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ANNUAL REPORT ON THE ENVIRONMENT

**CHAPTER VII**

**ECOLOGICAL  
RESOURCES**

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## 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 227,883 acres of land (excluding roads and water). Of this total, 33,227 acres (14.6 percent) were in parks and recreation as of January 2012. Another 15,571 acres (6.8 percent) were vacant or in natural uses. This compares to the approximately 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 6.2 percent as of January 2012.

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. Park Authority staff began revision of this agency Natural Resource Management Plan in fall 2012. The Park Authority staff will hold a public review in fall 2013 and hopes to adopt the revised Natural Resource Management Plan by January 2014. 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 Restoration Project, 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](http://www.fairfaxcounty.gov/living/environment/eip/bos_environmental_agenda.pdf)

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

## **2. Department of Public Works and Environmental Services**

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

### 3. Fairfax County Park Authority

The Fairfax County Board of Supervisors created the Fairfax County Park Authority in 1950, authorizing the Park Authority Board to make decisions concerning land acquisition, park development and operations. As a result, Fairfax County has a system of parks that serve a number of uses, including active recreation such as sports, historic sites and buildings and preserving environmentally sensitive areas such as forests and stream valley lands. For current information on the county's parks, visit the FCPA website at <http://www.fairfaxcounty.gov/parks/>.

#### a. Acquisition of Park Land by FCPA

Between July 2012 and June 2013, the Park Authority added 69 acres to its parkland inventory. This brings the parkland inventory to a total of 24,726 acres as of June 2013.

FCPA purchased the following properties:

- On June 4, 2013, the Park Authority purchased 1.2 acres of land from Southern Trust Mortgage LLC as an addition to Old Colchester Park and Preserve.

FCPA acquired the following property through transfers:

- On December 21, 2012, the Fairfax County Board of Supervisors transferred 9.5 acres to the Park Authority as an addition to Lincoln Lewis Vannoy.
- On March 18, 2013, the Board of Supervisors transferred 0.34 acres to the Park Authority as an addition to McLean Central Park.
- On May 29, 2013, the Board of Supervisors transferred 27.3 acres to the Park Authority adjacent to Autumn Willow Drive.

FCPA acquired the following property through donations:

- On December 21, 2012, the Park Authority received a 13.7 acre addition to the Paul Spring Stream Valley Park from Mr. John McPherson, Jr.
- On December 21, 2012, the Park Authority received an 8.9 acre donation from the Kings West Swim Club, Inc. for the creation of a new park named Rabbit Branch Park.

FCPA acquired the following property through dedications:

- On March 26, 2013, MHI-Huntington LLC dedicated 6.4 acres to the Park Authority as an addition to Huntington Park.

- On April 30, 2013, Georgelas-Tyson's Metro west LLC dedicated 1.2 acres to the Park Authority as an addition to Raglan Road Park.

FCPA did not acquire any properties during this period through land exchanges.

**b. Natural Resource Management Plan**

In past reports, EQAC recommended that the Fairfax County Board of Supervisors develop and implement a countywide Natural Resource Management Plan. EQAC noted that in order to do this, two tasks need to be accomplished first: complete a countywide baseline natural resource inventory; and adopt a unified natural resource conservation policy.

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

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

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

Some of the highlights of FY 2012 included:

- Natural Resource Management Planning Program
  - There were significant staff changes in the Natural Resource Management and Protection Branch in the last year: In January 2012 the branch manager position was vacated and subsequently filled in March 2012. The Senior Natural Resource Specialist position was vacated and filled in April. Both of these positions were filled through promotion. The Natural Resource Specialist Position was vacated in April 2012 and was filled in September 2012.
  - It is estimated that, under the 2004 Natural Resource Management Plan, it would cost \$8 million per year and require dozens of staff to fully manage natural areas on parkland. This includes \$3.5 million for natural resource management as well as \$4.5 million per year for an invasive plant removal program.
  - Staff began revision of the agency Natural Resource Management Plan in fall 2012 with significant input from stakeholders, including the

Environmental Quality Advisory Council. A 65 percent draft revision was presented to the Park Authority Board and stakeholders in May 2013. Staff will hold public review in fall 2013 and hopes to adopt the revised NRMP by January 2014. EQAC anticipates that the revised plan will still need a similar amount of money to fully implement the plan.

- Staff continued to promote the concept of natural capital to include: (1) incorporation into the agency's revised Natural Resource Management Plan and strategic plan; and (2) support for resource management funding efforts, including a commitment for the use of bond funds for natural resource management.
- Policy and Best Practices
  - Staff drafted a parkland ranking protocol to prioritize natural areas by resource quality and sensitivity. The protocol was applied on two park planning projects: Old Colchester Park Natural Resource Management Plan; and Riverbend Park Master Plan. Ultimately, protocol development will involve the capture and analysis of ecological data in a geodatabase using ArcGIS 10. Agency staff will work to adopt the protocol as standard practice in FY15.
- Resource Assessment and Planning
  - Implementation of the Non-Native Invasive Plant Assessment and Prioritization protocol continued. Over 2,000 acres of parkland have been assessed with the NNIAP protocol. This is an increase of 1,300 acres from last year.
  - Staff provided training on Resource Management Division sites so that simple natural resource plans can be developed (called Natural Resource Action Plans).
  - A study began in May 2012 to assess impacts of radio-controlled aircraft on breeding birds at Poplar Ford Park; this study is being done in partnership with Dr. Andrew Dolby of the University of Mary Washington.
- Resource Management
  - The seventh year of the Invasive Management Area program was completed in 2012. The program has 40 active sites and in calendar year 2012, 2,160 volunteers donated 5,472 hours of work in support of habitat restoration at IMA sites. This is the greatest number of volunteers and volunteer hours since IMA began.
  - Over 580 trees and shrubs were planted on parkland in calendar year 2012.
  - Restoration of 750 linear feet of Wakefield Run in Wakefield Park should be completed by winter 2013-2014. The project is a partnership among the Park Authority, the Northern Virginia Soil and Water Conservation District, DPWES Stormwater and others. Initial funding came from compensation funds from the Virginia Department of Transportation for land taken from the park for the I-495 Express Lanes project. The bulk of the funding is coming from DPWES Stormwater, and a \$35,000 contribution from

Virginia Dominion Power and a \$5,000 grant from Fluor-Lane. The Friends of Accotink Creek has been an important project partner for education and outreach. NVSWCD is the project lead for design and construction.

- Natural resource management is underway at Old Colchester Park and Preserve. Significant resource inventory and planning resulted in a contractor-developed Natural Resource Management Plan. A non-merit staff member was hired in 2012 to oversee implementation of this plan. Fairfax Master Naturalists and other volunteer partners have assisted in resource management activities and a managed deer hunt was held in winter 2012-2013. The Park Authority Board committed \$320,000 from the Vulcan Quarry fund dedicated to Old Colchester for the natural resource management plan implementation in FY14-FY16.
  - In January 2012, the Park Authority Board committed \$340,000 to conduct a multi-year pilot study to develop a landscape-scale forest management model at Ellanor C. Lawrence Park. The project began in May 2012 and will run through 2014. A project logo was developed: Helping Our Land Heal: a Natural Capital Stewardship Model. Staff has completed initial assessments with the assistance of partners (including the Virginia Department of Forestry) and has begun resource management efforts.
- Collaborations—The Fairfax County Park Authority:
    - Continued to collaborate with the Virginia Department of Forestry on a number of initiatives to include two deer browse exclosures at Huntley Meadows and Riverbend Parks, forest ecology outreach education and the Park Authority’s prescribed burn management program.
    - Worked with the Virginia Department of Agriculture and Consumer Services and Virginia Department of Forestry to collaborate on biocontrol for mile-a-minute, a non-native, invasive plant.
    - Continued partnership with Earth Sangha, a local nonprofit organization.
    - Worked with the county Wildlife Biologist to train a diverse group of residents, business community members and public staff on Wednesday, April 6 to correctly oil Canada Goose eggs. The content of the training session was similar to that delivered in previous years by county staff and by volunteers from Geese Peace.
    - Collaborated with the Northern Virginia Soil and Water Conservation District to: coordinate and provide support for numerous stream clean up locations for the Potomac Watershed Clean Up; assess stormwater facility performance at Ossian Hall and Patriot Parks; construct a rain garden at the Packard Center; design stream improvements at Wakefield Park; and review Park Authority and external projects to improve design and water quality benefits.
    - Worked with Department of Public Works and Environmental Services to: provide input for the county’s Municipal Separate Storm Sewer System permit implementation and annual report; provide input on the final five watershed management plans; review and coordinate stream stabilization and pond retrofit projects on parkland; and act as a liaison for stream

- assessments, development plan review, permitting for IMA and Earth Sangha projects in Resource Protection Areas, relocation of fish from Huntsman Lake to Lake Mercer in advance of lake dam repair and dredging and restoration plan development and installation for construction projects on parkland by the Park Authority and others.
- Continued participation in the Fairfax County Restoration Project as a member of the Leadership Team.
- Continued coordination and support for Audubon Society of Northern Virginia research efforts to include the annual Christmas Bird Count and Breeding Bird Survey.
- Worked closely with staff from the Virginia Department of Game and Inland Fisheries on deer management, Walney Pond and Lake Accotink fishery assessments, renovation of Burke Lake dam and relocation of fish from Brookfield Pond in advance of construction activities.
- Stewardship and Education—The Fairfax County Park Authority:
  - Continued working with volunteers and local media to educate residents about non-native invasive plant issues on and off park property.
  - Published the latest stewardship brochure, “Family Backyard.”
  - Developed a new portable exhibit on backyard wildlife.
  - Continued, through its Stewardship Education Team, outreach efforts and launched an awareness campaign about Family Wildlife-friendly back yards, including an outreach in each district of Fairfax county.
  - Continuation of participation in the Envirothon program for high school students and in the Master Naturalist programs in Fairfax and Arlington counties.
  - Renewed partnership with Fairfax County Public Schools and George Mason University for providing meaningful watershed education experiences in Fairfax County parks. Over 4,000 seventh graders attended the programs by FCPA staff, and that many or more attended the GMU-run program at FCPA sites.

The Park Authority made a great step forward with the adoption of the NRMP. Additionally, as the above paragraphs show, the Park Authority continues moving toward implementation of the plan. However, more resources (people and funds) need to be devoted to the implementation of the plan, and it is anticipated that more resources will also be needed to implement the revised 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 supports increased funding for this purpose. Resources devoted to the protection of the environment need to be increased.

**c. Status of green infrastructure/natural resource mapping efforts**

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.

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

Initial work on the creation of a natural resource protection zone model has begun. Current work focuses on implementing more robust field data collection techniques along with the digitizing of previously collected data to build a geodatabase of spatial natural resource information. An initial model utilizing readily available county data is under development with a more refined version planned once more detailed data have been collected in the field.

**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 56 park sites throughout the county. The Resource Management Division's nature centers, such as Ellanor C. Lawrence Park, Huntley Meadows Park and Riverbend Park also work collaboratively with the Invasive Management Area program to remove the most highly invasive plant species from selected areas of parkland.

The partnership with Earth Sangha, a local nonprofit organization, continues to be a highlight of invasive plant control efforts at both the Marie Butler Leven Preserve and Wilburdale Park. In addition, in 2012, Earth Sangha donated native plants to restore areas previously controlled for invasive plants throughout the Park

Authority. Overall, Earth Sangha contributed thousands of volunteer hours to park projects.

The Invasive Management Area program began its eighth year by celebrating Take Back the Forest in April and May 2013. During those two months, over 700 volunteers logged 1,700 hours. The Take Back the Forest program won first place in the Special Event category and Best in Show for all government programs at the 2013 annual conference for the National Association of Government Communicators. Take Back the Forest was funded for a second year with a \$15,000 grant from REI. Take Back the Forest encompassed other special events such as Global Youth Service Day, Virginia's Annual Invasive Plant Removal Day, Earth Day and Arbor Day.

The IMA program continues to capture the enthusiasm of volunteers for unstaffed parks. There are currently 37 sites with 40 active volunteer leaders. Over 25,000 volunteer hours have been contributed to the IMA program since its inception in 2005. On average, more than 3,000 volunteer hours are donated by approximately 1,000 participants a year. The program works on plots of parkland, typically less than one acre in size, to remove priority invasive species and restore native vegetation where needed. Significant reductions of non-native invasive species at program sites have been documented, with an average of a 24 percent reduction in cover. Extensive training of volunteer leaders, careful selection of sites and species and a coordinated plan of environmental monitoring will allow program partners to continue to learn from this project. At a minimum, invasive species removal should be planned on three year cycles, with the first three years including aggressive removal and pesticide use if necessary so that following years' management can be at a maintenance level. A short summary is available:

<http://www.fairfaxcounty.gov/parks/resource-management/IMA/IMA-annualrpt.htm>

The Early Detection Rapid Response volunteer program, a program to detect new non-native invasive plant populations, surveyed over 200 acres in 130 hours at 15 parks.

An outgrowth of the Invasive Management Area program has been the state-wide Invasive Plant Removal Day. On May 5, 2013, the IMA program participated in the fifth annual statewide event and one countywide event. Events were held at nine IMA sites, with 80 volunteers participating. These volunteers logged 175 hours and collected 66 bags of invasives.

Staff contracted with Invasive Plant Control, Inc. to apply selected and careful herbicide treatments for the removal of invasive plants. IPC treated 450 acres of parkland from January to December 2012. This included both areas where volunteers provided the manual removal of priority species and areas that had been treated during the previous year.

The Non-Native Invasive Plant Assessment and Prioritization project was completed in 2009. This project took a hands-on approach to the non-native invasive species issues as they occur in Fairfax County. Products of the plan include an assessment and prioritization tool kit, 12 best management practice recommendations and an operations plan for how to continue to make progress with managing non-native invasive species. This plan is fully benchmarked and annotated, creating a defensible strategic plan that will allow for prioritization of where and what are needed for invasive management in Fairfax County. At several training sessions, NRMP staff has shared the assessment and prioritization tool kit with other natural resource managers from Anne Arundel County, Maryland, Arlington County, Virginia, the City of Bowie, Maryland and Loudoun County, Virginia. During summer 2012, two interns were hired and surveyed over 1,000 acres of parkland using the NNIAP, and approximately 2,000 acres have been surveyed to date.

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

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

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

#### **e. Riparian and Bioengineering Projects**

The Fairfax County Park Authority, along with and in partnership with other agencies, continues to work on stream stabilization/bioengineering projects. See the Water Resources chapter of this report for descriptions of these projects.

The Park Authority continues to maintain and monitor the previous riparian buffer enhancement projects installed in the last seven years. To date there are 35 projects on parkland throughout the county. These projects have focused on the conversion of mowed grass to areas of native trees and shrubs typical of riparian areas. In 2012, one of FCPA's partner organizations, Earth Sangha, maintained and enhanced

riparian plantings at Roundtree Park, Rutherford Park and Rocky Run (Awbrey Patent).

**f. Environmental Stewardship**

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

Many of the stewardship activities that occur on parkland could not take place without the efforts of many volunteers and partners. Groups and individuals participate in a wide range of volunteer opportunities in environmental stewardship on parkland, from becoming a permanent volunteer for the Park Authority to one-off events. In FY13, volunteers contributed over 26,000 hours to natural resource stewardship activities on parkland.

Specifically, volunteers engage in programming, leading walks and tours, writing fliers or brochures, answering the phone when a resident calls with an environmental question and/or hands-on resource management. FCCA partners with local agencies and nonprofits in two different annual stream clean-up events, although many individuals and friends groups participate in more regular clean-ups along certain sections of stream throughout the year. FCCA also has habitat restoration events, including invasive plant removal and native species planting that attract day participants and more committed volunteers, e.g. the IMA Volunteer Leaders. Wildlife monitors work on birds and salamanders and everything in between, often in coordination with a long-term wildlife monitoring program such as the Virginia Bluebird Society. The Fairfax Master Naturalists have taken on some of these projects or created new opportunities to contribute hundreds of hours to Park Authority sites. FCCA continues to offer many of its environmental stewardship opportunities for youth to get involved in their local parks to include as permanent volunteers, as students for their community service hours and scouts for Eagle and Gold Award projects. FCCA encourages its volunteers, be they individuals, groups, students or scouts, to propose ideas of how they can help steward the parks.

**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](mailto:SupportParks@aol.com)  
<http://www.fairfaxparkfoundation.org/>

#### **4. Northern Virginia Regional Park Authority**

Three Northern Virginia counties (Fairfax, Loudoun and Arlington) and three cities (Alexandria, Fairfax and Falls Church) participate in the Northern Virginia Regional Park Authority. NVRPA was founded in 1959 and owns and operates 25 regional parks and owns 11,236 acres of land throughout the region. It also holds conservation easements on 115 parcels covering more than 652 acres.

##### **a. Acquisition**

NVRPA's recent acquisition activities in Fairfax County include: the purchase, at below-market value, of 10 acres on the Potomac River in Great Falls for watershed protection; receipt of 1.8 acres of donated open space on Mason Neck adjacent to Pohick Bay Regional Park Golf Course; and finalizing a no-cost acquisition of the 20-acre Webb Sanctuary in Clifton from the Audubon Naturalist Society.

##### **b. Planning & Development**

NVRPA adopted a new Five Year Strategic Plan for 2012-2017, setting the agency's conservation and environmental priorities for the next five years, among other short-range objectives. The 2007 Strategic Plan included goals that envisioned the growth of parkland, and the result was that NVRPA grew by over 450 acres in the last five years. The 2012-2017 Strategic Plan is the result of a year-long process of assessing NVRPA's place in Northern Virginia and plotting a path for continued growth and improvement. It included input from the public and from leaders of NVRPA's member jurisdictions, NVRPA board members and staff from each NVRPA department, with a focus on the park needs surveys of residents in Northern Virginia.

One Strategic Plan Goal is to enhance natural resource conservation in riparian areas, with objectives of: protecting parklands along major waterways for watershed quality and to preserve plant and animal habitat; expanding riparian buffers by planting trees or creating no-mow zones along waterways to enhance water quality and wildlife habitat; using low impact techniques when developing new park facilities; and developing partnerships with conservation organizations and volunteer programs to provide greater stewardship of significant resources.

Another environmental goal is to actively assess opportunities to acquire additional properties, with objectives of: expanding public parkland to meet the open space and recreation needs of Northern Virginia's growing population; acquiring properties to meet NVRPA mission and land selection criteria with a focus on partnerships; and seeking opportunities to add new member jurisdictions where there are chances to preserve more land for the region.

**c. Sustainability**

The single use mountain bike trail at Fountainhead Regional Park experienced significant erosion and trail widening in many locations as a result of unsustainable alignments, steep grades, poor flow, overuse and riders going off the trail to find less challenging routes. In order for the Fountainhead mountain bike trail to maintain value as a recreational trail system, it became imperative to address design flaws and ongoing erosion. Working in partnership with the local mountain biking club Mid-Atlantic Off-Road Enthusiasts, in 2012 NVRPA applied for and was awarded a Virginia Recreational Trails Program grant to fund improvements to the advanced loop on its mountain bike trail at Fountainhead Regional Park. Improvements to the beginner and intermediate trail loops were completed in February 2012. Implementation of the advanced loop enhancements will complete the project. The new trail is designed using the International Mountain Bicycling Association sustainable trail building standards to route segments along contours with appropriate switchbacks, rather than running straight down slope without proper drainage controls. All new trail tread is out-sloped five percent, or when water flows down the trail for short lengths it is directed to a water diversion facility. The project includes filter strips, which are vegetated areas downslope of the trail corridor intended to treat sheet flows coming off the tread. Filter strips function by slowing down flow velocities, filtering out sediments and providing an opportunity for infiltration into the underlying soils. The project design includes grade reversals, in-sloped turns, armored fords, stone pitching, turf block pavers and terraces, and these techniques help keep water off the trail and riders on the trail to reduce erosion and enhance sustainability.

Pohick Bay Regional Park continued improvements on its trail system to protect the Pohick Bay tributaries and watershed, by restoring poorly designed trails and stream crossings and relocating unsustainable trail segments to maintainable areas. The work is being funded by a grant from the Bureau of Land Management, in partnership with improvement of its trail system at Meadowood Recreation Area across Gunston Road from Pohick Bay Regional Park. After a year-long planning process, implementation of the Pohick trail system rehabilitation began in 2012, with nearly 8,000 feet of trail being relocated to ecologically sound alignments. In addition, Sandy Run Regional Park sponsored an Eagle Scout project to make erosion repairs and install water bars on trails near the Occoquan Reservoir.

**d. Vegetation Management**

In 2012, NVRPA again partnered with Dominion Virginia Power for its “Trail Mix” community service program along the Washington & Old Dominion Trail; this program highlights environmental stewardship. The events featured invasive plant removal along the trail within Fairfax, Loudoun and Arlington Counties. NVRPA regularly offers invasive removal along the W&OD Trail as a Scout project option, along with the planting of butterfly gardens. A favorite area to work is near the Gallows Road intersection in Dunn Loring. The W&OD Trail staff selectively applies herbicides to the park’s fence lines for invasive vines and woody plants such as tree of heaven, mile-a-minute vine and oriental bittersweet, allowing natives to fill in the gaps. Invasive plant control efforts also continued at Occoquan Regional Park, Bull Run Shooting Center and Meadowlark Botanical Gardens.

NVRPA co-sponsored, with Fairfax County’s Urban Forestry Department, the county’s “SpringFest” for Earth Day and Arbor Day at Occoquan Regional Park and the Lorton Workhouse. The Fairfax County Department of Public Works and Environmental Services is awarding NVRPA for its work on planting trees at Occoquan to increase the riparian buffer.

Pohick Bay Regional Park implemented a riparian project at the marina that included installation of rain gardens, native tree and grass plantings and other erosion control measures between the vending building and the shore launch. These tree planting efforts are part of implementing NVRPA’s 2012 Strategic Plan initiatives.

Meadowlark Botanical Gardens and Pohick Bay Regional Park continue cooperative programs with the Audubon Society of Northern Virginia and the Northern Virginia Bluebird Society on topics including birding, native plant culture and gardening with deer.

**e. Environmental Education and Outreach**

NVRPA continues to have a roving park naturalist regularly visit the high-attendance parks such as pools, campgrounds and golf courses, bringing live wildlife and other exhibits and providing programming about nature and the environment. The naturalist also attends events and functions such as the Dominion W&OD Trail Mix, the Walter Mess 5K race and the Friends of the W&OD 10K race.

In 2012, the Northern Virginia Regional Park Foundation gave grants through its Nature Nuts Program to 11 Fairfax County public schools for children to attend environmental education camps at Hemlock Overlook Regional Park. Adventure Links at Hemlock Overlook Regional Park in Clifton offers a variety of outdoor and environmental education, team development programs for public and private schools, religious and community groups, sports teams, corporations and

professional organizations, as well as local, state and federal government and military agencies. Also in 2012, Meadowlark partnered with the Volgenau Foundation to provide teacher training and student field trips to Meadowlark Botanical Gardens and Potomac Overlook Regional Park. These trips focus on the natural history of the Potomac River basin, conserving native plants and animals.

The Park Authority partners with REI's adventure school, introducing people to the outdoors at Pohick Bay, Hemlock Overlook and Fountainhead Regional Parks. The Park Authority's naturalists hold regular educational canoe and kayak trips at Pohick Bay, and the roving naturalist conducts environmental programs at Meadowlark Botanical Gardens as well as at Bull Run and Pohick Bay Regional Park campgrounds. Potomac Overlook Regional Park and W&OD Trail staff hosted booths at various County fairs to give environmental information to the public

#### **f. Stewardship**

Occoquan Regional Park hosted two clean-up events on the Occoquan River and added five new recycling bins at its picnic shelters and boat ramp. Fountainhead and Bull Run Marina were host sites for the Friend of the Occoquan clean-up days, removing dozens of bags of trash from the reservoir area. At Sandy Run Regional Park, rowing crew teams took part in water clean-up days, removing trash from the Occoquan Reservoir around Sandy Run. New trash cans were installed at Fountainhead and the W&OD Trail to prevent tipping and foraging by wildlife.

Environmental stewardship opportunities for volunteers are available at Meadowlark Botanical Gardens, Potomac Overlook Regional Park, Upton Hill Regional Park, Pohick Bay Regional Park and various other parks on occasion. NVRPA implemented a program that allows youth to access its fee-based park facilities through volunteer service. It has a wide variety of community partnerships in place that encourage groups to take advantage of the regional parks for environmental and historic education and service projects. More information can be found at [http://www.nvrpa.org/park/main\\_site/content/volunteer](http://www.nvrpa.org/park/main_site/content/volunteer). For current information about the Northern Virginia Regional Park Authority, visit its website, <http://www.NVRPA.org/>.

### **5. Fairfax ReLeaf**

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

Tree plantings:

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

Fairfax ReLeaf planted and distributed 6,720 trees in calendar year 2012. Nearly 1,000 volunteers spent over 2,500 hours planting tree seedlings, removing invasive species and maintaining planting sites. Highlights of the organization's 2012 plantings were:

- The planting of 1,860 trees in riparian area.
- The planting of 1,680 trees on homeowner association and private property.
- The planting of 768 trees in parks, including private, county and national parks.

Fairfax ReLeaf provided many opportunities for community groups to serve Fairfax County in 2012. These included 10 Lions Club events, five Eagle Scout projects and three school group plantings. ReLeaf led four corporate workdays, where employees from workplaces such as Nodal Exchange, Northrop Grumman, Level Three and Winchester Homes gave their time to improve Fairfax County. Fairfax ReLeaf also conducted two workshops to prepare individuals to lead plantings.

In 2013 Fairfax ReLeaf will continue its park and homeowner association plantings while increasing partnerships with agencies such as Northern Virginia Soil and Water Conservation District and Fairfax County Stormwater Planning Division.

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

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

## 6. Northern Virginia Conservation Trust

Past EQAC reports recommended that the Fairfax County Board of Supervisors form public-private partnerships for the purpose of obtaining easements on environmentally sensitive land. EQAC pointed out that entities such as The Nature Conservancy use easements very successfully as a way of protecting environmentally sensitive properties. With the signing of a Memorandum of Understanding on June 20, 2001 between the Fairfax County Board of Supervisors and the Northern Virginia Conservation Trust, such a public-private partnership now exists. The partnership is now in its 11th year.

NVCT was founded in 1994 as the Fairfax Land Preservation Trust. In 1999, the trust changed its name to The Northern Virginia Conservation Trust to better reflect the regional scope of the service area. NVCT is a 501(c)(3) nonprofit land trust dedicated to preserving and enhancing the natural and historic resources of Northern Virginia. NVCT also has formed public-private partnership with Arlington County and the City of Alexandria and owns properties or easements in Arlington, Fairfax, Loudoun, Prince William and Stafford counties and in the cities of Alexandria and Fairfax. NVCT was one of a handful of the first land trusts accredited throughout the country by the Land Trust Accreditation Commission.

NVCT began a restructuring of its staff in late 2012 in order to better use its resources to accomplish its goals of implementing its Strategic Plan, protecting land with conservation value and connecting existing green spaces to the extent possible. NVCT's new Executive Director, Peggy Stevens, reported for duty on August 5, 2013. Peggy comes to Northern Virginia after five years as Executive Director of the Westport Land Conservation Trust, serving a coastal farming community in southeastern Massachusetts.

From the time NVCT accepted its first easement in 1999 through June 2012, NVCT has preserved over 685 acres of open space in Fairfax County through easements, fee simple ownership and partnerships. While no new acreage has been added since the last Annual Report on the Environment, NVCT has several ongoing projects in Fairfax County, including a trails project in Clifton and an extensive property known as Belmont Bay in the southern area of the county. In total, NVCT has over 500 acres in the pipeline in Fairfax County – all at some stage of discussion with owners who are willing to place easements on their properties. NVCT continues to seek new opportunities as well. Working with the Department of Planning and Zoning, the Park Authority, the Board of Supervisors and other conservation organizations, NVCT is committed to finding and working with conservation-minded landowners to increase the long-term "green footprint" in Fairfax County.

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

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

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

<b>Table VII-2. Fee Simple Properties Owned by the Northern Virginia Conservation Trust</b>			
<b>Property/District</b>	<b>Location</b>	<b>Acreage</b>	<b>Recordation</b>
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
	<b>Total</b>	<b>11.671</b>	

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

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

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

NVCT also has a public outreach program. NVCT continues to be an active partner and initiator of public engagement to connect people to the importance of land conservation, both on the many reasons to protect land and the many ways to care for and manage land once it is protected. In October 2012, NVCT held a Landowner Workshop in the Fairfax County Government Center to educate Fairfax County landowners about the tax and other benefits of conservation easements and about NVCT's partnerships with the Northern Virginia Soil and Water Conservation District and the Audubon Society of Northern Virginia on backyard habitats. In February 2013, NVCT Board Chairman Pat Coady made a presentation about NVCT's efforts in the county to the Fairfax County Board of Supervisors' Environmental Committee, chaired

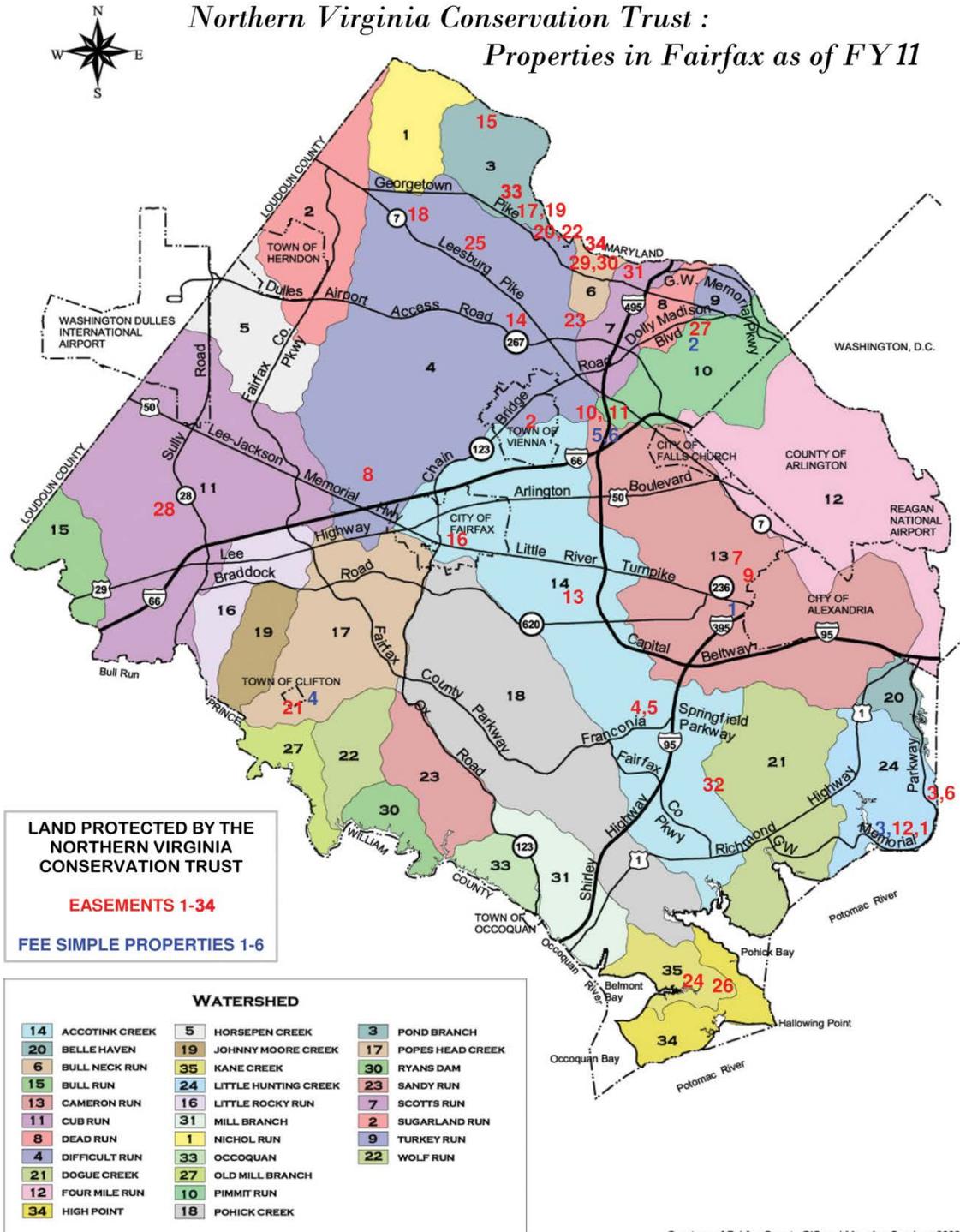
by Supervisor Penny Gross. In March 2013, Mr. Coady spoke to the Green Breakfast (sponsored by NVSWCD) about land conservation opportunities and potential tools (transfer of development rights, bequests and grants) in addition to conservation easements. In April 2013, NVCT participated at Fairfax County Earth Day, held at the Workhouse Arts Center in Lorton, and interacted with many Fairfax County residents about its conservation efforts. In May 2013, NVCT held a Landowner Workshop at George Mason University in Manassas--it was principally aimed at landowners in the area of the Bull Run headwaters, both in Fairfax and Prince William Counties, and included attorneys, conservation professionals and financial advisors. The themes were how conservation easements work, the background on how land trusts operate, forest conservation and the tax advantages (federal, state, and local) of properly formulated conservation easements. The full-day workshop afforded attendees four continuing legal education credits, as well as credits for foresters and financial professionals.

NVCT staff and several board members spoke to several homeowners' groups in Fairfax County during the year about our mission, how they might assist NVCT in locating land to protect, and reasons why landowners might consider conservation as an option for their property's future.

NVCT continued to be active in the area of invasive plant removal in Fairfax County and in general public education. Over 25 *explore and restore* events were held in Fairfax County during fiscal year 2013, usually in cooperation with one or more conservation organizations.

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

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



Courtesy of Fairfax County GIS and Mapping Services 2002

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

## **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 2013, VOF holds easements on nearly 675,000 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 seven easements in Fairfax County as shown in Table VII-4.

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

<b>Table VII-4. Easements Held by the Virginia Outdoors Foundation in Fairfax County</b>		
<b>Original Donor*</b>	<b>Acreage</b>	<b>Date Recorded</b>
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
McCormick-Goodhart	n/a	02/29/2000
McKee-Bennett	20.47	12/28/1990
Ridder and Andrews, Jr., trustees	7.858	12/23/1998
<b>Total Acreage under Easement</b>	<b>127.723</b>	

Source: *Virginia Outdoors Foundation*, Attachment to email, Virginia Outdoors Foundation, from Erika Richardson, Stewardship Specialist, Virginia Outdoors Foundation, Warrenton, Virginia, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, May 22, 2013.

\* 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, the Reston Association and the Friends of Accotink Creek.

The Little Pimmit Run II Stream Restoration was completed in early 2012. This project restored a total of 170 linear feet of eroded stream bank that threatened an exposed 21-inch sanitary sewer main in the northeastern part of Fairfax County. Building on an adjacent successful project, this stream restoration stabilized the stream bank and drainage channel using rock vanes, step pools, floodplain benching and revegetation. The funding for this project was a unique combination from Fairfax County and adjacent property owners. NVSWCD managed the design, permitting and construction, as well as the outreach and coordination with the community that facilitated the construction of the project.

Another effort in the Accotink Creek watershed involved another unique partnership among many county agencies, businesses, and the public. The Wakefield Stream Restoration project is a partnership among NVSWCD, Fairfax County Park Authority, Fairfax County DPWES, Dominion Virginia Power, Fluor/Transurban, the Friends of Accotink Creek, the Braddock District Supervisor’s Office and the Mid-Atlantic Off-

Road Enthusiasts. Located within Wakefield Park, this 800 linear foot project begins at the outfall under I-495 and ends at the confluence of the creek with the mainstem of Accotink Creek. This highly unstable stream yields large amounts of sediment due to significant stream bed and bank erosion after storm events. To bring attention to the project and to the issues facing the watershed, the partners worked together to host a competition to name the creek and connect it to the broader community. Don Waye, a Burke resident, submitted the winning entry. The design is based on natural channel design concepts and includes a number of in-stream best management practices to provide stable bed and bank and habitat. The Fairfax County Park Authority engaged NVSWCD in coordinating the design. Fairfax County DPWES will pay for the majority of construction, with additional contributions made by Dominion Virginia Power and Fluor/Transurban. Construction is anticipated to begin in fall 2013.

NVSWCD received a grant from the U.S. Fish and Wildlife Service for an “In-Stream Structural BMP/Wetland Enhancement” project. The project is located in Huntley Meadows Park along Barnyard Run, in the Dogue Creek watershed. Due to streambed and bank erosion, Barnyard Run serves as a major source of sediments for the main Huntley Meadows wetland. The project includes four in-stream blockages along approximately 500 linear feet of Barnyard Run. It is designed and built to trap sediments from entering the main wetland and re-connect the stream to its floodplain during high intensity rainfall events. The blockages design was based on the structure of the existing natural blockages within Barnyard Run. The project was completed in February 2013. Over the next three years, NVSWCD will monitor the stream where these BMPs are located for stability and effectiveness. Annually, NVSWCD will prepare a longitudinal profile of the stream where these blockages are located

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

The Fairfax County Chesapeake Bay Preservation Ordinance and Agricultural and Forestal District Ordinance require land in agricultural use to have a soil and water quality conservation plan. In 2011, soil and water quality conservation plans were prepared for 96 parcels on 945 acres. These included 38,102 linear feet of Resource Protection Area, primarily stream buffers. All plans help landowners to comply with the county’s Chesapeake Bay Preservation Ordinance.

NVSWCD provided technical assistance to the county’s Code Enforcement Division and to a landowner by preparing a plan for a property cited for County Code violations. Technical assistance included the development of a reforestation plan to correct illegal clearing of a Resource Protection Area by the previous landowners. NVSWCD secured funding through the U.S. Fish and Wildlife Service to complete the project, which resulted in the planting of over 3,000 seedlings, shrubs, and grasses. Volunteers through Fairfax ReLeaf contributed their time toward the project as well.

NVSWCD designed built, or supported the implementation of two rain gardens in partnership with several agencies. In memory of late Sally Ormsby, a Northern

Virginia Soil and Water Conservation District board member, NVSWCD has designed and built a bioretention facility at Packard Center in Annandale Virginia. The rain garden is approximately 250 square feet and receives runoff from Packard Center roof, sidewalks and the surrounding lawn and controls 1.0 inches of rain during a storm event. The total area that drains into the rain garden is 4,150 square feet, with 1,150 square feet being impervious. The rain garden was a partnership among NVSWCD, FCPA, Merrifield Garden Center and Earth Sangha.

The Sidney Lanier Middle School rain garden is a partnership among Land and Waters Inc., City of Fairfax, Fairfax County DPWES Stormwater Planning Division and NVSWCD. The rain garden cell is located at a corner of the school's parking area next to Bevan Drive in City of Fairfax. Land and Water received a National Fish and Wildlife Foundation grant for to build the rain garden. The Rain garden, completed in June 2013, treats a drainage area of 16,000 square feet, mostly impervious. The surface area of the rain garden captures the first 0.5 inch of any rainfall event. The rain garden has been designed to enable students to use the rain garden for experiments on water quality. NVSWCD surveyed the site, designed the facility, prepared material and cost estimates, helped with selecting the contractor and helped with construction oversight.

NVSWCD's annual seedling program emphasizes the role of vegetation in preventing erosion, conserving energy and decreasing and filtering stormwater runoff. Seedlings planted in riparian areas also help to protect stream channel stability and stream water quality, as well as improving the surrounding habitat. This seedling program offered residents a package of native tree and shrub seedlings for a small cost. In spring 2013, a variety of 6,750 native seedlings were sold at a small cost to promote urban reforestation, habitat enhancement and water quality protection. The theme was Restore and Beautify Your Property, which offered a mix of sturdy trees that can withstand heavy storms, plants that provide screening and tolerate a range of conditions and some of our region's most beautiful native trees and shrubs. Packages included species of shrubs and small trees and packages of tree seedlings.

NVSWCD is the local sponsor of Envirothon, a hands-on competition among high school teams to demonstrate their knowledge of natural resources – forestry, soils, wildlife, aquatic ecology – and special issue topics, such as urban-rural interface and recreational stress on natural resources. In 2013, six teams of local high school students (representing Centreville, Langley and Marshall High Schools and Hidden Pond Nature Center) participated in the year-long training in soils, aquatics, forestry, wildlife, estuaries and a special topic, which this year was focused on stormwater management. The team from the Hidden Pond Nature Center swept the competition, winning the local, regional and state events. The team's success earned it a trip to the national Envirothon competition in Bozeman, Montana, where the team competed against teams from all 50 states and Canada. There, they placed 15<sup>th</sup> overall and first in the special topic of Pasture and Rangeland Management.

In 2011, NVSWCD began a new program to enable residents to build their own tumbler-style composters, using olive and pickle barrels, most of which had slight flaws

and could not be used for the rain barrel program. Throughout 2013, over 40 participants built frames using recycled wood, added a rod for rotating the barrel, drilled aeration holes and took home 30 composters.

At the bi-monthly Saturday morning Green Breakfasts, interested residents, county officials and agency staff, state legislators, students, members of the business community and representatives of local nonprofits and environmental groups discuss environmental topics, share information and network. Each breakfast begins with a presentation.

*Conservation Currents*, the NVSWCD quarterly newsletter, includes many articles related to ecological resources. In 2013, NVSWCD published three editions of *Conservation Currents*. Topics included: backyard chickens; stormwater ponds; energy efficiency and renewable energy; stream health; preventing fertilizer and pesticide pollution; wildlife conservation; and updates on NVSWCD and Fairfax County programs and activities. 2,200 copies are sent mainly to homeowners associations, which are encouraged to reprint articles in their newsletters. Copies are distributed to libraries and offices via the county courier system. There also is a growing list of e-subscribers, and many articles are posted on the NVSWCD website.

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 geographic information system. Maps showing soil types layered over county property maps have been created for each tax grid in the county. These maps are available to the public through the Digital Map Viewer on the county website. The soil survey information is also available online at two U.S. Department of Agriculture-Natural Resources Conservation Service websites: the soil map and tabular data are available at the Web Soil Survey website; and tabular data alone is available at the Soil Data Mart website. The tabular and map data available at the USDA-NRCS websites are much broader and more extensive than that found on the county website, but the data on the county website is more specific to the needs of Fairfax County residents and the maps include county property information.

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

The soil scientist and staff from DPWES are collaborating on updating codes and procedures, notifying industry and ensuring a smooth transition to using the new survey. The soil scientist has made presentations to several groups, including the Engineering Standards Review Committee, and, with Code Analysis staff, attended the

Planning Commission and Board of Supervisors meetings to answer questions regarding Public Facilities Manual revisions. In June 2011, the Board of Supervisors approved the new survey as the official Fairfax County Soil Survey.

The Soil Scientist also collaborated on minor revisions to the shrink-swell layer and the Marumsc soil layer and with erosion susceptibility ratings for Urban Land soils, which will be used by Site Inspection. He worked with the Health Department to make minor revisions to the asbestos soil layer. The newly digitized Fort Belvoir soils map was added to the county maps and uploaded to the county GIS. In May 2013, NVSWCD and DPWES collaborated to conduct a two-day *Field Soil Morphology Course* for professional engineers. Those who took the course and passed the certification are allowed to determine the water table year-round, using soil morphology. County guidelines were revised to reflect this new process.

The soil scientist continues to assist with providing technical assistance to homeowners, homeowner associations, the development and construction community and county staff on soils-related matters and on infiltration practices. During 2011, soils information was provided to 77 consultants, engineers, realtors and homeowners. Special infiltration studies were conducted for seven county and NVSWCD projects. Guidance on interpreting soils information continues. Also, technical assistance is provided to solve problems on both private and public lands.

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. Topics in 2013 included: the Chesapeake Bay Commission; Oysterculture; Integrated Shoreline Evaluations; the Green Energy Triangle in Fairfax County; the Healthy Waters Initiative in Loudoun County; an overview of the Interstate Commission on the Potomac River Basin's work, Uranium Mining in Virginia; and Chesapeake Bay

Heritage and the Northern Neck. Information about the roundtable is available at [www.potomacroundtable.org](http://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 Center for Coastal Resources Management of the Virginia Institute of Marine Science estimates that Fairfax County's tidal shoreline is approximately 111.85 linear miles. The county's tidal shoreline within the coastal plain extends from Cameron Run on the north, traversing south along the Potomac River and extending to the Occoquan Reservoir on the south where the tidal influence terminates at the dam.

The Wetlands Board jurisdiction is that area between mean low water and mean high water in non-vegetated wetland environment and between mean low water and the equivalent of 1 1/2 mean high water in a vegetated environment. Since 2010, after the Board of Supervisors adopted the beach ordinance, the Wetlands Board has also reviewed tidal projects which impact beach areas. Beach can extend beyond or it can be contiguous with non-vegetated tidal wetland area.

To assist localities in implementing the state policy which requires localities in Tidewater Virginia to incorporate coastal resource management guidance into the locality's comprehensive plan, the Virginia Institute of Marine Science has developed Comprehensive Coastal Resource Management Portal. The portal is designed to provide guidance and resources to local governments with implementing the "living shoreline" policy. To implement a state law, the Virginia Marine Resources Commission is working to create a general permit to encourage living shoreline approaches to shoreline stabilization projects that affect tidal wetlands. VIMS is planning education and outreach to local board members and staff on the use of the portal for decision-making guidance. The Wetlands Board welcomes VIMS's guidance and has adopted a living shorelines policy, available at <http://www.fairfaxcounty.gov/dpz/environment/finallivingshoreline.pdf>

On March 28, 2013 the Wetlands Board reviewed the status of the board's Mitigation Compensation Policy and funds and the Memorandum of Understanding that the Wetlands Board has maintained with the Northern Virginia Regional Park Authority to

hold the wetland mitigation compensation funds. The board's mitigation policy can be found at

[http://www.fairfaxcounty.gov/dpz/environment/wetlands/mitigation\\_compensation\\_policy\\_adopted.pdf](http://www.fairfaxcounty.gov/dpz/environment/wetlands/mitigation_compensation_policy_adopted.pdf).

The board hopes to hold a public outreach meeting in fall 2013 to inform community members about the state law, wetlands ordinance, wetlands permitting and Wetlands Board policies and practices. The board is seeking Supervisor Gerry Hyland's help in organizing this meeting. The board hopes a public workshop will help educate shoreline property owners, contractors and the general public about wetlands permitting and hopes that this effort will encourage property owners to seek permits prior to tidal wetland disturbances

The Wetlands Board has received two permit requests for 2013. Those applications will be reviewed when they are complete. The Wetlands Board continues to work on several wetlands ordinance violations.

Board members have attended training workshops at the Virginia Institute of Marine Science in Gloucester, Virginia, other meetings and had a canoeing field trip in Little Hunting Creek in June. Wetlands Board Chair Glenda Booth was invited to be a member of the Virginia Institute for Marine Science Council and began service in June by attending her first meeting in Wachapreague, Virginia. Ms. Booth continues to participate on a committee established by the Virginia Marine Resources Commission to develop guidance for local wetlands boards to implement Senate Bill 964, now law, which directs VMRC to develop and implement a general permit to authorize and encourage the use of living shorelines as the preferred alternative for stabilizing tidal shorelines.

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 60 years. VDOF is also participating in several efforts aimed at improving riparian zones. In these efforts, VDOF partnered with the Northern Virginia Soil and Water Conservation District, the Department of Public Works and Environmental Services, the Fairfax County Park Authority and Fairfax ReLeaf.

Despite continued difficulties with the commonwealth's budget, 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 2011 the Virginia Department of Forestry provided project leadership and technical support to tree planting efforts in partnership with Elementary School Children, private landowners, Fairfax ReLeaf, and the Potomac Conservancy.

The Virginia Department of Forestry participates in the Fairfax County Arbor Day on the last Saturday in April each year. The county earned again, for the 30<sup>th</sup> year, the Tree City USA award. This award is given for having a planting plan, having a management plan, having a Tree Board/Commission and sponsoring an Arbor Day Celebration. The award is applied for by the Fairfax County Urban Forest Management Division and is given through the State Department of Forestry. Tree seedlings are distributed by VDOF to people attending the Arbor Day celebration. In 2012, 340 donated short leaf pine seedlings were distributed for planting by volunteers in their communities.

The Virginia Department of Forestry sponsored a drop-off site in Fairfax County for the Growing Native project. This project involves the collection of tree seeds (acorns, hickory nuts, black walnuts etc.) which are transported to VDOF nurseries where the seeds are planted and seedlings are grown. In 2012, approximately 6,000 pounds of seeds (mostly acorns) were collected. Each year, 500-700 seedlings are given to volunteers for planting on public lands in Fairfax County.

The conservation of the forested land base in Fairfax County is a part of the VDOF plan. The Fairfax County office works closely with the Fairfax County Department of Planning and Zoning to review Agricultural and Forestal District applications. A&F District forest management plans are prepared by VDOF; these efforts support the management of forested land for conservation purposes. One new A&F plan covering 21 acres was prepared in 2012. VDOF also wrote three Neighborhood Forest Management Plans and provided less formal advice to a number of Home Owners Associations, Civic Groups and citizens. All plans and advice provided by the VDOF are informed by the water quality and conservation benefits of protecting and maintaining forests and street trees.

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 60 applications and plans in 2012. In addition VDOF annually inspects dry hydrants to make sure they are available to fight wildfires in the county.

The department maintains an active public education and outreach program. Audiences range from school groups to adults. Topics range from general discussion of the importance of urban forests for environmental quality to technical training in planning and installing rain gardens and forested riparian buffers. In 2011, VDOF conducted 65 talks on the general benefits of urban forests and riparian buffers.

In an attempt to expand outreach and education and planting efforts, the Department of Forestry initiated a Tree Stewards program in 2011. The Tree Stewards program is designed to create a cadre of trained volunteers to lead community tree plantings and provide information on the benefits and care of trees. A second class of Tree Stewards was trained in 2012. Twenty-four Tree Stewards reported 840.25 hours of volunteer service including invasive plant removal, tree planting and education and outreach activities.

In addition to outreach and education and writing plans, the Virginia Department of Forestry provides technical assistance to land owners in managing trees, forests and other natural resources. This ranges from care and diagnosis of landscape trees to assisting with prescribed burns to improve native habitat. The Department assisted with or conducted five burns in the county in 2012, mostly with the Fairfax County Park Authority, but also burned the meadow at the American Horticultural Society headquarters.

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

## **15. Virginia Department of Transportation**

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

VDOT created approximately eight acres of wetlands (seven acres non-tidal and one acre tidal) and restored 2,635 linear feet of streams in Fairfax County's watersheds as compensatory mitigation for unavoidable impacts from highway construction projects including the Fairfax County Parkway, the Route 28 widening, the Roberts Parkway

bridge overpass, the Springfield Interchange improvements, the Route 29 bridge replacement over Big Rocky Run, the Richmond Highway widening and the Woodrow Wilson Bridge Replacement. On the recently completed I-95/Telegraph Road interchange, VDOT recently finished creation of 1.71 acres of tidal wetlands and 0.63 acres of non-tidal wetlands near the confluence of Taylor Run and Cameron Run. Additionally, 0.36 acres of stream restoration for a relocated tributary of Cameron Run was completed.

VDOT acknowledges the county's preference to compensate for wetland and stream impacts within its watersheds; however, on April 10, 2008, the Environmental Protection Agency and U.S. Army Corps of Engineers jointly issued a Federal Mitigation Rule giving preference first to mitigation banks, second to in-lieu funds and third to permittee responsible mitigation as compensatory mitigation for minor impacts to aquatic resources. Subsequent to this rulemaking, the Virginia Department of Environmental Quality directed staff to recognize the preference hierarchy presented in the Rule. As a result, VDOT purchases wetland and stream credits from approved mitigation banks to compensate for unavoidable impacts to wetlands and streams instead of creating on-site and off-site mitigation sites near its construction projects. To date, VDOT has purchased slightly more than 30 wetland mitigation credits and 2,085 linear feet of stream credits.

Since 1990, VDOT has been meeting its stormwater requirements by treating 858.55 acres of impervious road surface area through a system of 190 stormwater basins throughout the county. This acreage for treatment is expected to increase when new stormwater regulations become effective in 2014 (see the Water Resources chapter of this report for more information).

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

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

- Route 29/Gallows Rd intersection improvement.
- Langley Fork scenic pull-off and parking area (Georgetown Pike).
- I-95/Telegraph Rd interchange reconstruction.
- Stringfellow Rd widening from Route 50 to Fair Lakes Blvd.
- Route 7 widening from Rolling Valley Drive to Reston Avenue.
- I-66 Spot Improvement #2 – Westbound Acceleration/De-acceleration lane.
- I-495 Express Lanes landscaping and reforestation.

VDOT's Wildflower Program is funded through revenue fees paid for wildflower license plates at the Virginia Department of Motor Vehicles. In Fairfax County, there

are approximately 3.5 acres of right-of-way in four locations maintained as perennial wildflower meadows. Warm season, native grass species are also used in VDOT's roadside seed mix specifications on its construction projects where opportunity exists to take advantage of low maintenance requirements. Targeted control of invasive vegetation is a large part of VDOT's roadside vegetation management program to promote the growth of more desirable species.

VDOT actively participates on the Board of Directors for the Community Appearance Alliance of Northern Virginia--an organization dedicated to improving the visual quality between created and natural environments in northern Virginia

## **16. Virginia Department of Environmental Quality**

In 2012 the Northern Regional Office of the Virginia Department of Environmental Quality received 28 applications to impact surface waters in Fairfax County. A total of 26 new Virginia Water Protection Wetland Permits were issued. Compensation for impacts to surface waters was proposed to be provided through the purchase of bank credits and on-site stream restoration or riparian buffer enhancement.

## **17. Urban Forestry**

### **a. Realignment of the Urban Forestry Program**

In accordance with recommendations contained in the Tree Action Plan, during CY 2010, DPWES leadership determined that the Urban Forest Management Division's affiliation with the Stormwater Business Area would provide significant opportunities for mutual mission support and optimal alignment for implementing Tree Action Plan programs. In July 2012, the Urban Forest Management Division was officially realigned within the Department of Public Works and Environmental Services from the Land Development Services Business Area to the direct supervision of the Deputy Director with oversight over the Stormwater and Wastewater Business Areas. UFMD will remain located within the Herry Building in order to continue daily interaction with LDS and the Department of Planning and Zoning during the review of proposed site plans and zoning cases. However, while the conservation of trees during land development will continue to be a major focus the foreseeable future, it anticipated that UFMD will begin devoting more time and resources to implementing programs and projects identified in the Tree Action Plan and helping the community and county agencies to manage and protect their tree and forest resources.

### **b. Tree Canopy Analysis**

In fall 2012, UFMD entered a data exchange agreement with Casey Trees Foundation in order to obtain an updated remote sensing analysis that quantified countywide tree canopy levels based on 2011 high-resolution satellite imagery and LIDAR data. Casey Trees contracted with the University of Vermont Spatial

Analysis Laboratory to produce a seven-class land classification of Fairfax County and other jurisdictions in Northern Virginia. In exchange for Fairfax County's high resolution satellite imagery, Casey Trees Foundation was given rights to use the resulting land classification data as part of a larger regional tree canopy analysis for the greater Washington D.C. area. In return, Fairfax County received a highly accurate tree canopy analysis free of charge. The seven-class land cover classification delineates: (1) tree canopy; (2) shrub/grass; (3) roadways; (4) buildings; (5) waterways; (6) impervious surfaces; and (7) bare soil. For purposes of this document, the seven-class land cover classification will be referred to as the "2012 Tree Canopy Analysis."

An accuracy assessment conducted by the county's Geographic Information System staff revealed that a user of the new tree canopy map would find that 94.0 percent of the time, a visit to an area mapped as tree canopy truly is of that class. The other six percent of the time, the user would find that tree canopy in the map is actually grass/shrub. By remote sensing standards, 94.0 percent accuracy is very accurate. The methodology used by the Vermont Spatial Analysis Laboratory to classify the tree canopy and other land covers is considered state of the art. The use of LIDAR to detect surface feature height is particularly useful in distinguishing trees from other types of vegetation such as shrubs and grass. Previous remote sensing techniques using just multispectral imagery produce significantly higher error rates when used to distinguish trees from other vegetation types. In addition to LIDAR data, the 2011 satellite imagery utilized in the analysis is considered very high resolution (0.46 centimeter, or 18.1 inches per pixel spatial resolution) and includes eight spectral bands, three of which have been added to enhance vegetation analyses. By contrast, the spatial resolution of the satellite imagery used in the 2003 tree canopy analysis was 2.8 meters (110 inches or 9.2 feet) per pixel and was limited to four spectral bands. The finer spatial resolution of the 2011 imagery resulted in 37.6 times the ground sampling rate of the 2003 imagery. These figures demonstrate that the remote sensing technologies and data sources used in vegetation analyses have improved tremendously over the past decade, resulting in an increased ability to detect much smaller pockets of tree canopy and to more easily distinguish trees from closely related vegetation.

i. Findings of 2012 Tree Canopy Analysis

The new analysis indicates that 53percent of the county's land mass was covered by tree canopy in fall 2011 (the date of the most recent imagery acquisition). This figure is much higher than those produced by previous remote sensing analyses, which indicated that the county's tree/forest canopy coverage was 43 percent in 2003 (conducted by UFMD) and 42 percent in 2011 (conducted by the National Oceanic and Atmospheric Administration). In addition to a countywide figure, the 2012 Tree Canopy Analysis provides canopy coverage for all 30 major watersheds. The analysis also provides a theoretical canopy gain for each watershed, which could prove useful in setting

meaningful watershed-based canopy goals. See table VII-5 below for watershed-specific data.

<b>Table VII-5. Tree Canopy Watershed-Specific Data</b>			
<b>Watershed</b>	<b>Percent of Existing Tree Canopy Coverage</b>	<b>Potential Canopy Gain in Acres</b>	<b>Percent Gain over Existing Canopy Coverage</b>
ACCOTINK CREEK	49.8	11134	34.2%
BELLE HAVEN	42.9	741	42.2%
BULL NECK RUN	71.1	345	23.1%
BULL RUN	59.3	1508	39.3%
CAMERON RUN	42.8	10586	37.3%
CUB RUN	43.1	11320	42.9%
DEAD RUN	54.9	612	31.3%
DIFFICULT RUN	57.9	11755	31.8%
DOGUE CREEK	52.9	4476	36.3%
FOUR MILE RUN	34.6	7719	39.6%
HIGH POINT	86.8	480	12.3%
HORSEPEN CREEK	33.7	2968	46.3%
JOHNNY MOORE CREEK	65.7	1076	32.0%
KANE CREEK	84.1	455	14.9%
LITTLE HUNTING CREEK	53.0	2334	32.6%
LITTLE ROCKY RUN	45.1	1879	40.1%
MILL BRANCH	44.1	2652	47.5%
NICHOL RUN	72.7	1206	24.6%
OCCOQUAN	62.4	691	32.9%
OLD MILL BRANCH	87.6	308	11.2%
PIMMIT RUN	51.6	2645	32.7%
POHICK CREEK	58.1	6570	28.6%
POND BRANCH	71.5	1375	25.8%
POPES HEAD CREEK	68.8	3068	25.4%
RYANS DAM	92.5	155	6.7%
SANDY RUN	74.9	1096	21.1%
SCOTTS RUN	50.8	1168	30.6%
SUGARLAND RUN	43.2	3631	40.9%
TURKEY RUN	67.6	342	26.6%
WOLF RUN	76.3	807	21.4%

Source: *Urban Forestry*, attachment to email 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,, September 23, 2013.

Fairfax County's tree canopy can be described as an *Urban Forest* and divided into two major categories: *Forest Canopy* and *Urban Tree Canopy*. *Forest Canopy* represents naturally-occurring forest or woodland communities consisting of trees, understory plants, groundcover, soils and a host of mutually dependent organisms including soil microbes, arthropods, reptiles, birds and mammals. *Urban Tree Canopy* represents a blend of naturalized, exotic and landscaped trees found in urban settings. These two canopy types occur in virtually all land uses and on both public and private lands. Because of their relative size, prior remote sensing canopy analyses were effective at identifying *Forest Canopy*. The data sources and techniques used in the 2012 Tree Canopy Analysis enabled a substantial increase in the detection of relatively small pockets of *Urban Tree Canopy*, and the increased ability to differentiate among trees, shrubs and herbaceous vegetation.

Although advances in remote sensing technology appear to have facilitated the detection of much higher canopy levels than previous indicated (up to a 19 percent increase over the tree canopy level detected in 2003), some of the unexpected gain may in fact be attributable to various natural, cultural and socio-economic influences present over the past decade. An explosion in the number of invasive trees (such as Callery pear and Tree of Heaven) along transportation and utility corridors has contributed large areas of canopy in areas once occupied by other vegetation types. In addition, the reduction in active construction sites associated with the economic downturn of the past five -years may have substantially reduced the level of canopy loss typically associated with land clearing activities. Lastly, it is estimated that nonprofit and governmental tree planting programs associated with the county's 30-year canopy goal, coupled with increased community awareness about the benefits of trees, has resulted in the planting of a substantial number of trees--possibly as many as 250,000 trees have been planted over the last decade.

ii. Additional Application of 2012 Tree Canopy Analysis

The current tree canopy level and possible gain data presented in the previous table will have direct application in the Tree Action Plan's recommendation to set tree canopy goals on a watershed basis. In 2013, UFMD, in cooperation with county GIS and Stormwater Planning staff, will use a software tool called Hydro to project the impacts of tree canopy on water quality and flood and stormwater mitigation. The i-Tree Eco software application is designed to use field data from complete inventories or randomly located plots throughout a community along with local hourly air pollution and meteorological data to quantify urban forest structure, environmental effects and value to communities. Baseline data from Hydro can be used for making effective resource management decisions, developing policy and setting canopy goals. UFMD prepared the following sequence of actions to guide this project, which will eventually be used to set tree canopy goals for all 30 major watersheds. This work is expected to be completed in CY 2014:

1. Use 2012 Tree Canopy Analysis data to benchmark tree canopy levels for each of the 30 major watersheds in Fairfax County.
2. Use Hydro software to project the model tree canopy gain/loss on water quality and stormwater flows.
3. Share output hydrographs and nutrient uptake datasets with Stormwater Planning and get assistance putting these data into current TMDL and MS4 regulatory processes and needs. Use feedback as a rational basis for setting preliminary canopy goals at the watershed level based on water quality and stormwater regulatory needs.
4. Use canopy gain/loss modeling and parcel level analysis to proof viability of preliminary watershed canopy goals.
5. If needed, adjust watershed canopy goals to reflect available planting space, demographics, comprehensive plan potential for land use change, etc.
6. Use watershed goals to identify critical forests tracts to preserve and properties to target for reforestation.
7. Aggregate watershed tree canopy goals into a countywide goal.
8. Investigate the feasibility of embedding watershed goals and overall canopy goals into county's land use policies/ordinances and comprehensive plan language.
9. Target specific property owners to engage and partner with on reforestation and conservation efforts.
10. If possible, embed reforestation and related best management practices in Municipal Separate Storm Sewer Permit and Watershed Improvement Plans as credited measures.
11. Monitor success with periodic ground sampling and/or remote sensing studies.
12. Periodically adjust goals canopy goals based on results of ground sampling and remote sensing studies.

iii. Implications of Tree Canopy Analysis

The 53 percent tree canopy level indicated by the 2012 Tree Canopy Analysis exceeds the 45 percent goal adopted by the Board of Supervisors in 2007. UFMD presented this information to the board's Environmental Committee in October 2013. Recommendations for a revised canopy goal are likely to feature a "no-net-loss" approach or a modest canopy gain over a 10 to 20 year period. Both paths will still require funding for tree planting programs and a continuation of robust tree conservation efforts during the land development process.

In light of the serious environmental, ecological and socio-economic pressures that currently threaten the county's tree and forest resources, UFMD is likely to recommend a shift away from just *quantitative* canopy goals to the development and implementation of *qualitative* forest management goals and metrics that

will be critical to efforts to ensure the long-term health and vitality of our urban forest.

**c. Pressures on Trees and Forests**

The following topical areas below provide an overview of the major pressures that are affecting tree and forest resources. Although these threats are very serious, our community still has time and sufficient expertise to successfully address them; however, they will require significant levels of staffing and fiscal resources, and in some cases significant political will to tackle.

i. Forest Fragmentation

The Society of American Foresters defines *fragmentation* as “the process of dividing large tracts of contiguous forest into smaller isolated tracts surrounded by human modified environments.” This is a form of habitat fragmentation that can lead to serious and irreversible degradation of forest ecosystems and their ability to provide ecosystem services.

Fragmentation can decrease interior size of forests to a point that limits its functionality as habitat for wildlife, including birds. In addition to reductions in habitat value, there are impacts to native plant communities. Much like animals, plants often have specific habitat needs that can easily be undermined by the effects of fragmentation. When sections of a forest are removed, plant species that occur along the new forest edge can decline in vigor and/or disappear. Fragmentation often leaves the forest interior more susceptible to aggressive invasive species that can destroy or severely alter habitat value and biodiversity. Areas with high edge to area ratios are more susceptible to invasive plant infestations as well as other negative impacts, such as overpopulation of white tail deer.

Most of the forest communities in Fairfax County area have been degraded by the spread of invasive plants and other detrimental factors as a direct result of fragmentation. One of the most important challenges to maintaining present level of forest canopy will be determining which tracts have retained ecological functionality, and how to maintain that quality through active management.

ii. Impact of Deer Browse on Forests

A relatively recent explosion in white-tail deer populations is causing extensive damage to forests ecosystems throughout the Washington metropolitan area. Deer are an edge species that benefits from the forest fragmentation that accompanies land development. Deer find it easy to locate food sources in residential and commercial uses that are found adjacent to or nearby forested properties. This is the primary reason that deer populations can far exceed the levels normally sustained by healthy forested tracts. Deer are grazers that

naturally feed on herbaceous and woody plants that occur within four to five feet of the forest floor. Data from various sources obtained in Fairfax County strongly suggest that deer browse is causing high mortality in tree seedling populations. If this phenomenon is not addressed in the near future it could have serious implication for the structure, composition, ecological functionality and health of future forests and their continued ability to deliver multiple environmental, ecological, social and economic services to surrounding human communities.

Excessive deer populations are not just traffic safety and human health considerations. The potential for deer browse to result in severe forest degradation and to reduce the environmental health and quality of life in our community strongly suggests that the county's deer management program must be increased in size and scope in order to ensure that future generations will continue to enjoy the same levels of benefits currently provided by our urban forest.

iii. Impacts of Invasive Plants on Forests

Biological invasions are now a planet-wide phenomenon, affecting ecosystems in most biomes including all forest and woodland communities found in Fairfax County. Human-related movement of organisms has caused a massive alteration of species ranges and migration patterns. In some ecosystems, invasions by alien organisms and diseases have resulted in extinction of native species along with large losses of ecosystem services. In the United States, invasions by non-native plants, animals and microbes are thought to be responsible for 42 percent of the decline of native species now identified as endangered or threatened. Fairfax County is not immune to this pressure. Invasive plants have escaped, or been introduced, into our native plant communities from many sources. Japanese Stiltgrass, wavy-leaf basket grass, porcelain berry and mile-a-minute weed are just a few of the invasive plants that out-compete native trees and shrubs by reducing the availability of light, water, nutrients and space. The threats posed by invasive plants to biodiversity and to ecosystem processes may eventually translate into economic consequences that stem from environmental degradation and reductions in ecological services.

iv. Climate Change

Observed changes in climate have already affected natural systems in other parts of the world. Changes in species distributions, population sizes, reproduction and migration timing, as well as an increase in the frequency of pest and disease outbreaks, have been observed, especially in forest ecosystems. Changes in weather patterns are affecting forest ecosystems across the United States. The presence of higher level of CO<sub>2</sub> has been shown to change growth rates of both plants and the organisms that feed on plants or use them for habitat. Warmer temperatures along with genetic selection are allowing some

cold sensitive plants, such as kudzu, to expand their range more fully into Fairfax County.

v. Changes to Weather

Local weather patterns can be affected by climate change. The frequency and strength of storm events have been predicted to increase over time due to climate change impacts. Longer, hotter drought periods occurring at atypical times along with severe winter storms accompanied with heavy ice and snow will probably increase mortality rates, which is likely to translate into increased numbers of high-risk tree conditions and produce undesirable ecological effects such as increased opportunities for invasive plant species, diseases and insects. An increase in tree failure rates will require budget planning for cleanup, safety pruning and replanting. Milder winter temperatures are likely to affect the timing of the important internal biological processes of significant numbers of native plant species, which can affect their long-term health. Frequent inundation from intense or prolonged rain events can also predispose trees to failure through destabilization of the soils that root systems are anchored to.

vi. Forest Pests

The suppression and management of current forest pests (such as Gypsy Moth and Emerald Ash Borer) are discussed later in this section; however it should be noted that several significant forest pests that have not reached Fairfax County are impacting relatively close areas of the country.

Asian Longhorn Beetle is a prime example of a pest that has significant potential to cause serious damage to Fairfax County's urban forest. ALB was first discovered on several hardwood trees in the United States in Brooklyn, New York, in August 1996. ALB is believed to have been introduced into the United States from wood packing material accompanying cargo shipments from Asia. ALB was later detected in Chicago, Illinois, in July 1998. The Secretary of Agriculture declared an emergency in order to combat the infestation with regulatory and control actions. In October 2002, the beetle was found in Hudson County, New Jersey, and then in Middlesex and Union Counties, New Jersey, in August 2004. In August 2008, ALB was discovered in Worcester County, Massachusetts, and in July 2010, ALB was found in Suffolk County, Massachusetts. Most recently, ALB was confirmed in Clermont County, Ohio, in June 2011.

This insect is difficult to monitor and can be expensive to treat. Once detected, the preferred control is to remove or chemically treat all ALB host material within a radius of up to ½ mile of infested hosts. ALB can cause mortality to a wide-range of native and introduced tree species. Trees in the maple, willow and elm families are some of its preferred hosts. The Maple family (red maple, silver maple, sugar maple, box elder, etc.) alone represents

approximately 20 percent (4.4 million trees) of Fairfax County's total tree population, which is currently estimated at 22 million. Although ALB has not been detected in Fairfax County, if it was to appear, it could cause very serious ecological and economic damage. Modern trade patterns and commercial shipping methods coupled with inadequate pest inspection programs at the national level almost guarantee that additional forest pests will continue to enter the country. This probability necessitates that Fairfax County continue to support and fund a strong forest pest management program.

**d. Tree Preservation during the development of Public Facilities**

On March 22, 2011, the Board of Supervisors' Environmental Committee directed staff to develop specific actions to implement goals and strategies in the Tree Action Plan. In response to this directive, staff from UFMD and the Department of Planning and Zoning started to draft amendments to the Public Facilities section of the Policy Plan volume of the Comprehensive Plan. The draft amendments are intended to enhance tree preservation and landscaping/buffering on new or re-developed county public facilities. It is anticipated that this amendment will go forward for consideration during FY 2014.

**e. Implementation of Tree Action Plan**

In 2006, 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 continued progress towards goals and executing strategies of the plan is currently engaged in numerous strategies associated with 11 out of the 12 core recommendations of the Tree Action Plan.

**f. Strengthened Partnership with Fairfax ReLeaf, Inc.**

Staff from UFMD holds a position of the Fairfax ReLeaf board. This year's involvement includes:

- Support for GIS analysis of homeowner association land for Fairfax ReLeaf planting activities.
- Strengthening partnerships with the Stormwater Planning Division and Fairfax ReLeaf, Inc. to develop potential planting sites at Stormwater Planning Division projects and facilities.
- Supporting development of planting beds to grow larger tree sizes.
- Attendance and participation at board meetings.

**g. Active Participation in the Northern Virginia Urban Forestry Roundtable**

UFMD regularly participates in the planning of quarterly Northern Virginia Urban Forestry Roundtable meetings to present and discuss urban forest management issues of concern to all jurisdictions in Northern Virginia.

**h. Tree City USA Award**

For the 30<sup>th</sup> year, Fairfax County received the TREE City USA award at the SpringFest (Earth Day/Arbor Day) event held this year at the Lorton Workhouse Arts Center grounds. UFMD staff prepares the application each year for this award.

**i. Tree Planting at Fairfax County Facilities**

Staff from UFMD, in concert with staff from the Wastewater Collection Division, planted native trees at the recently retrofitted stormwater management pond at the Wastewater Collection facility on Freds Oak Road.

**j. Strengthen Partnership With the Stormwater Planning Division**

UFMD staff has strengthened the working relationship with the Stormwater Planning Division, providing assistance with tree preservation consultation, plan review, project scoping, attending pre-construction meetings, review of projects during implementation and review of final projects at completion. Projects include stream restoration, stream rehabilitation and retrofit and new stormwater facilities.

**k. Upgrades and Improvements to the ‘Trees’ Web Page**

UFMD staff continues to improve and upgrade the ‘Trees’ web page. Some of the upgrades and improvements include:

- Restructure ‘Tree’ web page to be more “user friendly.”
- Provide various Public Service Announcements.
- Prepare “slideshare” programs available to the public regarding various tree health-related topics.

UFMD staff continues to respond to internal and external feedback regarding its Web page and make appropriate upgrades and improvements to provide superior communication with internal and external customers.

**l. Outreach and Increased Public Awareness**

UFMD continues to provide education and outreach programs regarding trees and the urban forest at several venues including:

- Provide educational programs to homeowners associations, scouting groups, school groups, summer school groups, summer camps and garden clubs.
- Participate in the Mt. Vernon Town Hall Meeting and Lake Barcroft Earth Day.
- SpringFest (Earth Day/Arbor Day).
- Celebrate Fairfax County.
- Fall for Fairfax.
- “Green Fire.”
- 4H Fair.
- Green Industry Professional Field Day.

**m. Tysons Core Team**

Staff from the Urban Forest Management Division continues as a member of the Department of Planning and Zoning’s Tysons Core Team. UFMD staff actively participates in the Tysons Core Team meetings. Participation includes reviewing all proposed rezoning applications associated with the Planned Tysons Corner zoning district, attending Planning Commission hearings with PTC applications and, in consultation with the Office of Community Revitalization, contributing to the creation of the Tree Space Designs and Planting details of the Tysons Corner Urban Design Guidelines.

**n. Tree Commission Activities**

Tree Commission Chair Harry Glasgow stepped down from his position with the Tree Commission after the November 2012 meeting. Bob Vickers, Tree Commissioner for the Dranesville District was nominated and accepted the position of Chair of the Tree Commission at the December 2012 Tree Commission Meeting.

The Tree Commission is currently revising and improving the Tree Preservation and Planting Awards Program. The revised and improved program should be ready for launch in fall 2014.

Chairman Vickers and Commissioner Quigley attended a public hearing of the Planning Commission regarding the proposed Comprehensive Plan Amendment for telecommunications facilities. Chairman Vickers presented the Tree Commission’s concerns regarding the lack of concern for tree preservation and requested staff to consider tree preservation for screening during planning and implementation of proposed cell towers. In addition, the chairman recommended landscape screening at ground level facilities rather than simply developing cell sites in wooded areas.

As part of the 2012 Land Conservation Awards 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 builders, developers, engineers and contractors who have done an outstanding job of preserving trees on a project they have constructed. Tree planting and landscaping awards are presented to recognize builders, developers,

landscape contractors and landscape architects who have done an outstanding job of planting trees on the site to ensure compliance with the 10-year tree canopy requirements and to enhance the aesthetics of the project. The Tree Commission awarded the 2012 Tree Preservation and Planting Awards to the following:

- The “Nature House” at the Walker Nature Center, Hunter Mill District: Tree Preservation.
- The Dolley Madison Library, Dranesville District, Tree Preservation.
- The Valleybrook Montessori School of Northern Virginia, Inc., Mason District: Tree Preservation.

**o. Friends of Trees Awards**

The Tree Commission presents the Friends of Trees Award annually to individuals and organizations that have demonstrated superior actions in preserving, protecting or planting trees. These year’s recipients were:

- Jessica Strother.
- Harry Glasgow.
- Tabitha Eagle.
- Level 3 Communications.
- Northern Virginia Soil and Water Conservation District.

The awards were presented at “SpringFest” held at the Lorton Workhouse Arts Center.

**p. 2012 Forest Pest Management Activities**

**i. Gypsy Moth Caterpillar**

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

- Mechanical: the gypsy moth egg mass search, scrape and destroy campaign and burlap banding for gypsy moth caterpillars. These are volunteer involvement programs.
- Biological: the release and monitoring of gypsy moth parasites and pathogens.
- Chemical: the aerial and ground applications of Diflubenzuron and *Bacillus thuringiensis* on high infestations.

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

In calendar year 2012, gypsy moth caterpillar populations remained very low. There was no measurable defoliation reported in Fairfax County or elsewhere in the Commonwealth of Virginia. The reason for the extremely low gypsy moth populations in Fairfax County and other areas is due to effective control programs in past years and the fungal pathogen *Entomophaga maimaiga*. The gypsy moth staff will continue to monitor populations; treatment was not planned for 2013. It is important to note that gypsy moth populations are cyclical in nature and it is not uncommon for outbreaks to occur following dormant phases.

ii. 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 has had the most severe infestations of fall cankerworm was in the Mount Vernon and Lee magisterial districts. The result of the winter 2012–2013 monitoring effort indicated that 2,000 acres of treatment were required in spring 2013. These areas were to have been treated by helicopter and with the pesticide Bt. It is expected that populations of this pest will remain high and treatment is expected in the near future.

iii. 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. In July 2008, two infestations of emerald ash borer were discovered in Fairfax County in the Town of Herndon and in the Newington area. 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. Since July 11, 2008, a federal order has 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. During summer 2012, the Virginia Department of Agriculture and Consumer Services found evidence of EAB in many other areas of the state. As a result of these discoveries, the entire state is now subject to state and federal quarantines. Trapping efforts since 2008 have revealed that the beetle can be found in many areas of the county. The Forest Pest Program has appointed an Urban Forester as its Emerald Ash Borer Outreach Coordinator. This staff member is responsible for educating the

public on how to deal with the impending death of many thousands of ash trees. Education efforts emphasize how to hire a private contractor to remove dead and dying trees and how to properly apply pesticides that might keep trees alive.

iv. Hemlock Woolly Adelgid

Hemlock woolly adelgid is an insect that infests and eventually kills hemlock trees. Staff is considering various control options for this pest. Possible control options include pesticide treatments and release of predatory insects that feed on HWA.

v. 1000 Cankers Disease of Black Walnut

In August 2010, a fungal disease was detected in black walnut (*Juglans nigra*) in Tennessee. During spring 2011, this disease was identified near Richmond, Virginia. This disease and the beetle that spreads the disease are native to the western United States. In its native range, this disease causes minor damage to western walnut species. Unfortunately, eastern walnut trees are very susceptible to the disease. Trees die within a few years of infestation with the beetle/fungus. Staff is monitoring the development of this disease and has petitioned the Virginia Department of Agriculture and Consumer Services to include this pest/disease to the list of pests that can be controlled by service districts in Virginia. Staff established trapping sites for this pest during summer 2012. Results of this trapping effort proved that the beetle and fungus are found in Fairfax County. Following this discovery, the Virginia Department of Agriculture placed a quarantine around Fairfax County that prohibits the transportation of walnut wood products. Staff will continue to monitor walnut tree health and educate homeowners on this condition.

## **18. Agricultural and Forestal Districts**

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

Fairfax County's policy is to conserve, protect and 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 2010 EQAC Annual Report on the Environment, there have been some changes to the A&F Program as shown in Table VII-6.

<b>Table VII-6: Change in Local and Statewide A&amp;F Districts from January 1, 2010 to August 31, 2012</b>				
Magisterial District	No. of Local Districts		No. of Statewide Districts	
	2010	2012	2010	2012
Dranesville	14	13	1	1
Mt. Vernon	3	3	1	1
Springfield	21	21	0	0
Sully	4	4	0	0
<b>Total</b>	<b>42</b>	<b>41</b>	<b>2</b>	<b>2</b>

*Fairfax County 2012 Agricultural & Forestal District Annual Statistical Report, August 1, 2012, Attachment to email from Brent Krasner, Senior Staff Coordinator, Zoning Evaluation Division, Department of Planning and Zoning, Fairfax County, Virginia, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, May 28, 2013.*

As can be seen in the above figure, there was a change in Dranesville District, resulting in a loss of one Local District during this reporting period. This was due to the withdrawal of Salona, a loss of 52.3 acres. This was partially compensated by the addition of 5.08 acres to Eagle District I in Dranesville District, resulting in a net loss of 47.22 acres.

## **19. Gunston Cove Ecological Study**

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

## **20. Fairfax County Department of Planning and Zoning**

As an outgrowth of the 2000 Infill and Residential Development Study, Department of Planning and Zoning staff is reviewing the open space definition that is applied in the Zoning Ordinance to determine if clarification is necessary and whether the methodology used in open space calculations should be modified. Although full open space credit is currently given for all stormwater management ponds, staff is considering not giving full credit for an unenhanced dry pond, as these facilities are generally considered undesirable from a usable open space and visual perspective. In

addition, staff is considering requiring more detailed information on the type and location of the proposed open space in conjunction with zoning application and site plan submissions. The open space item is on the proposed 2013 Priority 2 Zoning Ordinance Amendment Work Program, which means that the item will be maintained on a list for future prioritization.

## **21. Fairfax Chapter of the Virginia Master Naturalist Program**

Formed in 2006, the Fairfax Chapter of the Virginia Master Naturalist Program provides local residents with naturalist training and then connects them with volunteer stewardship, citizen science and outreach opportunities in parks and natural areas. The process for becoming a certified Virginia Master Naturalist takes from six to 12 months. Two times a year, approximately twenty candidates are selected for a class. They begin with a 60-hour basic training course, which is a combination of classroom lectures and field work that grounds them in natural history and forest and aquatic ecology. Subject matter experts from the Northern Virginia Regional Park Authority, Fairfax County Park Authority, Virginia Department of Forestry, Virginia Tech, Northern Virginia Soil and Water Conservation District, EPA and National Academy of Sciences make up the faculty. Master Naturalists are expected to provide much-needed support to the many environmental organizations striving to protect natural resources in Fairfax County. To be certified, graduates must provide 40 hours of volunteer service and receive eight hours of advanced training each year. In 2012, 118 FMN members provided 7,270 volunteer hours to program partners and other organizations. Seventy-one members received Virginia Master Naturalist certification by providing 40 hours or more of volunteer service and completing eight hours of advanced training; 31 members have reached the cumulative 250-volunteer-hour mark, while 11 have contributed over 500 cumulative volunteer hours. The Fairfax County Park Authority recognized two members of the program: Bob Dinse was honored as an "Outstanding Volunteer" for his Invasive Management Area work at Mason District Park and for his work at Hidden Oaks; and Murjan Hammad was honored as part of the Envirothon Team for efforts to promote natural resource stewardship and management to children at Hidden Pond Nature Center. Further, the Alice Ferguson Foundation honored Betsy Martin with the Potomac Champion Award for cleanup work on Little Hunting Creek. At Hidden Oaks Nature Center, FMN volunteers and FCPA park naturalists led small groups in hands-on activities focusing on watersheds, pond study, stewardship, stream study and meeting live snakes, turtles and a toad. Every seventh-grader at three diverse Fairfax County middle schools participated in a Meaningful Watershed Education Experience program. It reached well over 1,000 students over eight days in April-May and five days in October.

The Fairfax Master Naturalist chapter successfully ran two basic training classes in 2012 and just finished another in May 2013, recruiting 60 new members. This brought the number of trained volunteers to 227. With 176 current members, FMN provided over 7,000 hours of volunteer service in 2012, of which 1,643 hours were in education and outreach, 1,317 in citizen science projects and 2,307 in stewardship efforts. FMN members provided 1,923 hours of volunteer service to FCPA, of which just over 300

was with the Invasive Management Area program, in both removal and Early Detection-Rapid Response activities.

For more information see the program's website:  
(<http://www.virginiamasternaturalist.org/fairfax.html>)

## 22. Fairfax County Restoration Project

With the help and guidance of the Fairfax County Office of Public/Private Partnerships, The Fairfax County Restoration Project began in April 2008. Although the FCRP was formed in response to deforestation along the Capital Beltway/495 Express Lanes project, it quickly widened its scope to environmental issues throughout Fairfax County. As a core group of community organizations, businesses and government staff coalesced, it became evident that another environmental organization that would compete for funding and volunteer time was not needed. What was and is needed is a focal point for a community of practice where organizations and individuals interested in environmental restoration in Fairfax County can meet, share information and take collaborative action. FCRP was chartered to help foster a collaborative approach to environmental restoration in Fairfax County.

In 2011, FCRP began considering a media campaign to raise awareness of the relationship between runoff and pollution. A primary focus of the campaign was to be how replacing turf with trees and other plants could reduce runoff and improve water quality. FCRP became aware that The Chesapeake Club had already developed a similar campaign called [www.plantmoreplants.com](http://www.plantmoreplants.com), which the organization felt was very well done and extremely effective. Working with the Club and Chairman Bulova's office, FCRP was able to bring the campaign to Fairfax County. Beginning in fall 2012, Cox Communications has placed the ads in its normal public service announcement schedule. FCRP is now streaming the video clips through its website to further promote the message. Supporting materials developed by The Chesapeake Club have been distributed at functions and are available to any of FCRP's partner organizations, and banners can be seen at retail & landscaping outlets. Ad buys are being done collectively throughout the state to further the message.

Originally forecast for spring 2011, Reforest Fairfax was finally launched on October 13, 2011. Reforest Fairfax is a tree-gifting program designed to help replenish the tree canopy and to help the county achieve its tree canopy goals. For each \$35 gift purchased, five seedlings are planted by Fairfax ReLeaf during a spring or fall planting season. An on-line locator is available so once the trees are planted the location of the gifts can be identified. There is also an optional on-line registry for supporters of the program. The program can be accessed at <http://www.fcrpp3.org/reforestfairfax/>. In 2012 the total reached 49 gifts purchased and 245 trees planted.

FCRP developed partnerships with Xpedex, an International Paper Company, McCabe's Printing Group, the Northern Virginia Soil & Water Conservation District, Eze Solutions and Fairfax ReLeaf in order to create the Reforest Fairfax Program.

Once again, Transurban provided a grant to support the program's initial development. Merchandising items to further support the program are currently being developed.

FCRP facilitated discussion among Virginia Megaproject partners, Fluor-Transurban and VDOT, Supervisor Foust and Fairfax County staff to develop more environmentally comprehensive strategies for some of the stormwater ponds being constructed as part of the 495 Express Lanes. Discussions focused on the grading design within the ponds and a mixture of compost and seed that will create habitat for native species. There was agreement that five of the twenty-six planned ponds will be upgraded with the recommended compost and seed mix while the remaining nineteen ponds will receive only the seed mix as far as the supply lasts. At this writing, compost sightings have been reported and the process of the upgrades has begun.

## 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/>. More information about FCPA and its programs is available at: <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](mailto:SupportParks@aol.com)  
<http://www.fairfaxparkfoundation.org/>

Environmental Stewardship opportunities for volunteers are available at Northern Virginia Regional Park Authority sites, including Meadowlark Botanical Gardens, Potomac Overlook Regional Park, Upton Hill Regional Park and Pohick Bay Regional Park. More information can be found at [http://www.nvrpa.org/park/main\\_site/content/volunteer](http://www.nvrpa.org/park/main_site/content/volunteer).

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

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

The Northern Virginia Conservation Trust offers many opportunities in stewardship for Fairfax County residents. Additional information on NVCT can be found on its website, <http://www.nvct.org>. Landowners whose property contains environmentally sensitive land such as wetlands, stream valleys and forests can also participate in environmental stewardship. If these landowners grant easements to NVCT, they will not only protect sensitive land, but can realize some financial benefits. A perpetual easement donation that provides public benefit by permanently protecting important natural, scenic and historic resources may qualify as a federal tax-deductible charitable donation. Under the Virginia Land Conservation Act of 1999, qualifying perpetual easements donated after January 1, 2000 may enable the owner to use a portion of the value of that gift as a state income tax credit. Fairfax County real estate taxes could also be reduced if the easement lowers the market value of the property.

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

## 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. An analysis of high-resolution satellite imagery and LIDAR data indicates that 53 percent of the county's landmass was covered by tree canopy in fall 2011 (the date of this most recent imagery acquisition). This figure is much higher than those produced by previous remote sensing and also exceeds the 45 percent goal. Some of the unexpected gain may be attributable to an explosion in the number of invasive trees (such as Callery pear and Tree of Heaven) along transportation and utility corridors--this has contributed large areas of canopy in areas once occupied by other vegetation types. Such invasive trees should not count toward the tree canopy cover goal.

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 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. EQAC also notes the accomplishment of the Park Authority in preparing and publishing a Natural Resources Plan for management of the county's parks and urges the Park Authority to fully implement this plan. Additionally, EQAC notes that the Park Authority has taken some steps in implement the plan, but much more needs to be done. EQAC fully supports these efforts, urging that they culminate in a countywide Resource Management Plan. EQAC's intent is that Fairfax County should have all the tools in place (the policy and the data) to create a plan that will support the active management and conservation of the county's natural resources.
  
4. While recurring funding to implement the Natural Resource Management Plan has not been secured, progress has been made in identifying positions within the Park Authority. Three new merit positions were created in 2011 in the Natural Resource Management and Protection Branch (converted from limited term positions). Two are being held vacant and can be filled as soon as funding is available as part of the Phase 1 implementation approach. The third position is the Invasive Management Area Volunteer Coordinator position. In addition, in 2011, the Natural Resource Management and Protection Section was reclassified as a branch and the manager's position was upgraded accordingly. Finally, the Park Authority continues to be successful in obtaining project-specific funding for resource management. In addition to funding for IMA, several other projects have been

funded including work at Old Colchester Park and Preserve, Ossian Hall, Fitzhugh and Wakefield Parks. In addition, NRMP staff kicked off a new natural resource restoration project at Ellanor C. Lawrence Park using bond, proffers and telecommunication fee funds in 2012. The 2012 bond included \$1 million for natural capital stewardship. In 2013, Park Authority staff has been working with a wide range of stakeholders to revise the agency Natural Resource Management Plan. The new plan will be more closely focused on adaptive management of natural capital for biodiversity. It should be adopted by December 2013 or January 2014.

EQAC commends the Park Authority in finding funding for IMA projects. EQAC also commends the Park Authority in upgrading the Natural Resource Management and Protection Section to a branch and establishing new positions. EQAC suggests that the Park Authority fill all vacant positions as soon as feasible.

## **E. RECOMMENDATION**

1. The Fairfax County Park Authority approved a Natural Resource Management Plan in 2004. This partially fulfilled a long-standing EQAC recommendation to develop and implement a countywide Natural Resource Management Plan. The Park Authority is currently preparing a revised Natural Resource Management Plan, and it is anticipated that, as was the case for the previous plan, substantial staff and monetary resources will be needed to implement the plan that will ultimately be adopted. For the 2004 plan, FCPA staff estimated that full implementation would require approximately \$8 million per year and dozens of staff positions. This included about \$3.5 million to focus on general natural resource management and \$4.5 million for a non-native invasive plant control program. A more phased approach to funding would have allowed 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 have required \$650,000 and six positions. It is anticipated that similar needs will be identified for the new plan. EQAC strongly feels that a Natural Resource Management Plan needs to be implemented. Therefore, EQAC recommends that the Board of Supervisors provide sufficient funding to implement an initial phase for natural resource management efforts and that the Fairfax County Park Authority Board apply this funding accordingly. EQAC recognizes that in today's budget climate, such increased funding may be difficult to achieve. However, EQAC recommends some increase in funding by the Board of Supervisors. And, once the county's budget problems are eased, EQAC further recommends that the Board of Supervisors increase funding as a high priority. Ultimately, this increased funding should support the full implementation of the Natural Resource Management Plan.

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*Fairfax County 2012 Agricultural & Forestal District Annual Statistical Report, August 1, 2012*, Attachment to email from Brent Krasner, Senior Staff Coordinator, Zoning Evaluation Division, Department of Planning and Zoning, Fairfax County, Virginia, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, May 28, 2013

*Environmental Quality Advisory Council's Annual Report on the Environment: Information Requests for the 2013 Report*, Memorandum from Lorrie Kirst, Senior Deputy Zoning Administrator, Department of Planning and Zoning, Fairfax County, Virginia, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, 28 May 2013.

*Fairfax Master Naturalists*, Attachment to email from Alan Rush, President, Fairfax Master Naturalists, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, July 19, 2013.

Fairfax County Restoration Project, Attachment to email from Amy Gould, Fairfax County Restoration Project, to Noel Kaplan, Department of Planning and Zoning, Fairfax County, Virginia, May 20, 2013.