

Chapter 1

Introduction

1.1 Vision

The *Middle Potomac Watersheds Management Plan* offers the following vision for the future condition of the Bull Neck Run, Scotts Run, Dead Run, Turkey Run and Pimmit Run Watersheds.

“The Middle Potomac Watersheds will be protected, clean, and sustainable ecosystems that provide wildlife habitat along with balanced opportunities for public enjoyment.”

This statement was developed by the Middle Potomac Watersheds Steering Committee and the Watershed Planning Team to provide a vision for protecting and improving the future condition of the watersheds. Some of the existing issues in the watersheds include flooding of property and roadways, excessive amounts of runoff, poor water quality, and degraded riparian and aquatic habitat. Much of the watersheds were developed before stormwater controls were required, allowing runoff from impervious surfaces such as roofs, roadways and sidewalks to flow directly into the streams in large quantities, often causing downstream flooding and stream deterioration, including instream erosion. The condition of the watersheds has been damaged further by recent infill development and other sources of increased imperviousness, such as road widening projects. This watershed plan describes actions for addressing the watershed issues and providing future opportunities for public enjoyment of the streams. Stakeholders in the watersheds have been actively involved in identifying the issues and developing the plan goals, objectives, and actions.

Capital projects, such as constructing new best management practices (BMPs), using Low-Impact Development (LID) methods, retrofitting existing BMPs, restoring stream buffers, and restoring streams have been recommended to address the watersheds' issues. Education and outreach actions are included in this plan to teach people about watershed problems and possible solutions and to get stakeholders involved in protecting and restoring the watersheds. The proposed structural and non-structural projects that will help to realize the plan vision are described in more detail in Chapters 4 through 8. These projects will begin to reduce the amount of runoff, improve water quality in the streams, restore stream habitat, and help the county meet its Chesapeake 2000 and Cool Counties goals.

Other methods for resolving the current issues will require the development of policies and legislation to help protect and restore the watershed ecosystems by addressing the need for effective stormwater management, enforcement of existing ordinances, and comprehensive planning. The policies and land-use recommendations in this plan will be developed in conjunction with the recommendations from the other county watershed management plans.

The goal of the proposed policy and legislation will be to protect and restore the watersheds so that they can be enjoyed for many future generations. The recommended policy and land-use actions are described in more detail in Chapter 9.

The watershed plan vision is consistent with Fairfax County's *Policy Plan* (the county-wide element of the county's comprehensive plan), within which the Board of Supervisors' adopted goals can be found. The Board of Supervisors' goal for environmental protection states:

"The amount and distribution of population density and land uses in Fairfax County should be consistent with environmental constraints inherent in the need to preserve natural resources and to meet or exceed federal, state, and local standards for water quality, ambient air quality, and other environmental standards. Development in Fairfax County should be sensitive to the natural setting to prevent degradation of the county's natural environment."

The county policy document also notes that:

"The protection and restoration of the ecological quality of streams is important to the conservation of ecological resources in Fairfax County. Therefore, efforts to minimize adverse impacts of land use and development on the county's streams should be pursued."

This watershed management plan is intended to complement and supplement the county's policies and comprehensive plans over the next 25 years and support its commitment to the Clean Water Act and Virginia's commitment to the Chesapeake Bay Act. The county, which encompasses all county government entities and other stakeholders of the Middle Potomac Watersheds, is committed to protecting the Middle Potomac Watersheds from future degradation and promoting watershed-wide management actions that work to restore the streams and other areas in the watersheds to environmentally healthy ecosystems. This commitment emphasizes the importance of protecting the county's valuable natural resources, including surface waters, and supports the sustainability and improvement of the environment, which has a direct impact on the quality of life of the county's residents. Current stream conditions throughout the watersheds are generally poor, and this plan proposes a comprehensive strategy for improving these conditions. The plan was written to help manage future changes in the watersheds to protect the streams so they can be enjoyed by future generations. The objectives of the plan will also help the county meet or exceed federal, state, and local regulatory water quality requirements. This plan is only the first step in the process and is designed to be a living document that will be updated as becomes necessary over the 25-year implementation schedule. It will not be able to solve all of the problems in the watersheds, but will guide the county in the right direction.

The planning process initiated by Fairfax County for development of this watershed management plan included the participation and recommendations of a watershed steering

committee. The Middle Potomac Watersheds Steering Committee was convened as an advisory committee for the *Middle Potomac Watersheds Management Plan* project team, and the committee members served as liaisons between their respective communities or organizations and the project team. Several public workshops were held to receive input from the community regarding the watershed issues and possible solutions. The project team used this information to help evaluate the watersheds and provide recommendations for addressing the issues.

1.2 Background

This plan was developed as part of a county initiative to create watershed management plans for all Fairfax County watersheds. The Middle Potomac Watershed Group contains some of the most diverse watersheds and is located in the northeast portion of Fairfax County. Tysons Corner, one of the largest commercial centers on the East Coast, is located in the Scotts Run Watershed, and large natural areas are located near the Potomac River in the Scotts Run, Dead Run, and Turkey Run Watersheds. The *Middle Potomac Watersheds Management Plan* provides a strategy for mitigating the impacts of development, such as increased runoff and poor water quality.

The history of the county's watershed management began in the 1940s with the conversion of agricultural land use to residential and commercial land uses. During this time, stormwater infrastructure was constructed to quickly carry runoff away from the developed areas to the creeks and streams that serve as the principal drainage system for the county. Starting in 1972, onsite detention was required for new development to minimize the effects of increased runoff from development. In the early 1980s, water quality best management practices (BMPs) were required for new development in the southern areas of the county that drained to the Occoquan drinking water reservoir. Stormwater BMPs were required for all new development in the county starting in 1993.

In the late 1970s, the county developed master drainage plans for all of the watersheds in the county, including the Middle Potomac Watersheds. This plan identified projects to solve problems that included flooding, erosion, sedimentation, and other environmental impacts and issues projected through the year 2000. The county has initiated a stream restoration and protection study and completed the *Fairfax County Stream Protection Strategy* (www.fairfax.va.us/gov/DPWES/environmental/SPS_Main.htm) in January 2001. This baseline study evaluated the condition of county streams and prioritized the watersheds for protection strategies. The *Stream Protection Strategy* program is ongoing, with further biological monitoring and assessment of stream condition. The residents of Fairfax County have also played an important role in the management of the county's watersheds, and they will continue to do so in the future.

Building on the recommendations from the *Stream Protection Strategy* baseline study, the county initiated a process to develop watershed management plans for all 30 watersheds in the county. The development of the watershed management plans includes a stream

physical assessment of over 800 miles of stream; community involvement; modeling of the creeks and streams; and the development of goals, objectives, and strategies for addressing watershed issues.

1.3 Purpose

The primary reasons the *Middle Potomac Watersheds Management Plan* was developed can be summarized as follows.

1. To restore and protect the county's streams, of which 80 percent are in "fair" to "very poor condition"
2. To meet state and federal water quality standards by identifying strategies to prevent and remove pollution
3. To support Virginia's commitment to the Chesapeake 2000 Agreement to clean up the Chesapeake Bay
4. To replace the currently outdated watershed management plans and incorporate the use of new technologies
5. To take a comprehensive approach in addressing multiple regulations, commitments, and community needs

With input from the Middle Potomac Watersheds Steering Committee and other members of the community, this watershed management plan addresses these needs and requirements with a strategy for restoring and protecting the watersheds.

1.4 Plan Implementation

The Middle Potomac Watersheds Management Plan offers a range of recommendations to help reduce nutrient loadings and sediment in the streams, improve stream habitat and reduce the stormwater runoff peak flows in the primary tributaries. Plan recommendations are divided into two categories: structural and non-structural projects and policy-related recommendations. Structural projects include measures such as modifications to existing stormwater management facilities to improve water quality controls and/or improved quantity controls, new stormwater management facilities, Low Impact Development (LID) practices, and stream restoration. Modifications to existing stormwater facilities are often a cost-effective means of providing increased water quality and/or quantity control benefits. Non-structural recommendations include practices such as developing educational and outreach materials, regular stream cleanups, and supporting the formation of "Friends of" organizations and volunteer monitoring groups. It is anticipated that the structural and non-structural projects will be implemented through the following means:

- County-initiated projects via the capital improvement program
- Developer-initiated projects as waiver conditions or via the zoning approval process through proffers or development conditions
- Partnerships with volunteer groups and other organizations such as the Northern Virginia Soil and Water Conservation District.

Further information on project implementation can be found in Section 3.4.

1.5 Plan Organization

The *Middle Potomac Watersheds Management Plan* integrates environmental management, natural resource protection, and community goals to improve the watersheds. It provides a guide that:

- Describes goals and objectives to support the vision for the watersheds.
- Assesses the existing and future condition of the watersheds.
- Sets forth strategies for addressing watershed issues.
- Provides the county and the community with a management tool to make informed decisions regarding short-term and long-term actions in the watersheds.

The watershed plan chapters contain the following information.

Chapter 1	Vision, background, purpose, and plan organization
Chapter 2	General watershed information, watershed history, land use and impervious cover, tributary information, summary of existing reports and data, and future watershed condition
Chapter 3	Watershed management plan goals, objectives and actions
Chapters 4-8	Watershed characteristics, description of the storm drain infrastructure, stream geomorphology, stream habitat quality, problem areas, modeling results, proposed structural and non-structural actions, action benefits, implementation strategy, and monitoring plan
Chapter 9	Policy and land-use actions, action benefits, implementation strategy, and monitoring plan

Supplemental sections and appendices include a glossary; list of acronyms and abbreviations; references; project fact sheets with cost estimates; stream restoration information; native plant resources; a description of the modeling process; a list of the plan goals, objectives and actions; and a list of projects by type.

This document is the final draft of the *Middle Potomac Watersheds Management Plan*. It is anticipated that the final version of the plan will be made available to the public in early 2008.