

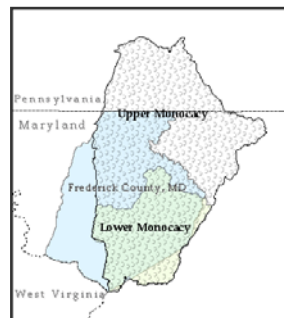
Upper Monocacy River Watershed Restoration Action Strategy

Executive Summary

Frederick County received its second Watershed Restoration Action Strategy (WRAS) grant from the Department of Natural Resources (DNR) in July 2004 and completed the plan in June 2005. 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 Upper 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 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 parts of Montgomery County as well. The Upper Monocacy River watershed includes portions of Adams County, PA and Carroll County, MD.



Methods

An Upper Monocacy Steering Committee with broad representation was organized and began meeting in September 2003. Over the course of two years, the open Steering Committee membership grew to more than 40 representatives of many different areas and stakeholder groups from the Frederick Forestry Board to the New Forest Society, from Catocin Land Trust to the Potomac Conservancy, from Hood College to Mount Saint Mary's University.

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 105 sites in the watershed. The third report, a **Stream Corridor Assessment**, consisted of walking over 130 miles of stream within the 6 subwatersheds of the Upper Monocacy watershed: Glade Creek (18.02 miles), Tuscarora Creek (21.04 miles), Fishing Creek (19.52 miles), Hunting Creek (37.16 miles), Owens Creek (15.57 miles) and Toms Creek (28.50 miles). 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, six working groups emerged: agricultural practices, citizen practices, sound land development, monitoring, natural resource management, and municipal, commercial, and industrial practices. Examination of stream corridor conditions, Synoptic Survey data, and the Watershed Characterization resulted in the identification of 38 priority sites for recommended action that were expanded further during Steering Committee workshops and public meetings to a total of 88 comment sites. In an effort to address these comment sites, the working groups defined and adopted WRAS goals in five 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 the water quality impairments within the Upper 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 per unit costs, were developed. Also identified were needs for capacity building in the areas of organizational capacity, watershed management capacity, development capacity, and protection capacity. In addition, four program change initiatives were recommended.

Recommendations

Examining the 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 Upper Monocacy River watershed. Listed below are the general strategies developed by the group.

Foster an Environment Ethic

- Build watershed awareness including recognition of water quality problems and solutions
 - By publicizing water quality initiatives in the watershed
 - By involving the community in identifying and installing restoration projects
 - By involving citizens in active conservation initiatives
 - By promoting cooperative efforts among citizens and public and private organizations

Restore Waterways

- Restore riparian corridors
 - By planting vegetated buffers along stream reaches with inadequate natural vegetation
 - By restoring wetlands, particularly downstream from agricultural and developed areas

- Improve impaired streams
 - By eliminating livestock access
 - By further implementing Best Management Practices (BMPs)
 - Enhance/retrofit existing inadequate structures/practices
 - Install new practices
 - Address identified priority areas

Protect Waterways

- Identify and preserve pristine areas
- Protect and expand existing green infrastructure, large forest blocks and connectivity among such areas using riparian corridors by
 - Educating owners about available conservation strategies
 - Assisting interested owners of large and small acreages to establish long term or permanent protections

Protect Natural Resources During Land Development

- Protect water quality and habitat through appropriate zoning
- Improve development processes in order that new development has reduced impacts on water quality and habitat
- Encourage wise land development by amending the Frederick County subdivision ordinance to encourage and facilitate conservation design
- Educate citizens and the real estate community about the link between land use, water quality, and wildlife

Build Capacity in Public and Private Sectors

- Create permanent position for County-wide coordinator of community-based watershed protection and restoration initiatives
- Seek funding for outreach and education, restoration and protection initiatives and move promptly into action
- Increase County ability to gather and utilize monitoring data for research, evaluation and community education
- Promote inter-agency collaboration and cooperation among government, nonprofit and private organizations with information sharing, education and action initiatives

In order to translate the general WRAS goals into action, the Committee's working groups identified specific objectives. The objectives are presented in the Upper Monocacy WRAS plan in the Natural Resource Management Objective Table (Table 5) and the Education and Outreach Objectives Table (Table 6) and are the result of extensive work by the Steering Committee.

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

- Fencing livestock out of over 25,000 linear feet of stream
- Establishing over 15 miles of vegetated buffer ranging from 25 to 50 feet wide on agricultural, residential, and/or commercial properties
- Increasing wetland acreage by 300 acres
- Protecting an additional 10,000 acres of forest land

- Increasing the number of forest management plans by 10%
- Replacing old failing/damaged sewer lines
- Developing tools and monitoring plans to track pollutant loading and BMP effectiveness
- Encourage increased use of Low Impact Development (LID) techniques for new development

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

- Developing a “House Call” program for outreach to properties identified in the SCA with problems and those properties requesting information during the SCA process
- Develop a program to name the unnamed tributaries through a partnership with the Frederick County Public School (FCPS) high school students
- Continue to implement and expand the Schoolyard Habitat program and educational efforts to build/foster a greater environmental ethic among community children
- Develop an interactive website for the Monocacy & Catoctin Watershed Alliance (MCWA)
- Create fact sheets addressing concerns about deicers, fertilizer, septic system maintenance, drinking water quality in Frederick County, benefits of riparian forest buffers, and land conservation/preservation options
- Create publicly accessible demonstration sites for native plant landscaping, native conservation cover crops, reforestation, and wetland restoration
- Establish road side signage for subwatersheds of the Upper Monocacy
- Host workshops to educate people about the benefits of conservation easements, benefits of stream buffers, and low impact development

The Upper Monocacy WRAS Steering Committee identified more than a dozen important capacity building initiatives in four areas in order to increase the Upper Monocacy River watershed community’s ability to protect and restore water quality and habitat. Each is briefly described below and depends, in varying extents, on further development, leadership, human, technical and financial resources.

- Organizational Capacity
 - Establish the Monocacy & Catoctin Watershed Alliance (MCWA) to coordinate the implementation of the WRAS plans with ongoing responsibility to protect and restore water quality and foster collaboration and partnership among members
 - Develop an ongoing County staff capability to access resources for implementation of community restoration projects and other elements of watershed plans by establishing a permanent full-time Implementation Coordinator position
 - Coordinate restoration and protection initiatives with activities in the adjoining jurisdictions of Carroll County, MD and Adams County, PA
- Watershed Management Capacity

- Develop the concept of a Water Resource Management Task Force that would recommend an ordinance and procedural guidance to better manage water resource quantity and quality for current and future generations
- Expand, enhance and better manage wetlands in the watershed
- Prevent soil erosion, sediment pollution, and stream degradation during the process of timber harvesting or clearing of forest for development by employing sufficient inspectors to adequately inspect timber sites
- Enhance the County's existing Illicit Discharge Detection and Elimination (IDDE) program and walk an additional 100 miles of stream corridor using a modified SCA protocol to include IDDE protocols
- Update the County's GIS stream layer to include streams and tributaries that are currently missing
- Use new design standards to prevent fish blockages, accommodate bank-full flow and provide access to the floodplain during future culvert building and repair
- Expand the Farmers and Hunters Feeding the Hungry Program with \$7,500 in funding from private sources to process an additional 150 white tailed deer
- Development Capacity
 - Secure adequate financial and human resources to translate the Roundtable recommendations into actionable items for the Board's consideration
 - Convene key personnel from the reviewing and inspecting entities overseeing new development projects to collectively identify current obstacles to conservation design
 - Increase the County's capacity to inspect and monitor septic system functioning
- Protection Capacity
 - Seek to identify several techniques that could be used to protect the important headwater areas of the Upper Monocacy watershed that are threatened by sprawl-like development due to current zoning

The program changes proposed in the Upper Monocacy WRAS plan address three issues: nutrient contamination of ground water from septic systems; sprawl development in agricultural zones, and stream protection during land conversion.

- Reducing Pollution from Decentralized Septic Systems
 - Recommend that Sellers of properties with septic systems be required to have the septic system inspected and pumped prior to sale
 - Recommend that the Board of County Commissioners (BoCC) encourage the use of more innovative systems in new construction or renovations, especially systems that reduce or eliminate nutrient impacts on ground or surface waters
 - Recommend that the County provide incentives or rewards to owners/developers who use denitrification septic systems or nutrient recycling systems
- Buffer Residential Development in Agricultural Zones

- Recommend that the BoCC adopt a buffering requirement for new residential development in agricultural zones, specifying that the developer install a forested buffer along residential lot lines that adjoin agricultural uses
- Stream Buffer Protection
 - Recommend that the BoCC should create a variable width buffer to include critical environmental features such as the 100-year floodplain, steep slopes, and freshwater wetlands. It should be a consultative process with stakeholders including the Land Development Council of the Frederick Builders Association, the County and Soil Conservation District review staff, and other interested partners to help translate stream protection into ordinance language that is broadly supported

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 six-year period. The Upper Monocacy Watershed Restoration Action Strategy is available in its entirety at <http://www.dnr.state.md.us/watersheds/surf/proj/wras.html>