
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 227,929 acres. Of this total, about 233,066 acres (14.5 percent) are in parks and recreation as of January 2009. Another approximately 16,595 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 2009.

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

a. Stream Restoration

Table VII-1. DPWES Stream Restoration Projects in 2009			
PROJECT NAME	PROBLEM	SOLUTION	PARTNERS
Poplar Springs (near Hatches Lake)	Eroded streambank	Restored 692 linear feet of streambank using bio-engineering techniques. Complete April 2009.	DPWES

Source: 2010 EQAC Report Stormwater Responses, Stormwater Management, Department of Public Works and Environmental Services, Fairfax County, Virginia, August 11, 2010

DPWES continues to be involved in a number of stream restoration projects. Bioengineering techniques are being used where possible. Table VII-1, above, shows projects that were completed in 2009.

b. Low Impact Development Practices

Environmentally sensitive site design and low impact development (LID) practices serve to minimize impervious cover and replicate natural hydrologic conditions. The county is recommending and encouraging that “Better Site Design” development techniques and LID practices be used to the full extent allowed by the county’s Public Facilities Manual.

Six low impact development practices (bioretention basins and filters, vegetated swales, tree box filters, vegetated roofs, permeable paving and reforestation) were developed for inclusion in the Public Facilities Manual in 2006. In 2007, the Board of Supervisors adopted the amendments. The county is continuing its work with the Engineering Surveyors Institute, Northern Virginia Regional Commission and other local jurisdictions on developing a design and construction standards manual for LID applications. The manual will be recommended for adoption into the county’s PFM.

The county continues to implement a number of demonstration projects, including several vegetated roofs. The West Ox Operations Center green roof was substantially completed on October 16, 2008. The approximately 1,000 square-foot green roof is an extensive type of green roof located on the administration-building roof of the bus operation center facility. The construction of the green roof went smoothly, from the initial step of flooding the roof to ensure that there were no leaks, to the finished product of thriving sedums with very little maintenance requirements. The administration building provides stair access to the roof with pavers to and

around the green roof, for easy viewing access. The total cost of the green roof was \$34,194.

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 2009 and June 2010, the Park Authority added 40.05 acres to its parkland inventory. This brings the parkland inventory to a total of 24,302 acres as of June 2010.

FCPA purchased the following properties:

- On September 30, 2009, the Park Authority acquired the 0.05 acre Roysdon property within the Mount Vernon District. The property is within the boundaries of the colonial town of Colchester.
- On December 9, 2009, the Park Authority acquired two acres adjacent to the Dolley Madison Library and McLean Central Park (Dranesville District) from John Birge and Susan Fadoul. This acquisition will allow additional and expansion of the village green and improved park access.
- On December 16, 2009, the Park Authority acquired the 11 acre Taneja property located within the Sully District. The acquisition provides an interconnection between existing Park Authority holdings and will buffer the historic Lane's Mill.
- On April 20, 2010, the Park Authority acquired the 3.62 acre Turner Farm (house) property located within the Dranesville District. This acreage had been carved out of the original Turner Farm tract for development as three residential lots. The acquisition will add to the existing Turner Farm Park

FCPA acquired the following property through donations:

- On May 26, 2010, Marian Ferguson donated .366 acres to the Park Authority in the Mount Vernon District. The parcel is adjacent to another lot owned by the Park Authority and is located upstream from White Oaks Park.

FCCA acquired the following property through dedications:

- On August 20, 2009, Pulte dedicated 22.06 acres to the Park Authority for an addition to Arrowhead Park in the Sully District. Pulte proffered to construct four rectangular fields as part of the recreational amenities for the park.

FCCA acquired the following properties through transfers:

- On December 7, 2009, the Board of Supervisors transferred the 0.5 acre Odrick parcel to the Park Authority. The Dranesville District parcel contains the former homestead of the Odrick family, a prominent member of the African-American community in Dranesville.

FCCA acquired the following properties through land exchanges:

- On November 25, 2009, the Park Authority exchanged a 40 acre middle school parcel located at Laurel Hill for the 40 acre Nike Recreation Area and Resource Management Area. Located in the Mount Vernon District, the exchange will permit the Park Authority improved site access for the park and 118 shared parking spaces.

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 FCCA. 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 2010 included:

- Resource Management
 - Completed the fourth year of the Invasive Management Area (IMA) program in 2009. The program now has 41 sites and in calendar year 2009, nearly 1,300 volunteers donated 3,030 hours of work in support of habitat restoration at IMA sites.
 - Planted over 10,000 trees and shrubs on parkland in calendar year 2009.
 - The second annual statewide Invasive Plant Removal Day was held on May 1, 2010. 142 volunteers removed garlic mustard from 15 sites, logging 483 volunteer hours.
 - Completed construction on a bioswale at Greendale Golf Course; planted approximately 150 trees and prepared and planted meadow area at Mt. Vernon District Park; continued monitoring and maintenance of rain gardens and bioswales at six parks; worked with the Department of Public Works and Environmental Services (DPWES) on the construction of low impact development improvements at three parks.

- Policy and Best Practices
 - Revised Policy 301 (Protection of Lands and Facilities) and drafted new encroachment enforcement procedures.
 - Continued to develop best practices. Topics this year included native plant guidance, non-native invasive plant best management practices, site natural resource action plans and preservation of trees in county facility development.
 - FCPA began the Natural Capital project, which will result in a report with recommendations for the use of natural capital valuation for Fairfax County parklands as well as an analysis of the appropriateness of using bond funds for natural resource projects.
 - Finalized and distributed guidance and procedures for the use of native and non-native plants on parkland.
 - Established a project team which reviewed each of the best management practices (BMPs) recommended in the Non-Native Invasive Plant Assessment and Prioritization report. These BMPs address park planning, development and maintenance practices that will help prevent the spread of invasive plants.

- Partnerships
 - Worked with Department of Public Works and Environmental Services (DPWES) to: construct two stream stabilization projects; complete dam improvements at Royal Lake; coordinate numerous stormwater improvement and retrofit projects such as the rain garden at Pinecrest Golf Course; review major road improvement projects such as I-495 Hot Lanes and Telegraph Road widening near Huntley Meadows; provide input to county reports and plans; participate in TMDL coordination meetings; and participate in work sessions to review proposed changes to the county's MS4 permit.
 - FCPA worked with the Virginia Department of Agriculture and Consumer Services and Virginia Department of Forestry to collaborate on a test release of a biocontrol for the non-native, invasive plant, mile-a-minute.
 - Continued partnership with Earth Sangha, a local non-profit organization. In 2009, Earth Sangha completed the expansion of the Wild Plant Nursery to propagate additional species (including emergent wetland species). At the Marie Butler Leven Preserve, the organization started planting in the Restored Habitat Area and began work within the Berry Garden. In addition, Earth Sangha has expanded its role in follow-up work on previously planted stream buffers (removing invasives, adding plants and performing maintenance activities at Canterbury Woods Park, Flag Run park, Luria Park, Roundtree Park and Royal Lake Park). In the calendar year 2009, Earth Sangha donated over 11,700 volunteer hours and 5,700 staff hours to Fairfax County Park Authority projects and donated, or provided at reduced price, over 2,000 plants.

- Stewardship and Education
 - Continued working with volunteers and local media to educate residents about non-native invasive plant issues on and off park property.
 - Published the latest stewardship brochure "Pollen."
 - Developed a new portable exhibit on stewardship and volunteering.
 - The Stewardship Education Team continued its outreach efforts and launched a contest to reduce junk mail in the Park Authority.
 - Continued participation in Envirothon program for high school students and in the Master Naturalist programs in Fairfax and Arlington counties.

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

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. 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. PlanGraphics 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; an

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 Ellanor 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. In 2009, Earth Sangha was able to replant many native shrubs and trees in areas previously controlled for invasive plants. Overall, Earth Sangha contributed thousands of volunteer hours to park projects in 2009, valued at over \$200,000. Earth Sangha's sites are supported with staff and contractor work when possible.

The Invasive Management Area (IMA) program completed the fourth year in 2009. The IMA program has successfully captured some of the enthusiasm of volunteers for unstaffed parks, establishing 42 sites with 42 active volunteer leaders. Nearly 15,000 volunteer hours were contributed to the project since its inception in 2005. From June 2008-July 2009, nearly 1,300 volunteers have donated 3,030 hours of work towards habitat restoration. The Invasive Management Area (IMA) program works on plots of parkland, typically ½ acre in size, to remove priority invasive species. Significant reductions of non-native invasive species have been documented within the sites, averaging a 24% reduction in cover. Extensive training of volunteer leaders, careful selection of sites and species and a coordinated plan of environmental monitoring will allow us to continue to learn from this project. At a minimum, invasives 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>.

An outgrowth of the Invasive Management Area program has been the state-wide Invasive Plant Removal Day. On May 1st, the IMA program participated in the 2nd annual statewide event and 3rd annual countywide event. Over 480 hours of volunteer service were provided to remove 80 bags of invasive plants, mostly the biennial garlic mustard.

FPCA contracted with Invasive Plant Control, Inc. (IPC) to apply selected and careful herbicide treatments for the removal of invasive plants. Three hundred and fifty acres of parkland were treated by IPC in 2009. Many of these acres 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 us to prioritize where and what we need for invasive management in Fairfax County.

EQAC continues to commend the volunteers and the Park Authority staff who are cooperating in removing invasives; 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. One stream restoration project was completed on park land during FY 2010: The Dead Run Stabilization in McLean Central Park stabilized approximately 1,000 linear feet of stream. Funding for the project was supplied by DPWES. Construction began in December 2009 and was completed in February 2010.

f. Environmental Stewardship

FPCA 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>.

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.FairfaxCountyParkFoundation.com>

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 24 regional parks and owns 10,704 acres of land throughout the region. It also holds conservation easements on 114 parcels covering more than 650 acres.

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, total carbon emissions were reduced well ahead of the Cool Counties goal. Between 2006 and 2007 NVRPA reduced its carbon emissions agency-wide by 2% in its operations. 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 2007 Cameron Run Regional Park reduced its energy consumption by almost 21%. Between 2007 and 2008 energy use was up slightly due primarily to irrigation needs during drought conditions.

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.

In 2009, NVRPA also completed renovations to the Potomac Overlook Nature Center, which 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.

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. In the last year, it added interpretive signage at the W&OD Trail, Brambleton, Ball's Bluff, Aldie Mill and Algonkian Regional Parks. One of the most successful interpretive efforts in the history of the authority has been the addition of a seasonal 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.

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. NVRPA held a special volunteer recognition event in 2009 connected with its 50th anniversary.

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. These volunteers appreciate and support the county's goals to increase the tree cover in Fairfax County. Fairfax ReLeaf contributed to this goal by increasing the number of tree seedlings planted and distributed over the previous year.

Fairfax ReLeaf is very active in tree plantings and is always eager to sign up new volunteers. These 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 human and wildlife habitats.
- Reduce energy use.
- Reduce surface runoff and improve water quality.

Fairfax ReLeaf planted and distributed 7,923 trees in calendar year 2009. Nearly 1,000 volunteers spent over 3,000 hours planting tree seedlings, removing invasive species and maintaining sites. Highlights of Fairfax ReLeaf's 2009 plantings are:

- The planting of over 1,400 trees in parks, including private, county, and national parks.
- The planting of nearly 1,000 trees at school sites.

- The planting of over 1,000 trees in riparian areas such as storm water ponds and streams.

Fairfax ReLeaf provided opportunities for community groups to serve Fairfax County, including eight school groups, five Eagle Scout plantings, and a home school co-op. ReLeaf led seven corporate workdays, where employees from workplaces such as Bearing Point, Level Three, Winchester Homes, Deloitte & Touche and The Cheesecake Factory 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 2009 included visiting classrooms, exhibiting at the Fairfax County Earth/Arbor Day celebration, Celebrate Fairfax and a 4-H Fair.

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

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 eighth 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.

From the time NVCT accepted its first easement in 1999 through June 2010, NVCT has preserved about 656 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 grant application was successful through the first phase, and it is expected the county will receive a \$125,000 LWCF grant around the beginning of the new year. NVCT continued work on numerous other projects, some of which are close to completion, including conservation easements, fee acquisitions and trail easements. Two are on the Potomac Gorge, and one a historic property on more than 20 acres.

Tables VII-2, VII-3 and VII-4 provide details on all 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. NVCT naturalist-led kayak tours, part of its innovative environmental and conservation education program, “floating classrooms,” continue to be a huge success.

NVCT was once again designated by the Catalogue of Philanthropy as one of the best small charities in Northern Virginia.

NVCT is also one of the very few accredited land trusts by the Land Trust Accreditation Commission, awarded full accreditation on September 1, 2008 (one of approximately 100 accredited out of over 1,700 land trusts nation-wide). NVCT is the only accredited land trust servicing Fairfax County.

Table VII-2. 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	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
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	470	

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, August 12, 2010.

Table VII-3. 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, August 12, 2010.

Table VII-4. 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 Elklick/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, August 12, 2010.

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.

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 2010, VOF held easements on over 580,000 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-5.

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

Table VII-5. 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: *EQAC's 2010 Annual Report--Request for Information*, 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, July 6, 2010.

* 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.

NVSWCD is facilitating Phase II of the Kingstowne Restoration Project. A major factor in securing this project was the success of Phase I of the Kingstowne Stream Restoration Project, which was completed in 2000. The U.S. Army Corps of Engineers has approved a similar restoration of the next 2,500 feet of the stream, which will be funded by \$1 million from the Virginia Aquatic Resources Trust Fund. Construction will begin in late 2010-early 2011.

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 assessment. In 2009, soil and water quality

conservation plans were prepared for 39 parcels on 461.3 acres, which included 30,929 linear feet of Resource Protection Area, primarily stream buffers. All plans comply with the requirements of the Chesapeake Bay Program and allow landowners to comply with the county's Chesapeake Bay Preservation Ordinance. Several of the conservation plans also helped landowners meet the County's Agricultural and Forestal District Ordinance requirements for the establishment or renewal of an A&F District. Two seminars were held for the equine community on pasture management and on horse waste management. During 2009, three conservation plans were prepared and technical assistance provided to help the landowners successfully resolve pollution problems, which were identified in one complaint filed under the Virginia Agricultural Stewardship Act and two citations for County Code violations.

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 2010, a variety of 6,500 native seedlings were bundled into 517 shrub packages and 152 tree packages and sold at a small cost to promote urban reforestation, habitat enhancement and water quality protection. The package, "Nature's Palette," contained a variety of six species that provide color and wildlife benefits throughout the year.

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. Local and regional competitions are held in April, and the state competition is in May. In 2010, competitions were held at three local high schools to determine the team in each high school that would advance to the county competition. Five schools participated and two teams advanced to the area competition. The Madison High School team advanced to the state competition.

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 2009, topics included: the Huntley Meadows Restoration Project, the Role of Native Plants in the Landscape, Creating a Bird-Friendly Home Habitat, Reducing Your Carbon Footprint, Preserving Agriculture in Urbanizing Communities and Tree Initiatives in Fairfax County, including the new Tree Ordinance and the county's 30-Year Tree Canopy Goal. 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. Notices also are sent to approximately 900 recipients on the *Watershed Calendar* email list.

Conservation Currents, the NVSWCD quarterly newsletter, includes many articles related to ecological resources. In 2009, topics included: achieving a trash-free Potomac; emerging contaminants in water; Fairfax County's Land Conservation Awards; Grosbeaks for Dinner; stewardship opportunities; native seedlings; limiting Lyme disease naturally; the Fairfax County Restoration Project; the importance of native bees and other pollinators; the Rebuild effort to promote green building and green jobs; preserving habitat in winter landscapes; frost seeding for horse pastures; science fair projects; and bottled vs. tap water.

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 will be 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 has assisted DPWES staff with updating the county regulations for determining the ground water table.

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 2009, soils information was provided to 129 consultants, engineers, realtors and homeowners. Special infiltration studies were conducted for four county and NVSWCD projects. Guidance on interpreting soils information continues. Also, technical assistance is provided to solve problems on both private and public lands.

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. Recently the Roundtable focused on source water supply planning, drinking water, rainwater, graywater, water re-use, Potomac River flow, the new stormwater regulations, stream restorations and urban nutrient management. 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.

During fall 2009, the Virginia Institute of Marine Science (VIMS) began evaluating the Northern Virginia tidal shoreline. Prior to this current effort VIMS performed a Northern Virginia tidal shoreline inventory approximately 35 years ago. Thus, a current inventory and analysis of the Northern Virginia tidal shoreline will be most helpful. In addition, a future phase of VIMS tidal shoreline analysis will involve the impact of sea level rise on coastal Virginia. This analysis is contingent upon VIMS' success in securing grant funding to complete this additional analysis. VIMS provides Virginia localities with guidance to make good shoreline decisions based on an integrated approach to shoreline management techniques.

The Wetlands Board's staff liaison is in discussion with the Northern Virginia Regional Commission and VIMS regarding a fall 2010 training session for Northern Virginia Wetlands Board members in the use of VIMS' Coastal Management decision tree toolkit. The decision tree toolkit was developed by VIMS to assist decision makers to render good permitting choices based on an integrated shoreline management approach.

The Wetlands Board has not received a complete application request for tidal wetland permit during 2010. The reduction in permit requests may be due to the fact that shoreline property owners are heeding the long held guidance that hardened shoreline structures are not necessarily appropriate within the intertidal area. In addition, the slow economy may also be contributing to the absence of shoreline permit requests. No new known tidal wetlands violations exist 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 (VDOF) 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 2009. 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 2009 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 27th year, the Tree City USA award. This award is given for having a planting plan, management plan, a Tree Board/Commission, and sponsoring an Arbor Day Celebration. The award is applied for by the Fairfax County Urban Forest Management Branch and given through the State Department of Forestry. Tree seedlings are distributed by VDOF to citizens attending the Arbor Day celebration. In 2009, 400 donated hardwood seedlings were distributed for planting by residents 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 2009, approximately 2,000 pounds of seeds, mostly acorns, were collected. Each year, 500-700 seedlings are given to residents 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. Six A&F plans covering 494.4 acres were prepared in 2009. VDOF also provides forestry management advice to homeowners associations and civic groups. In 2009, six community forestry plans were prepared covering 65 acres.

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 47 applications and plans in 2009. In addition VDOF annually inspects dry hydrants to make sure they are available to fight wildfire in the county.

The department maintains an active public education and out reach 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 2009, VDOF conducted 49 talks on the general benefits of urban forests and riparian buffers.

Formed in 2006, the Fairfax Chapter of the Virginia Master Naturalist Program provides local residents with naturalist training and then connects them with volunteer stewardship, citizen science and outreach opportunities in parks and natural areas. The process for becoming a certified Virginia Master Naturalist takes from six to 12 months. Two times a year, approximately twenty candidates are selected for a class. They begin with a 60-hour basic training course, which is a combination of classes and field work that grounds them in natural history and forest and aquatic ecology. Subject matter experts from the Northern Virginia Regional Park Authority, Fairfax County Park Authority, Virginia Department of Forestry, Virginia Tech, Northern Virginia Soil and Water Conservation District, EPA and National Academy of Sciences make up the faculty. Master Naturalists are expected to provide much-needed support to the many environmental organizations striving to protect natural resources in Fairfax County. To be certified, graduates must provide 40 hours of volunteer service and receive eight hours of advanced training each year.

The Fairfax Master Naturalist chapter successfully ran two basic training classes in 2009, recruiting 40 new members. This brought membership to 109 at the end of 2009

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 VDOP and links to many other sources of information on urban forestry and tree care.

15. Virginia Department of Transportation

The Virginia Department of Transportation mitigates unavoidable impacts to water resources within Fairfax County that occur during highway construction projects as required by federal and state laws and regulations. VDOT is currently monitoring the establishment of the following wetland mitigation sites in Fairfax County:

- Approximately 0.8 acres of tidal wetlands, 0.7 acres of riparian buffer and 0.3 acres of tidal wetland enhancement adjacent to Cameron Run at the I-95/Route 1 interchange improvement (Woodrow Wilson Bridge Project – Belle Haven sites).
- 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 fifth year of mitigation monitoring for tidal wetlands creation and riparian buffer at Belle Haven was recently completed and the tidal wetland enhancement site is in the fourth year of monitoring. Year one monitoring of the submerged aquatic vegetation remediation and wetlands restoration sites at Route 1 is finished and presently under 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. A third mitigation site for the Woodrow Wilson Bridge Project will be constructed as part of the I-95/ Telegraph Road

interchange improvements. Approximately two acres of wetlands will be established at the confluence of Taylor Run and Cameron Run during 2011 and mitigation monitoring will begin the year following its completion.

VDOT has included landscaping aesthetics on several of its road construction projects to enhance context sensitive road design. Road improvement projects within Fairfax County that were landscaped include Route 1 widening (from Lorton Road to Telegraph Road), Ox Road widening (between Davis Drive and Occoquan River), the Backlick Road Park and Ride Lot and the Route 1 /Capital Beltway interchange. The Route 50/Arlington Boulevard Pedestrian Bridge at Seven Corners project included landscaping and aesthetic treatments to the bridge structure. The project received an award from the Community Appearance Alliance of Northern Virginia in February 2010. More recently, landscaping oak fencing was installed around the pond and in front of the Frying Pan Spring Meetinghouse as part of the Centreville Road widening project.

Other projects under way or soon under way with landscaping and/or architectural treatments include:

- Fairfax County Parkway extension through Fort Belvoir North 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 funding continues to shrink, primarily due to decreasing availability of state funding. The program is now funded through fees paid for wildflower license plates at the Department of Motor Vehicles. VDOT continues to use warm season, native grass species in roadside seed mix specifications on construction projects where opportunities exist since these species have low maintenance requirements. Invasive vegetation control work continues throughout the county. Bamboo, in particular, growing from adjacent properties into rights-of-way, continues to be a significant problem.

16. Virginia Department of Environmental Quality

In 2009, the Virginia Water Protection Wetland Permitting Program (Northern Regional Office) received eight applications to impact surface waters in Fairfax County. A total of seven new permits were issued in 2009 to include six general permits and one individual permit. The permits authorized the total permanent impact of approximately 1.32 acre of surface waters, consisting of 0.8 acre of wetlands, 0.01 acre of open water and 0.51 acre (2,970 linear feet) of stream channel in Fairfax County. Included in these totals were the impacts associated with the Fort Belvoir Main Post Infrastructure Realignment and the Third Track

Rail project. Compensation for impacts to surface waters was proposed to be provided through the purchase of bank credits and on-site restoration and preservation of surface waters in the Potomac River watershed.

17. Urban Forestry

a. Urban Forest Management Division activities

In addition to carrying out its core services relating to land development and forest pest management, in 2009, the Urban Forest Management Division (UFMD) focused on other projects that included:

- **National Association of Counties (NACo) award for Tree Conservation Ordinance:** On October 20, 2008, Fairfax County was the first jurisdiction in Virginia to adopt a local tree conservation ordinance with a focus on tree preservation during land development. In 2009, Fairfax County received a NACo *Best of Category Award* in the *Environmental Protection and Energy* Category. For more information on the NACo award:
<http://www.naco.org/programs/recognition/Pages/2009AchievementAwardWinners.aspx>
- **Continued implementation of the Tree Action Plan:** In 2007, UFMD in conjunction with the Fairfax County Tree Commission developed, and the board endorsed, the Tree Action Plan. The Tree Action Plan is a 20-year strategic plan for the conservation and management of the county's tree and forest resources. In 2009, UFMD staff and the Tree Commission made substantial progress in executing implementation plans identified in the Tree Action Plan. UFMD is currently engaged in activities associated with six of the 12 core recommendations of the Tree Action Plan. UFMD anticipates that the first edition of an annual progress report on Tree Action Plan activities will be prepared and forwarded to the board in 2010, and that a summary of that report will be made available in future *Annual Reports on the Environment*.
- **Production of educational video:** In late 2009, UFMD worked with Fairfax County Cable and Consumer Services staff in the production of an educational video regarding the environmental contributions of trees entitled, "Remarkable Trees." This video, shown regularly on Channel 16, highlights the importance of preserving and planting trees and what residents can do in their own yards to help achieve the county's 30-year tree canopy goal. More information can be found at:
http://www.fairfaxcounty.gov/cable/channel16/remarkable_trees.htm

- **County Receives Tree City USA:** For the 27th year, Fairfax County received the Tree City USA Award at the Earth Day/Arbor Day celebration held at the Northern Virginia Community College. UFMD prepares the application each year for this award and Fairfax County has one of the five longest running records in Virginia.
- **Strengthened partnership with Fairfax ReLeaf:** Staff from UFMD is now an active liaison to the Fairfax ReLeaf Board. As such, UFMD involvement with Fairfax ReLeaf has increased. Additional involvement includes:
 - Acquisition of seedling storage area during spring planting season.
 - Tree planting at Shreveview Elementary School.
 - Tree planting at Pine Ridge Park.
 - Invasive plant removal at Pine Ridge Park.
 - Assistance in preparing display and staffing the Fairfax ReLeaf exhibit at Celebrate Fairfax.
 - Support GIS analysis of homeowner association land for Fairfax ReLeaf planting activities.
 - Attendance at Fairfax ReLeaf Board Meetings.
- **Active participation in the Northern Virginia Urban Forestry Roundtable:** UFMD staff regularly participates in the quarterly meetings to discuss urban forest management issues of concern to all jurisdictions in Northern Virginia.
- **Tree Planting on government-owned sites continues:** UFMD staff prepared planting plans and planted over 138 native and desirable trees at 11 county-owned facilities, including schools, libraries, mental health centers, police and fire stations, Government Centers and more, to help meet the 30-Year Canopy Goal, adopted by the board in 2007. The trees were planted for the specific purposes of energy conservation and parking lot landscaping. UFMD staff continues to monitor and provide appropriate maintenance. UFMD has partnered with on-site facility personnel to assist with the care and maintenance of newly planted trees.
- **Continued upgrades and improvements to the DPWES ‘Trees’ Web page:**
 - UFMD staff continues to improve and upgrade the ‘Trees’ Web page. Some of the upgrades and improvements include:
 - Installation of the New Tree Conservation Ordinance.
 - Installation of the updated PFM.
 - Provision of information regarding the Emerald Ash Borer.
 - Inclusion of applications for designation of Heritage, Specimen, Memorial and Street trees.

- Addition of an enhance section on the county's the 30-Year Tree Canopy Goal.
- UFMD staff continues to respond to internal and external feedback regarding its website and to make upgrades and improvements in an effort to provide superior communication with its internal and external customers.
- **Tree Preservation and Planting Awards:** As part of the 2008 Land Conservation Award Program, UFMD staff prepared nominations to the Tree Commission of potential candidates for the Tree Preservation and Planting Awards. Awards for tree preservation are presented to recognize those developers and builders who have done an outstanding job of preserving trees on a project they have constructed. Tree planting and landscaping awards are presented to recognize developers and builders who have done an outstanding job of replacing trees that were unavoidably destroyed due to development. The Tree Commission awarded the 2007 Tree Preservation and Planting Awards to:
 - Thistle Hill/ Tree Preservation.
 - Talent House School/ Tree Preservation.
 - Cooke Inlet Sections 1&2/ Tree Preservation.
 - Green Spring Garden Park/ Tree Planting.
- **Continuing staff education and training:** All of the UFMD Forest Conservation staff has completed the Certified Arborists exam. Test results are pending for our final Urban Forester. The remaining staff members are Certified Arborists by the International Society of Arboriculture (industry certification). Staff from UFMD attended the Urban Forest Strike Team, Task Specialist training in Williamsburg, Virginia at the invitation of the Virginia Department of Forestry. This training is intended to provide disaster planning assistance to communities and initial estimates of debris volume following a disaster. Risk assessment helps communities identify trees that are an unacceptable risk, and trees suitable for retention and management during disaster recovery.
- **Increased public awareness and outreach:** UFMD staff continues to provide education and outreach to the public regarding the Urban Forest at several venues including:
 - Provision of informational talks to homeowners associations, scout groups and garden clubs.
 - Participation in "A Day of Arboriculture" for horticulture students at Virginia Tech.
 - Participation in the annual Earth Day/Arbor Day event with staff and an educational exhibit.
 - Continuation of updating of the county's Big Tree Registry.

- Participation in the Earth Day/Arbor Day planting celebration at the Woodrow Wilson Library in Mason District.
 - Organization and presentation of a class regarding urban forestry issues to the Engineers and Surveyors Institute members and participants for a Designated Plans Examiner class work/credit program.
 - Recording of a program from Dr. Kerwin entitled “Remarkable Trees in Fairfax County” for viewing on Channel 16.
 - Provision of GIS analysis for the Fairfax County Sheriff’s Office to identify areas of turf mowing and other landscape maintenance activities.
- **Natural landscape initiative:** UFMD staff continues to work cooperatively with many county agencies using GIS analysis to identify areas where turf mowing activities may be reduced and to identify potential tree planting sites for enhanced natural energy conservation and heat-island effect mitigation with parking lot landscaping.

b. Forest Conservation Branch activities

Enhancements to the Tree Conservation Ordinance: In 2009, after the first full year of administering the new Tree Conservation Ordinance, FCB staff prepared a set of proposed amendments to address feedback from the development community regarding the applicability of the ordinance to minor plans and to modify the new tree inventory and condition analysis requirements in a manner that is likely to reduce the time and expenses associated with preparing site plans. The proposed amendments were presented to the Board of Supervisors’ Environmental Committee in 2009. That committee directed FCB to prepare the proposed amendments for consideration for adoption in 2010 through the public hearing process.

The 2009 FCB workload summary: In 2009, FCB continued to serve its traditional customers: residents, 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. The following table summarizes the workload of FCB based on the requests for assistance that were completed for FY 2008, 2009 and 2010.

Table VII-6. Forest Conservation Branch Workload, 2008 through 2010			
Type of Assignment	Number of Completed Requests		
	2008	2009	2010
Waivers	29	53	28
Zoning Cases	352	354	310
LDS ¹ Requests: Plan Review	586	436	437
LDS Requests: Site Inspections	978	868	467
Other (Bd of Supervisors, Park Auth., Other County Agencies, etc.)	399	289	241
Hazardous Tree Investigations	34	40	27
Total Completed	2,378	2,040	1,510

¹ LDS – Land Development Services. ² Completed requests for Hazardous Trees do not include 9 requests referred to VDOT and other County agencies which were inspected by FCB staff, but for which no correspondence was generated.

Source: *Information Requested for the Environmental Quality Advisory Council's 2008 Annual Report on the Environment*, Memorandum from Michael Knapp, Director Urban Forest Management Division, Land Development Services Department of Public Works and Environmental Services, Fairfax County, Virginia to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia., October 5, 2009.

c. 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 programs aimed at volunteer involvement.
- 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 2009, gypsy moth caterpillar populations decreased somewhat compared to previous years. There was no measurable defoliation reported in Fairfax County. Minor defoliation was reported in the State of Virginia and other states in the north eastern United States. According to the Virginia Department Forestry, there were 25,000 acres of defoliated forest in the state. No defoliation numbers are currently available for the United States; however, it is expected that they will be less than the previous few years. Heavy rainfall in spring 2009 likely caused high mortality of gypsy moth larvae by a pathogenic fungus called Entomophaga maimaiga. The exact extent of caterpillar mortality will not be known until staff completes egg mass surveys. The gypsy moth staff will continue to monitor populations in fall 2009 and treatment is possible in 2010.

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 in since January 2001. The result of the winter 2008– 2009 monitoring effort indicated that no aerial treatment was required in spring 2009.

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 (Agilus planipennis) is an exotic beetle from Asia and was discovered infesting ash trees in the state of Michigan in 2002. This beetle is known to attack only ash trees and can kill trees in as little as two years. After it was discovered, the United States Animal Plant Health Inspection Service quarantined the area infested. 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, the U.S. Animal Plant Health Inspection Service and the Virginia Department of Agriculture and Consumer Services 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, Prince William and the cities of Falls Church, Fairfax City, Alexandria, Manassas and Manassas Park.

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 is concentrated on how to hire a private contractor to remove dead and dying trees and how to properly apply pesticides that might keep trees alive.

During spring 2009, staff assisted the Virginia Department of Agriculture and Consumer Services in implementing a large trapping (2,500 trap sites) campaign. The purpose of this campaign was to determine Emerald Ash Borer population levels in Fairfax County as well as other areas of Northern Virginia. Data collected from this survey will be used in

implementing future emerald ash borer control options, which are being studied by the Federal Government.

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. In fall 2008, staff, in cooperation with Virginia Tech, released a colony of parasitic beetles (Laricobius nigrinus) in a native stand of eastern hemlock trees in the Difficult Run stream valley. Surveys will be conducted in order to determine the effectiveness off the parasite release. Staff will continue to explore other methods of control for this pest.

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-7.

Table VII-7: 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

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

An ecological study of Gunston Cove, conducted by the Department of Environmental Science and Policy at George Mason University, and supported by the Department of Public Works, continued during 2009. This study is a continuation of work originated in 1984 at the request of the county's Environmental Quality Advisory Council and the Department of Public Works (now the Department of Public Works and Environmental Services). This on-going monitoring program was established to determine impacts from local point sources and nonpoint sources and to evaluate the status of the Gunston Cove ecosystem. Information from this study is intended to form the basis for well-grounded management strategies for maintenance and improvement of water quality and biotic resources in the tidal Potomac.

The 2009 report by Jones and Kraus covers water quality, phytoplankton biomass, zooplankton, fish larvae and fish, and benthic organisms. The following is extracted from the executive summary for the report.

A significant change in water quality documented by the study has been the removal of chlorine and ammonia from the Noman M. Cole, Jr. Pollution Control Plant effluent. A decline of over an order of magnitude in ammonia nitrogen has been observed in the cove as compared to earlier years. The declines in ammonia and chlorine have allowed fish to recolonize tidal Pohick Creek. Monitoring of creek fish allowed us to observe recovery of this habitat which is very important for spawning species such as shad. The decreased ammonia has also lowered nitrogen loading from the plant contributing to overall Bay cleanup.

Another trend of significance to managers is changes in the relative abundance of fish species. While it is still the dominant species in trawls, white perch has gradually been displaced in seines by banded killifish. Blue catfish have entered the area recently and brown bullhead has decreased greatly in the cove. The introduction of snakeheads of recent years (not sampled very well by trawl and seine but found in the cove using drop ring sampling) may have some pronounced effects on the other fish species. The causes and significance of these changes are still being studied as are similar patterns throughout the Chesapeake Bay. Clearly, recent increases in SAV provide refuge and additional spawning substrate for the adhesive eggs of banded killifish. Data from drop ring studies reported above show that SAV harbors high densities of banded killifish. While the seine does not sample these SAV areas directly, the

enhanced growth of SAV provides a large bank of banded killifish that spread out into the adjacent unvegetated shoreline areas and are sampled in the seines. Combined with the short generation time and high intrinsic rate of population growth of banded killifish, SAV appears to be direct cause of the recent high catch rates. In addition, the invasive blue catfish may also have both direct (predation) and indirect (competition) effects on brown bullhead, but details on these interactions require additional study. Declines in white perch probably have little direct connection to increases in banded killifish, and instead may be due to a combination of reduction in gear efficiency due to SAV and population-wide changes that result from environmental factors and/or fishing mortality. Overall, the fish assemblage in Gunston Cove is dynamic and supports a diversity of commercial and recreational fishing activities.

In short, due to the strong management efforts of the county and the robust monitoring program, Gunston Cove has proven an extremely valuable case study in eutrophication recovery for the Bay region and even internationally. The onset of larger areas of SAV coverage in Gunston Cove will have further effects on the biological resources and water quality of this part of the tidal Potomac River. It is important to continue the data record that has been established to allow assessment how the continuing increases in volume and improved efforts at wastewater treatment interact with the ecosystem as SAV increases and plankton and fish communities change in response. Furthermore, changes in the fish communities from the standpoint of habitat alteration by SAV, introductions of exotics like snakeheads, and possible contaminant effects such as those from hormone pollution need to be followed.

Global climate change is becoming a major concern worldwide. In the past five years a slight, but consistent increase in summer water temperature has been observed in the cove which may reflect the higher summer air temperatures documented globally. Other potential effects of directional climate change remain very subtle and not clearly differentiated given seasonal and cyclic variability.

The 25+-year record of data from Gunston Cove and the nearby Potomac River has revealed many important long-term trends that validate the effectiveness of county initiatives to improve treatment and will aid in the continued management of the watershed and point source inputs. The Gunston Cove study is a model for long term monitoring which is necessary to document the effectiveness of management actions. EQAC supports the continuation of these studies.

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 HOT Lanes construction project adjacent to the Beltway, 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, a landscape architect hired by the Virginia Department of Transportation (VDOT) will coordinate work on reforestation 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.

Additional activities have included hosting a Greening Fairfax County series, "Restoring Land Restoring Water" conference, and creating 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.

Information about the Fairfax County Restoration Project is available at <http://www.fcrpp3.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://www.FairfaxCountyParkFoundation.com>

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 stewardship opportunities 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>.

D. COMMENTS

1. EQAC commends the Board of Supervisors for its endorsement and continuing support of the Tree Action Plan, its tree canopy cover goal for the county of 45 percent coverage by the year 2037 and the Tree Conservation Ordinance, which strengthened tree preservation policies and procedures. The Urban Forestry Management Division, Virginia Department of Forestry and the Tree Commission continue to make exemplary progress in 2010 as evidenced by:
 - Issuing the “2009 State of the Tree Action Plan Report,” the first annual report prepared in response to a 2010 board directive to the Tree Commission for such reports.
 - Developing the Celebrated Trees of Fairfax County project to renew or inspire appreciation of the county’s trees and urban forest.
 - Developing a Tree Stewards Program of knowledgeable tree volunteers to help engage and educate citizens.
 - Convening a cross-agency committee to address tree preservation on county property including a review of existing capital improvement project planning and implementation to make recommendations to enhance tree protection and planting in this process.
 - Advocating that the urban forest be managed as “Green Infrastructure” and viewed as a capital facility, requiring both capital account funding to establish or renovate parts of the facility and current account funding for maintenance.

- Conducting a transformative i-Tree Eco analysis of the county's urban forest resources. This analysis, based on software developed by the U.S. Forest Service and its partners, provides a statistically valid sample of Fairfax County's existing urban forest and an estimate of the value of the urban forest to the county.

EQAC recommends that the Board of Supervisors continue its active support in order to enhance internal communications and bolster the effort to change organizational perceptions or cultures within county agencies with regard to recognizing the total value of trees, preserving trees on county property and incorporating the urban forest as county infrastructure.

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. 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 implementation will require \$3 million plus per year. 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, once the county's budget problems are eased, EQAC does recommend that the Board of Supervisors provide this funding as a high priority. In the meantime, EQAC recommends that some of the six staff positions and supporting funding should be found from internal FCPA staff assets.

For example, the Invasive Management Area Project is the most highly leveraged program in the Park Authority system. From June 2008 to July 2009, nearly 1,300 volunteers donated 3,030 hours of work towards habitat restoration. This program has been funded for the past several years with project based Environmental Improvement Program funding. In FY 2012 this project will not have any new funds to support it. Without such funding, this program will end. Park Authority staff has been working to reallocate other project balances to cover the program needs for FY 2012, but an additional \$70,000 is needed. Without this funding, the program must be scaled back and necessary follow up treatments of previously treated sites will not occur. In addition, the Early Detection Rapid Response component of the IMA program may be reduced or eliminated. The lack of follow up work would result in waste of funding already expended (sites require multiple years of follow up to be successful). The cancellation of EDRR would result in additional long term costs, as the point of the program is to manage new invasions while they are easy and inexpensive to control. At a minimum, sufficient funding to maintain the existing program should be provided. Even better would be additional funding to expand the program.

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