

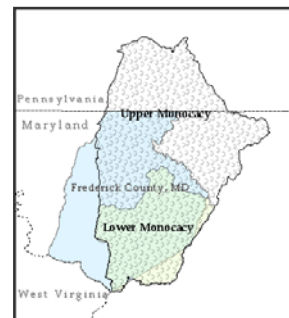
Lower Monocacy River Watershed Restoration Action Strategy

Executive Summary

Frederick County received its first Watershed Restoration Action Strategy (WRAS) grant from the Department of Natural Resources (DNR) in January 2003 and completed the plan in May 2004. The goal of this initiative was to develop a multifaceted strategic plan to guide citizens, government agencies, and other interested groups in the protection and restoration of the Lower Monocacy River watershed.

The Monocacy basin, located primarily in Frederick County's fertile agricultural region, is rich in history, cultural heritage, and natural resources. The area is also confronted by complex water resource problems that negatively impact the quality of life for area residents and the health of the Chesapeake Bay. Some of the most challenging resource problems are poor water quality due to sediment and nutrients from agricultural lands, atmospheric deposition from fossil fuel burning engines, practices by residential, commercial, and municipal development, high proportions of soils that erode easily, the exploding population growth in the area and the rapid land use conversion. For the past few decades, various groups have undertaken initiatives to address water quality issues, and although progress has been made, only partial success has been achieved.

The 1998 statewide assessment of watersheds determined that the Monocacy River watershed needs both restoration and protection to meet water quality and habitat needs. As the map illustrates, the Lower Monocacy River watershed is primarily in Frederick County but includes small portions of Montgomery County as well. The Upper Monocacy River watershed includes portions of Adams County, PA and Carroll County, MD.



Methods

A Lower Monocacy Steering Committee with broad representation was organized and began meeting in January 2003. Over the course of the year, the open Steering Committee membership grew to more than 40 representatives from 25 organizations from the Frederick Forestry Board to the Audubon Society of Central Maryland, from the Carrollton Manor Land Trust to the Lake Linganore Conservation Society, from Hood College to the City of Frederick.

The County also received DNR staff services to develop three reports. The first report was a summary of existing data on water quality, landscape, and living resources called the **Watershed Characterization**. To compile the second report, DNR staff collected water samples at selected sites and analyzed water quality, submitting a **Synoptic Survey** report showing nutrient yields and concentrations at 96 sites in the watershed. The third report, a **Stream Corridor Assessment**, consisted of walking 75 miles of stream corridor in the Upper Linganore and Bennett Creek watersheds. Town, Woodville, and Talbot Branches were assessed in Upper Linganore Creek and Bear, Fahrney, North, Pleasant,

and Urbana Branches were assessed in Bennett Creek watershed. All three reports can be found on DNR's website at <http://www.dnr.state.md.us/watersheds/surf/proj/wras.html>

Results

As a result of this collaborative process, seven working groups emerged: agriculture; natural resources; growth and development pressure; citizen outreach; municipal commercial, and industrial practices; recreation and tourism; and monitoring. Examination of stream corridor conditions, Synoptic Survey data, and the Watershed Characterization resulted in the identification of 51 priority sites for recommended action that were expanded further during Steering Committee workshops and public meetings. In an effort to address these priority sites, the working groups defined and adopted WRAS goals in seven topical areas, defined objectives shaped strategies for each subwatershed, and collectively developed a vision statement.

The plan includes measurable environmental goals, stakeholder involvement, and monitoring to address water quality impairments within the Lower Monocacy River watershed. It includes initiatives such as restoring unbuffered streams, protecting critical forested headwater areas and wetlands, and introducing best management practices (BMPs) in urban and agricultural areas for nutrient reduction and benefits. Detailed Natural Resource Management and Education and Outreach Objectives, accompanied by related nutrient reductions and cost, were developed. Also identified were twenty-two issues requiring further study categorized in three areas: capacity building, innovative techniques, and program change.

Recommendations

Examining data in light of community input at public meetings, Steering Committee values, and grant mandates, the group identified key strategies to improve water quality and habitat in the Lower Monocacy River watershed. WRAS goals were adopted in seven different areas.

Agriculture

- To conserve and preserve viable working farms and forests providing land-based livelihoods and stewarding natural resources, with priority to protecting and improving water quality and soil conservation

Natural Resources

- To conserve, preserve, protect and, where appropriate, connect natural habitats including forests and wetlands
- To provide for no net loss of forests or wetlands
- To increase stream-side vegetated corridors
- To increase meadows and fallow fields for ground nesting birds
- To protect and restore cold water fisheries in Rocky Fountain Run and Ballenger Creek

Growth and Development Pressure

- To offer leadership and participation in a comprehensive, long-range visioning and planning effort countywide that addresses the critical issues facing our local watersheds and communities

- To engage local citizens, elected officials, municipal, county and business leaders, and the development community in an education and outreach campaign focusing on managing growth and development pressures in our local watersheds and communities
- To reduce or mitigate potential detrimental impacts of land development on our watersheds and communities through economic incentives and regulation

Commercial, Municipal, and Industrial Practices

- To foster practices and an ethic for water resource protection by Frederick County, its municipalities, nonprofits, homeowner associations, developers, businesses and industries

Citizen Outreach

- To improve water quality and habitat by educating citizens about the ecology of the area and “greener” lifestyle practices

Tourism and Recreation

- To promote greater enjoyment of the landscape and rivers by improving land and water trail quality, accessibility, and connectivity and promoting use by residents and visitors

Monitoring

- To establish a monitoring program that integrates from a variety of sources, targets additional sampling sites, interprets and reports findings periodically to the public, program operators and policy makers

In order to translate the general WRAS goals into action, the Committee’s working groups identified specific objectives. The objectives are presented in the Lower Monocacy WRAS plan in the Natural Resource Management Objectives Table (Table 16) and the Education and Outreach Objectives Table (Table 17) and are a result of extensive work by the Steering Committee.

The Natural Resource Management Objectives include but are not limited to (not in order of priority):

- Plant an additional 10 miles of forest buffer per year
- Fence 10 livestock operations out of the streams annually
- Plant an additional 2,500 acres per year in cover crops
- Increase wetland acreage by 50 acres by 2010 through mitigation and expansion
- Protect 1000 acres of forest with conservation easements
- Increase acres of native meadows for ground nesting birds by 250 acres by 2010
- Create a Monocacy Watershed Report Card for the general public, political leadership and decision makers, educators, and students
- Develop a tool for Total Maximum Daily Load (TMDL) nutrient and project tracking in Lake Linganore

Education and Outreach Objectives include but are not limited to (not in order of priority):

- Present six “greener” lifestyle practices workshops to Frederick County homeowners and increase participation by 5% each year

- Develop a logo & signage for the Monocacy & Catoctin Watershed Alliance
- Develop an interactive website
- Outreach to the public at the Earth Day celebration at Baker Park
- Establish and maintain a data base of homeowner watershed involvement and give periodic updates to members through an E-newsletter
- Offer workshops in invasive plant management
- Sponsor annual lecture series appropriate to the general public on issues related to growth and development pressures

The health of the Lower Monocacy River watershed results from cumulative human impacts over two and a half centuries since agricultural settlements began to dominate the region. Restoring watershed health will require changing practices, policies, and ethics that have evolved and become habitual over generations. Actions to best achieve such changes are not always self-evident. For that reason, significant collective study, partnerships, alliance building and political assessment are necessary as a part of making wise and effective changes. Listed below are a number of WRAS issues and concerns on our collective future agendas.

Capacity Building

- Develop a Resource Management System for management of the Lower Monocacy River watershed
- Explore the addition of a Maryland Conservation Corps team for conservation tasks for at least 16 weeks per year, perhaps eventually reestablishing a year round crew at Echo Lake for work in Frederick County
- Establish GIS layers for agricultural BMPs beginning with Conservation Reserve Enhancement Program (CREP) planting areas, pre-1976 subdivisions (without stormwater management), and areas with threatened or failing septic systems
- Arrange for County Construction Management and Development Review personnel to receive Leadership in Energy and Environmental Design (LEED) and Low Impact Development (LID) training and for Sediment and Erosion Control Inspectors to receive trainings from the International Sediment and Erosion Control Association
- Establish a County WRAS Implementation Coordinator to help manage and coordinate efforts associated with the implementation of the plan
- Make use of the natural resource assessments performed through the County's National Pollutant Discharge Elimination System (NPDES) permit and the WRAS during development and zoning planning

Innovative Techniques

- Recommend that the County explore new techniques to enable conservation practices to be credited to future developers and thus, address economic realities while encouraging natural resource protection
- Protect riparian corridors from cultivation and livestock access to permit natural regeneration of vegetation to occur
- Explore whether a nutrient trading program between point and nonpoint source entities can help reduce pollution loads with greater efficiency than other strategies

- Develop a policy to require all County landowners to design and adopt a nutrient management plan for their property

Program Changes

- Variable Width Stream Buffer Ordinance
 - Assess various stream corridor ordinances to assess their costs and benefits and recommend one for adoption by the County and municipalities
- River Setback
 - Explore a Monocacy River setback that would protect the river corridor from development
- Incentives for Natural Resource Protection during Development
 - Revise current regulations to create incentives for natural resource protection and include a density bonus for developers who protect a site's natural and cultural features
- Conservation Design Principles
 - Incorporate the previously adopted Community Conservation Design Guidelines and Development Principles into subdivision, building, and zoning ordinances
- Increased Inspections and Improved Ordinances
 - Develop an ordinance to encompass grading activities for home lots after the main grading has passed to ensure that actual drainage on lots conforms to plans and that stormwater goes to appropriate facilities as designed
- Engineering Certification
 - Initiate a program change that would require a geotechnical engineer to inspect and certify stormwater management facilities (SWMF) on as-built plans, not just the engineer of record, before money can be released by the County to the developer
- Septic System Inspection and Maintenance
 - Consider procedural or policy changes that would reduce the ground water impacts from nutrient leach from septic systems using the revenue from the recently passed "flush tax"
- Agricultural Preservation Programs
 - Increase the proportion of participating farms that are inspected annually from 10% to 15%, require soil/water conservation plans to address protection and restoration of aquatic resources, and add an inspection regimen to the more recent Installment Purchase Program
- Forests and Wetlands
 - Develop a procedure to identify quality forests to protect, critical forests or riparian corridors to connect, or wetland sites for establishment

The plan is intended to be a working document with the capacity to change and grow as the priorities of the Steering Committee, the County, and the watershed change and new environmental initiatives become available. Implementation is proposed over a five to seven year period. The Lower Monocacy Watershed Restoration Action Strategy is available in its entirety at <http://www.dnr.state.md.us/watersheds/surf/proj/wras.html>

