
2011 ANNUAL REPORT ON THE ENVIRONMENT

CHAPTER VII

**ECOLOGICAL
RESOURCES**

VII. ECOLOGICAL RESOURCES

This chapter summarizes the status of ecological resources and the actions of public agencies and stakeholder 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 227,912 acres. Of this total, about 32,979 acres (14.5 percent) are in parks and recreation as of January 2010. Another approximately 16,577 acres (7.3 percent) are vacant or in natural uses. This compares to the about 26,700 acres (11.7 percent) 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 percent of the total land in Fairfax County. By 1990, this had dropped to 19.5 percent and the figure was 7.3 percent as of January 2010.

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.

Recently, two significant efforts have occurred that should help in the county's preservation and protection of natural resources. First, as reported in the 2004 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 also reported in the 2004 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, the Fairfax County Department of Public Works and Environmental Services and the Fairfax County Park Authority and its staff. EQAC especially commends the Fairfax County Board of Supervisors for its vision and activities in environmental areas.

EQAC also commends those residents of Fairfax County who give donations and time to a number of county organizations involved in environmental activities. EQAC encourages such volunteer activity. The following paragraphs describing organizations' activities mention opportunities for such stewardship.

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. This changed in the 2005 Annual Report when a section was included on the board. The actions and decisions of the 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 had been an overarching vision dealing with the environment. This has now changed. As reported in the 2005 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.
- Environmental Stewardship.

Some recommendations 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 residents of all ages in their work.
- Encourage community-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.
- Establish an aggressive program of community groups to adopt natural areas such as parks, trails, and stream valleys.

The document can be viewed at:

http://www.fairfaxcounty.gov/living/environment/eip/bos_environmental_agenda.pdf

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. Department of Public Works and Environmental Services

In past years, this chapter of the Annual Report included a section on Department of Public Works and Environmental Services. This section covered stream restoration projects and low impact development practices. However, this topic is also covered in the Water Resources chapter of this Annual Report and will not be repeated here.

3. Fairfax County Park Authority

The Fairfax County Board of Supervisors created the Fairfax County Park Authority 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/>.

a. Acquisition of Park Land by FCPA

Between July 2010 and May 2011, the Park Authority has added 355 acres to its parkland inventory. This brings the parkland inventory to a total of 24,657 acres as of May 2011.

FCPA purchased the following properties:

- On July 23, 2010, the Park Authority acquired 34.3 acres from the Islamic Foundation of America. The property is adjacent to Patriot Park. This expansion will allow for improved access to Patriot Park.
- On September 8, 2010, the Park Authority acquired 6.4 acres from the Estate of Francis T. Martin. The property will become a new park within the Mason District.
- On November 12, 2010, the Park Authority acquired 220 acres from the Sappington Revocable Living Trust within the Sully District. The property will become a new park within the Sully Woodlands Regional Park.
- On March 31, 2011 the Park Authority acquired 1.45 acres of land from Jonathan and Diane Enyedi. The property will become part of Old Colchester Park and Preserve in the Mount Vernon District.

FCCA acquired the following property through donations:

- On August 23, 2010, Richmond American Homes donated 0.3 of an acre to the Park Authority. The property will become part of the Rocky Run Stream Valley Park.
- On November 12, 2010 the Sappington Revocable Living Trust donated 60 acres in the Sully District to be a portion of a new park within the Sully Woodlands Regional Park.
- On May 4, 2011, Foxvale Section Eight Community Council Inc. donated 4.74 acres to the Park Authority. The property will be incorporated as an addition to Whelan Street Park.

FCCA acquired the following property through dedications:

- On November 12, 2010, Arrowbrooke Centre LLC dedicated 6.4 acres to the Park Authority as a new park in accordance with the proffers associated with RZ 2002-HM-043. The proffered site improvements include a lighted synthetic field, a picnic pavilion with restrooms, a basketball court, two lighted tennis courts a bocce court, a playground and trails.
- On February 4, 2011, Arrowbrooke Centre LLC dedicated 10.99 acres to the Park Authority as a new wetlands park in accordance with the proffers associated with rezoning application RZ 2002-HM-043. The proffered site improvements include an enhanced stormwater management pond including wetland areas. Amenities include boardwalks, nature trails, a gazebo, butterfly garden and interpretive stations.
- On May 4, 2011, Huntington Metro LLC dedicated 12.03 acres to the Park Authority developed as a park with new facilities on the previous location of Mt. Eagle Park. The site improvements include paved nature trails, a picnic pavilion, interpretive station, volleyball court and open play area.

FCCA did not acquire any properties during this period through transfers or land exchanges.

b. Natural Resource Management Plan

In past reports, EQAC recommended that the Fairfax 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 for Park Authority property. The NRMP contains seven elements:

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

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

Some of the highlights of FY 2011 included:

- Natural Resource Management Planning Program
 - The Natural Resource Specialist position was vacant most of this year, but the position was authorized to be filled and the new Natural Resource Management and Protection team member will begin July 5th.
 - The Invasive Management Area Volunteer Coordinator position was converted to a merit position and the county has committed to funding the position. At the same time, the IMA Volunteer Coordinator that had been in the position for the last five years resigned and the current Early Detection Rapid Response Coordinator was appointed to the position. The EDRR program will be absorbed into the IMA Volunteer Coordinator's duties.
 - The Natural Resource Management and Protection Section was re-classified as a Branch.
 - Cost estimates for a non-native invasive plant removal program were refined. To manage all park natural areas, it is estimated that \$8 million per year and dozens of staff are needed (this includes \$3.5 million for natural resource management as well as \$4.5 million per year for an invasive plant removal program).
 - Staff continued to pursue the concept of natural capital for support for resource management funding including briefings for the Park Authority Board on the concept and discussion of the use of bond funds for natural resource management.

- Contracts for resource assessments and a natural resource management plan for Old Colchester Preserve were put out for bid and awarded and work began on the water resource assessment, vegetation assessment and Natural Resource Management Plan.
- Policy and Best Practices
 - Staff participated in an inter-agency work group to evaluate preservation of trees in county facility development.
 - Policy, guidance, and procedures for the use of native and non-native plants on parkland were shared with other agencies.
 - Prioritization criteria for when non-native invasive plants are treated were drafted.
- Resource Assessment and Planning
 - Staff worked with the Northern Virginia Regional Commission on its new Conservation Corridor mapping effort for Northern Virginia.
 - Implementation of the Non-Native Invasive Plant Assessment and Prioritization protocol continued. Over 700 acres of parkland have been assessed with the NNIAP protocol.
 - A Natural Resource Management Plan for Old Colchester Preserve was kicked off.
 - Staff provided training for staff at Resource Management Division sites to develop simple natural resource plans (called Natural Resource Action Plans).
 - Deer census assessments for Old Colchester Preserve were conducted and contracted assessments for vegetation and water resources began.
 - A reptile and amphibian Bio-Blitz of Old Colchester Park was completed with volunteers from the Virginia Herpetological Society.
 - Site evaluation of Poplar Ford Park began, with Dr. Andrew Dolby of Mary Washington University to determine suitability of the habitat and proposed protocol to assess impacts of radio controlled aircraft on breeding birds.
 - A forest treatment plan was developed for Fitzhugh Park. This project is being paid for with the compensation funds from VDOT for land taken from the park for the 495 High Occupancy Toll Lanes project.
- Resource Management
 - Two NRMP staff received certifications to apply herbicide and began treating small areas of non-native invasive plants.
 - The fifth year of the Management Area program was completed in 2010. The program now has 41 sites and in calendar year 2010, 947 volunteers donated 3,589 hours of work in support of habitat restoration at IMA sites.

- In 2010, IMA had its most successful Volunteer Fest Day to date with 470 total hours, 164 volunteers and over 268 bags of invasive plant debris removed. Additional information on 2010 IMA Accomplishments can be viewed here: <http://www.fairfaxcounty.gov/parks/resources/IMA/IMA-annualrpt.htm> .
- Over 700 acres of parkland were managed by a contractor for invasive plant removal.
- The Early Detection Rapid Response volunteer program, a program to detect new non-native invasive plant populations, was launched. Thirteen volunteers committed to being survey leaders, logging almost 200 hours surveying 13 parks.
- Over 4,000 trees and shrubs were planted on parkland in calendar year 2010.
- Project planning began on the stabilization of 300 linear feet of stream in Wakefield Park in partnership with the Northern Virginia Soil and Water Conservation District. This project is being paid for with the compensation funds from VDOT for land taken from the park for the 495 HOT Lanes project.
- Deer population control continued at Laurel Hill with over 60 deer harvested. The Natural Resource Management Plan and Meadow Management Handbook will soon be completed. NRMP staff worked with park operations staff to begin meadow management activities.
- Invasives inventory and control efforts as well as deer population reduction continued at Elklick Woodlands Natural Area Preserve. Staff also located two state rare plant populations within the larger Elklick Preserve in coordination with the Virginia Natural Heritage Program.
- The deer management program was expanded to include archery at 13 parks while continuing sharpshooting and managed hunts. Over 600 deer were removed from Fairfax County parkland, and over 800 removed countywide under the program.
- A new countywide deer population density and browse impact survey methodology was researched, refined and implemented in consultation with the National Park Service Center for Urban Ecology staff. This project was the first attempt at a countywide deer census and browse impact assessment. Interns, volunteers and merit staff all contributed to the project success over three stages.
- Continued goose egg oiling on parkland and provided training for proper registration and oiling methods to a general audience in partnership with the Fairfax County Wildlife Biologist.

- Partnerships
 - Collaboration continued with the Virginia Department of Forestry on a number of initiatives, including two deer browse enclosures at Huntley Meadows and Riverbend Parks, forest ecology outreach education, participation in the Urban Forestry Roundtable in May 2011, and the Park Authority's prescribed burn management program.
 - Collaboration was pursued with the Virginia Department of Agriculture and Consumer Services and Virginia Department of Forestry on biocontrol for the non-native, invasive plant, mile-a-minute.
 - The partnership with The Earth Sangha, a local non-profit organization, continued. The Earth Sangha donated over 4,400 volunteer hours and almost 3,000 staff hours to Fairfax County Park Authority projects and donated over 800 plants.
 - Natural Resource Management and Protection Section staff delivered training on meadow management for staff from Arlington County and the City of Alexandria.
 - Natural Resource Management and Protection staff worked with the County Wildlife Biologist to train a diverse group of residents, business community members and public staff on Wednesday, April 6 to correctly oil Canada goose eggs. The content of the training session was similar to that delivered in previous years by county staff and by volunteers from Geese Peace.
 - FCPA collaborated with Northern Virginia Soil and Water Conservation District to: coordinate and provide support for numerous stream clean up locations for the Potomac Watershed Clean Up; assess stormwater facility performance at Ossian Hall and Patriot Parks; conduct a site review of stormwater flows at the Green Spring Gardens Visitor Center; plan for a rain garden at the Packard Center; begin design for stream improvements at Wakefield Park; and review Park Authority and external projects to improve design and water quality benefits.
 - FCPA worked with Department of Public Works and Environmental Services to: provide input for the county's MS4 permit implementation and annual report; provide input on the final five watershed management plans; review and coordinate stream stabilization and pond retrofit projects on parkland; act as a liaison for stream assessments and sewage spill damage assessment related to the UOSA sewer replacement project in Cub Run; review development plans; pursue permitting for IMA and Earth Sangha projects in RPAs; and develop and implement restoration plans for construction projects on parkland by the Park Authority and others.
 - Participation on the Leadership Team of the Fairfax County Restoration Project continued.

- Coordination and support for Audubon Society of Northern Virginia research efforts, including the annual Christmas Bird Count and Breeding Bird Survey, continued.
- FCPA worked closely with staff from the Virginia Department of Game and Inland Fisheries on: deer management; tidal marsh assessment at Old Colchester Park; freshwater mussel population census and relocation for two projects in Cub Run; Walney Pond and Lake Accotink fishery assessments; and release of sterile grass carp in Lake Fairfax to control submerged aquatic vegetation.
- Stewardship and Education
 - Continuation of work with volunteers and local media to educate residents about non-native invasive plant issues on and off park property.
 - Publication of the latest stewardship brochure, “Bees.”
 - Development of a new portable exhibit on dark skies.
 - Continuation of outreach efforts by the Stewardship Education Team and the launching of an awareness campaign about dark skies.
 - Continuation of participation in the Envirothon program for high school students and in the Master Naturalist programs in Fairfax and Arlington counties.

The Park Authority made a great step forward with the adoption of the NRMP. Additionally, as the above paragraphs show, the Park Authority continues moving toward implementation of the plan. However, 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.

Unfortunately, insufficient staffing and funding are limiting implementation of the NRMP. The Fairfax County Park Authority staff lacks a number of functions and capabilities in regard to the NRMP: natural land managers; ecologists; restoration specialists; water resource specialists; wildlife specialists; planners; and project managers. EQAC does support increased funding for this purpose, but also notes that obtaining some of the needed positions from within internal resources also can be done. EQAC recognizes that personnel cannot just be transferred from another job (and skill set) to this program, but increased staffing can be accomplished by hiring a new person with the right skills when normal attrition happens elsewhere on the FCPA staff. It is EQAC’s view that, at present, the resources allocated by the FCPA between protection of sensitive environmental land and active recreation are out of balance. Resources devoted to the protection of the environment need to be increased.

c. Natural Area Geospatial Analysis Model Feasibility Study

The goal of this project is to develop a framework for modeling ecologically significant resources to support land use and development decisions in Fairfax County. This information will also be used as needed by FCPA to provide for informed land acquisition decisions as well as to support park planning processes. The successful achievement of this effort will satisfy a long-standing EQAC recommendation.

A demonstration model will be conducted for the Sully Woodlands region and the results used to refine the model protocol. The end product will be a detailed protocol including all analytical steps as well as data needed, sources and costs. Development of the model for the entire county will be considered based upon the results of this study and the availability of funding. The Park Authority is leading this project and collaborating with the Department of Information Technology, the Department of Planning and Zoning, the Department of Public Works and Environmental Services and others.

The project was awarded to PlanGraphics, Inc. in fall 2007, which has teamed up with George Mason University as a sub-consultant. The project was completed in December 2009. The final product includes an assessment of other green infrastructure and natural area models; evaluation of existing data; and recommendations for model options including costs of development and data acquisition. Development of the model for the entire county will be considered based upon results of this study and availability of funding. The ideal model would cost up to \$2 million and requires dedicated technical staff and funding for model and data maintenance.

d. 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.

Invasive plant control projects occur at over 50 park sites throughout the county. Resource Management Division's nature centers such as Eleanor C. Lawrence Park, Huntley Meadows Park and Riverbend Park also work collaboratively with the Invasive Management Area program to remove the most highly invasive plant species from selected areas of parkland.

The partnership with Earth Sangha, a local non-profit organization, continues to be a highlight of invasive plant control efforts at both the Marie Butler Leven Preserve and Wilburdale Park. The Earth Sangha donated over 4,400 volunteer hours and almost 3,000 staff hours to Fairfax County Park Authority projects and donated over 800 plants. In 2010, Earth Sangha was able to replant many native shrubs and trees in areas previously controlled for invasive plants. Earth Sangha's sites are supported with staff and contractor work when possible.

The Invasive Management Area program completed the fifth year in 2010. The IMA program has successfully captured some of the enthusiasm of volunteers for unstaffed parks, establishing 41 sites with 41 active volunteer leaders. Nearly 18,000 volunteer hours were contributed to the project since its inception in 2005. In calendar year 2010, 947 volunteers donated 3,589 hours of work towards habitat restoration at IMA sites. The Invasive Management Area program works on plots of parkland, typically ½ acre in size, to remove priority invasive species. Extensive training of volunteer leaders, careful selection of sites and species and a coordinated plan of environmental monitoring will allow FCPA to continue to learn from this project. FCPA feels that, at a minimum, invasive exotic removal should be planned on three-year cycles, with the first three years including aggressive removal and pesticide use if necessary so that following years' management can be at a maintenance level. A short summary is available at: <http://www.fairfaxcounty.gov/parks/resources/IMA/IMA-annualrpt.htm>.

The Invasive Management Area program began the fifth year by adding a new component – the Early Detection Rapid Response project. Early detection allows for the location and treatment of aggressive non-native invasive plants before they become established and vastly more difficult to treat. Thirteen volunteers joined the Park Authority to be trained in identifying non-native invasive plants before these plants pose a serious threat to parkland. Key successes include the first reports of Java-leaf dropwort and Amur corktree in Fairfax County. Over 400 acres have been surveyed and efforts are underway to control these aggressive invaders.

An outgrowth of the Invasive Management Area program has been the statewide Invasive Plant Removal Day. On May 7th, 2011, the IMA program participated in the 3rd annual statewide event and 4th annual countywide event. Seventeen IMA sites held events with 98 volunteers participating. Over 290 hours of volunteer service were provided to remove 84 bags of invasive plants, mostly the biennial garlic mustard.

FCPA contracted with Invasive Plant Control, Inc. to apply selected and careful herbicide treatments for the removal of invasive plants. Seven hundred acres of parkland were treated by IPC from July 2010 to June 2011.

This acreage overlapped areas where volunteer and interns provided the manual removal of priority species.

The Non-native Invasive Plant Assessment and Prioritization project was completed in 2009. This project took a hands-on approach to the non-native invasive species issues as they occur here in Fairfax County. Products of the plan include an assessment and prioritization tool kit, 12 best management practice recommendations and an operations plan for how to continue to make progress with managing non-native invasive species. This plan is fully benchmarked and annotated, creating a defensible strategic plan which will allow FCPA to prioritize where and what it needs for invasive management in Fairfax County. On May 9th, 2011, FCPA shared the assessment and prioritization tool kit with other natural resource managers from Anne Arundel County (Maryland), Arlington County (Virginia), the City of Bowie (Maryland), and Loudoun County (Virginia).

A critical component of any invasive control effort will always be outreach and education. *Non-Native Identification and Control*, was published in 2008 and is now available for sale. Over 500 copies of the books have been sold or provided to partners free of charge. The full color, 150+ photographs help the reader determine if they have a non-native invasive plant and what to do about it. The book was recognized with the highest honors from by the Communicator Awards and the MarCom Awards.

FCPA continues to work with partner organizations Earth Sangha, Northern Virginia Soil and Water Conservation District, Virginia Department of Forestry, Virginia Cooperative Extension, Fairfax ReLeaf, Northern Virginia Conservation Trust, the Virginia Native Plant Society, Pawtomack Chapter, Fairfax Master Naturalists, DPWES and others to provide technical assistance regarding invasive species removal, and where possible, on-the-ground removal from parkland.

EQAC continues to commend the volunteers and the Park Authority staff who are cooperating in removing invasive exotics; however, an increased effort should be established using dedicated funds for this purpose.

e. 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.

Two stream restoration projects were begun on parkland from July 2010 to June 2011: the Schneider Branch and Flatlick Branch stream stabilization

projects, both in Cub Run Stream Valley Park, each address approximately 1,000 linear feet of stream. Construction began in winter 2010 and will largely be completed in summer 2011. Restoration plantings for the projects will be completed in fall 2011.

Project planning began on the stabilization of 300 linear feet of stream in Wakefield Park in partnership with the Northern Virginia Soil and Water Conservation District. This project is being paid for with the compensation funds from VDOT for land taken from the park for the I-495 High Occupancy Toll Lanes project.

The Park Authority partnered with Northern Virginia Stream Restoration, L.C. and Reston Association to restore 232 linear feet of eroded and degraded stream channel on a tributary of Colvin Run upstream of Lake Fairfax. The work was performed as part of the improvements of more than 5,000 linear feet of the same tributary on RA property and part of a larger project by NVSR improving 60,000 linear feet of eroded RA stream valley under the Northern Virginia Stream Restoration Banking Instrument managed by the U.S. Army Corps of Engineers and the Virginia Department of Environmental Quality.

Park Authority staff completed a bioswale at Greendale Golf Course in summer 2010. Staff modified approximately 120 linear feet of swale next to the club house to provide rain water harvesting, improve infiltration, solve an existing drainage problem and improve both site infrastructure and aesthetics. The project incorporated two rain barrels with drip lines, a deep artificial river-rock channel to provide stormwater storage and decrease standing water and run-off, attractive stacked stone wall features, numerous native plants, and a new pedestrian bridge for access to the practice putting green.

Phase II development improvements at Ossian Hall Park were completed in November 2010. Approximately seven acres were redeveloped to include: a community plaza area, trails, multiuse courts, two renovated playgrounds and expanded parking lot and synthetic turf field shared with adjacent Annandale High School. The installation of the synthetic turf athletic field further enhances the treatment of stormwater on this site providing storage under the field and significantly reducing stormwater concentration times. To further address the new impervious surfaces, an underground stormwater management facility, an infiltration trench and a rain garden were constructed. The underground storage facility is the first large-scale installation on Park Authority property.

f. Environmental Stewardship

FCPA offers a number of opportunities for volunteers, and EQAC encourages county residents to take advantage of these opportunities. Information about these opportunities is available at <http://www.fairfaxcounty.gov/parks/volunteer/>. More information about FCPA and its programs is available at these websites: <http://www.fairfaxcounty.gov/parks/resources/stewardship.htm> and <http://www.fairfaxcounty.gov/parks/resources>.

g. Fairfax County Park Foundation

Fairfax County residents 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 the county's park system. Those interested in giving tax-deductible donations to the foundation, can contact the foundation at:

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

4. 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 was founded in 1959 and owns and operates 25 regional parks and owns 10,704 acres of land throughout the region. It also holds conservation easements on 115 parcels covering more than 652 acres.

NVRPA dedicated an eight mile segment of the Potomac Heritage National Scenic Trail from Algonkian Regional Park to Riverbend Park as the Ira Gabrielson Trail in memory of NVRPA's first chairman. NVRPA also received National Recreational Trail designation from the Department of Interior for the Occoquan Water Trail. These long-distance trails in northern and southern

Fairfax County connect residents to their environment and to the regional natural and cultural resources NVRPA conserves.

NVRPA was the first park agency in the country to adopt the Cool Counties/Cool Cities pledge to reduce greenhouse gases and now has an energy conservation plan in place at each of its parks, tracking energy consumption and converting it to both BTU and carbon emissions. When the energy conservation policy was adopted by the Park Authority Board in 2006, an annual goal was set to reduce energy consumption by 5% agency-wide. By signing on to the Cool Counties Initiative, the Park Authority agreed to stop increasing carbon emissions by 2010 and then reduce the output of carbon by 2% per year for every year after that until 2050 (resulting in an 80% reduction). In the first full year of the effort, agency-wide total carbon emissions were reduced well ahead of the Cool Counties goal. Efforts at Brambleton Regional Golf Course, for example, saved enough energy last year to heat and cool 103 average homes for a year, a 27 percent reduction in the course's energy consumption. In 2010, Bull Run pool continued this reduction with a 30% drop in energy use from the previous year.

NVRPA also has implemented the following "green" tactics at various park facilities: high efficiency lighting including motion sensing switches; programmable thermostats; retrofitting buildings with more efficient windows and insulation; use of high efficiency pumps; geo-thermal heat pumps; active solar power generation; waterless urinals and low-flow water fixtures; and introduction of more electric utility, hybrid and natural gas vehicles in the parks. For example, Bull Run Regional Park's holiday light show uses all LED lights, which use only a 10th of the electricity that normal incandescent bulbs use.

NVRPA's renovated nature center at Potomac Overlook Regional Park now features brand new exhibits on energy in living systems, including human systems, called the "Energerium." This exhibit offers visitors a fun and accessible way to learn energy basics and ways they can help create sustainable energy solutions. The displays blend lessons from ecology, earth science, physics, chemistry and other topics in clear, understandable ways. In a time when energy supplies, prices and security as well as global warming are all coming into sharp focus, the Energerium is an important learning experience for residents of northern Virginia and the Washington, D.C. area. It is NVRPA's most recent example of leadership on energy issues. Potomac Overlook has been conducting energy education programs for over 15 years and already has working solar electricity and solar hot water systems in place. NVRPA is adding solar panels to its outdoor performance stage area through a Department of Energy grant.

In the management of its natural and historic resources, NVRPA has completed resource inventories on 12 of the 15 parks planned to be done by 2012, and has

done extensive resource inventory of White's Ford. It also has continued training its park managers, assistant managers and rangers in natural resource management and in the last two years has sent 55% of staff through such professional development.

Since 2008, NVRPA has ensured interpretive/educational offerings at every one of its parks. One of the most successful interpretive efforts in the history of the authority has been the addition of a permanent roving naturalist. This naturalist organizes nature education programs targeted towards NVRPA's more recreationally focused parks. A portable nature center and scheduled nature programs are brought right to the water parks, campgrounds, light show and other events that see high public turnout, to bring nature education to where the park visitors are.

NVRPA and its foundation recently kicked off its newest program, Nature Nuts, which focuses on engaging children with nature. The goal of this regional program is to provide a meaningful outdoor experience to half a million children over the next five years throughout Northern Virginia. Part of NVRPA's mission is to '*foster an understanding of the relationship between people and their environment,*' and the Nature Nuts program is going to be central to its efforts in this area, in order to counter the trend of children today spending less time outdoors and far too much time in front of a screen. This program will have a positive effect through education, health benefits and interaction and education of the environment. The Northern Virginia Regional Park Foundation has set up the Nature Nuts fund to support activities that further the goals of the program, including: grants to help elementary schools defray the costs of field trips to Hemlock Overlook Regional Park and to help send kids to camps like the Junior Naturalist Camp at Potomac Overlook or Camp Grow at Meadowlark Botanical Gardens; expansion of NVRPA's Roving Naturalist Program; facility improvements at youth camping sites; and other efforts to get children involved in Nature Nuts. Currently 85,000 children a year explore nature in the regional parks, through a combination of child-focused programs and family outdoor activities. This includes: 48,000 children that stay overnight in NVRPA parks, through family camping and youth organizations like scouting; close to 10,000 kids connect with nature while boating in regional parks, over 1,200 local high school students row on the Occoquan Reservoir and over 8,500 use rented kayaks or canoes or are boating with friends and family on boats they launch at a regional park; over 15,000 children go through the adventure course run by Adventure Links at Hemlock Overlook Regional Park; and over 13,000 children learn about nature from an NVRPA naturalist or park staff as part of a children-focused nature education program. The Nature Nuts program will build on this base and address barriers that keep children from having these opportunities

Environmental Stewardship opportunities for volunteers are available at Meadowlark Botanical Gardens, Potomac Overlook Regional Park, Upton Hill Regional Park, Pohick Bay Regional Park and various other parks on occasion. More information can be found at http://www.nvrpa.org/park/main_site/content/volunteer. NVRPA implemented a program that allows youth to access its fee-based park facilities through volunteer service. It has a wide variety of community partnerships in place that encourage groups to take advantage of the regional parks for environmental and historic education and service projects. In the last year, the Potomac Appalachian Trail Club donated 1,565 hours to maintain the 18 mile Bull Run-Occoquan Trail. With a full time job being around 2,000 hours, the collective efforts of these volunteers equals 78% of a full time position, which is a great donation to the public good.

For current information about the Northern Virginia Regional Park Authority and to obtain a copy of its 2009 Annual Report, visit its website, <http://www.NVRPA.org/>.

5. Fairfax ReLeaf

Fairfax ReLeaf is a non-profit (501(c)(3)), non-governmental organization of private volunteers who plant and preserve trees in Northern Virginia, preserve native habitat and educate the public about the benefits of trees. Staff and volunteers appreciate and support the county's goals to increase the tree cover in Fairfax County.

Tree plantings:

- Improve the appearance of roadways, parks, schools and private land in Fairfax County.
- Improve air quality.
- Reduce heat island effects.
- Reduce noise.
- Preserve of human and wildlife habitats.
- Reduce energy use.
- Reduce surface runoff and improve water quality.

Fairfax ReLeaf planted and distributed 6,845 trees in calendar year 2010. Nearly 700 volunteers spent over 2,000 hours planting tree seedlings, removing invasive species and maintaining planting sites. Highlights of our 2010 plantings are:

- The planting of 1,360 trees in parks, including private, county and national parks.
- The planting of over 800 trees on school grounds.
- The planting of approximately 900 trees in riparian areas.

Fairfax ReLeaf provided many opportunities for community groups to serve Fairfax County in 2010. These included eight school groups, four Eagle Scout projects, and planting events by a Boy Scout as well as two Girl Scout troops; one such event was the completion of a Silver Award. ReLeaf led six corporate workdays, where employees from workplaces such as Level Three, Winchester Homes, and Deloitte & Touche gave their time to improve Fairfax County. Fairfax ReLeaf also conducted two workshops to prepare individuals to lead plantings.

ReLeaf's educational and outreach activities in 2010 included classroom visits, exhibiting at the Fairfax County Earth/Arbor Day celebration, Celebrate Fairfax, and a 4-H Fair.

In 2011 Fairfax ReLeaf will continue its school and park plantings while increasing partnerships with HOAs and Fairfax County Stormwater Planning Division.

Fairfax ReLeaf offers a number of opportunities for stewardship. For further information on Fairfax ReLeaf, visit its Web site at <http://www.fairfaxreleaf.org>. 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

6. Northern Virginia Conservation Trust

Past EQAC reports 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, such a public-private partnership now exists. The partnership is now in its 11th year.

NVCT was founded in 1994 as the Fairfax Land Preservation Trust. In 1999, the trust changed its name to The Northern Virginia Conservation Trust to better reflect the regional scope of the service area. 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 the City of Alexandria, and owns properties or easements in Arlington, Fairfax, Loudoun, Prince William and Stafford counties and in the cities of Alexandria and Fairfax. NVCT was one of a handful of the first land trusts accredited throughout the Country by the Land Trust Accreditation Commission. This year, for a second time, NVCT was honored and chosen as one of the **"Best Small Nonprofits in the DC Area"** by the **Catalogue for Philanthropy**.

From the time NVCT accepted its first easement in 1999 through June 2011, NVCT has preserved over 685 acres of open space in Fairfax County through easements, fee simple ownership and partnerships. A major project started in FY 2010 and nearly completed is the transfer to the Fairfax County Park Authority of over seven acres owned by NVCT in the Providence District for use as a public park. NVCT prepared for the Park Authority a Land and Water Conservation Fund grant request to help fund this acquisition/transfer. The \$125,000 grant is approved and will be available as soon as the Park Authority and NVCT finalize and record the transfer documents. NVCT continued work on numerous other projects, closing on a 24-acre conservation easement in Great Falls with, among other things, two perennial streams and a historic house listed on the National Register. NVCT also purchased five acres in the Potomac gorge and sold it to a neighbor; the acreage is protected by a no-build conservation easement.

Tables VII-1, VII-2 and VII-3 provide details on all these properties. Figure VII-1 presents a map of these properties.

NVCT also has a public outreach program – *Explore and Restore* (formerly known as Adventures in Conservation) – to bring hands-on volunteerism and environmental education opportunities. These activities included the planting of native trees, the removal of invasive plants, birding trips and guided hikes. The outreach program has been a huge success.

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.

Table VII-1. Easements Obtained by the Northern Virginia Conservation Trust			
District	Location	Acreage	Recordation
Braddock	Annandale	2.6	5/28/2004
Dranesville	Great Falls	5.6	12/1/2000
Dranesville	Great Falls	5	12/22/2005
Dranesville	Great Falls	14.07	7/3/2003
Dranesville	Great Falls	4.2	12/22/1999
Dranesville	Great Falls	5.1	8/14/2001
Dranesville	Great Falls	5	12/28/2000
Dranesville	Great Falls	5	7/18/2001
Dranesville	Great Falls	5	8/14/2001
Dranesville	Great Falls	24	12/28/2011
Dranesville	Clifton	5.3	5/27/2003
Dranesville	McLean	62.7783	11/20/2006
Dranesville	McLean	7.7717	11/20/2006
Dranesville	McLean	1.9	12/14/2005
Dranesville	McLean	41	12/27/2005
Dranesville	McLean	6	8/1/2002
Dranesville	McLean	5.03	12/18/2006
Dranesville	McLean	5.0	3/8/2011
Hunter Mill	Vienna	0.39	3/28/2003
Lee	Alexandria	3.98	1/8/2008
Mason	Alexandria	1.58	12/27/2002
Mt. Vernon	Lorton	33.73	5/18/2002
Mt. Vernon	Alexandria	0.4	
Mt. Vernon	Alexandria	0.92	6/20/2003
Mt. Vernon	Mason Neck	9	12/19/2003
Mt. Vernon	Alexandria	0.34	6/6/2005
Mt. Vernon	Alexandria	0.83	11/19/2008
Providence	Falls Church	1	4/14/2004
Providence	Falls Church	2.5797	3/10/2003
Providence	Falls Church	1.98	3/10/2003
Providence	Falls Church	1.56	3/10/2003
Providence	Falls Church	1.12	3/10/2003
Springfield	Springfield	0.87	10/30/2002
Springfield	Springfield	0.77	11/26/2002
Sully	South Riding	226	12/19/2003
Sully	Fairfax	1.51	7/17/2003
	Total	4990	

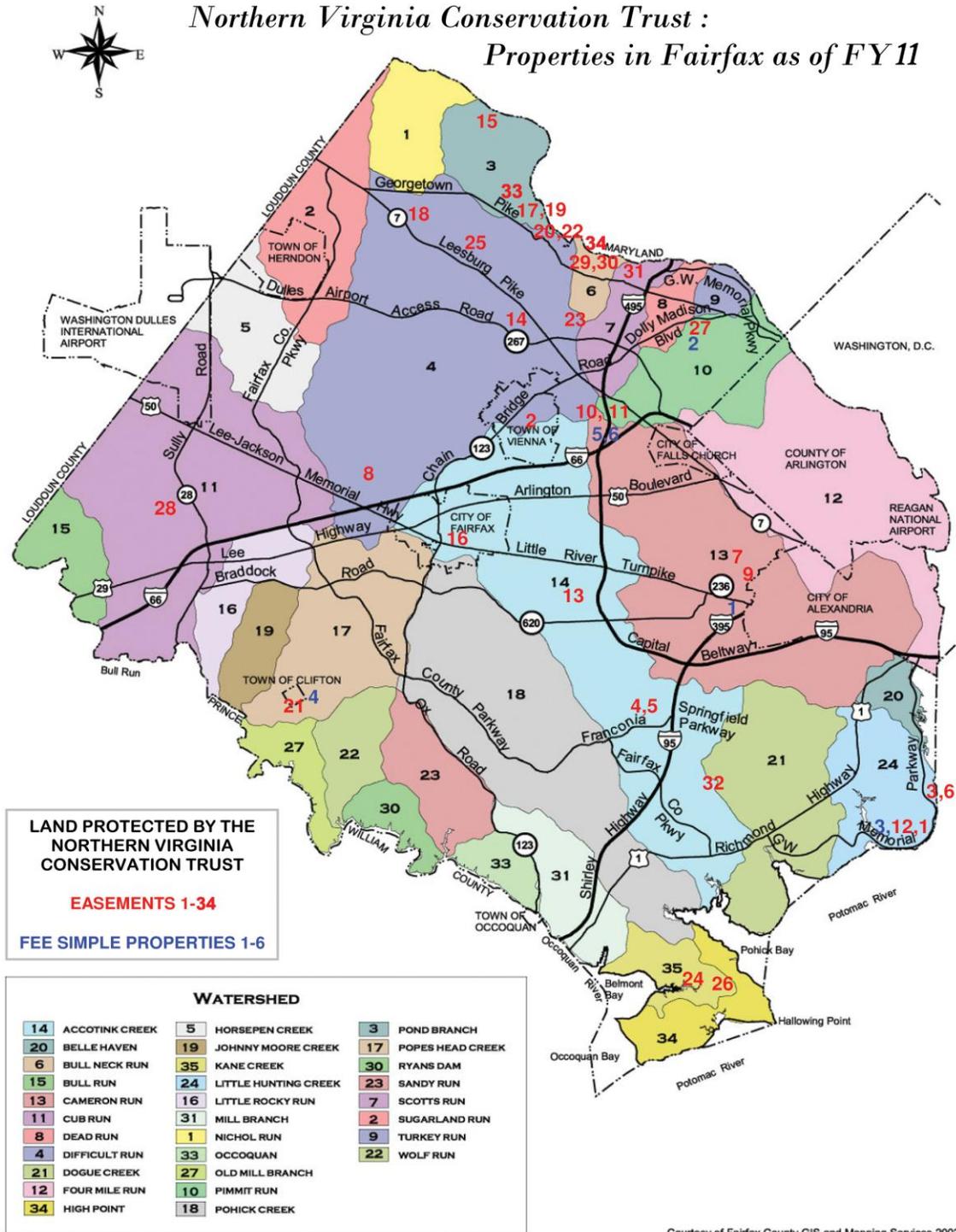
EQAC AR, E-mail from Whit Field, Vice President and General Counsel, Northern Virginia Conservation Trust, Fairfax County, Virginia, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, May 23, 2011.

Table VII-2. Fee Simple Properties Owned by the Northern Virginia Conservation Trust			
Property/District	Location	Acreage	Recordation
Clifton Property/Dranesville	Clifton	8.66	Gift 6/2003
Davenport/Pimmit Run/ Dranesville	McLean	1	Gift 8/2000
Mason	Springfield	0.001	Gift 3/2005
Little Hunting Creek/ Mt. Vernon	Alexandria	2.01	Gift 2002
	Total	11.671	

EQAC AR, E-mail from Whit Field, Vice President and General Counsel, Northern Virginia Conservation Trust, Fairfax County, Virginia, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, May 23, 2011.

Table VII-3. Land Turned Over to Local Government and Associated Acreage			
Property/District	Location	Acreage	Recordation
Bannister Outlots/Springfield	Springfield	0.6	12/2001
Pimmit Run Trail off Brookhaven		1.0	6/2008
	Total	1.6	
Assisted Acreage			
Property/District	Location	Acreage	Recordation
Turner Farm/Dranesville	Great Falls	17	1998/99
FCPA Elclick/Sully	South Riding	157	12/2003
	Total	175.2	

EQAC AR, E-mail from Whit Field, Vice President and General Counsel, Northern Virginia Conservation Trust, Fairfax County, Virginia, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, May 23, 2011.



Courtesy of Fairfax County GIS and Mapping Services 2002

Figure VII-1. NVCT Properties in Fairfax County as of FY2011
EQAC AR, E-mail from Whit Field, Vice President and General Counsel,
Northern Virginia Conservation Trust, Fairfax County, Virginia, to Noel
Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, May 23,
2011.

As can be seen by the paragraphs above, NVCT offers many opportunities in stewardship for Fairfax County residents. Additional information on NVCT can be found on its website, <http://www.nvct.org>.

7. The Nature Conservancy

The Nature Conservancy has a very successful program of obtaining easements from property owners for conservation. Its 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>.

8. 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. This organization 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>.

9. The McLean Land Conservancy

The McLean Land Conservancy 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. The conservancy's main objective is to preserve open green space.

MLC has worked to raise awareness of the value of protecting 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 the 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 MLC 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.

MLC holds a 16-acre conservation easement on Scotts Run in McLean. This important property is vital for the health of Scotts Run, which provides stormwater drainage for Tysons Corner.

10. The National Park Service

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

11. The Virginia Outdoors Foundation

The Virginia Outdoors Foundation was created by an Act of the Virginia General Assembly (Chapter 18 of Title 10.1) in 1966 and is both a state agency and an independent instrumentality. VOF is also a public foundation and can “...accept, hold, and administer gifts and bequests of money, securities, or other property, absolutely or in trust, for the purposes for which the Foundation is created.” A good summation of the VOF legislative charge may be that it is steward of the natural and cultural heritage land resources of Virginia on behalf of present and future residents.

The primary mechanism for accomplishing VOF’s mission is the perpetual open space easement. As of July 2011, VOF holds easements on over 610,500 acres in over 100 local jurisdictions across the Commonwealth. These easements protect a wide variety of natural resources, including farm and forest land, natural areas, watershed areas, rural historic districts and the settings for historic homes, scenic views, lands adjacent to public parks and game preserves.

The Virginia Outdoors Foundation currently holds six easements in Fairfax County as shown in Table VII-4.

Additional information about VOF can be seen at its website:
<http://www.vofonline.org/>.

Table VII-4. Easements Held by the Virginia Outdoors Foundation in Fairfax County		
Original Donor*	Acreage	Date Recorded
Thayer	59.33	10/30/1969
American Horticultural Society	8.15	10/03/1978
McCormick-Goodhart	26.665	06/13/1988
McCormick-Goodhart	5.25	06/13/1988
McKee-Bennett	20.47	12/28/1990
Ridder and Andrews, Jr., trustees	7.858	12/23/1998
Total Acreage under Easement	127.723	

Source: *Environmental Quality Advisory Council's Annual Report on the Environment: Information Requests for the 2011 Report*, Attachment to email, [Virginia Outdoors Foundation](#), from Erika Richardson, Stewardship Specialist, Virginia Outdoors Foundation, Warrenton, Virginia, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, June 2, 2011.

* Note that the original donors listed may not be the current landowner of record as the eased property may have been sold since the deed of easement was recorded.

12. Northern Virginia Soil and Water Conservation District

The Northern Virginia Soil and Water Conservation District continues to provide leadership in the area of bioengineering techniques in streambank stabilization and in the general area of erosion and stormwater control. NVSWCD works in partnerships with other agencies and organizations. For example, it has partnered with the Fairfax County Park Authority, Virginia Department of Forestry, the Fairfax County Department of Public Works and the Reston Association.

The Kingstowne Stream Restoration Project, Phase II, was completed in early 2011. The \$1.2 million project restored 2,500 feet of a badly eroded stream in the southeastern part of Fairfax County. The natural channel design created a gentle meander to successfully carry the volume and energy of the stream flow. The formerly unsafe and deep vertical streambanks have been replaced with gentle slopes and well-vegetated riparian areas. Backyards are no longer threatened by the action of eroding streambanks. Already, the riparian and aquatic habitats are teeming with new life. The residential community has an attractive amenity to view and enjoy and the project ultimately helps to protect the wetland downstream in Huntley Meadows Park.

The success of Phase I, completed in 2000, helped to bring about Phase II. Phase I was one of the first projects in the county to demonstrate natural channel design analysis and techniques to create a stable, healthy and natural system. Phase II picked up where Phase I ended and restored the stream to where it enters Glendale golf course. NVSWCD facilitated Phase I with a grant from the Virginia Department of Conservation and Recreation and construction management assistance from the county. It initiated and helped to facilitate Phase II with several partners. The same engineer designed both projects, working as an NRCS engineer during Phase I and as an engineer with the firm of Vanasse Hangen Brustlin, Inc. for Phase II.

For Phase II, the Nature Conservancy secured funding for the project from the Virginia Aquatic Resources Trust Fund, a source of mitigation funds to offset impacts to streams. Fairfax County also contributed \$200,000 to the project. The local homeowner's association did not have to contribute any funds, but did have to adopt restrictive covenants that would guarantee the integrity of the riparian area, which helps to protect and work in harmony with the channel design.

Both projects were supported by local environmental groups and are examples of successful partnerships.

The Fairfax County Chesapeake Bay Preservation Ordinance and Agricultural and Forestal District Ordinance require land in agricultural use to have a soil and water quality conservation plan. In 2010, soil and water quality conservation plans were prepared for 40 parcels on 489 acres. These included 29,654 linear feet of Resource Protection Area, primarily stream buffers, of which 5,000 linear feet were new vegetated buffers and 24,654 linear feet were re-planned buffers. All plans help landowners to comply with the county's Chesapeake Bay Preservation Ordinance. Three of the plans were required for the renewal of Agricultural and Forestal Districts in the county. In 2010, 55 participants attended two horse management seminars that were sponsored by NVSWCD. The seminars covered pasture planning and horse waste management.

NVSWCD provided technical assistance to the county's Code Enforcement Division and three landowners by preparing plans for properties cited for County Code violations. They included: a remediation plan for tree removal and clear-cutting beyond the limits of a soil and water conservation plan; an erosion and sediment control plan, followed by a soil and water quality conservation plan, for a horse operation that imported fill without having submitted a rough grading plan; and a restoration plan to correct illegal activities and improper use of an RPA.

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. This seedling program offered residents a package of native tree and shrub seedlings for a small cost. In spring 2011, a variety of 6,500 native seedlings were sold at a small cost to promote urban reforestation, habitat enhancement and water quality protection. There were 434 *Deer Not Here* packages with species of shrubs and small trees that deer do not prefer. There were also 194 packages of tree seedlings.

NVSWCD is the local sponsor of **Envirothon**, a hands-on competition among high school teams to demonstrate their knowledge of natural resources – forestry, soils, wildlife, aquatic ecology – and special issue topics, such as urban-rural interface and recreational stress on natural resources. In 2011, six teams of local high school students (Centerville, James Madison, Langley and Marshall High Schools, Hidden Pond Nature Center and Vienna Boy Scouts) participated in the year-long training in soils, aquatics, forestry, wildlife, estuaries and a special topic, which this year was focused on the Chesapeake Bay TMDL. Following the local hands-on competition, teams from Madison High School and Hidden Pond Nature Center advanced to the regional competition where Hidden Pond came in first. Hidden Pond then went on to finish second among the 17 top teams in Virginia.

In 2011, NVSWCD began a new program to enable residents to build their own tumbler-style composters, using olive and pickle barrels that had slight flaws and could not be used for the rain barrel program. During two workshops, 40 participants built frames using recycled wood, added a rod for rotating the barrel, drilled aeration holes and took home 30 composters.

At the bi-monthly Saturday morning **Green Breakfasts**, interested residents, county officials and agency staff, state legislators, students, members of the business community, and representatives of local non-profits and environmental groups discuss environmental topics, share information and network. Each breakfast begins with a presentation. In 2010, NVSWCD sponsored six Saturday morning *Green Breakfasts* featuring presentations on:

- Stormwater policy and accomplishments – looking back and looking forward.
- Wildlife Management in Fairfax County—Urban Wildlife, Behavior and Ecology, and our Environment.
- Forest Health and Forest Fire.

- Managing Growth – where we were – where are we now – where are we going – and how important is this to becoming green?
- Bringing Native Plants and Wildlife into the Managed Landscape.
- In the Year 2030 . . . What Will Northern Virginia Look Like?

Also announcements about programs and events, including county initiatives, and other topics of interest are sent to 545 recipients on the *Green Breakfast* email distribution list.

Conservation Currents, the NVSWCD quarterly newsletter, includes many articles related to ecological resources. In 2010, NVSWCD published three editions of *Conservation Currents*. Topics included: Emerald Ash Borer, Celebrated Trees of Fairfax County, Consequences of a Record Snowfall, News from the Chesapeake Bay, Stewardship Opportunities, Audubon’s Wildlife Habitat program, Oil Spill and Conservation, Floodplains, Science Fair Awards, Youth Conservation Camp, Rain Gardens at Home, Fall Color of Trees, Composter Workshop and the 2011 Artistic Rain Barrel program. 2,500 copies are sent mainly to homeowner associations who are encouraged to reprint articles in their newsletters. Copies are distributed to libraries and offices via the county courier system. There also is a growing list of e-subscribers, and many articles are posted on the NVSWCD website.

Fairfax County Soil Survey and Soil Scientist. The county provided funding to NVSWCD to continue the expertise of a soil scientist. During the past year, the soil scientist has continued to facilitate the transition from the old to the new Fairfax County Soil Survey. Descriptions of all 119 soils have been published in the *Description and Interpretive Guide to NRCS Mapped Soils in Fairfax County*. The new soil survey has been integrated into the county's GIS. Maps showing soil types layered over county property maps have been created for each tax grid in the county. These maps are available to the public through the Digital Map Viewer on the county website. The soil survey information is also available online at two USDA-NRCS websites; the soil map and tabular data are available at the Web Soil Survey website, and tabular data alone is available at the Soil Data Mart website. The tabular and map data available at the USDA-NRCS websites are much broader and more extensive than that found on the county website, but the data on the county website is more specific to the needs of Fairfax County residents and the maps include county property information.

A reformulation of the soil problem classes has been completed and applied to all soil types in the new survey. The new problem classes more closely resemble those used in Loudoun and Prince William Counties so as to cause less confusion for private industry. One major difference is that disturbed soils,

which are mapped only in Fairfax County, have their own separate problem class.

The soil scientist and staff from DPWES are collaborating on updating codes and procedures, notifying industry and ensuring a smooth transition to using the new survey. The soil scientist has made presentations to several groups, including the Engineering Standards Review Committee, and, with Code Analysis staff, attended the Planning Commission and Board of Supervisors meetings to answer questions regarding revisions to the county's Public Facilities Manual. In June 2011, the Board of Supervisors approved the new survey as the official Fairfax County Soil Survey.

The Soil Scientist also collaborated on minor revisions to the shrink-swell layer and the Marumscos soil layer and with erosion susceptibility ratings for Urban Land soils, which will be used by Site Inspection. He worked with the Health Department to make minor revisions to the asbestos soil layer. The newly digitized Fort Belvoir soils map was added to the county maps and uploaded to the county GIS. In May 2010, NVSWCD and DPWES collaborated to conduct a two-day *Field Soil Morphology Course* for professional engineers. Those who took the course and passed the certification are allowed to determine the water table year-round, using soil morphology. County guidelines were revised to reflect this new process.

The soil scientist continues to assist with providing technical assistance to homeowners, homeowner associations, the development and construction community and county staff on soils-related matters and on infiltration practices. During 2010, soils information was provided to 121 consultants, engineers, realtors and homeowners. Special infiltration studies were conducted for seven county and NVSWCD projects. Guidance on interpreting soils information continues. Also, technical assistance is provided to solve problems on both private and public lands. Assistance was provided to Code Enforcement on soils matters in an illegal landfill case.

Potomac Watershed Roundtable. Fairfax County and NVSWCD are members of the Potomac Watershed Roundtable, a regional government-resident forum founded in 2000 whose purpose is to enhance communication, collaboration and cooperation on environmental concerns, especially water quality issues and ecological resources, among the various local governments and stakeholder interest groups residing on the Virginia side of the middle and lower Potomac River watershed. Members include nine counties, five cities and towns, six soil and water conservation districts, two members of the General Assembly, Planning District Commissions, Water and Wastewater Utilities and representatives of several stakeholder interests – Environmental, Agriculture and Forestry, Fishing and Boating, Development, Construction and Real Estate,

Waste Management and Recycling and Citizens of the Watershed. Fairfax County Supervisor Penny Gross serves as the current chair, and NVSWCD provides administrative support and financial administration. The roundtable meets quarterly throughout the lower Potomac watershed to share technical information, strategies, programs and policies. Topics have included water quality and quantity, nonpoint source pollution, nutrients, stormwater regulations, land-use planning, best management practices, innovative techniques and land conservation. 2010 topics were: water supply and water quality; Chesapeake Bay TMDL; low impact development practices; and the Coles Point Wastewater Treatment Plant (that discharges its effluent solely through spray irrigation); LID and shoreline protection at Westmoreland State Park; and Eco-tourism in parks. The roundtable has sponsored five Potomac Forums, several tours and special programs on topics such as low impact development and rainwater harvesting. Annually the roundtable chooses several legislative positions, which it conveys to the 40 General Assembly members who represent the roundtable's area. Information about the roundtable is available at www.potomacroundtable.org.

13. Fairfax County Wetlands Board

If you own property on the waterfront in Fairfax County, you may need a permit from the Fairfax County Wetlands Board 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 wetland. Land disturbing activities that may require a permit from the Wetlands Board 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 tidal wetlands.
- Projects designed to protect property adjacent to shorelines.

In support of the Virginia General Assembly's 2008 action to extend the Coastal Primary Sand Dune Protection Act to all Tidewater Virginia localities, the Fairfax County Board of Supervisors adopted the Coastal Primary Sand Dune Zoning Ordinance, Chapter 123 of the Fairfax County Code on February 23, 2010. Administration of the new ordinance is designated to the Wetlands Board.

The Fairfax County Wetlands Board reviewed the first application under the Coastal Primary Sand Dune Zoning Ordinance, Chapter 123 of the Fairfax County Code in July, 2011. One other Wetlands Board permit request was approved by the Wetlands Board on October 6, 2011.

Tidal shoreline issues were the subject of Senate Bill 964 introduced by Senator Ralph S. Northam and adopted by the 2011 General Assembly. This legislation established several new requirements, including the following:

- The bill requires all Tidewater localities to incorporate coastal resource management guidance developed by the Virginia Institute of Marine Science into their comprehensive plans starting with the first scheduled review beginning in 2013;
- The bill requires VIMS to develop comprehensive coastal resource management guidance for local governments to foster sustainability of tidal shoreline resources by December 30, 2012.
- The bill defines “living shorelines,” encourages the use of such shorelines as the preferred alternative for stabilizing tidal shorelines and requires the Virginia Marine Resources Commission to develop a general permit for living shoreline stabilizations.

In May 2011, Marcia Berman, the Director of the Comprehensive Coastal Inventory Program, Center for Coastal Resources Management at VIMS, provided a briefing for Supervisor Hyland and county staff regarding her shoreline research. She introduced staff to the [Fairfax County and the City of Alexandria Interactive Map Viewer](#), which is an interactive mapping tool that she developed to demonstrate the results of the Shoreline Inventory Report that CCRM completed in September 2010. The file path for this tool can be found at http://ccrm.vims.edu/gis_data_maps/shoreline_inventories/virginia/fairfax_alex/Fairfax-Alexandria%20Shoreline%20Inventory_Report.pdf.

The file path for the interactive viewer can be found at http://ccrm.vims.edu/ccrmp/fairfax_beta.html.

Ms. Berman sought grant funding from National Oceanographic and Atmospheric Administration for a competitive grant proposal to develop a Shoreline Management Plan and Shoreline Evolution Report for Fairfax County for FY 2012-2013. The outcome of that grant application is not known at this time.

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>

14. Virginia Department of Forestry

The Virginia Department of Forestry has provided forestry-related services in Fairfax County for over 55 years. VDOF is also participating in several efforts aimed at improving riparian zones. In these efforts, VDOF partnered with the Northern Virginia Soil and Water Conservation District, the Department of Public Works and Environmental Services, the Fairfax County Park Authority and Fairfax ReLeaf.

The Department of Forestry, like all state agencies, faced budget cuts in 2010. The State Forester determined that VDOF's most valuable asset was its personnel and was determined to not fire anyone in response to the cuts. He was successful in this and VDOF will continue to have a presence in Northern Virginia for the foreseeable future. VDOF will continue to be able to provide technical assistance to Fairfax County in its environmental initiatives, but little in the way of direct material or funding support. Reduced competitive funding will be available through Water Quality Improvement Fund grants to support riparian plantings and tree related storm water management projects. VDOF may also be able to support tree planting with donated seedlings.

The Virginia Department of Forestry is the lead state agency in meeting Virginia's riparian buffer commitments to the Chesapeake Bay Program. In 2006 Urban Tree Canopy goals were added to the Bay Program's buffer strategy, recognizing the diminished water quality value of riparian forests in urban areas where upland storm water is conveyed directly to streams and bypasses the riparian forest. One way to view it is that street gutters and storm drains are manmade extensions of the natural stream network, so all trees are effectively riparian trees. In 2010 the Virginia Department of Forestry provided project leadership and technical support to tree planting efforts in partnership with Elementary School children, private landowners, Fairfax ReLeaf and the Potomac Conservancy.

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 28th year, the Tree City USA award. This award is given for having a planting plan, having a management plan, having a Tree Board/Commission and sponsoring an Arbor Day Celebration. The award is applied for by the Fairfax County Urban Forest Management Division and is given through the State Department of Forestry. Tree seedlings are distributed by VDOF to people attending the Arbor Day celebration. In 2010, 300 donated short leaf pine seedlings were distributed for planting by volunteers 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. In 2010, approximately 4,000 pounds of seeds (mostly acorns) were collected. Each year, 500-700 seedlings are given to volunteers 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 Fairfax County Department of Planning and Zoning to review Agricultural and Forestal District applications. A&F District forest management plans are prepared by VDOF; these efforts support the management of forested land for conservation purposes. Two A&F plans covering 102.4 acres were prepared in 2010. VDOF also provides forestry management advice to homeowners associations and civic groups. No formal community forestry plans were prepared in 2010.

The Virginia Department of Forestry also helps protect water quality and forest resources in the county by reviewing and commenting on rezoning applications and development plans. VDOF reviewed 44 applications and plans in 2010. In addition VDOF annually inspects dry hydrants to make sure they are available to fight wildfires in the county.

The department maintains an active public education and outreach program. Audiences range from school groups to adults. Topics range from general discussion of the importance of urban forests for environmental quality to technical training in planning and installing rain gardens and forested riparian buffers. In 2010, VDOF conducted 47 talks on the general benefits of urban forests and riparian buffers.

The Virginia Department of Forestry website (www.dof.virginia.gov) contains many pages on forest management and urban forestry. Topics range from tree identification to proper planting under power lines. The pages contain information developed by VDOF and links to many other sources of information on urban forestry and tree care.

15. Virginia Department of Transportation

As required by federal and state laws and regulations, the Virginia Department of Transportation mitigates unavoidable impacts to water resources within Fairfax County that occur during highway construction projects. Highway construction projects can potentially impact wetlands and streams. These resources are identified early in the project development process so avoidance and minimization measures can be considered. Given the linear nature of highway projects, some impacts are often inevitable. Federal/state water quality laws and regulations may require compensatory mitigation for permanent impacts to these resources. Wetlands creation is one form of compensatory mitigation for wetland impacts. For stream impacts, stream restoration is a

compensatory mitigation; natural stream channel design principles are used to the extent possible.

VDOT created approximately eight acres of wetlands (seven acres non-tidal and one acre tidal) and restored 2,635 linear feet of streams in Fairfax County's watersheds as compensatory mitigation for unavoidable impacts from highway construction projects including the Fairfax County Parkway, the Route 28 widening, the Roberts Parkway bridge overpass, the Springfield Interchange improvements, the Route 29 bridge replacement over Big Rocky Run, the Route 1 widening and the Woodrow Wilson Bridge Replacement.

VDOT is currently monitoring the establishment of the following wetland mitigation sites in Fairfax County:

- Approximately 0.3 acre of tidal wetland enhancement adjacent to Cameron Run at the I-95/Route 1 interchange improvement (Belle Haven).
- Approximately 0.5 acres of wetland creation, 1.17 acres of wetland restoration, and 1.08 acres of submerged aquatic vegetation remediation at I-95/Route 1 interchange improvement (Woodrow Wilson Bridge Project – Route 1 sites).

These sites were created to mitigate unavoidable wetland impacts from replacing the Woodrow Wilson Bridge; several other mitigation sites for this project are located outside of the county. Federal and state regulatory agencies require created wetland mitigation sites to be monitored for a period of five years following completion of construction to assess their functionality. The tidal wetland enhancement site at the Belle Haven is in the fourth year of monitoring. The SAV remediation and wetland restoration sites at I-95/Route 1 interchange is in the second year of monitoring. Ongoing maintenance activities during the five-year monitoring period include hydrology monitoring, plant diversity sampling, replacement of dead or damaged plants and invasive species control to ensure performance criteria are met. Recent monitoring reports indicate that these locations continue to provide a valuable water quality benefit in their respective watersheds as well as habitat for a host of aquatic organisms, waterfowl and other wildlife. Additionally, VDOT will be creating another two acres of wetlands at the confluence of Taylor Run and Cameron Run during fall 2011 at the I-95/Telegraph Road interchange improvement; mitigation monitoring of that mitigation site will begin in the year following its establishment.

VDOT acknowledges the county's preference to compensate for wetland and stream impacts within its watersheds; however, on April 10, 2008, the Environmental Protection Agency and U.S. Army Corps of Engineers jointly

issued a Federal Mitigation Rule giving preference first to mitigation banks, second to in-lieu funds and third to permittee responsible mitigation as compensatory mitigation for minor impacts to aquatic resources. Subsequent to this rulemaking, the Virginia Department of Environmental Quality directed staff to recognize the preference hierarchy presented in the Rule. As a result, VDOT purchases wetland and stream credits from approved mitigation banks to compensate for unavoidable impacts to wetlands and streams instead of creating on-site and off-site mitigation sites near its construction projects. VDOT would be interested in purchasing wetland and stream bank credits from mitigation banks in Fairfax County.

VDOT environmental staff participated on the Accotink Creek and Nichol Run/Pond Branch watershed advisory groups. The Department also serves as a non-voting member of the Potomac Watershed Roundtable

Landscaping contributes much more than just visual aesthetics; trees support filtering of air and stormwater pollutants/sediments, slowing the erosive acceleration of stormwater runoff, lowering stormwater runoff temperatures from heated impervious surfaces and screening of headlight glare and street light trespass onto residential properties at night. Many of these benefits are consistent with discussion topics elsewhere in the *Annual Report* and VDOT has included landscaping on several road construction projects to enhance context-sensitive road design.

Recent or current projects with landscaping and/or architectural treatments include:

- Fairfax County Parkway extension through Fort Belvoir North Tract Area.
- Telegraph Road/Capital Beltway interchange improvements associated with the Woodrow Wilson Bridge replacement.
- Decorative Stone Rubble Masonry signs at four locations on Georgetown Pike.
- Fair Lakes Parkway/Fairfax County Parkway interchange.

VDOT's Wildflower Program is funded through revenue fees paid for wildflower license plates at the Virginia Department of Motor Vehicles. In Fairfax County, there are approximately 4.3 acres of right-of-way maintained as perennial wildflower meadows. Warm season, native grass species are also used in VDOT's roadside seed mix specifications on its construction projects where opportunity exists to take advantage of low maintenance requirements. Control of invasive vegetation is a large part of VDOT's roadside vegetation management program. Colonization of bamboo and callery pear are significant problems in the county.

16. Virginia Department of Environmental Quality

In 2010 the Northern Regional Office of the Virginia Department of Environmental Quality received 18 applications to impact surface waters in Fairfax County. A total of 16 new Virginia Water Protection Wetland Permits were issued, along with two modifications to earlier permits, to include 16 general permits and two individual permits. The permits authorized the total permanent impact of approximately 3.7 acres of wetlands, 0.2 acre of open water and 5,300 linear feet of stream channel in Fairfax County. Included in these totals were the impacts associated with residential, commercial, recreational and municipal projects as well as Fort Belvoir's Main Post Infrastructure project. Compensation for impacts to surface waters was proposed to be provided through the purchase of bank credits and on-site stream restoration or riparian buffer enhancement.

17. Urban Forestry

a. Urban Forest Management Division--general activities

In addition to carrying out its core services relating to land development and forest pest management, in 2010, Urban Forest Management Division focused on other projects that included:

- **Amendments to the Public Facilities Manual:** Tree Conservation Ordinance Amendments to Chapter 122 (Tree Conservation Ordinance) of The Code of the County of Fairfax, Virginia, and the Public Facilities Manual regarding conservation of trees during the land development process were approved by the Board of Supervisors on November 16, 2010. These amendments were proposed to address feedback from the development community regarding the applicability of the ordinance to minor plans and the impacts observed during the first full year of administering the ordinance. The proposed changes were discussed with industry and were presented to the board's Environmental Committee on June 15, 2009. The amendments to the PFM incorporate plan submission requirements, technical standards and specifications, and onsite practices that support the conservation of trees and minimize the extent of land disturbance to onsite and offsite trees and forested areas.
- **Industry Training for the Tree Conservation Amendments:** UFMD implemented training classes for the Tree Conservation Ordinance Amendments. These classes targeted in-house staff and the private engineering sector. Additional training will be provided as necessary.
- **i-Tree Urban Ecosystem Analysis 2010:** The Urban Forest Management Division gathered field data to help identify various

environmental and socio-economic benefits provided by trees in Fairfax County. These findings underscore the need to conserve the county's tree and forest assets:

- Number of trees in the County: 20,900,000.
- Most common species: red maple, American beech and tulip poplar.
- Annual air pollution removal value: \$21.7 million.
- Carbon Storage value: \$ 80.2 million.
- Carbon sequestration value: \$4.5 million/year.
- Annual utility savings: \$12.3 million.
- Avoided carbon emissions: 218,000 tons of carbon/year.
- Replacement value of tree canopy: \$29.2 billion.

- **Increasing Levels of Tree Preservation during the Development of County Projects:** Several agencies involved in the development of county facilities were tasked by the Board of Supervisors to determine how the preservation of existing trees could be maximized during the development of new facilities. A committee representing seven agencies was formed and divided into subcommittees to discuss three areas of concern: Policy and Practice, Education and Culture, and Interagency Communication. The recommendations will be organized by UFMD staff and presented to the Board of Supervisors in 2011.
- **Continued Implementation of the Tree Action Plan:** In 2010, UFMD continued to implement various strategies, tactics and actions plans identified in the Tree Action Plan, which is a board-endorsed plan to conserve and manage the county's tree and forest resources from 2007 to 2027. Over the past year, UFMD staff has made significant progress towards meeting goals and executing strategies of the plan. UFMD is currently engaged in numerous strategies associated with seven of the 12 core recommendations.
- **Strengthened partnership with Fairfax ReLeaf, Inc.:** A UFMD staff member was elected to the board of Fairfax ReLeaf, Inc. This action greatly strengthens the day-to-day working relationship between UFMD and Fairfax ReLeaf, which is a non-profit organization dedicated to increase tree cover levels in Fairfax County. The following are examples of joint projects:
 - Acquisition of seedling storage area for spring planting activities.
 - Tree planting at Wolf Trap Farm Park.
 - GIS analysis of HOA lands for Fairfax ReLeaf planting activities.
 - Facilitation of a partnership between the Stormwater Planning area of DPWES and Fairfax ReLeaf to jointly identify planting sites at stormwater planning project sites.

- **County Receives Tree City USA award for 28th Consecutive Years:**

For the 28th year, Fairfax County received the Tree City USA award at the Earth Day/Arbor Day celebration held at the Fairfax County Government Center. This award demonstrates a community's commitment to preserving and planting trees. Fairfax County has one of the longest running records in Virginia for receiving the award.

b. Urban Forest Management Division--Forest Conservation Branch activities

- **Tree Preservation and Planting Awards:** As part of the 2010 Land Conservation Award program the following Tree Preservation and/or Tree Planting Awards were presented to developers and builders to recognize outstanding efforts to preserve or plant trees within new developments. The Tree Commission awarded the following projects:
 - Aerospace Corporate Headquarters: Tree Preservation and Planting.
 - Hunter's Branch: Tree Preservation.
 - Huntley Terrace: Tree Planting.
 - Francis Scott Key Middle School: Tree Planting.
 - Pohick Stream Valley Trail: Tree Preservation and Planting.
 - Potomac School: Tree Preservation and Planting.

- **Increased Public Awareness and Outreach:** As recommended by the Tree Action Plan, FCB staff continues to provide educational and outreach sessions to the public concerning the value of protecting and managing trees on public and private property. FCB conducted the following sessions during 2010:
 - Provision of talks to homeowners associations, scout groups, school groups and garden clubs.
 - Participation in "A Day of Arboriculture" for horticulture students at Virginia Tech.
 - Participation in the 2010 Earth Day/Arbor Day celebration.
 - Presentation of the "*Tree Preservation during Land Development*" class to the Engineers and Surveyors Institute members for ESI's continuing education unit program supporting the "Designated Plans Examiner" certification program.

- **Tysons Core Team:** FCB staff participated on the Tysons Urban Design Core Team to help develop urban street tree and streetscape design criteria for use in the redevelopment of Tyson's Corner.

- **2010 FCB Workload Summary:** In 2010, FCB 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, Planning Commission, Tree Commission, Environmental and Facilities Review Division, Environmental and Facilities Inspections Division, Department of Planning and Zoning, Office of Capital Facilities, Park Authority and the School Board. Table VII-5 summarizes the workload of FCB based on the requests for assistance that were completed for FY 2009, 2010 and 2011.

Table VII-5. Select Forest Conservation Branch Activities FY 2008 through FY 2011				
Type of Assignment	Number of Completed Requests			
	FY 2008	FY 2009	FY 2010	FY 2011
Waivers	29	53	28	36
Zoning Cases	352	354	310	296
LDS Request: Plan Review	586	436	437	476
LDS Request: Site Inspections	978	868	467	356
Other (BOS, FCPA, Other County Agencies, etc.)	399	289	241	184
Hazardous Tree	34	40	27	32
Total Completed	2,378	2,040	1,510	1,308

c. Urban Forest Management Division--Forest Pest Management Section activities

- **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 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 volunteer involvement programs.
 - Biological: the release and monitoring of gypsy moth parasites and pathogens.
 - Chemical: the aerial and ground applications of Diflubenzuron and Bacillus thuringiensis on high infestations.

- Educational: the self-help program and lectures to civic associations and other groups.

In calendar year 2011, gypsy moth caterpillar populations remained very low. There was no measurable defoliation reported in Fairfax County and the State of Virginia. Defoliation information for the United States was unavailable at the time that this report was drafted; however staff predicts defoliation levels are low in the entire country. The reason for the extremely low gypsy moth populations in Fairfax County and other areas is due to effective control programs in past years and the fungal pathogen *Entomophaga maimaiga*. The gypsy moth staff will continue to monitor populations in fall 2011, and treatment is unlikely in 2012. It is important to note that gypsy moth populations are cyclical in nature and it is not uncommon for outbreaks to occur following dormant phases.

- **Fall 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 spring 2003. Staff has monitored for adult female moths throughout the Mount Vernon and Lee districts since January 2001. The result of the winter 2010 – 2011 monitoring effort indicated that no aerial treatment was required in spring 2011.

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 and Plant Health Inspection Service established 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 summer

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 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. Subsequent monitoring has indicated that this eradication effort was successful.

In July 2008, two new infestations of emerald ash borer were discovered in Fairfax County in the Town of Herndon and in the Newington area. Staff believes that these infestations were not related to the one found at Colvin Run Elementary in 2004. The U.S. Department of Agriculture's Science Advisory Council has recommended that no eradication action be taken in Fairfax County. This decision was made due to the extent of the infestations and due to the fact that similar eradication attempts in other U.S. states have failed. On July 11, 2008 a federal order quarantined Fairfax County for Emerald Ash Borer. This means that all interstate movement of ash wood and wood products from Fairfax County is regulated, including all hardwood firewood, nursery stock, green lumber, waste, compost and chips from ash trees. The Virginia Department of Agriculture and Consumer Services has initiated similar quarantines for the counties of Fairfax, Arlington, Loudoun, Fauquier and Prince William and the cities of Falls Church, Fairfax City, Alexandria, Manassas and Manassas Park.

Trapping efforts since 2008 have revealed that the beetle can be found in many areas of the county. The Forest Pest Program has appointed an Urban Forester as its Emerald Ash Borer Outreach Coordinator. This staff member is responsible for educating the public on how to deal with the impending death of many thousands of ash trees. Education efforts emphasize how to hire a private contractor to remove dead and dying trees and how to properly apply pesticides that might keep trees alive.

- **Hemlock Woolly Adelgid:** Hemlock woolly adelgid is a recent addition to the VDACS list of insects that can be controlled by the Forest Pest Program. This is an insect that infests and eventually kills hemlock trees. Staff is considering various control options for this pest. Possible

control options include pesticide treatments and release of predatory insects that feed on this pest.

- **1000 Cankers Disease of Black Walnut:** In August 2010, a fungal disease was detected in black walnut (*Juglans nigra*) in Tennessee. During spring 2011, this disease was identified near Richmond, Virginia. This disease and the beetle that spreads the disease are native to the western United States. In its native range, this disease causes minor damage to western walnut species. Unfortunately, eastern walnut trees are very susceptible to the disease. Trees die within a few years of infestation with the beetle/fungus. Staff is monitoring the development of this disease and has petitioned VDACS to include this pest/disease to the list of pests the ones that can be controlled by service districts in Virginia.

18. Agricultural and Forestal Districts

Landowners may apply to place their land in special Agricultural and Forestal 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 forestlands for the production of food and other agricultural and forest products. It is also Fairfax County policy to conserve and protect agricultural and forestlands 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.

Since the 2008 EQAC Annual Report on the Environment, there has been some changes to the A&F Program as shown in Table VII-6.

Table VII-6: Change in Local and Statewide A&F Districts from January 1, 2008 to August 31, 2009				
Magisterial District	No. of Local Districts			No. of Statewide Districts
	2008	2009	2008	2009
Dranesville	17	14	1	1
Mt. Vernon	3	3	1	1
Springfield	19	21	0	0
Sully	4	4	0	0
Total	43	42	2	2

Source: *Fairfax County 2009 Agricultural & Forestal District Annual Statistical Report*, Zoning Evaluation Division, Department of Planning and Zoning, Fairfax County, Virginia, September 1, 2009

As can be seen in the above figure, while there were changes in Dranesville and Springfield, there was a net loss of one Local District during this reporting period.

- Dranesville: Loss of three districts through:
 - Withdrawal of Eagle II.
 - Withdrawal of McInturff-Stewart.
 - Expiration of Longacre Farm.
- Springfield: Loss of two districts through:
 - Withdrawal of Kincheloe.
 - Withdrawal of Kincheloe II.
- Springfield: Gain of four districts through:
 - Creation of a new, consolidated Kincheloe.
 - Creation of Hall.
 - Creation of Keener.
 - Creation Crawford.

Despite this loss of one Local District, there has been an increase in the acreage in Local Districts. The loss of three districts in Dranesville resulted in a decrease of 40.41 acres. However, the changes in Springfield resulted in the gain of 125.12 acres. The withdrawal of Kincheloe and Kincheloe was replaced by the creation of a consolidated Kincheloe district plus additional land for a gain of 60.5 acres. Other gains in Springfield came from the creation of Keener (22.73 acres), Hall (20.65 acres) and Crawford (21.24 acres). Therefore, there was a countywide gain of 84.21 acres. This increases the total acreage in all districts, local and statewide, to 2,988.78 acres.

19. Gunston Cove Ecological Study

The Gunston Cove Ecological Study was included in this chapter in previous years. It also was in the Water Resources Chapter. This year, it will be in the Water Resources Chapter only.

20. Fairfax County Restoration Project

The Fairfax County Restoration Project formed in 2009 to help protect the county's remaining undeveloped areas and, where feasible, restore natural communities on land that is already developed. The driving issue that led to the founding of FCRP is the loss of forested land due to the ongoing Capital Beltway High Occupancy Toll lanes construction project, but FCRP sees its mission continuing long after HOT Lanes construction ends. Its mission is to serve as an organizing body that can bring together stakeholders from local and state government, private industry, non-profits, universities and citizens associations to address common concerns about protecting Fairfax County's environment and increasing quality of life for its citizens.

Since its inception, FCRP moved rapidly to bring stakeholders and experts together to assemble a habitat restoration plan for the HOT Lanes corridor. As a result of the collaboration, there has been close coordination between project members and the Virginia Department of Transportation on reforestation efforts along the 14-mile HOT Lanes construction site. The reforestation will incorporate areas both inside and outside the HOT Lanes sound walls. Plantings will be made up of native plants that are adapted to the local conditions, require little maintenance and can provide food and shelter for wildlife. A special emphasis will be placed on plants that can attract native pollinators such as bees and butterflies. Plantings within the walls will be maintained by VDOT. Outside the HOT Lanes sound walls, FCRP will recruit landowners and community and homeowner associations with property adjacent to the construction sites to help establish and maintain new plant cover.

FCRP has recently initiated a tree gifting program known as "Reforest Fairfax." Each \$35 gift that is purchased through this program includes five tree seedlings that will be planted in Fairfax County by Fairfax ReLeaf during the next planting season, a gift card with a personal greeting, a gift certificate with the registration numbers of the trees that have been purchased and access to an on-line locator tool to see the areas within which the trees were planted.

Additional activities have included: the organization of a series of events relating to vernal pools; a Greening Fairfax County series, "Restoring Land Restoring Water" conference; a collaboration with several partners to provide a dynamic environment for elementary school children to learn about the streams and forests and to improve the community through restoration of native forest

cover (the “Chesterbrook Living Classroom” project); a native tree discount coupon program; and the creation of a community produce garden on the George Mason Fairfax Campus with the George Mason University Office of Sustainability and the Transurban-Fluor Capital Beltway Project Community Grant Program.

The numerous efforts of the Fairfax County Restoration Project resulted in the organization’s receipt of an Environmental Excellence Award in 2011.

Information about the Fairfax County Restoration Project is available at <http://www.fcrrp3.org/>.

21. Reston Association

The Reston Association, the homeowners association for the large, planned community of Reston (population >60,000), has an active environmental resource management program that includes watershed and lakes management. RA enhances, protects and maintains more than 1,300 acres of open space, including the 72-acre Walker Nature Center, four lakes, three ponds, 19 miles of streams, 800 acres of natural area and about 50 meadows.

Over 73 Weed Warrior volunteers dedicated nearly 150 hours to the removal of invasive exotic plants in Reston’s woodlands in efforts to restore habitat. RA worked with: seven Boy Scouts on their Eagle Scout projects; volunteers participating in four corporate volunteer efforts; and high school and college interns in the restoration of the natural areas through the removal of invasive exotic plants and the installation of native species. In addition to these volunteer resource management projects, RA’s environmental staff worked on numerous parkland parcels to remove invasive plants and restore the sites with native species. These native plants will provide food and cover for birds and other wildlife.

In a collaborative effort with Dominion Power, Fairfax ReLeaf, Earth Sangha and the Reston Lions Club, RA coordinated efforts to clear topped trees and bamboo along Lawyers Road underneath utility lines and install native trees and shrubs. This project is an extension of the 2009 demonstration project funded by a Department of Forestry grant. The grant supported a demonstration project of “right tree in the right place.” More than 250 seedlings replaced topped trees underneath the utility lines along Lawyers Road in Reston.

Reston Association offers a number of volunteer opportunities. For more information, please contact Ha Brock at 703-435-7986 or at ha@reston.org or go to www.reston.org.

C. STEWARDSHIP OPPORTUNITIES

The Fairfax County Park Authority offers a number of opportunities for volunteers and EQAC encourages county residents to take advantage of these opportunities. Information about these opportunities is available at <http://www.fairfaxcounty.gov/parks/volunteer.htm>. More information about FCPA and its programs is available at these websites: <http://www.fairfaxcounty.gov/parks/resources/stewardship.htm> and <http://www.fairfaxcounty.gov/parks/resources>.

Fairfax County residents and other interested parties 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. Those interested in giving tax-deductible donations to the foundation can contact the foundation at:

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

Environmental Stewardship opportunities for volunteers are available at Meadowlark Botanical Gardens, Potomac Overlook Regional Park, Upton Hill Regional Park, Pohick Bay Regional Park and various other parks on occasion. More information can be found at http://www.nvrpa.org/park/main_site/content/volunteer.

Fairfax ReLeaf offers a number of opportunities for stewardship. For further information on Fairfax ReLeaf, visit its website at <http://www.fairfaxreleaf.org>.

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

The Northern Virginia Conservation Trust offers many opportunities in stewardship for Fairfax County residents. Additional information on NVCT can be found on its website, <http://www.nvct.org>. Landowners whose property contains environmentally sensitive land such as wetlands, stream valleys and forests can also participate in environmental stewardship. If these landowners grant easements to NVCT, 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.

For stewardship information on the Potomac Conservancy, see <http://www.potomac.org>.

Reston Association offers stewardship opportunities through various volunteer activities for more information go to: www.reston.org and click on “Get Involved.”

D. COMMENTS

1. The Fairfax County Board of Supervisors has endorsed the goals and actions within the Tree Action Plan, adopted a new tree canopy cover goal for the county of 45 percent coverage by the year 2037 and adopted a tree conservation ordinance to strengthen tree preservation policies and procedures. In addition, trees were identified as a special area of interest in the FY 2008 Environmental Improvement Program.

EQAC commends the Board of Supervisors for its progressive approach to improving the retention and expansion of this valuable ecological resource. It is imperative that these programs not be allowed to weaken or be given less priority in future years. EQAC believes that continued emphasis of tree actions in the Environmental Improvement Program document is necessary to assure continued emphasis and eventual meeting of goals.

2. In past Annual Reports, EQAC recommended that the Board of Supervisors emphasize public-private partnerships that use private actions such as purchase of land and easements 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 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.

3. In past Annual Reports, EQAC recommended that the 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 its efforts to establish a natural resources baseline inventory. The FCPA has developed a countywide green infrastructure map that appears to be a basis for a Natural Resource Inventory. Additionally, the Urban Forest Management 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. Additionally, EQAC notes that the Park Authority has taken some steps in implement the plan, but much more needs to be done. EQAC fully supports these efforts, urging that they culminate in a countywide Resource Management Plan. 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.

E. RECOMMENDATION

1. The Fairfax County Park Authority approved a Natural Resource Management Plan in 2004. This partially fulfills a long-standing EQAC recommendation to develop and implement a countywide Natural Resource Management Plan. However, most of this plan cannot be implemented without additional staff and funding for the FCPA. The FCPA staff estimates that full implementation will require approximately \$8 million per year and dozens of staff positions. This includes about \$3.5 million to focus on general natural resource management and \$4.5 million for a non-native invasive plant control program. A more phased approach will allow FCPA to begin to manage 10 percent of parklands and set up the program to be phased in over time. Phase 1 with this approach would require \$650,000 and six positions. EQAC strongly feels that the plan needs to be implemented. Therefore, EQAC recommends that the Board of Supervisors provide sufficient funding to implement Phase 1. EQAC recognizes that in today’s budget climate,

such increased funding may be difficult to achieve. However, EQAC recommends some increase in funding by the Board of Supervisors. And, once the county's budget problems are eased, EQAC further recommends that the Board of Supervisors increase funding as a high priority. Ultimately, this increased funding should support the full implementation of the Natural Resource Management Plan. In the meantime, EQAC recommends that some additional staff positions and supporting funding be found from internal FCPA staff assets.

For example, the Invasive Management Project is the most highly leveraged program in the Park Authority system. In calendar year 2010, 974 volunteers donated 3,589 hours of work towards habitat restoration. On Volunteer Fest Day, 164 volunteers donated 470 hours and removed about 270 bags of invasive plant debris. Additional funding will allow this highly successful, highly leveraged program to expand. Absent any additional funding from the Board of Supervisors, this is a good example of funding that should be found from internal FCPA assets.

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