
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 227,750 acres. Of this total, about 28,108 acres (12.3 percent) are in parks and recreation as of January 2004. Another approximately 25,712 acres (11.3 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 11.3 percent as of January 2004.

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

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 2008			
PROJECT NAME	PROBLEM	SOLUTION	PARTNERS
Clarke's Landing	Eroded Streambank	Constructed a retaining wall to provide structural protection to two adjacent dwellings and used bio-engineering techniques to establish a buffer area and stabilized 285 linear feet of streambank	DPWES
Beach Mill Road	Eroded Streambank	Installed 200 linear feet of streambank stabilization	DPWES
Chesterbrook Road Drainage Improvement Project	Eroded Streambank	Stabilized 70 linear feet of streambank with revegetation techniques	DPWES
1362 Kirby Road	Eroded streambank	Constructed a retaining wall to provide structural protection to an adjacent dwelling and used bio-engineering techniques to establish a buffer area and stabilized 200 linear feet of streambank	DPWES
Mount Vernon Estates	Eroded streambank	Rehabilitated 600 linear feet of severe streambank erosion. Used bio-engineering techniques to reestablish the stream buffer	DPWES
Hollington Place	Eroded streambank	Rehabilitated 730 linear feet of severe streambank erosion. Used bio-engineering techniques to reestablish the stream buffer	DPWES
Turkeycock Run at Green Spring Gardens	Eroded streambank	Constructed 1,000 linear feet of streambank stabilization	FCPA/DPWES
Poplar Springs Court (near Hatch Lake)	Eroded streambank	Restored 1,100 linear feet of streambank using bio-engineering techniques	DPWES

Source: *EQAC Information*, Stormwater Management, Department of Public Works and Environmental Services, Fairfax County, Virginia, July 2, 2009

DPWES was involved in a number of stream restoration projects. Bioengineering techniques are being used where possible. Table VII-1, above, shows projects that were in progress or completed in 2008.

b. Green Roof Technology

In 2008, the county completed installation of a green roof on the top deck of the county Government Center's Herrity Building parking garage, and interpretive signs were installed. A ribbon cutting ceremony was held on August 4, 2008. The project is easily accessible for observation by industry professionals, county staff, residents and students. In addition to being an educational tool, the green roof provides an important research opportunity. Monitoring equipment was installed at the site, and the county began to measure performance differences between the vegetated area and an identical, un-vegetated area of the garage roof during storm events. The amount of rain, soil moisture level and volume of water leaving the green roof continues to be monitored and will provide data to analyze rainfall-runoff characteristics of the green roof and its performance as a best management practice.

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 Web site at <http://www.fairfaxcounty.gov/parks/>.

a. Acquisition of Park Land by FCPA

FCPA added 114.2 acres between July 2008 and June 2009. This brings the parkland inventory to a total of 24,262 acres as of June 2009.

FCPA purchased the following properties:

- On September 30, 2008, the Park Authority added 41.60 acres to park land in the Sully District following the acquisition of the Ingersoll property. The acquisition was an important link in the creation of a continuous land mass between the Horne, Cunigan and BOS 13 properties, all of which are now part of Poplar Ford Park.
- The Park Authority purchased 1.93 acres from Kenneth Thompson on October 8, 2008. This acquisition in Dranesville District provided a critical link in the Pimmit Run Stream Valley trail.
- On December 22, 2008, the Park Authority acquired three adjoining parcels in the Sully District from Dennis and Karen Hogge. The parcels total 2.49 acres and will become part of Historic Centreville Park.

- On January 15, 2009, the Park Authority acquired the Braddock Pickwick property, also known as the Royal Oaks property. The parcel totals 4.4 acres which, along with Mount Gilead and the Hogge properties, are all included as part of Historic Centreville Park
- On February 5, 2009, the Park Authority acquired 1.5 acres from Judith Holt along the northern perimeter of Green Spring Gardens; this area will help preserve the watershed for an ecologically sensitive magnolia bog within the park.
- On May 13, 2009, the Park Authority acquired 5.8 acres of land as an addition to the Sully Historic site.

FCCA acquired the following property through donations:

- On January 7, 2009, Dolores G. Reinsch donated 27.6 acres in Lee District to the Park Authority. The property contains the remains of Union earthworks built for the defense of Edsall Station along the Orange and Alexandria Railroad during the Civil War. The parcels will be an addition to Backlick Run Stream Valley Park.

FCCA acquired the following property through dedications:

- On November 3, 2008, Uniwest dedicated 0.39 acres within Merrifield Town Center as a public park. This property is an addition to the new urban park in Providence District, and contains outdoor seating, a dancing water fountain feature, small grassy, treed areas and a raised, open "stage" area for small gatherings. The local condominium association will maintain the fountain feature and the grassy areas.
- In Sully District, Neighborhoods II LLC dedicated 0.9 acres to the Park Authority on January 14, 2009. The parcel contains a portion of the Civil War Confederate earthworks built by General Johnston in 1861, as well as a gazebo, tot lot, interpretive signage and perimeter sidewalk.
- On February 3, 2009 Magnolia Manor LLC dedicated a half-acre of land to the Park Authority, next to an ecologically sensitive magnolia bog within Green Spring Gardens.

FCCA acquired the following properties through transfers:

- On July 29, 2008, the Park Authority received from the Board of Supervisors a total of three parcels in Lee District totaling 26.77 acres. This acreage was added to Huntley Meadows Park.
- On January 21, 2009, the Board of Supervisors conveyed ownership of a cemetery in Mason District to the Park Authority. The cemetery contains the remains of Francis Summers, a Revolutionary War soldier.

b. Natural Resource Management Plan

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

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

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

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

Some of the highlights of year five (FY 2009) included:

- Policy and Best Practices
 - Policy 201, Natural Resources, was revised.
 - FCPA continued to develop best practices. Topics this year included native and non-native plant guidance, site Natural Resource Management Plan standard operating procedures, land acquisition criteria and native plant rescues.
 - 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.
 - FCPA drafted guidance and procedures for the use of native and non-native plants on parkland.
- Partnerships
 - The Invasive Management Area volunteers were recognized with the state Master Naturalists Armed and Dangerous Award.

- FCPA worked with Urban Forest Management on a number of initiatives including a trial release of a biocontrol at Scott's Run to control Hemlock Woolly Adelgid.
- 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.
- FCPA continued its partnership with The Earth Sangha, a local non-profit organization; this partnership continues to be a highlight of invasive plant control efforts at both the Marie Butler Leven Preserve and Wilburdale Park.
- Invasive Non-native Species
 - The Invasive Management Area program completed its third year in 2008. The program now has 40 sites with 45 trained volunteer leaders.
 - A group of five graduate and undergraduate interns worked to control non-native invasive plants at 19 sites throughout the county in the summer of 2008.
 - Over 260 acres of parkland were managed by a contractor for invasive plant removal.
 - FPCA presented on the Invasive Management Area program at several local and regional events including the Virginia Native Plant Society Potowmack Chapter meeting and the Northern Virginia Urban Forest Roundtable.
 - The first ever statewide Invasive Plant Removal Day was held on May 2, 2009. This was due in part to the success of the Fairfax County Invasive Plant Removal Day in 2008 and staff efforts to work with the state and Master Naturalists to create this statewide effort.
- Stewardship and Education
 - FCPA continued working with volunteers and local media to educate residents about non-native invasive plant issues on and off park property.
 - The Non-native ID and Control book was published in 2008 and over 400 copies have been distributed. This book has been recognized by MarCom and the Communicator Awards, both with their highest awards.
 - FCPA worked with the Northern Virginia Soil and Water Conservation District to create a guidebook "Rain Garden: Design and Construction."
 - The Stewardship Education Team continued its outreach efforts and worked on projects related to recycling, cultural resource awareness and a proposed Stewardship Ambassador program. The team discovered that recycling was occurring in all different

manners at park sites and that recycling services by the county are available to all county offices. As a result, recycling is now mandatory for all Park Authority facilities with office space.

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 the fall of 2007, which has teamed up with George Mason University as a sub-consultant. The project is well underway and all but the demonstration of the model (which is unfunded) was to have been completed late in summer 2009. The end product will include an assessment of other green infrastructure and natural area models, evaluation of existing data and recommendations for model options including costs of development and data. Development of the model for the entire county will be considered based upon results of this study and availability of funding. EQAC notes that the anticipated completion date as reported in last year's Annual Report on the Environment was late 2008. This is another example of the lack of resources being devoted to FCPA's environmental stewardship.

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. The Fairfax County Park Authority's Resource Management Division's nature centers such as Ellanor C. Lawrence Park, Huntley Meadows Park and Riverbend Park 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 continues to be a highlight of invasive plant control efforts at both the Marie Butler Leven Preserve and Wilburdale Park. In 2008, Earth Sangha expanded its work area to include several acres of English ivy infested forest, a paperbark mulberry grove and fine-scale invasive removal around desirable species at the preserve. Earth Sangha's sites are supported with staff and contractor herbicide applicators when possible.

The Invasive Management Area program completed its third year in 2008. FCPA successfully captured some of the enthusiasm of volunteers for unstaffed parks, establishing 40 sites with 45 trained volunteer leaders. From June 2008 to July 2009, nearly 1,220 volunteers donated 4,300 hours of work towards habitat restoration. The IMA program works on plots of land, typically ½ acre, to remove priority invasive species.

The Invasive Conservation Corps is an internship opportunity designed to support FCPA staff and volunteers at invasive plant control sites. In 2008, a

group of five graduate and undergraduate interns worked to control non-native invasive plants at 19 sites throughout the county.

FCPA contracted with Invasive Plant Control, Inc. to apply selected and careful herbicide treatments for the removal of invasive plants. 260 acres of parkland were treated by IPC in 2008. 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 began in 2008 and will be completed by mid-2009. This project took a hands-on approach to the non-native invasive species issues as they occur in Fairfax County. The result of this project will get a defensible scheme which will allow FCPA to prioritize where and what will be treated, as well as a handbook for how and when to treat non-native invasive species most efficiently. The report will also include recommendations for staffing and funding for establishing an invasive removal program.

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 Section B.2 of this chapter and the Water Resources chapter of this report for descriptions of these projects. Three stream restoration projects underway or completed on park land during FY 2009 were the Turkeycock Run Stream Stabilization at Green Spring Gardens, the stabilization of a regional pond outfall on a tributary of Rabbit Branch in Royal Lake park by Stanley Martin (a developer), and the stabilization of a tributary of Pohick Creek by DPWES at the old Hatch's Lake property in Springfield.

f. Environmental Stewardship

FCPA offers a number of opportunities for volunteers and EQAC encourages county residents to take advantage of these opportunities. Information about these opportunities is available at <http://www.fairfaxcounty.gov/parks/volunteer.htm>. More information about FCPA and its programs is available at these Web sites: <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 21 regional parks and owns 10,300 acres of land throughout the region.

It also holds conservation easements on 114 parcels covering more than 650 acres. Recently, an in-holding parcel at Pohick Bay Regional Park was donated to NVRPA, providing opportunities for better non-motorized trail access to the park. An option has been secured to purchase 275 acres on the Potomac River in Loudoun County. Completion of the acquisition is expected later in 2009. This property has half a mile of river frontage and will greatly expand the Potomac Heritage National Scenic Trail. NVRPA owns about 13 miles of land along the Potomac River and over 20 miles along the Bull Run/Occoquan Rivers.

In 2009 NVRPA dedicated an eight mile segment of the Potomac Heritage National Scenic Trail from Algonkian Regional Park to Riverbend Park as the Ira Gabrielson Trail in memory of NVRPA's first chairman, who was an inductee in the Conservation Hall of Fame. NVRPA also received National Recreational Trail designation from the Department of Interior for the Occoquan Water Trail.

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 NVRPA Board in 2006, an annual goal was set to

reduce energy consumption by 5% agency wide. By signing on to the Cool Counties Initiative, NVRPA 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, geothermal 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.

NVRPA completed certification by Audubon International of all three of its golf courses as Wildlife Sanctuaries. This extensive process took NVRPA over a year to complete, and NVRPA was the first public agency in the Mid-Atlantic region to achieve this designation for any of their golf courses. NVRPA replanted its Algonkian golf course fairways with Bermuda grass, which virtually eliminates the need for fungicide.

In addition to increasing no-mow areas to reduce energy consumption and pollution and increase habitat, NVRPA worked with U.S. Environmental Protection Agency and the Virginia Department of Agriculture and Consumer Affairs to develop an aggressive pesticide and fertilizer use policy. This policy goes far beyond the law and has been implemented at all of its parks. This is particularly important since NVRPA parks are overwhelmingly riparian areas adjacent to local drinking water supplies. This policy establishes riparian areas as zones that will not have any pesticides or fertilizers used, requires state certification for anyone applying pesticides, and other controls to protect the environment.

Environmental Stewardship opportunities for volunteers are available at Meadowlark Botanical Gardens, Potomac Overlook Regional Park, Upton Hill Regional Park, and various other parks on occasion. More information can be found at <http://www.nvrpa.org/html/index.php?pg=volunteer.html>.

For current information about the Northern Virginia Regional Park Authority and to obtain a copy of its 2008 Annual Report, visit its Web site, <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 nearly doubling the number of tree seedlings it planted in 2007.

Fairfax ReLeaf is very active in tree plantings and is always eager to sign up new volunteers. These tree plantings lead to a number of benefits:

- Improved appearance of roadways, parks, schools and private land in Fairfax County.
- Improved air quality.
- Reduced heat island effects.
- Reduced noise.
- Preservation of human and wildlife habitats.
- Reduced energy use.
- Reduced surface runoff and improved water quality.

Fairfax ReLeaf remains very active in its efforts. The organization planted or distributed 7,283 trees in calendar year 2008. Over 700 volunteers spent over 3,397 hours planting tree seedlings, removing invasive species and maintaining sites. Some specific activities were:

- Fairfax ReLeaf led a corporate workday to plant nearly 1,000 trees at Rachel Carson Middle School. This took several unusable acres out of mowing and will screen the school from a busy street in the front and from a housing development in the back.
- Over 1,800 trees were planted in parks, including private, county and national parks.
- Over 1,600 trees were planted at school sites (including Rachel Carson Middle School).
- Over 800 trees were planted in riparian areas, including storm ponds and around lakes.

Fairfax ReLeaf provided the opportunity for community groups to serve Fairfax County, including seven Eagle Scout plantings, several school clubs and a home school co-op. ReLeaf led three corporate workdays, where employees from the National Rural Utilities Cooperative Finance Corporation, Bearing Point and

Level Three gave their time to improve Fairfax County. Fairfax ReLeaf conducted four workshops to prepare individuals to lead plantings.

ReLeaf's educational and outreach activities in 2008 included exhibiting at the Fairfax County Earth/Arbor Day celebration, the 4H Fair and the Garden Festival. The organization participated in all four Teen Volunteer Fairs at library sites around Fairfax County. ReLeaf was also involved in the Roundtable and Tree Action Plan program.

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

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

6. Northern Virginia Conservation Trust

Past EQAC reports recommended that the Fairfax County Board of Supervisors form public-private partnerships for the purpose of obtaining easements on environmentally sensitive land. EQAC pointed out that entities such as The Nature Conservancy use easements very successfully as a way of protecting environmentally sensitive properties. With the signing of a Memorandum of Understanding on June 20, 2001 between the Fairfax County Board of Supervisors and the Northern Virginia Conservation Trust, such a public-private partnership now exists. The partnership is now in its 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 2009, NVCT has preserved about 656 acres of open space in Fairfax County through easements, fee simple ownership, and partnerships. Between July 2008 and June 2009, NVCT permanently protected a waterfront property on Little

Hunting Creek in the Mount Vernon District and executed and recorded a trail easement to the Fairfax County Park Authority to complete the last segment of the Pimmit Run Trail from Old Dominion Drive to Pimmit Bend Park. NVCT continued work on numerous other projects, some of which are close to completion, including conservation easements, fee acquisitions and trail easements.

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 also sponsored (with the McLean Trees Foundation) the “Saving Nature Club” at Copper Middle School, an after-school conservation program for students.

NVCT was listed in this year’s Catalogue of Philanthropy as one of the best small charities in Northern Virginia.

During this fiscal year, NVCT participated in the new accreditation program of the Land Trust Accreditation Commission and was awarded full accreditation on September 1, 2008. NVCT is one of the very first and very few nationally accredited land trusts out of approximately 1,700 land trusts. NVCT was the only accredited land trust in the Commonwealth of Virginia at that time and 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	

NVCT EQAC Update for ARE, Email from Whit Field, Vice President and General Counsel, Northern Virginia Conservation Trust, Fairfax County, Virginia, to Robert McLaren, June 25, 2009.

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	

NVCT EQAC Update for ARE, Email from Whit Field, Vice President and General Counsel, Northern Virginia Conservation Trust, Fairfax County, Virginia, to Robert McLaren, June 25, 2009.

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	

NVCT EQAC Update for ARE, Email from Whit Field, Vice President and General Counsel, Northern Virginia Conservation Trust, Fairfax County, Virginia, to Robert McLaren, June 25, 2009.

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 Web site, <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 May 2009, VOF held easements on over 530,000 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 Web site:
<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: 2009 Annual Report, Attachment to email, VOF Info for 2009 Annual Report, from Erika Richardson, Stewardship Specialist, Virginia Outdoors Foundation, Warrenton, Virginia, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, June 9, 2009.

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

12. Northern Virginia Soil and Water Conservation District

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

The Fairfax County Chesapeake Bay Preservation Ordinance and Agricultural and Forestal District Ordinance require land in agricultural use to have a soil and water quality conservation plan. In 2008, seventeen soil and water quality conservation plans were prepared for 830 acres, which included 46,712 linear feet of Resource Protection Area, primarily stream buffers. During 2008, three conservation plans were prepared and technical assistance provided to help the landowners successfully resolve pollution problems, which were identified in complaints filed under the Virginia Agricultural Stewardship Act. NVSWCD secured a grant from the Virginia Water Quality Improvement Fund to construct a manure composting facility at Gunnell’s Run Farm in Great Falls. This demonstration project will help to educate the horse-keeping community about

a better way to manage manure and recycle nutrients. It was the site of one of a series of educational workshops that were held in the spring of 2009.

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 the spring of 2009, a variety of 6,500 native tree and shrub seedlings were bundled into 413 packages and sold at a small cost to individuals and groups to promote urban reforestation, habitat enhancement and water quality protection. The package, "For the Birds," contained a variety of six species that provide food and shelter for birds.

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 2009, the Hidden Pond Ecology Club, comprised of students from several county high schools, came in second in the regional competition, and fifth overall in 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 2008, topics included: Recycling and Solid Waste Management; Adopt-A-Stream and Stream Cleanups; Wetlands; Trees; Update on the Stormwater and Erosion & Sediment Control Recommendations in the Infill Study; and Protecting Headwater Streams. Also announcements about programs and events, including county initiatives, and other topics of interest are sent to 500 recipients on the *Green Breakfast* email distribution list. Notices also are sent to approximately 1,200 recipients on the *Watershed Calendar* email list.

Conservation Currents, the NVSWCD quarterly newsletter, includes many articles related to ecological resources. In 2008, topics included: the Neighborhood Ecological Stewardship Training program; the county's tree canopy goal; home improvement tax credits; energy audits; an LID project to demonstrate faith and sustainability; Fairfax Master Naturalists; the green roof on the Herrity Building garage; Monarch butterfly waystations; the state of the Potomac River; no-till agriculture; drinking water protection; and the Emerald Ash Borer infestation.

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 Web site. The soil survey information is also available online at two USDA-NRCS Web sites; the soil map and tabular data are available at the Web Soil Survey Web site, and tabular data alone is available at the Soil Data Mart Web site. The tabular and map data available at the USDA-NRCS Web sites are much broader and more extensive than that found on the county Web site, but the data on the county Web site 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 the Department of Public Works and Environmental Services 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 teaching a class at the Engineers and Surveyors Institute.

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 2008, soils information was provided to 173 consultants, engineers, Realtors and homeowners. Special infiltration studies were conducted for eight county and NVSWCD projects. Technical assistance was provided to solve problems on both private and public lands. For example, a drainage problem at Ft. Willard Park was solved in a way that also saved the Park Authority a significant amount of money. Following soil tests, 10 holes were dug to reach a more permeable layer and pipes were inserted and filled with pea gravel. The work was done by NVSWCD staff and the cost of supplies was approximately \$300.

Watershed Friendly Garden Tour. A Watershed Friendly Garden Tour was held in June 2009. It included fifteen sites in Fairfax County that demonstrated

ecologically-friendly sustainable management techniques, such as reducing lawn areas, creating bird-friendly habitats, implementing low impact development measures to retain and control stormwater, composting techniques, vegetating with native species that require less care and provide habitat for wildlife, green roofs and many other features that are both attractive and innovative. There were tour guides and handouts at each site.

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.

The Wetlands Board and staff have developed Submission Guidelines to accompany the Joint Permit Application in order to elicit relevant information from wetlands permit applicants to accompany the application for the Wetlands Board use. The new guidelines are targeted to providing more information regarding the two primary Wetlands Board Policies – the Tidal Wetland Mitigation and Compensation Policy which was adopted in 2005 and the Living Shoreline Policy which was adopted in 2007.

During the 2008 session, the General Assembly extended the Coastal Primary Sand Dune Protection Act (the Act) to all Tidewater Virginia localities including Fairfax County. The General Assembly originally adopted the Act in 1980 and extended authority to eight coastal Virginia localities including the Counties of Accomack, Lancaster, Mathews, Northampton, Northumberland, and the cities of Hampton, Norfolk, Virginia Beach.

With the re-adoption of the Act in 2008, all localities within Virginia’s Coastal Zone were enabled to adopt the Act which is codified as *Coastal Primary Sand Dunes and Beaches, Code of Virginia, Ch. 14 of Title 28.2*. The rationale for the expanding the Act in 2008 was based on the findings from a multi-year study performed by the Virginia Institute of Marine Science in the late 1990s. The VIMS study determined that:

- Beaches and dunes perform a broader spectrum of ecosystem services than was originally understood.
- Beaches and dunes provide critical habitat and act as a natural buffer to erosion from wind and wave energy.
- Beaches and dunes are more prevalent within the Virginia coastal zone than was known when the Act was originally adopted.
- Impacts to beaches and dunes in localities outside of the eight jurisdictions were not subject to public review and protection.

By expanding the Act to all Tidewater Virginia localities, the Commonwealth of Virginia can take a more comprehensive approach to shoreline management. In conjunction with the Virginia Marine Resources Commission and the Virginia Institute of Marine Science localities situated within the Virginia’s coastal zone are now enabled (not mandated at this time) to protect beaches and dunes as part of integrated and comprehensive approach to shoreline management. Enabling all coastal localities to adopt the Act advances one of the key recommendations of the Governor’s Climate Change Commission – to develop an integrated and comprehensive approach to shoreline management.

On June 22, 2009, the Board of Supervisors directed staff to draft a Coastal Primary Sand Dune and Beach Protection Ordinance for Fairfax County. This ordinance would be administered by the Fairfax County Wetlands Board. The purpose of the ordinance would be to protect non-vegetated tidal beach areas that may not be protected by the Wetlands Zoning Ordinance. This future ordinance is pending Board of Supervisors action.

The Wetlands Board has two incomplete wetland permit applications that will be evaluated by the Board when the applications are deemed complete. 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 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, Fairfax ReLeaf and Earth Sangha.

The Department of Forestry, like all state agencies, faced budget cuts in 2008. 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 2008, the Virginia Department of Forestry provided project leadership and technical support to tree planting efforts in partnership with Earth Sangha, Elementary School Children, private landowners, Fairfax ReLeaf and the Potomac Conservancy.

In 2008, the Virginia Department of Forestry partnered with volunteers from various organizations, such as the Potomac Conservancy, Fairfax County Park Authority, Eagle Scouts and the Chesapeake Bay Foundation to plant approximately 5,000 seedlings throughout Fairfax County.

VDOF, FCPA, and DPWES are partnering on a stream buffer restoration project that will replenish areas along streams with deficient riparian vegetation. Areas will be determined based on data from the Stream Physical Assessment Study, which identified deficient buffers along over 800 miles of streams.

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 26th 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 Division and given through the State Department of Forestry. Tree seedlings are distributed by VDOF to residents attending the Arbor Day celebration. In 2008, 325 donated short leaf pine 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 2008, approximately 500 pounds of seeds, mostly walnuts, 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 Northern Virginia Conservation Trust to review easements for the conservation of forests. Also, Agricultural and Forestal District forest management plans are prepared by VDOF; these efforts support the management of forested land for conservation purposes. Six A&F plans covering 593.6 acres were prepared in 2008. VDOF also provides forestry management advice to homeowners associations and civic groups. In 2008, four 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 41 applications and plans in 2008. 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 outreach program. Audiences range from school groups to adults. Topics range from general discussion of the importance of urban forests for environmental quality to technical training in planning and installing rain gardens and forested riparian buffers. In 2008, VDOF conducted 43 talks on the general benefits of urban forests and riparian buffers.

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

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 constructing or 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 sub-aquatic vegetation remediation at I-95/Route 1 interchange improvement (Woodrow Wilson Bridge Project – Route 1 sites).
- Approximately 2 acres will be constructed at the confluence of Taylor Run and Cameron Run Currently underway at the I-95/Telegraph Road interchange improvement (Woodrow Wilson Bridge Project – Cameron Run site).

These sites were created to mitigate unavoidable wetland impacts from replacing the Woodrow Wilson Bridge. Water quality permits require created wetland mitigation sites to be monitored for a period of five years following completion of construction to assess their functionality. On-going maintenance activities during this monitoring period include hydrology monitoring, plant diversity sampling, replacement of dead or damaged plants and invasive species control to ensure performance criteria are met. The tidal wetlands and riparian

buffer establishment sites at Belle Haven are in the fifth year of permit monitoring and the tidal wetland enhancement site is in the third year of permit monitoring. The submerged aquatic vegetation remediation of wetland restoration sites at Route 1 is in the first year of permit monitoring. Creation of the wetland site at Cameron Run will begin in the later phase of construction for the Telegraph Road interchange and then permit monitoring will begin the year following its completion.

VDOT is including landscaping in projects currently underway or scheduled to start in the next 12 months:

- Route 1/Capital Beltway interchange improvements associated with the Woodrow Wilson Bridge Project (landscaping and reforestation completed in 2009).
- Telegraph Road/Capital Beltway interchange improvements associated with the Woodrow Wilson Bridge Project (project recently under way).
- Dulles Corridor Metrorail extension (currently under way).
- I-495 Capital Beltway HOT/Bus/HOV lanes (currently under way).
- Fairfax County Parkway extension through Fort Belvoir (currently under way).
- Centreville Road widening at Frying Pan Park and Friends meeting house (project to begin in fall 2009).
- Fair Lakes Parkway/Fairfax County Parkway interchange (project to begin spring 2010).

Approximately five acres of wildflower meadow plantings exist in Fairfax County. This is a decline from last year's reported acreage due to road construction projects and funding reductions.

16. 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 2008, the Urban Forest Management Division of the Department of Public Works and Environmental Services focused on other projects that included:

- New 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. With assistance from DPWES Land Development Services and the Office of the County Attorney staff, UFMD staff prepared the following amendments:

- Added Chapter 122, Tree Conservation Ordinance. Chapter 122 is a new section of the Code of Fairfax County Virginia and provides the legal and conceptual framework for new Tree Conservation requirements and standards.
 - Amended Chapter 101, Subdivision Ordinance to reflect the adoption of new tree conservation provisions set forth in Chapter 122.
 - Amended Chapter 104, Erosion and Sediment Control to reflect the adoption of Chapter 122 and to provide guidance regarding the submission of Tree Conservation Plans
 - Amended the Landscaping and Screening, Article 13 of Chapter 112, Zoning Ordinance in support of recommendations of the Tree Action Plan to examine transitional screening and long-term maintenance requirements, and to relocate the 10—Year Tree Cover requirements from the Zoning Ordinance to the Chapter 122
 - Amended to the Public Facilities Manual to incorporate new plan submission requirements, technical standards, specifications, and onsite practices that support the new tree conservation requirements of Chapter 122.
- Industry Training Classes for the Tree Conservation Ordinance: UFMD staff prepared and implemented four separate training classes for the new Tree Conservation Ordinance. These classes targeted in-house staff, the private engineering sector and the private tree care industry. Additional training will be provided as necessary
 - Continued Implementation of the Tree Action Plan: In 2007, UFMD, in conjunction with the Fairfax County Tree Commission, developed, and the Board of Supervisors 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. Over the past year, UFMD staff has made significant progress towards meeting goals and executing strategies of the Plan. UFMD is currently engaged in numerous strategies associated with 10 out of 12 Core Recommendations of the Tree Action Plan. Urban Forest Management will continue to hold division-wide summits for the purpose of review and assessment to define appropriate short-term and long-term actions to assure continued support and achievement toward the goals and objectives related to Tree Action Plan.
 - 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 Shrevewood 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.

- County Receives Tree City USA Award: For the 26th 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.

- 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 Web site 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

In 2008, 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.

Table VII-6 summarizes the workload of FCB based on the requests for assistance that were completed for FY 2006, 2007 and 2008. These figures demonstrate the number of requests for assistance in 2008 appears to have a modest increase of 7% from the previous years.

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.

Table VII-6 Forest Conservation Branch Workload, 2006 through 2008			
Type of Assignment	Number of Completed Requests		
	2006	2007	2008
Waivers	45	49	29
Zoning Cases	216	282	352
LDS Requests: Plan Review	676	628	586

LDS Requests: Site Inspections	726	810	978
Other (Bd of Supervisors, Park Auth., Other county agencies, etc.)	261	452	399
Hazardous Tree Investigations	8	8 ¹	34
Total Completed	1,932	2,229	2,378

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.

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 in fall 2009. 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

¹ Completed requests for Hazardous Trees do not include nine requests referred to VDOT and other county agencies which were inspected by FCB staff, but for which no correspondence was generated.

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 (*Agrilus planipennis*) is an exotic beetle from Asia and was discovered infesting ash trees in the state of Michigan in 2002. This beetle is known to attack only ash trees and can kill trees in as little as two years. After it was discovered, the United States Animal Plant Health Inspection Service 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 fall 2009 in order to determine the effectiveness off the parasite release. Staff will continue to explore other methods of control for this pest.

17. 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.

18. Gunston Cove Ecological Study

Gunston Cove is a tidal freshwater embayment of the Potomac River located approximately 20 miles south of Washington, DC. The cove is formed by the juncture of Pohick Bay and Accotink Bay, 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 2008. 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 executive summary of the 2008 report by Jones and Kraus summarizes details from their report and covers water quality, phytoplankton biomass, zooplankton, fish larvae and fish, and benthic organisms. The following is extracted from this summary.

Data from 2008 generally reinforced the major trends reported in previous years. First, phytoplankton algae populations in Gunston Cove have shown a clear pattern of decline since 1989 (although chlorophyll values increased somewhat in 2008). Accompanying this decline have been more normal levels of pH and dissolved oxygen, increased water clarity and a virtual cessation of cyanobacteria blooms such as *Microcystis*. The increased water clarity has brought the rebound of submerged aquatic vegetation, which provides increased habitat value for fish and fish food organisms. The SAV also filters nutrients and sediments and itself will inhibit the overgrowth of phytoplankton algae. This trend is undoubtedly the result of phosphorus removal practices at the

Noman Cole wastewater treatment plant, which were initiated in the late 1970s. This lag period of 10-15 years between phosphorus control and phytoplankton decline has been observed in many freshwater systems, resulting at least partially from sediment loading to the water column which can continue for a number of years. Gunston Cove is now an internationally recognized case study for ecosystem recovery due to the actions that were taken and the subsequent monitoring to validate the response. The increase in chlorophyll observed in 2008 may have resulted from unique conditions in 2008 such as the high loading of sediments and associated phosphorus from May storms. This merits close scrutiny in 2009.

Another 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.

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 Web sites: <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>

The Northern Virginia Regional Park Authority offers stewardship opportunities for volunteers at Meadowlark Botanical Gardens, Potomac Overlook Regional Park, Upton Hill Regional Park, and various other parks on occasion. More information can be found at <http://www.nvrpa.org/html/index.php?pg=volunteer.html>.

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

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

The Northern Virginia Conservation Trust offers many opportunities in stewardship for Fairfax County residents. Additional information on NVCT can be found on its Web site, <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. The Fairfax County Board of Supervisors has endorsed the goals and actions within the Tree Action Plan, adopted a new tree canopy cover goal for the county of 45 percent coverage by the year 2037 and adopted a tree conservation ordinance to strengthen tree preservation policies and procedures. In addition, trees were identified as a special area of interest in the FY 2008 Environmental Improvement Program.

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

2. In past Annual Reports, EQAC recommended that the Board of Supervisors emphasize public-private partnerships that use private actions such as purchase of land and easements by existing or new land trusts to protect forests and other natural resources, including champion/historic trees. With the signing of a Memorandum of Understanding between the Board of Supervisors and the Northern Virginia Conservation Trust, such a public-private partnership came into being. Thus, EQAC's recommendation has been satisfied. EQAC continues to commend the Board of Supervisors for this action and recommends continued support for this partnership.
3. In past Annual Reports, EQAC recommended that the Board of Supervisors develop and implement a countywide Natural Resource Management Plan – an ecological resources management plan that can be implemented through the policy and administrative branches of the county government structure. Two necessary tasks should be accomplished first -- prepare and adopt a unified Natural Resource Conservation Policy, and complete a countywide Baseline Natural Resource Inventory. EQAC notes that slow progress is being made in this area due to efforts by the Fairfax County Park Authority staff in its efforts to establish a natural resources baseline inventory. The FCPA has developed a countywide green infrastructure map that appears to be a basis for a Natural Resource Inventory. Additionally, the Urban Forest Management Division is continuing efforts to devise a countywide map for use as a layer on the county's GIS that will delineate the distribution of naturally occurring and landscaped vegetation. However, these efforts must be supplemented by an inventory of the county that accounts for flora and fauna. The Park Authority has now prepared a Natural Resources Plan for management of the county's parks. EQAC also notes the accomplishment of the Park Authority in preparing and publishing a Natural Resources Plan for management of the county's parks and urges the Park Authority to fully implement this plan. 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 recommends that some of the six staff positions should be found from internal FCPA staff assets.

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