposal.

I understand that one focus of the pilot project is to refine those strategies used for implementing TMDL's in selected watersheds where efforts to encourage voluntary change are not 100 percent successful. As it relates to agricultural operations, I further understand that DEQ proposes to file Agricultural Stewardship Act (ASA) complaints of water pollution against farmers whose operations may not comply with TMDL implementation efforts.

This is to advise that VDACS, under the authority of the ASA, will respond to complaints filed by DEQ regarding agricultural operations as expeditiously as our agency's resources will allow.

Thank you for sharing with me information about the interagency proposal your staff is preparing for submission to EPA.

cc: The Honorable Michael J. Schewel, Secretary of Commerce and Trade  
Donald G. Blankenship, Deputy Commissioner



# COMMONWEALTH of VIRGINIA

Department of Health

ROBERT B. STROUBE, M.D., M.P.H.  
STATE HEALTH COMMISSIONER

P O BOX 2443  
RICHMOND, VA 23218  
January 9, 2004

TTY 7-1-1 OR  
1-800-828-1120

Virginia Department of Environmental Quality ("DEQ")  
Attn: Jutta Schneider, Watershed Programs  
629 East Main Street  
Richmond, Virginia 23219

RE: Support for DEQ's proposal for Watershed Initiative Grant

Dear Ms. Schneider:

The Virginia Department of Health ("VDH") supports DEQ's 2004 Watershed Initiative Grant application to the Environmental Protection Agency ("EPA"). VDH, through its local health departments and the Division of Onsite Sewage and Water Services ("DOSWS") encourages EPA to fully fund DEQ's proposals. Our agency and staff look forward to working with the many private and public partners who are planning to provide their time and resources to this initiative. Virginia's watersheds will improve through this initiative.

DEQ's work plan includes concepts that identify and upgrade inadequate and failing sewage systems, including direct pipe discharges. This initiative will provide additional resources and new methods to address this important issue as well as encourage a repair program that is not solely complaint driven.

Sincerely,

Donald J. Alexander  
Director, DOSWS

pc: Robert Hicks, Director  
Jim Burns, M.D., MPH, Deputy Commissioner







State Office  
490 Westfield Road  
Charlottesville, VA 22901  
TEL 434 295-6106  
FAX 434 979-0370

Chesapeake Rivers Program: Tapscott, VA • TEL 804 443-0386 • FAX 804 443-0476  
Clinch Valley Program: Abingdon, VA • TEL 276 676-2209 • FAX 276 676-3819  
Green Sea Program: Chesapeake, VA • TEL 757 549-4090 • FAX 757 519-4099  
Piedmont Program: Charlottesville, VA • TEL 434 385-6126 • FAX 434 979-0370  
Virginia Coast Reserve: Nantuxwadam, VA • TEL 757 442-3049 • FAX 757 442-3418

January 14, 2004

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Charles S. Yarek  
Cleveland

Mr. Charles Martin  
Virginia Department of Environmental Quality  
P.O. Box 10009  
Richmond, VA 23240

*Via Facsimile and First Class Mail*

Re: EPA Watershed Initiative Grant Application

Dear Mr. Martin,

The Nature Conservancy (TNC) is pleased to offer our support for the Virginia Department of Environmental Quality's 2004 Environmental Protection Agency Watershed Initiative Grant Application. We are greatly encouraged by the opportunity to collaborate with key agencies to demonstrate effective TMDL implementation strategies that will create lasting benefits for the Tennessee River Basin. Along with restoring local watershed conditions, the mitigation activities outlined in the grant application will serve as effective models for environmental improvement in the Commonwealth of Virginia.

TNC intends to offer our direct support by providing \$160,000 in matching funds towards a Virginia Department of Mines, Minerals and Energy (DMME) carbon sequestration project on abandoned mined lands in the Guest River Watershed. Delivery of these funds is contingent upon our receiving funding from a private corporation for a carbon sequestration project that we have been developing and which we plan to implement jointly with DMME later this year. In the latter project, TNC and DMME will work collaboratively to promote carbon sequestration as a means of reclaiming mined land, improving water quality, and restoring coalfield watersheds. Our matching funds will be directed toward project site selection and access, site preparation, planting and long-term carbon monitoring. We are confident that the corporate funding for this joint project, and our consequent ability to provide the matching funds, will be available within the next several months.

We look forward to working together. Please do not hesitate to contact me with any questions.

Very truly yours,

Matthew Crum  
Director  
Clinch Valley Program.

cc: Benny Wampler, DMME  
Joey O'Quinn, DMME  
Jutta Schucider, DEQ



State Office  
490 Westfield Road  
Charlottesville, VA 22901  
TEL 434 295-6106  
FAX 434 979-0370

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January 14, 2004

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Richmond

Alice Ernestine Wellford  
Richmond

Kippen Loren White  
Richmond

Erigenia K. Williams  
Richmond

Charles S. Yarek  
Cleveland

Mr. Charles Martin  
Virginia Department of Environmental Quality  
P.O. Box 10009  
Richmond, VA 23240

*Via Facsimile and First Class Mail*

Re: EPA Watershed Initiative Grant Application

Dear Mr. Martin,

The Nature Conservancy (TNC) is pleased to offer our support for the Virginia Department of Environmental Quality's 2004 Environmental Protection Agency Watershed Initiative Grant Application. We are greatly encouraged by the opportunity to collaborate with key agencies to demonstrate effective TMDL implementation strategies that will create lasting benefits for the Tennessee River Basin. Along with restoring local watershed conditions, the mitigation activities outlined in the grant application will serve as effective models for environmental improvement in the Commonwealth of Virginia.

TNC intends to offer our direct support by providing \$160,000 in matching funds towards a Virginia Department of Mines, Minerals and Energy (DMME) carbon sequestration project on abandoned mined lands in the Guest River Watershed. Delivery of these funds is contingent upon our receiving funding from a private corporation for a carbon sequestration project that we have been developing and which we plan to implement jointly with DMME later this year. In the latter project, TNC and DMME will work collaboratively to promote carbon sequestration as a means of reclaiming mined land, improving water quality, and restoring coalfield watersheds. Our matching funds will be directed toward project site selection and access, site preparation, planting and long-term carbon monitoring. We are confident that the corporate funding for this joint project, and our consequent ability to provide the matching funds, will be available within the next several months.

We look forward to working together. Please do not hesitate to contact me with any questions.

Very truly yours,

Matthew Crum  
Director  
Clinch Valley Program.

cc: Benny Wampler, DMME  
Joey O'Quinn, DMME  
Jutta Schucider, DEQ

Guest River Restoration Project  
Rt. 1 Box B  
Clintwood, Virginia 24228  
Telephone (276) 928-6621 Fax (276) 928-6640  
[www.guestriverproject.org](http://www.guestriverproject.org)

January 8, 2004

Virginia Department of Environmental Quality  
Watershed Programs  
Attn: Jutta Schneider  
629 E. Main Street  
Richmond, VA 23219

Dear Ms. Schneider,

On behalf of the Guest River Group, we are writing in support of the Virginia Department of Environmental Quality's (VA DEQ) proposal for EPA's Watershed Initiative Grant. The Guest River Group (GRG) is an informal group of citizens and agencies working together to address water impairments. The Guest River is a tributary of the Clinch River, one of the nations most biologically diverse rivers systems. We share similar goals with the VA DEQ for protecting and improving water quality within the Upper Tennessee River Watershed. For the past five years the GRG has carried out on-the-ground projects and received numerous accolades for success of implemented projects. The VA DEQ proposed projects directly aligns with what the GRG's has been addressing through the Guest River Restoration Project.

The Guest River Group has exuded the importance of how strong partnerships increase the success of watershed improvement and sustainability. On behalf of the GRG, we feel that the VA DEQ has this strong partnership for success and looks forward to continuing it's relationship with the VA DEQ in the future. The Guest River Group appreciates and recognizes the VA DEQ Watershed Programs for making a difference in the way people view water quality. We strongly encourage the Environmental Protection Agency to fully fund the VA DEQ's proposal for the Upper Tennessee River.

Sincerely,

  
Muiread Craft  
Project Coordinator



OHIO RIVER VALLEY  
WATER SANITATION COMMISSION

5735 KELLOOG AVENUE, CINCINNATI, OHIO 45228-1112 (513) 231-7719 FAX (513) 231-7761

RONALD R. POTESTA  
CHAIRMAN  
AN H. VICORY, JR., P.E., DEE  
EXECUTIVE DIRECTOR  
AND CHIEF ENGINEER

January 6, 2004

Carol G. Peterson  
Mail Code 4501T  
USEPA Headquarters  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

Dear Ms. Peterson:

I wish to convey the support of the Ohio River Valley Water Sanitation Commission (ORSANCO) for the nomination of the project "Innovative Approaches to TMDL Implementation" for support under the U.S.EPA Watershed Initiative. The project will be carried out by the Virginia Department of Environmental Quality. I believe that this project will have benefits for both the citizens of Virginia and for those in the downstream watersheds of the Big Sandy and Ohio Rivers.

This project will address four types of water pollution problems: agricultural, individual sewage disposal, mining and urban runoff. These are pervasive problems not only in Virginia but throughout the Ohio River watershed and, indeed, in much of the United States. The member states of ORSANCO are quite interested in Virginia DEQ's approaches and will look forward to hearing of the results.

I look forward to the success of this proposal and the subsequent project.

Sincerely,

Ronald R. Potesta  
Chairman