
ANNUAL REPORT ON THE ENVIRONMENT

CHAPTER VI

**ECOLOGICAL
RESOURCES**

VI. ECOLOGICAL RESOURCES

This chapter summarizes the status of ecological resources and the actions of public agencies and citizen groups in the management and preservation of these resources.

A. ISSUES AND OVERVIEW

Open space and natural habitat continue to be reduced in Fairfax County, primarily because of development (both residential housing and commercial buildings) and road building. As this resource is reduced, increased emphasis must be placed on protecting, preserving, and enhancing the remaining open space and natural habitat in Fairfax County.

Fairfax County contains a total of about 227,750 acres. Of this total, about 28,108 acres (12.3%) are in parks and recreation as of January 2004. Another approximately 25,712 acres (11.3%) are vacant or in natural uses. This compares to the about 26,700 acres (11.7%) that were vacant or in natural uses as of January 2003. However, not all this acreage can be considered as open space that is valuable for natural habitat. First, the park acreage consists of active recreation (ball fields, etc.) as well as passive recreation (stream valley parks, nature centers, etc.) Ball fields, while greatly needed in Fairfax County, do not do much for protecting natural habitat. In a like fashion, much private open space consists of mowed areas and isolated trees (not woodlands). Again, this does little for protecting natural habitat. Both active recreation areas and private open space, however, if properly designed can help the environment by reducing storm water runoff (by allowing storm water to infiltrate into the soil).

Second, while vacant land is often wooded, this land is subject to development. Considering the continuing rapid pace of development in Fairfax County, much of this land will soon become residential space, office space, retail space, etc., and not provide much in the way of protecting natural habitat. In 1980, vacant land accounted for 32.2% of the total land in Fairfax County. By 1990, this had dropped to 19.5% and the figure was 11.3% as of January 2004.

Therefore, Fairfax County needs to undertake stronger efforts in order to protect, preserve, and enhance the environmentally sensitive open space in the County. These efforts should include the establishment of a Countywide Natural Resource Inventory, followed by a Countywide Natural Resource Management Plan. Additionally, the County needs an aggressive program seeking easements on privately owned environmentally sensitive land and, as opportunities arise, to purchase environmentally sensitive land.

Two significant efforts have occurred that should help in the County's preservation and protection of natural resources. First, as reported in last year's Annual Report on the Environment, the Fairfax County Board of Supervisors adopted an environmental vision for Fairfax County – *Environmental Excellence for Fairfax County: a 20-Year Vision*. This vision cuts across all activities in Fairfax County and outlines guidelines that hopefully will be followed in future planning and zoning activities in Fairfax County.

Second, as reported in last year's Annual Report on the Environment, the Park Authority approved the Natural Resource Management Plan for park properties. Again, if this plan is implemented, improved preservation and protection of environmentally sensitive land should be the result.

EQAC continues to commend a number of organizations for their activities in protection, preservation, and enhancement of environmentally sensitive areas. These organizations include: the Northern Virginia Soil and Water Conservation District, the Virginia Department of Forestry, the Northern Virginia Conservation Trust, Fairfax ReLeaf, and the Fairfax County Park Authority and its staff.

B. PROGRAMS, PROJECTS, AND ANALYSES

1. The Fairfax County Board of Supervisors.

In past years, this chapter of the Annual Report mentioned various organizations and programs supporting environmental efforts in Fairfax County. However, the Fairfax County Board of Supervisors, while mentioned many times, did not have a section in this chapter. The actions and decisions of the Fairfax County Board of Supervisors (BOS) do affect the County's natural resources. These actions and decisions include land use planning and zoning, transportation planning, allocation of staff resources, etc. The BOS has enacted a number of policies that do benefit the environment and many of these policies are embedded in County ordinances and the Policy Plan. However, there never has been an overarching vision dealing with the environment. This has now changed. As reported in last year's Annual Report on the Environment, the BOS has now adopted such an overarching vision -- *Environmental Excellence for Fairfax County: a 20-Year Vision*.

This vision is organized into six sections that cut across all areas in the County:

- Growth and Land Use;
- Air Quality and Transportation;
- Water Quality;

- Solid Waste;
- Parks, Trails, and Open Space; and
- Environmental Stewardship.

Some recommendation in this document that impact ecological resources include:

- Create more community parks for active and passive recreation – open spaces with native vegetation to sustain local wildlife and to create areas for walking, meditating, or bird watching;
- Continue to acquire open space before it is too late through direct purchase or conservation easements to create more trails, connect trails and provide passive and active recreation areas;
- Provide adequate resources to maintain and appropriately develop our parks for passive and active recreation;
- Encourage conservation easements for open space and trails either to private organizations, such as the Northern Virginia Conservation Trust and The Potomac Conservancy, or to government agencies like the Fairfax County Park Authority or the Northern Virginia Regional Park Authority;
- Encourage organizations, for example, those that work on stream monitoring and stream valley restoration, to involve schools and citizens of all ages in their work;
- Encourage citizen-based watershed stewardship groups and help them to work with all stakeholders to protect, enhance and improve the natural resources, and hence, the quality of life in their watersheds; and
- Establish an aggressive program of community groups to adopt natural areas such as parks, trails, and stream valleys.

The summary of the document can be viewed at: http://www.co.fairfax.va.us/dpwes/environmental/env_excel.htm and the complete document is at: http://www.co.fairfax.va.us/chairman/environmental_plan.htm

This document is very significant in its potential for protection, preservation, and restoration of the County’s natural resources. EQAC continues to commend the Board of Supervisors for adopting this vision and for the steps it is taking to implement these recommendations.

2. Fairfax County Park Authority

The Fairfax County Board of Supervisors created the Fairfax County Park Authority (FCPA) in 1950, authorizing the Park Authority Board to make decisions concerning land acquisition, park development, and operations. As a result, Fairfax County has a system of parks that serve a number of uses, including active recreation such as sports, historic sites and buildings, and

preserving environmentally sensitive areas such as forests and stream valley lands. For current information on the County's parks, visit the FCPA website at <http://www.fairfaxcounty.gov/parks/>.

Acquisition of Park Land by FCPA

The FCPA added nearly 566 acres in 2004 through a combination of purchases, dedications, transfers, and donations. This brings the parkland inventory to a total of 23,517 acres. The largest portion of the added property was a transfer of 505.4 acres from the Board of Supervisors on November 5, 2004. Table VI-1 lists all the properties acquired.

Natural Resource Management Plan

In past reports, EQAC recommended that the County Board of Supervisors develop and implement a Countywide Natural Resource Management Plan. EQAC noted that in order to do this, two tasks need to be accomplished first: complete a Countywide Baseline Natural Resource Inventory and adopt a unified Natural Resource Conservation Policy.

EQAC's past recommendation on developing a Countywide Natural Resource Management Plan has been partially fulfilled by FCPA. On January 14, 2004, the Park Authority Board approved the Natural Resource Management Plan (NRMP) for Park Authority property. The NRMP contains seven elements:

- Natural Resource Management Planning;
- Vegetation;
- Wildlife;
- Water Resources;
- Air Quality;
- Human Impact of Parklands; and
- Education.

The complete NRMP can be viewed at <http://www.fairfaxcounty.gov/parks/nrmp.htm>

The first year of the implementation of the NRMP was completed June 30, 2005. Some of the highlight of year one included:

- Policy
 - Begin to look at Park Authority polices and practices and how resource protection is and should be incorporated in activities.

Table VI-1 FCPA 2004 Acquisitions			
<u>Parcel(s)</u>	<u>Acreage</u>	<u>District</u>	<u>Adjacent Park or Stream</u>
PURCHASES			
Douglas S. Mackall III	3.5	Lee	Huntley Meadows Park
The Milton Company	26.8	Mason	Accotink Creek
The Milton Company	4.9	Springfield	Accotink Creek
Joanne L. Barnes	3.95	Mason	Turkeycock Run
DEDICATIONS			
Coppermine Crossing	2.9	Hunter Mill	Merrybrook Run
South Station LLC	3.8	Mount Vernon	Pohick Creek
Equity Homes LLC	8.6	Springfield	Little Rocky Run
Potomac Heritage Homes	3.9	Springfield	Pohick Creek
TRANSFERS (from BOS)			
	0.3	Braddock	Country Club View
	0.6	Dranesville	Dranesville Tavern
	15.4	Hunter Mill	Horsepen Run
	0.2	Hunter Mill	Wolftrap Stream
	12.5	Lee	Indian Run
	6.0	Lee	Accotink Creek
	27.7	Lee	Dogue Creek
	1.8	Mount Vernon	Pohick Creek
	300.9	Mount Vernon	Laurel Hill
	16.8	Mount Vernon	Laurel Hill
	105.5	Sully	Bull Run
	17.7	Sully	Bull Run
DONATIONS			
Northern Virginia Conservation Trust	0.6		Backlick Run
Allan R. Hurwitz & Allan J. Berman	1.4	Lee	Huntley Meadows

Source: Michael A. Kane, *Request for Input for Environmental Quality Advisory Council's Annual Report on the Environment, 2005 Report*, Letter to James P. Zook, Director, Department of Planning and Zoning, Fairfax County, Virginia, July 11, 2005.

- NRMP Program
 - Develop operations plan including roles and responsibilities for NRMP Section staff.
 - Plan the out-years implementation of the NRMP

- Natural Resource Inventories/Site Specific NRMPs

- Inventories will only occur as needed as a result of planned development/master plans and as funding allows
- Site specific NRMPs will not occur for unstaffed parks

- GIS/Green Infrastructure
 - Begin to assess needs and develop a Park Authority GIS Strategy

- Stewardship Maintenance at Unstaffed Parks
 - Will not occur other than through existing staff and area crews and partnerships

- Invasives Species Management
 - Education will be the only component other than some small projects

- Education
 - An expansive Resource Stewardship Education program is planned

While the Park Authority has made a great step forward with the adoption of the NRMP, more resources (people and funds) need to be devoted to the implementation of the plan. Furthermore, inventories of all parks need to be accomplished. The inventory needs to be extended to cover all of Fairfax County so that future planning for acquisition of sensitive lands can take place.

Greenways Program

Implementation of the Greenways Program began in 1997 with the Park Authority staff working with citizens groups participating in the Parks Round Table partnership. Unfortunately, the Park Authority staff stopped supporting the Round Table and the Parks Round Table lapsed. The Greenways concept is furthered through the County Comprehensive Plan, and through Park Authority policy, to “identify, protect, and enhance an integrated network of ecologically valuable land and surface waters for present and future residents of Fairfax County.” FCPA helps accomplish this goal through the acquisition of land for Stream Valley Parks, and the development of a comprehensive trail network.

As is the case with Environmental Quality Corridors (EQCs), the ecological boundaries of Greenways may include both public and private open space. Under voluntary cooperative resource management agreements, the Park Authority could offer technical assistance for enhancing the Greenway benefits of private property. This could include the landowner voluntarily granting conservation easements. Groups such as The Nature Conservancy have used conservation easements successfully to protect environmentally sensitive lands,

and The Nature Conservancy has found that many landowners support the goal of preserving these environmentally sensitive lands.

EQAC notes that the Greenways Program is valuable in that it can expand the protection of environmentally sensitive stream valleys. However, this program should be aggressively expanded through the use of obtaining conservation easements, where possible, on private properties. As noted above, The Nature Conservancy has been successful in this approach. Additionally, the Northern Virginia Conservation Trust (NVCT) has now obtained a number of easements in Northern Virginia, showing that this approach in Fairfax County is feasible. The Board of Supervisors should continue its cooperation with NVCT and aggressively pursue easements aimed at protecting and preserving environmentally sensitive lands.

The Greenways Program did move forward in 2004 with the acquisition of about 560 acres of stream valley land in purchases, dedications, transfers, and donations. These are mentioned above under land acquisition.

Invasive Plant Control Efforts

Invasive plants are a problem because they can out-compete and replace native species. This change in vegetation disrupts the life cycles of many flora and fauna that depend on native vegetation. The Park Authority's Strategic Plan includes a strategy to develop invasive plant guidelines for consideration by the Environmental Coordinating Committee as a countywide standard. Invasives projects occur at staffed parks and in select parks when volunteers can assist in the efforts. While EQAC commends the volunteers and the Park Authority staff who are cooperating in removing invasives, an increased effort should be established using dedicated funds for this purpose.

One such project involving volunteers is the adoption of the Marie Butler Leven Preserve by a non-profit organization (Earth Sangha). Earth Sangha will demonstrate invasives removal and the use of native plants and trees at this preserve. Earth Sangha and FCPA are seeking funds for invasives removal.

Examples of invasives control projects at staffed sites include Riverbend Park and Ellanor C. Lawrence Park. Riverbend Park is continuing the partnership with the Potomac Conservancy and The Nature Conservancy that created opportunities to bring volunteers to Riverbend and Scott's Run Nature Preserve as a means of controlling invasive species. At Ellanor C. Lawrence Park, site staff continued to combat invasive exotic plants through cutting and spraying. These plants included Japanese stiltgrass, autumn olive, and oriental bittersweet.

Riparian and Bioengineering Projects

The Fairfax County Park Authority, along with and in partnership with other agencies, continues to work on stream stabilization/bioengineering projects. See the Water Resources Chapter of this report for descriptions of these projects. The stream bank stabilization projects were along Difficult Run near Georgetown Pike and a Stream Stabilization Work Day at Americana Park.

Turf Maintenance on Athletic Fields

Over-fertilization can cause problems in water quality. Too much fertilizer will end up in the County's stream. The Park Authority's turfgrass management program seeks to balance the needs for fertilizers with consideration for soil biology and runoff potential. Along this line, the cornerstones of the program are frequent soil sampling and the use of high quality natural organic fertilizers. Nutritional amendments are applied based on the soil reports. In this manner, the Park Authority has enhanced soil biology while balancing soil chemistry.

The Park Authority continued experiments with the use of various composts as top dressing. Applications of compost enhance soil biology and help flocculate tight, heavy, native soils. Enhanced soil biology and improved drainage have resulted.

Easements

Easements are another way of protecting ecological sensitive properties. A number of organizations hold easements of such properties in Fairfax County (see below). FCPA also holds approximately 25 conservation easements totaling over 150 acres. A future Annual Report on the Environment will give further details on these easements.

Other Activities

During the FY 2004 carryover review, the Board of Supervisors placed \$2.0 million in a reserve to fund projects related to the Board's Environmental Agenda. Several Park Authority resource management projects were funded with this carryover funding:

- Countywide Stewardship Education (\$135,000) – Fund education and outreach efforts on County environmental stewardship initiatives.
- Geographic Information Systems (\$180,000) – Expand the use of GIS for Park Authority natural resource management.
- Low Impact Development Demonstrations (\$150,000) – Demonstration of low impact development facilities at park sites, including innovative stormwater management practices.

- Stream Buffer Restoration (\$300, 000) – Replenish areas along stream corridors with deficient riparian vegetation buffers.
- Illegal Dump Site Removal (\$300,000) – Begin to eliminate over 95 unauthorized dumpsites within stream corridors.

Fairfax County Park Foundation

Fairfax County citizens can donate to the Fairfax County parks through the Fairfax County Park Foundation. The Fairfax County Park Foundation is a 501(c)(3) not-for-profit organization and donations are tax deductible to the fullest extent allowed by law. The Foundation's mission is to raise funds to support the parks and land under the stewardship of the Fairfax County Park Authority. Less than half of the Park Authority's annual operating funds come from tax support. The Foundation's goal is to bridge the gap between income from tax support and user fees, and the cost to operate, maintain and preserve our park system. If you are interested in giving a tax-deductible donation to the Foundation, contact them at:

Fairfax County Park Foundation
 12055 Government Center Parkway
 Fairfax, VA 22035
 (703) 324-8581
 SupportParks@aol.com
<http://www.FairfaxCountyParkFoundation.com>

3. Northern Virginia Regional Park Authority

Three Northern Virginia Counties (Fairfax, Loudoun, and Arlington) and three cities (Alexandria, Fairfax, and Falls Church) participate in the Northern Virginia Regional Park Authority (NVRPA). NVRPA was founded in 1959 and owns and operates 19 regional parks and owns 10,256 acres of land throughout the region.

The NVRPA often partners with other organizations to meet their mission of caring for the environment, overseeing urban forestland, protecting water resources, and preserving land for future generations. Some of these activities in 2004 included:

- Development of a landmark agreement with Dominion Virginia Power to set specific standards for pruning and cutting trees near the electrical transmission line along the Washington & Old Dominion (W&OD) Trail. This agreement also set stringent herbicide use standards;
- Coordination with the Virginia Tech Hampton Roads Agricultural Research and Extension Center on a W&OD Trail Revegetation Research Project;

- U.S. Bureau of Land Management “Public Lands Appreciation Day” projects at Pohick Bay and the W&OD Trail;
- Friends of the Occoquan and Chesapeake Bay Restoration Fund-sponsored Occoquan River Semi-Annual Cleanup Days at Occoquan, Fountainhead, and Bull Run Marina;
- Alice Ferguson Foundation 15th Annual Potomac Watershed Cleanup Day at Pohick Bay;
- Virginia Division of Soil and Water Conservation’s Urban Nutrient Management Program at NVRPA golf courses and athletic fields; and
- Coordinating the planting of nearly 500 native species trees by the Friends of the W&OD and 1,000 native species by Dominion Virginia Power to offset losses on the W&OD Trail during utility maintenance.

Current information about the Northern Virginia Regional Park Authority can be found on their website, <http://www.nvrpa.org/>

4. Fairfax ReLeaf

Fairfax ReLeaf is a non-profit (501(c)(3)), non-governmental organization of private volunteers who plant and preserve trees, restore forest cover, restore habitat, and improve community appearance in Northern Virginia. This organization has testified to County officials and politicians that an unacceptably rapid rate of tree loss in Fairfax County continues; the group has stated that the County has not taken effective steps to stem this loss of forest infrastructure. Fairfax ReLeaf is very active in tree plantings and is always eager to sign up new volunteers.

These tree plantings lead to a number of benefits:

- Maintenance and improvement of air quality;
- Reduced heat island effects;
- Reduction of noise;
- Preserved human and wildlife habitats;
- Reduction of energy use; and
- Reduction of surface runoff and improvement of water quality.

Fairfax ReLeaf remains very active in its efforts. For example, during 2004, the organization:

- Planted 912 trees this year by 383 volunteers providing 1,350 hours (corporate volunteer efforts amounted to 110 hours)
- Planted with the Centreville beautification committee and the Franklin Farm Open Space Committee;

- Planted at public schools, recreation centers, storm ponds, county parks, and state road rights-of-way;
- Provided the opportunity for six Eagle Scout, two Girl Scout, and one Boy Scout troop plantings;
- Planted a rain garden with children in the School Age Child Care program at Crossfield Elementary School;
- Carried out maintenance of previously planted sites;
- Spent 231 hours on invasive plant removals on six sites; and
- Conducted the following educational activities:
 - Participated in the Fairfax County Earth/Arbor day celebration, several exhibits, and in the community volunteer openhouse.
 - Conducted three workshops for planting site leaders;
 - Gave a presentation on invasive plants to the Garden Club of McLean School; and
 - Prepared a bilingual pamphlet on proper tree care for landscape workers, and distributed it to each school in Fairfax County.

Other activities included the planting of a stormwater management pond near the Dulles Toll Road in Herndon, the planting of a disturbed creek bed near the new Laurel Hill Park in Lorton, and the planting of 75 trees (live stakes) to begin the process of creating a buffer around a stormwater management pond on a golf course.

For further information on Fairfax ReLeaf, visit its Web sites at <http://www.fairfaxreleaf.org> or <http://www.geocities.com/RainForest/5663>. The organization can be reached at:

Fairfax ReLeaf
 12055 Government Center Parkway
 Suite 703
 Fairfax, VA 22035
 Telephone: (703) 324-1409
 Fax: (703) 631-2196
 Email: trees@fairfaxreleaf.org

5. Northern Virginia Conservation Trust

Past EQAC reports have recommended that the Fairfax County Board of Supervisors form public-private partnerships for the purpose of obtaining easements on environmentally sensitive land. EQAC pointed out that entities such as The Nature Conservancy use easements very successfully as a way of protecting environmentally sensitive properties. With the signing of a Memorandum of Understanding on June 20, 2001 between the Fairfax County Board of Supervisors and the Northern Virginia Conservation Trust (NVCT), such a public-private partnership now exists.

The Northern Virginia Conservation Trust (NVCT) was founded in 1994 as the Fairfax Land Preservation Trust. In 1999, this name was changed to The Northern Virginia Conservation Trust to better reflect the regional scope of the organization. NVCT is a 501(c)(3) nonprofit land trust dedicated to preserving and enhancing the natural and historic resources of Northern Virginia. NVCT also has formed public-private partnership with Arlington County and owns properties or easements in Arlington, Fairfax, Loudoun, Prince William, and Stafford Counties.

From the time NVCT accepted its first easement in 1999 through June 2004, NVCT has preserved 512 acres of open space in Fairfax County through easements, fee simple ownership, and partnerships. Between January 2004 and June 2005, NVCT has obtained the following:

- Hauge Easement, 0.75 acres in Mason District, April 2004;
- Oak Hill Easement, 2.8 acres in Braddock District, May 2004;
- Oak Run Park, fee simple ownership, 0.1 acres in Mason District, May 2005; and
- Martin/Siegel Easement, 0.3 acres in Mount Vernon District, June 2005.

NVCT continues to work toward reaching agreements on more conservation easements. Some that are possible in the future include locations in Reston, Great Falls, McLean, and Springfield.

NVCT also has a public outreach program – Adventures in Conservation – to bring hands-on volunteerism and environmental education opportunities. These activities included the planting of thousands of native trees, the removal of tons of invasive plants, birding trips, and guided hikes. NVCT recently initiated an innovative environmental and conservation education program with the acquisition of kayaks for naturalist-led kayak trips on local waters.

EQAC encourages all landowners whose property contains environmentally sensitive land such as wetlands, stream valleys, and forests to consider contacting NVCT and learning more about easements. If these landowners grant easements, they will not only protect sensitive land, but can realize some financial benefits. A perpetual easement donation that provides public benefit by permanently protecting important natural, scenic and historic resources may qualify as a Federal tax-deductible charitable donation. Under the Virginia Land Conservation Act of 1999, qualifying perpetual easements donated after January 1, 2000 may enable the owner to use a portion of the value of that gift as a state income tax credit. Fairfax County real estate taxes could also be reduced if the easement lowers the market value of the property.

Additional information on NVCT can be found on its Web site:
<http://www.nvct.org>.

6. The Nature Conservancy

The Nature Conservancy has a very successful program of obtaining easements from property owners for conservation. Their program was the inspiration for EQAC's past recommendations for Fairfax County to seek conservation easements as a measure of protecting ecological valuable property. (This recommendation led to the public/private partnership with the Northern Virginia Conservation Trust mentioned above.) The Nature Conservancy does not hold any easements in Fairfax County at present; however, it owns one preserve (the Fraser Preserve) of approximately 233 acres on the Potomac River. For further information on The Nature Conservancy, see <http://www.nature.org>.

7. The Potomac Conservancy

Other organizations also hold easements in Fairfax County. This and the following paragraphs report on these organizations. One of these is the Potomac Conservancy. The Conservancy was formed in 1993 by individuals concerned about inappropriate development, clear cutting, and other activities that were beginning to have a negative impact on the unspoiled character of the Potomac Gorge. This led to the formation of the nonprofit land trust now known as the Potomac Conservancy. The Conservancy was incorporated on August 24, 1993 in Maryland as a nonprofit corporation. The Conservancy is registered in Maryland, Virginia and West Virginia, and is an easement holder in Maryland's Conservation Reserve Enhancement Program.

The Potomac Conservancy currently holds easements of four properties in Fairfax County. These properties total 13.46 acres, with 0.14 of that being river frontage. For further information on the Potomac Conservancy, see <http://www.potomac.org>.

8. The McLean Land Conservancy

The McLean Land Conservancy (MLC) was formed to promote and foster the preservation, protection, conservation, and balanced use of the McLean area's unique natural, cultural, recreational, and historic resources. MLC's main objective is to preserve open green space.

MLC has worked to raise awareness of the value of protecting our natural resources. A healthy balance of land use will maintain and enhance the character and quality of life in McLean, as well as the economic sustainability of our region in the face of rapid build-out.

MLC is a 501(c)(3) land trust organization that was incorporated in the Commonwealth of Virginia in January 2000 and recently became a "full-

fledged” land trust in Virginia, with the ability to hold conservation easements. As a result, the conservation easements that were identified and negotiated before July 2004 were deeded to Fairfax County, but with MLC assigned as the easement monitor.

MLC has concentrated on the preservation of riparian buffers on privately owned land. Successful projects include the protection of one acre adjacent to the headwaters of Four Mile Run, important because the health of the headwaters is critical to the health of a stream, and 2.77 acres on Pimmit Run in a pristine wooded area. These two easements are held by Fairfax County but monitored by MLC.

During the last year, MLC initiated a dialog with the Department of Planning and Zoning and the County Attorney’s Office to enhance the ability of land trusts to protect environmentally sensitive areas adjacent to development sites. Unfortunately, the County’s standard easement language allows the County to disturb the land on or “near” easements, with “near” undefined. This could make conservation easements held by the County unenforceable and has caused problems in obtaining conservation easements. EQAC recommends that the easement language be changed to define “near” and therefore enhance MLC’s ability to obtain easements.

9. The National Park Service

Another holder of conservation easements in Fairfax County is the National Park Service. The Park Service holds 38 easements covering 326.67 acres. A future Annual Report on the Environment will provide more details on these easements.

10. The Virginia Outdoors Foundation

Another holder of conservation easements in Fairfax County is the Virginia Outdoors Foundation, holding six easements totaling 67.19 acres:

- American Horticultural Society, 8.15 acres;
- Burke, Henrietta McCormick-Goodhart, III, 5.25 acres;
- Burke, Henrietta McCormick-Goodhart, III, 26.67 acres;
- Winslow, Scott Matthew and Elizabeth Louise Werner, 20.47 acres;
- Trustees of the Marie W. Ridder Trust, 7.86 acres; and
- The Marc E. Leland Trust, 59.33 acres

11. Northern Virginia Soil and Water Conservation District

The Northern Virginia Soil and Water Conservation District (NVSWCD) continues to provide leadership in the area of bioengineering techniques in streambank stabilization and in the general area of erosion and stormwater control. The District works in partnerships with other agencies and organizations. For example, it has partnered with the Fairfax County Park Authority, Virginia Department of Forestry (VDOF), the Fairfax County Department of Public Works, and the Reston Association. See the Water Resources Chapter in this report for descriptions of stream stabilization/bioengineering projects for which NVSWCD has provided leadership.

All Agricultural and Forestal (A&F) Districts are required to have a conservation plan. NVSWCD develops soil and water quality conservation plans that comply with the Chesapeake Bay Preservation Act guidelines. The plans include best management practices to reduce sediment pollution from erosion, reduce excess nutrients from animal waste and fertilizers; and avoid the misuse of pesticides and herbicides. The plans also include the establishment and maintenance of vegetated riparian buffers next to all streams and other Resource Protection Areas (RPAs). Plans are updated and technical assistance is provided as needed.

NVSWCD's annual seedling program emphasizes the role of vegetation in preventing erosion, conserving energy, and decreasing and filtering stormwater runoff. Those planted in riparian areas also help to protect stream channel stability and stream water quality, as well as improving the surrounding habitat. NVSWCD's 2004 seedling program offered citizens a "sun and shade" package of 14 native tree and shrub seedlings for a small cost. Each package contained five different species. In April 2004, citizens purchased 5,600 of these seedlings.

Fairfax County Soil Survey

Fairfax County used to have soil scientists on the staff, but in a budget cut several years ago, the office was abolished. In past Annual Reports, EQAC deplored this move and recommended that soil scientist expertise be bought back to the County staff. While the Board of Supervisors did not exactly follow this recommendation, it did satisfy the intent of EQAC's recommendation by funding NVSWCD to finish the County's soil survey. The funding for this became available to NVSWCD in Fiscal Year 2004 and will continue through Fiscal Year 2007. The field surveys will be complete in 2007 and the final reports and maps will be available in 2008.

NVSWCD is working with the National Resources Conservation Service (NRCS) in accomplishing the update of the Fairfax County soil survey. The Board of Supervisors provides money to NVSWCD to hire a soil scientist who is a member of the Survey team. It also funds NRCS for its assistance

(\$110,000 per year), which consists of two NRCS soil scientists on site and soils expertise and resources from throughout the agency, including a soils data quality specialist, a digitizing unit, the National Soil Survey Lab in Nebraska, and the National Soils Information System database. NRCS matches the funds provided thereby leveraging the funds provided by the Board of Supervisors.

The Fairfax County soil survey update will modernize an existing soil survey. The update will enable the GIS system to use the soil survey information (a capability that did not exist). As a result, this update will enable planners, individuals, scientists, and anyone involved in land use planning to make smart land use decisions that will work to save money and conserve valuable natural resources.

The resulting database and maps will incorporate the new information and scientific knowledge acquired about soils in the last 30 years. However, the updated maps will not eliminate the need for site-specific surveys when construction or changes in site use occur. The maps will better describe, characterize, and define the properties of the soil components within existing delineations. The map will also show that inclusions of other soil types can exist, but will not show the extent of smaller inclusions. Site-specific surveys will be needed for this fine detail.

One new effort that is being done under the soil survey is the characterization of man-made soils (urban soils). The characteristics of urban soils can be quite different from native soils. One significant difference is the ability of water to infiltrate urban soils (much less than many native soils). Knowing where urban soils exist and the type of urban soil can be critical to stormwater control efforts that incorporate infiltration of water (rain gardens, grassy swales, etc.).

In a similar fashion, neighboring counties are updating their soil maps. Loudoun County updated its soil maps and incorporated those data into their GIS system. Loudoun County, however, recognizes that the soils map needs to be continuously updated (based on field site inspections) and has a County Soil Scientist to provide site-specific soil interpretations. In a like fashion, Fauquier County has also updated its soil survey and incorporated that data into its GIS. Fauquier County also has a County Soil Scientist Office to provide site-specific information.

The Soil Survey is progressing well and on schedule. More than half of the soils have been mapped, either updated from the original 1963 Survey or brand new mapping. More than 3,000 transect holes have been bored with a full soil pedon description down to 60 inches performed on more than 500 of the borings. The process of progressive soil mapping in the unmapped areas is done by mapping blocks of connecting areas daily so as to have consistent and more accurate soil-landscape relationships. Once the fieldwork is completed, in

late 2005, the remaining work will focus on editing and certifying what has already been accomplished. All of the soil lines from the original soil survey have been compiled. The National Soils Information System (NASIS) database legend for the county has been and will be continually updated. NASIS soil chemical and physical characteristics have been entered for many of the soils on the legend. A pilot study of man-altered soils (also known as disturbed soils) is continuing. Samples are taken from throughout the county so that laboratory soil analysis can be performed. The locations have been selected to include man-altered soils from all the unique physiographic and geologic regions of the county. This pilot project will determine whether some soil interpretations can be made about man-altered soils. A ground penetrating radar unit was used during the last week of October 2004 to investigate man-altered soils and Marine Clays using this non-invasive technology.

The NVSWCD soil scientist provides additional services to Fairfax County. He conducts infiltration studies for proposed infiltration practices, such as rain gardens, porous pavers, and underground detention. These have included: the rain garden at Yorktowne Square, the parking lot retrofit at the Providence District Supervisor's Office, the development at Tinner Hill, the plan for retrofitting low impact development (LID) practices during the redevelopment of the Occoquan Facility at the former Lorton Prison, a rain garden at Marie Butler Leven park, the retrofitting of 15 acres at St. Louis Church with LID practices, and six demonstration LID infiltration practices in county parks. Additionally, the NVSWCD staff provided soils information to consultants, developers, realtors, homeowners, and the general public, responding to 274 soil inquiries during Calendar Year 2004.

Like our neighboring counties, Fairfax County also needs to maintain expertise in soils. At present, funding for the expertise will end after Fiscal Year 2007. However, the GIS maps will need to be maintained and updated, and this cannot be done without the appropriate expertise. Furthermore, expertise will be needed to interpret site-specific surveys. Without this expertise, problems will likely develop as uses are changed on sites. In addition, detailed knowledge of soils will be critical to future stormwater control efforts as well as other activities. One just needs to look at the slope failure on the newly widened Telegraph Road to see the importance of knowing soils and their characteristics. In this case, the failure of the slope due to clay soils jeopardized houses on the top of the hill. EQAC therefore recommends that the Board of Supervisors continue to fund soil scientist expertise past Fiscal Year 2007.

12. Fairfax County Wetlands Board

If you own property on the waterfront in Fairfax County, you may need a permit before you build or make improvements on your property. These activities, known as land disturbing activities, often require a permit if done in an area that

has been identified as a tidal wetlands. Land disturbing activities include the following:

- Any construction project on or adjacent to a tidal body of water;
- Any construction project in which fill material is placed in or near wetlands;
- Construction of bridges, tunnels or roads which may have an impact on wetlands, either tidal or non-tidal; or
- Projects designed to protect property adjacent to shorelines.

During 2004 no tidal wetland permit applications were sought. Consequently the Fairfax County Wetlands Board did not conduct any public hearings to consider tidal wetlands permits. However, the Wetlands Board and county staff researched and evaluated the development of a Tidal Wetlands Mitigation/Compensation Policy to achieve the goal of “no net loss” of tidal wetlands. The Wetlands Board Chair expressed concern that the mitigation/compensation policy administered by Virginia Marine Resources Commission (VMRC) in conjunction with local governments in Tidewater Virginia neglects mitigation and compensation for the small, permitted tidal wetland losses, particularly those impacts which are less than 1,000 square feet. The VMRC and the Virginia Institute of Marine Science (VIMS) Policy addresses mitigation and compensation for tidal wetland impacts which exceed 1,000 square feet.

For further information, contact the Wetlands Board at:

Fairfax County Wetlands Board Staff
Department of Planning and Zoning, Planning Division
12055 Government Center Parkway, Suite 730
Fairfax, VA 22035-5504
(703) 324-1210
<http://www.co.fairfax.va.us/dpz/environment/wetlands.htm>

13. U.S. Army Corps of Engineers

During 2004, the U.S. Army Corps of Engineers issued 42 permits for dealing with nontidal wetlands. The requested impacts included 1,495 acres of wetlands and 5,458 linear feet of streams. These impacts were authorized subject to mitigation measures that addressed 1.92 acres of wetlands and 4,945 linear feet of streams. Additionally, \$317,956 was contributed to the Virginia Aquatic Resources Trust Fund.

In 2004, no permits were issued under Section 10 of the River and Harbors Act of 1899, nor were there any enforcement cases. No regulatory changes occurred in 2004 regarding wetland-permitting requirements.

A revised draft of a stream assessment methodology was prepared in April 2005. Twelve teams composed of the Corps of Engineers, Department of Environmental Quality, local government representatives, and private sector consultants were formed to field test the revision. The comments are being evaluated. Once the methodology is finalized, the Corps of Engineers will advise the public.

14. Virginia Department of Forestry

The Virginia Department of Forestry (VDOF) has provided forestry related services in Fairfax County for over 30 years. VDOF is also participating in several efforts aimed at improving riparian zones and stream bank stabilization projects. In these efforts, VDOF partnered with the Northern Virginia Soil and Water Conservation District, the Department of Public Works and Environmental Services, and the Reston Association. See the Water Resources Chapter in this report for further details. Also, see the Water Resources Chapter for details on VDOF riparian buffer reforestation efforts.

The Virginia Department of Forestry is the lead state agency to oversee the planting and recordation of forest buffers planted in the state of Virginia. In 2004, approximately 2,040 seedlings were planted along 3,000 linear feet of stream corridors under the leadership of the Virginia Department of Forestry in Fairfax County. Partners involved in these plantings were Eagle Scouts, Difficult Run Community Conservancy, Elementary School Children, private landowners, and Fairfax ReLeaf.

The Virginia Department of Forestry participates in the Fairfax County Arbor Day on the last Saturday in April each year. The County earned again, for the 21st year, the Tree City USA award. This award is given for having a planting plan, management plan, a Tree Board/Commission, and sponsoring an Arbor Day Celebration. The award is applied for by the Fairfax County Urban Forest Management Branch and given through the State Department of Forestry. Tree seedlings are distributed by VDOF to citizens attending the Arbor Day celebration. In 2004, 500 seedlings were distributed for planting by citizens in their communities.

The Virginia Department of Forestry sponsored a drop-off site in Fairfax County for the Growing Native project. This project involves the collection of tree seeds (acorns, hickory nuts, black walnuts etc.) which are transported to VDOF nurseries where the seeds are planted and seedlings are grown. Each year 500-700 seedlings are given to citizens for planting on public lands in Fairfax County.

The conservation of the forested land base in Fairfax County is a part of the VDOF plan. The Fairfax County office works closely with the Northern

Virginia Conservation Trust to review easements for the conservation of forests; four such baseline studies were performed in 2004. Also, Agricultural and Forestal District plans are reviewed by VDOF; these efforts support the management of forested land for conservation purposes. Approximately six plans are reviewed annually.

15. Virginia Department of Transportation

Unavoidable impacts to water resources within Fairfax County that occur during highway construction projects are mitigated as required by federal and state laws and regulations. The Virginia Department of Transportation (VDOT) is currently monitoring three wetland mitigation projects within Fairfax County.

- In the Dranesville District, VDOT created a wetland project along Dranesville Road near Sugarland Run to mitigate for construction impacts from the Fairfax County Parkway.
- In the Braddock District, VDOT constructed a wetlands project in 2003 near the Virginia Railway Express—Burke Station.
- In the Sully District, VDOT created a wetland at Lee Highway and Big Rocky Run.

These sites were created to mitigate unavoidable wetland impacts from construction of Fairfax County Parkway, Roberts Parkway Bridge Overpass, the Springfield Interchange, and the Route 29 Bridge replacement over Big Rocky Run. All sites are undergoing five-year monitoring as required by federal and state permits. Two years of monitoring at the Dranesville District and Sully District sites are complete and the third year of monitoring is in progress. The first year of monitoring is complete at the Braddock District site and the second year monitoring is in progress. The results for all three sites have been impressive, with each site fulfilling success criteria outlined in the water quality permits.

VDOT uses bioengineering techniques for transportation projects with associated riparian impacts. Stream restoration on a Pohick Creek tributary near Lorton Road was completed in the spring of 2004 as a part of VDOT's Richmond Highway widening project. VDOT is assessing other potential stream restoration sites within the State's right-of-way to compensate for stream impacts from road construction projects. VDOT also seeks opportunities to partner with Fairfax County agencies and private property owners on future bioengineering projects. EQAC encourages the Northern Virginia Soil and Water Conservation District and the Department of Public Works and Environmental Services to work with VDOT to identify possible stream restoration projects and to partner with VDOT in the accomplishment of the identified projects.

VDOT has included landscaping in several construction projects to enhance road improvements. Fairfax County projects include:

- Fairfax County Parkway between Fawn Ridge Lane and Walnut Branch Road (completed December 2002 and in the final year of a three-year establishment period);
- Ox Road between Burke Lake Road and Davis Drive (completed April 2004 and under a three-year establishment period);
- Dulles Toll Road/Spring Hill Road Plaza improvements (completed January 2005 and under a one-year establishment period);
- Gambrill Road Park and Ride Lot (completed June 2005 and under a two-year establishment period);
- Richmond Highway widening from Lorton Road to Telegraph Road (construction underway as of June 2004);
- Lorton Road between Richmond Highway and Silverbrook Road (construction underway); and
- Woodrow Wilson Bridge Project Route 611/Richmond Highway Interchanges (landscape design with pedestrian/bike access improvement through these interchanges under development).

VDOT maintains about 22 acres of flowering bulbs, wildflowers, and native grasses planted throughout Fairfax County. These areas are reseeded and controlled for weed invasion as needed throughout the growing season. An additional 4,845 perennials were planted in the Seven Corners area in the median west of the Route 7 overpass.

VDOT is moving forward with efforts to control invasive vegetation along interstate and primary routes in Fairfax County. When satisfactory control is achieved at these locations, potential candidate reforestation and wildflower/native grass planting projects will be identified for 2006. EQAC continues to commend VDOT on the invasive plant removal and replacement effort and recommends that VDOT use only native species for replacement plantings.

16. Urban Forestry

a. Urban Forest Management Branch

In 2004, Urban Forest Management (UFM) continued to implement its 5-year Strategic Plan. Emphasis was placed on the following goals from the UFM Strategic Plan:

1. Develop and implement an urban forest management plan that is ecosystem-based and addresses community values.
 - With assistance from botanists from Virginia Natural Heritage Program, UFM was able to identify all of the known forest and woodland communities (30) that occur in Northern Virginia. Furthermore these communities were categorized using the National Vegetation Classification System. This information defines the total number of customized forest management plans that will need to be included in the comprehensive or countywide urban forest management plans.
2. Lead in the development of effective urban forestry policies and regulations.
 - In conjunction with legislative program staff from the Office of the County Executive, UFM prepared a proposed resolution for consideration by the 2005 Virginia Legislative Assembly. The proposed resolution directed the Virginia Department of Environmental Quality to study the feasibility of including tree-related measures in Virginia's air quality management plans (a.k.a. State Implementation Plans, or SIPs) and if these measures could receive credits as voluntary stationary source emission reduction programs under section 110 of the Federal Clean Air Act. The proposed resolution was patronized by State Senator Mims as SJ 343, but was left in the Senate Rules Committee because of anticipated budgetary impacts. However, the resolution generated considerable interest and raised awareness levels within Virginia State governmental circles. The increased awareness lead the Virginia State Forester to direct Virginia Department of Forestry Staff to initiate communication with the USDA Forest Service research staff and Fairfax County's UFM to pursue the application of tree-related practices in air quality plans.
3. Provide the highest quality service for Fairfax County citizens.
 - In cooperation with the Department of Information Technology, UFM started work to replace its aging workload management database in use since 1996. A new Web-based workload tracking system was prepared and implemented in 2004. The new workload tracking system provides a more efficient and effective way of tracking and storing project documentation and will enhance UFM's ability to provide high quality customer service.

b. Forest Pest Section Update**Gypsy Moth Caterpillar**

The gypsy moth was first detected in Fairfax County in 1981. To avoid the environmental, economic, and health hazards associated with this pest the Board of Supervisors enacted an Integrated Pest Management (IPM) Program to control the gypsy moth. The purpose of the program is to reduce gypsy moth populations below defoliating levels. The goal of the program is to minimize the environmental and economic impacts of the pest by limiting the amount of tree mortality and use of pesticides in the environment. The control methods considered annually are:

- **Mechanical:** the gypsy moth egg mass Search, Scrape, and Destroy Campaign and Burlap Banding for Gypsy Moth Caterpillars. These are citizen involvement programs.
- **Biological:** the release and monitoring of gypsy moth parasites and pathogens.
- **Chemical:** the aerial and ground applications of Diflubenzuron and Bacillus thuringiensis (Bt) on high infestations.
- **Educational:** the self-help program and lectures to civic associations and other groups.

In calendar year 2005, gypsy moth caterpillar populations increased compared to previous years. Insect populations are cyclical in nature and it is impossible to determine whether this increase is a sign that outbreak populations are imminent. Gypsy moth populations increased in 2005; however, there was no defoliation in Fairfax County and minor defoliation reported in other areas of the State of Virginia. The gypsy moth staff will continue to monitor populations in the fall of 2005, and treatment is probable in 2006.

Cankerworm

The fall cankerworm is native to the United States and feeds on a broader range of trees than the gypsy moth. Periodic outbreaks of this pest are common, especially in older declining forest stands. The area of the county that had the most severe infestations of fall cankerworm was in the Mount Vernon and Lee magisterial districts. Typically this insect will defoliate in the early spring when the trees are able to withstand the impacts and little long-term damage is expected; however, tree mortality is possible when combined with conditions that place stress on the trees, such as drought.

Nuisance to homeowners occurs when large numbers of caterpillars hang from the trees and migrate to the ground.

The Forest Pest Program conducted an aerial treatment program during the spring of 2003. Staff has monitored for adult female moths throughout the Mount Vernon and Lee Districts since January, 2001. The result of the winter 2004 – 2005 monitoring effort indicated that no aerial treatment was required in the spring of 2005.

The Forest Pest Program will monitor for fall cankerworm again this winter. It is expected that populations of this pest will be low in the near future.

Emerald Ash Borer

The emerald ash borer (*Agrilus planipennis*) is an exotic beetle from Asia and was discovered infesting ash trees in the state of Michigan in 2002. This beetle is known to attack only ash trees and can kill trees in as little as two years. After it was discovered, the United States Animal Plant Health Inspection Service (APHIS) established a quarantine around the infested area in order to contain the pest. Unfortunately, a tree nursery owner inside of the quarantine area illegally shipped infested ash trees to a nursery in Maryland. During the summer of 2003, 13 of the ash trees were planted at the Colvin Run Elementary School site (Dranesville District). These trees were removed by the Virginia Department of Agriculture and Consumer Services (VDACS) and incinerated.

The removed trees contained evidence that adult beetles had escaped into the environment. In order to prevent the beetles from becoming established in Fairfax County, APHIS and VDACS conducted an Emerald Ash Borer Eradication Program. It was ordered that all ash trees within a one-half mile radius of the school site must be removed and incinerated. This area included a total of 278 ash trees, 90 of which were on 29 privately owned properties. All tree removals were conducted in March, 2004.

On December 12, 2003, the Commissioner of VDACS added the emerald ash borer to the list of insects that can be controlled by service districts. On January 26, 2004, the Board of Supervisors directed Forest Pest Section staff to coordinate with VDACS in implementing the Emerald Ash Borer Eradication Program. Staff of the Forest Pest Program (FPP) began assisting VDACS shortly after the insect was added to the list and Board direction was given. FPP duties included surveying the area around Colvin Run Elementary for ash trees, conducting public notification meetings, preparing maps for tree removal contractors, monitoring contracted services, preparing mailings, and responding to media inquiries.

Since the trees were removed in 2004, staff has been monitoring for the presence of adult beetles. Monitoring is conducted by placing 50 “sentinel” ash trees at various areas around the school site. An additional monitoring site was established in the Fort Hunt area of Fairfax County and was in response to a suspected infestation on the Maryland side of the Potomac River. At the end of the summer, the sentinel trees will be removed and checked for life stages of the emerald ash borer. This effort would not have been possible except for the cooperation of the National Park Service.

c. Forest Conservation Section (FCS)

In 2004, the FCS continued to serve its traditional customers: citizens, builders, developers, planners, engineers, landscape architects, private arborists, and other county staff and agencies, including the Board of Supervisors (BOS), Planning Commission, Tree Commission, Environmental and Facilities Review Division (EFRD), Environmental and Facilities Inspections Division (EFID), Department of Planning and Zoning (DPZ), Office of Capital Facilities, and the School Board.

Table VI-2 summarizes the workload of the FCS based on the requests for assistance that were completed for FY 2002, 2003, and 2004. These figures demonstrate the number of requests for assistance has remained fairly constant over the last three year period. In FY 2004, requests for assistance increased from previous years for Department of Planning and Zoning (DPZ) requests. In April, 2004, the FCS and DPZ agreed to have FCS included in the initial agency routing for all zoning cases. It is anticipated that FCS will continue to spend a significant percentage of staff time on zoning cases in 2005 and subsequent years.

Table VI-2 Urban Forest Management Workload, 2002 through 2004			
Type of Assignment	Number of Completed Requests		
	2002	2003	2004
Waivers	70	67	64
Zoning Cases	187	140	191
Land Development Services (LDS) Requests: Plan Review	723	736	677
LDS Requests: Site Inspections	743	732	663

Other (BOS, FCPA, Other County Agencies, etc.)	611	628	610
Hazardous Trees	27	15	17
Total Complete	2,361	2,318	2,222

d. Tree Preservation Task Force

The Tree Preservation Task Force (TPTF) did not convene in 2004. On October 6, 2004 Chairman Connolly informed the Fairfax County Tree Commission that the TPTF would no longer convene, but in its place the Tree Commission should re-examine the 37 recommendations adopted by the Board of Supervisors in 1999 for pertinence and insert any unresolved issues into a comprehensive “tree action plan” that would be considered by the Board of Supervisors for inclusion into the Board’s official Environmental Policy.

e. Tree Commission

In 2004, the Tree Commission met with Chairman Connolly to discuss the relevance of trees and forest cover to the Board’s official Environmental Policy. This conversation prompted the Tree Commission to start work on a comprehensive tree action plan that is anticipated to be completed and to be considered by the Board of Supervisors for adoption and inclusion into the Board’s official Environmental Policy in 2005. The Tree Commission’s Tree Action Plan will incorporate the following major strategies:

- Commit to preserve current tree assets by fostering health and regeneration of specimen trees and urban forest.
- Enhance the legacy for future generations by increasing the quantity and quality of trees and wooded areas.
- More effectively integrate urban forestry into our planning and policy making.

In addition to participating in numerous public events such as the Fairfax County Earth Day-Arbor Day Celebration and the County’s Land Conservation Awards program, Commissioners also provided input on various land use and development proposals affecting trees and landscaping. The Commission continues to support and advocate for the passage of legislation dealing with tree preservation and the use of native and desirable landscape trees during development.

In 2004, the Commissioners continued to use their monthly meetings to research and discuss county tree and landscape issues and policy. Various speakers made presentations to the Commission.

f. Summary of Proposed/Anticipated Changes to Tree Preservation Enabling Legislation

In light of continued opposition encountered during the 2002, 2003, and 2004 Virginia State Legislative Assemblies to amend the tree replacement provisions of § 15.2-961 to include tree preservation requirements, the Board of Supervisors decided not to include a specific tree preservation proposal in the 2004 Legislative Program. However the Board did forward a supporting position for tree conservation legislation as part of the 2004 Legislative Program.

Past recommendations made by the Tree Preservation Task Force, the New Millennium Occoquan Watershed Task Force, the Tree Commission, and the Environmental Quality Advisory Council, coupled with certainty that the County's efforts to protect air, water, soil, and wildlife resources will be extremely difficult without concurrently protecting trees and forest cover, virtually ensures that Fairfax County will continue to support tree preservation legislation.

g. Status of grant proposal for satellite mapping of the County's tree cover and analysis of tree cover data

In 2004, Urban Forest Management continued efforts to devise a countywide map for use as a layer on the County's geographic information system that will delineate the distribution of naturally occurring and landscaped vegetation, using the National Vegetation Classification System (NVCS).

In 2004, Urban Forest Management accomplished the following goals towards the mapping and identification of natural vegetation communities that exist in Northern Virginia using the National Vegetation Classification System:

- Shared vegetation sampling data with the Virginia Natural Heritage Program which provided refined and more comprehensive information about vegetation communities that exist in Northern Virginia.
- UFM started using the National Vegetation Classification System to describe vegetation communities in land use cases.

Once Fairfax County is mapped using the National Vegetation Classification System, a vegetation map will be produced for each of the County's 30 major watersheds. These data should provide a valuable benchmark that can be used to formulate and evaluate the effectiveness of watershed management and vegetation management policies. It is

anticipated that Urban Forest Management will need to continue this mapping effort into 2005.

17. Agricultural and Forestal Districts

Landowners may apply to place their land in special Agricultural and Forestal (A&F) Districts that are taxed at reduced rates. A&F Districts, which are created by the Commonwealth of Virginia, must have 200 or more acres. A&F Districts of local significance, governed by the Fairfax County A&F District Ordinance, must have at least 20 acres and must be kept in this status for a minimum of eight years.

Fairfax County's policy is to conserve and protect and to encourage the development and improvement of its important agricultural and forest lands for the production of food and other agricultural and forest products. It is also Fairfax County's policy to conserve and protect agricultural and forest lands as valued natural and ecological resources that provide essential open spaces for clean air sheds, watershed protection, wildlife habitat, aesthetic quality, and other environmental purposes. The purpose of the Local Agricultural and Forestal District program is to provide a means by which Fairfax County may protect and enhance agricultural and forest lands of local significance as a viable segment of the Fairfax County economy and as an important economic and environmental resource. All district owners agree to no intensification of the use of their land for the life of the district.

Between May, 2004 and August, 2005, the number of Local Districts increased from 40 to 41 and the number of Statewide Districts remained at two, for a total of 43 A&F districts as of August, 2005. All these districts are in four of Fairfax County's Magisterial Districts: Dranesville, Mount Vernon, Springfield, and Sully. However, acreage in Local Districts decreased from 2,052.95 to 2,046.09. The acreage in Statewide Districts remained constant at 758.64 acres. The total acreage in A&F districts decreased from 2,811.59 to 2,804.73.

The change in acreage despite a gain of one in the total number of districts was due to:

- Loss of 31.55 acres through the withdrawal of the Bonnie Foster District in Dranesville Magisterial District;
- Gain of 20.3 acres through the creation of the Koster District in Springfield Magisterial District;
- Gain of 20.02 acres through the reinstatement of the Klare District in Springfield Magisterial District;
- Loss of 15.67 acres withdrawn from the Jasper District (leaving 80.83 acres) in the Springfield Magisterial District; and
- Gain of 0.04 acres through an adjustment to the Cox District.

These actions resulted in the net loss of 4.66 acres.

18. Gunston Cove Ecological Study

Gunston Cove is a tidal freshwater embayment of the Potomac River located approximately 20 miles south of Washington, DC. The Cove is formed by the juncture of Pohick Bay and Accotink Bay, though which the waters of Pohick Creek and Accotink Creek flow to the Potomac River.

An ecological study of Gunston Cove, conducted by the Department of Environmental Science and Policy at George Mason University, and supported by the Department of Public Works, continued during 2004. This study is a continuation of work originated in 1984 at the request of the County's Environmental Quality Advisory Council and the Department of Public Works. This ongoing monitoring program was established to determine impacts from local point sources and nonpoint sources and evaluate the status of the Gunston Cove ecosystem. Information from this study is intended to form the basis for well-grounded management strategies for maintenance and improvement of water quality and biotic resources in the tidal Potomac.

The executive summary of the 2003-2004 report by Jones and Kelso summarizes details from their report and covers water quality, phytoplankton biomass, zooplankton, fish larvae and fish, and benthic organisms. The following is extracted from this summary:

Long-term trends were examined for a wide range of water quality and biological parameters. The analysis of water quality parameters focused on growing season values (June to September). In the cove, chlorophyll a, photosynthetic rate, BOD, VSS, total phosphorus, and organic nitrogen exhibited a net decrease over the study period (1983/4-2003). Nitrate nitrogen and TSS have also exhibited significant declines over the whole period of study. Ammonia nitrogen has clearly declined since 1989. These results are consistent with a significant decline in phytoplankton biomass in the cove over the study period. Phytoplankton cell densities have also declined in the past two years. Secchi disc, a measure of water clarity, has demonstrated a steady and significant increase due to lower chlorophyll a and TSS. Water clarity is improving to the point that light levels in the cove are becoming more suitable for submersed aquatic vegetation.

In the river, most indicators of phytoplankton do not exhibit a significant change over the study period. Chlorophyll a has shown a slight decline in the trend line of the past three years and phytoplankton density has declined over the past two years. However, major and substantial

decreases have been observed in all forms of nitrogen. Dissolved oxygen has also shown an increase over the study period.

All zooplankton groups in the cove and most in the river have demonstrated a significant linear increase since 1990. The cladocerans and copepod nauplii have shown the greatest rates of increase. These may indicate an improvement in the quality of algae for food and/or a decline in planktivorous fish densities.

Clupeid larvae continued to be found in high abundance in the cove. Increased values since 2000 may be due to gizzard shad. Morone larvae (white perch and striped bass) continued a multiyear decline that began in 1996.

Oligochaetes remained the most abundant benthic macroinvertebrates at both sites. Chironomids have declined somewhat in the river, but remain abundant in the cove. Amphipods have been declining in recent years in the river, while isopods have been increasing. Corbicula is having a comeback after a major dieback in the early to mid-1990s.

In the cove, trawl catches continued a decline begun in 2002 led by decreases in adult and juvenile white perch that began to decrease in 2001. For the last two years, white perch were substantially below half of the trawl collection, a condition unseen since 1990. This condition may be an actual decrease in the white perch stocks or merely a shift in their location since the population is not confined to the cove. The mean catch per trawl of blueback herring was high in 2003 while alefish was lower.

In the river, trawl catches were somewhat higher than in 2002 and above the medium value over the course of the study. White perch made up about half of the total catch, similar to recent years. Larger numbers of brown bullhead, channel catfish, tessellated darter, and hogchoker have been caught since 2000. All are known to feed on benthic animals which may have increased with dredge spoil placement.

In seine samples, the batch of banded killifish remained strong and dominated all other species. Blueback herring, alewife, and spottail shiner were caught in numbers comparable to most previous years. The abundance of white perch was very low, primarily due to fewer young-of-year in the catch. The catch of inland silverside was also low.

The occurrence of both adults and larvae in the creek was clear evidence of spawning by alewife in Pohick Creek in 2003. Alewife larvae were collected in early to mid-April in the creek just below the outfall from the Noman M. Cole Pollution Control Plant. The adults

were observed there and about a kilometer upstream as the base of a series of low waterfalls. Since 1996, either adult alewife and alosine larvae have been collected in Pohick Creek every year except 2002. Alewife adults were also observed in the creek in 2004, although identification of larvae caught there is still in progress. No blueback herring adults were caught in Pohick Creek in either 2003 or 2004 continuing the record since 1998.

Gizzard shad adults were caught in Pohick Creek in both 2003 and 2004. Larval gizzard shad were also caught in 2003, and spawning certainly occurred in the creek in 2003 and perhaps in 2004.

Water quality in Pohick Creek remains good enough to support spawning by alewife and gizzard shad.

The annual reports by George Mason University are proving to be very useful in tracking changes in Gunston Cove as a result of changes at the Pollution Control Plant. These changes at the plant have benefited the Cove. The studies should continue to get a better idea of long-term trends (as thus see the impact of changes at the Pollution Control Plant and other changes that may impact the Cove such as changes in land use in the watershed).

19. South Van Dorn Street Phase III Road Project

The U.S. Army Corps of Engineers issued a permit for the construction of South Van Dorn Phase III on May 28, 1996. Conditions contained in the permit required that no construction could start on the roadway until several conditions were completed. Three of these conditions are aimed at protecting Huntley Meadows Park.

One condition is that seven parcels of land (102 acres) adjacent to Huntley Meadows Park must be purchased by Fairfax County. This is in lieu of creating wetlands for the five acres of wetlands that will be destroyed in road construction. These 102 acres contain about 69 acres of wetlands and 33 acres of uplands. This action will ensure preservation of the wetlands contained in this 102-acre tract as well as provide a valuable addition to Huntley Meadows Park.

The County now has possession of these seven parcels of land, which will be turned over to the Fairfax County Park Authority to become part of Huntley Meadows Park. The Corps also required that this land remain natural (as is the rest of Huntley Meadows Park).

Another condition by the Corps required stormwater management improvements on eight ponds in and around Greendale Golf Course. The last

pond, at the intersection of South Van Dorn Street and King Centre Drive, was completed in June, 2002.

A third condition by the Corps required that Fairfax County submit a Monitoring and Maintenance Plan for these stormwater improvements. The plan details the monitoring and maintenance requirements for a ten-year period. The Corps approved the plan in October, 2001. The monitoring station was installed in July, 2002. The initial three years of monitoring have been completed. In lieu of further chemical monitoring, the County is proposing that further streambank stabilization improvements be constructed.

Construction of the extension of South Van Dorn Street to Telegraph Road started in September, 2002. Fairfax County provided full-time inspection of the erosion and sediment control measures during construction. Construction was completed and the roadway was opened to traffic on April 26, 2005.

C. RECOMMENDATIONS

1. EQAC recommends that the County Board of Supervisors develop and implement a Countywide Natural Resource Management Plan – an ecological resources management plan that can be implemented through the policy and administrative branches of the County government structure. Two necessary tasks should be accomplished first -- prepare and adopt a unified Natural Resource Conservation Policy, and complete a Countywide Baseline Natural Resource Inventory. EQAC notes that slow progress is being made in this area due to efforts by the Fairfax County Park Authority staff in their efforts to establish a natural resources baseline inventory. The FCPA has developed a Countywide Green Infrastructure Map that appears a basis for a Natural Resource Inventory. Additionally, the Urban Forestry Division is continuing efforts to devise a countywide map for use as a layer on the County's GIS that will delineate the distribution of naturally occurring and landscaped vegetation. However, these efforts must be supplemented by an inventory of the County that accounts for flora and fauna. The Park Authority has now prepared a Natural Resources Plan for management of the County's parks. EQAC also notes the accomplishment of the Park Authority in preparing and publishing a Natural Resources Plan for management of the County's parks and urges the Park Authority to fully implement this plan. EQAC fully supports these efforts, urging that they culminate in a Countywide Resource Management Plan. This is a continuing recommendation for past EQAC reports. EQAC's intent is that Fairfax County should have all the tools in place (the policy and the data) to create a plan that will support the active management and conservation of the County's natural resources.

2. In past Annual Reports, EQAC recommended that the County Board of Supervisors emphasize public-private partnerships that use private actions such as purchase of land and easement by existing or new land trusts to protect forests and other natural resources, including champion/historic trees. With the signing of a Memorandum of Understanding (MOU) between the Board of Supervisors and the Northern Virginia Conservation Trust, such a public-private partnership came into being. Thus, EQAC's recommendation has been satisfied. EQAC continues to commend the Board of Supervisors for this action and recommends continued support for this partnership. EQAC notes that the MOU was for a three-year period and this period is over. While the Board of Supervisors continues to fund the public-private partnership with NVCT, no new MOU has been put into place by Fairfax County. Since this interjects uncertainty into the future of this program, and the program has proved its value, EQAC recommends that an MOU covering a three-year or five-year period be put into place.

3. Despite continued opposition encountered during the 2002, 2003, and 2004 Virginia State Legislative Assemblies, EQAC continues to recommend that the Virginia State Code § 15.2-961 be amended to include tree preservation requirements. Mature trees provide a number of benefits to the environment and the quality of life in Fairfax County. These benefits include improved air quality and improved stormwater management. The value of preserving trees during the development process (versus cutting them and replacing with small plantings) is too great to give up on fighting to get tree preservation legislation.

4. Fairfax County no longer has Soil Scientist expertise on the County Staff. EQAC has in the past recommended that the Board of Supervisors reestablish this expertise. The Board of Supervisors did not establish staff positions in response to this EQAC recommendation; however, it did provide funding to the Northern Soil and Water Conservation District (NVSWCD) for mapping of the County's soils. The funding is through 2007. This enabled NVSWCD to provide the needed expertise. There is, however, a continuing need for this expertise in the County past 2007. The incident on Telegraph Road where a hillside slid into Telegraph Road and endangered homes at the crest of the hill points out the soils problems that exist in the County. The increasing urbanization of the County has created new types of soils – urban man-made soils. These soils can have different characteristics in water infiltration and erosion. Therefore, as various projects are started in these soils, including stream restoration and other water control measures, expertise in these soils are needed in the County. At present the only place this expertise exists is in NVSWCD. EQAC therefore recommends that the Board of Supervisors continue the agreement with NVSWCD past 2007 to provide soil scientist expertise.

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