

2011 Annual Report on the Environment

Environmental Quality Advisory Council

SUMMARY REPORT



A Fairfax County, Virginia
Publication--December 2011



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A detailed version of this report is available in the attached CD and is available online at: www.fairfaxcounty.gov/eqac

The cover shows: erosion due to heavy rains in McLean, September 2011; Huntley Meadows Park in southeastern Fairfax County; and Silver Line Metro construction at Tysons Corner. Cover design and photos by Kat Pfleeger, Student Member, Environmental Quality Advisory Council.

ANNUAL REPORT
on the
ENVIRONMENT

2011



SUMMARY REPORT

Fairfax County, Virginia

Environmental Quality Advisory Council
December 2011

Printed on recycled paper

A detailed version of this report is provided in the attached CD and is available on-line at www.fairfaxcounty.gov/eqac

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INTRODUCTION

This year's Annual Report on the Environment has been prepared by the Environmental Quality Advisory Council. Staff support for the coordination and printing of the report has been provided by the Planning Division of the Department of Planning and Zoning.

The Annual Report on the Environment, which is an update on the state of the county's environment, serves a threefold purpose. Initially, it is intended to assist the Board of Supervisors in evaluating ongoing environmental programs and to provide the basis for proposing new programs. The document also aids public agencies in coordinating programs to jointly address environmental issues. In addition, the report is directed to residents and others who are concerned with environmental issues.

Similar to last year's Annual Report, EQAC is presenting this year's report in two formats: (1) A detailed report similar to the reports that have been produced each year; and (2) A summary report providing highlights of recent activities, key issues, and comments and recommendations associated with each of the major topical areas covered in the larger report. In addition, most of the chapters of each report format include discussions of stewardship opportunities. Both report formats are provided electronically, but only the summary document is being made available in hard copy. It is EQAC's hope that this approach to report formatting will provide interested readers with the level of detail or generality that they desire while saving resources associated with hard copy production.

The report continues to include chapters on major environmental topics including: climate change and energy; land use and transportation; air quality; water resources; solid waste; hazardous materials; ecological resources; wildlife management; and noise, light, and visual pollution. An appendix addressing state legislation relating to the environment is also provided within the detailed report format, as is an appendix providing EQAC's resolutions and positions taken over the past year. New to this year's report is a short table identifying who people can call in regard to various potential environmental crimes/violations. A similar table has been presented in the past within the Hazardous Materials chapter.

Within each chapter of the detailed report format are: a discussion of environmental issues; a summary of relevant data; and a discussion of applicable government programs. Most of the chapters include information regarding stewardship opportunities and conclude with recommendations that identify additional actions that EQAC feels are necessary to address environmental issues. References are presented only in the detailed report format. As was the case in last year's report, recommendations are presented in two formats: items addressing ongoing considerations and continued support for existing programs are noted as "comments." Items addressing new considerations, significant refinements of previous recommendations, or issues that EQAC otherwise wishes to stress, are presented as "recommendations."

This report covers activities affecting the environment in 2010; however, in some cases, key activities from 2011 are also included.

While the Environmental Quality Advisory Council has prepared and is responsible for this report, contributions were made by numerous organizations and individuals. Many of the summaries provided within this report were taken verbatim from materials provided by these sources. EQAC therefore extends its appreciation to the following:

Alice Ferguson Foundation
Audubon Naturalist Society
Clean Fairfax

Coalition for Smarter Growth
Fairfax County Deer Management Committee
Fairfax County Department of Cable and Consumer Services
Fairfax County Department of Code Compliance
Fairfax County Department of Information Technology
Fairfax County Department of Neighborhood and Community Services
Fairfax County Department of Planning and Zoning
Fairfax County Department of Public Works and Environmental Services
Fairfax County Department of Transportation
Fairfax County Department of Vehicle Services
Fairfax County Executive's Office
Fairfax County Environmental Coordinator
Fairfax County Facilities Management Department
Fairfax County Fire and Rescue Department
Fairfax County Health Department
Fairfax County Office of Community Revitalization and Reinvestment
Fairfax County Park Authority
Fairfax County Police Department, Division of Animal Services
Fairfax County Public Schools
Fairfax County Restoration Project
Fairfax County Wildlife Biologist
Fairfax Joint Local Emergency Planning Committee
Fairfax ReLeaf
Fairfax Water
Illuminating Engineering Society of North America
International Dark-Sky Association
Interstate Commission on the Potomac River Basin
McLean Land Conservancy
Metropolitan Washington Airports Authority
Metropolitan Washington Council of Governments
Northern Virginia Conservation Trust
Northern Virginia Regional Commission
Northern Virginia Regional Park Authority
Northern Virginia Soil and Water Conservation District
Occoquan Watershed Monitoring Laboratory
Reston Association
United States Environmental Protection Agency
United States Fish and Wildlife Service
United States Geological Survey
United States National Museum of Natural History
Upper Occoquan Sewage Authority
Virginia Department of Conservation and Recreation
Virginia Department of Environmental Quality
Virginia Department of Forestry
Virginia Department of Game and Inland Fisheries
Virginia Department of Transportation
Virginia Outdoor Lighting Taskforce
Virginia Outdoors Foundation

Finally, EQAC wishes to acknowledge the efforts of the county's interagency Environmental Coordinating Committee, which coordinated the staff responses to the recommendations within EQAC's 2010 *Annual Report on the Environment*, as well as the ongoing efforts of the interagency Energy Efficiency and Conservation Coordinating Committee.



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

Board of Supervisors
County of Fairfax
12000 Government Center Parkway
Fairfax, VA 22035

December 6, 2011

The Environmental Quality Advisory Council is pleased to present the 2011 Annual Report on the Environment. In this report, we discuss various environmental issues in Fairfax County and make recommendations as to what actions the county should take to resolve identified problems. This report covers 2010, but also includes significant actions from 2011 that could impact EQAC's comments and recommendations. We recognize that the report does not capture all ongoing actions; if we tried to accomplish this, the report would never be finished and would be even longer. The report consists of nine chapters – each chapter addressing a different aspect of the environment. The chapters are arranged to reflect the order of topics listed in the Board of Supervisors' Environmental Agenda. We have again have created two versions of the report; one a published summary version, and secondly, an electronic complete version with all data included, available both on-line and in the CD attached to this report. Additionally, we have again highlighted environmental stewardship opportunities within the report chapters.

New to this year's report is a short matrix identifying who people can call in regard to various potential environmental crimes/violations. A similar matrix has been presented in the past within the Hazardous Materials chapter; we are now presenting this within the introductory section of the report (immediately after our "Scorecard") and have expanded its scope beyond hazardous materials.

EQAC thanks the board for its continued strong support of environmental programs. We understand that although budget constraints lessened this year they continue to impact all programs within the county.

EQAC asks that you continue to support the environmental programs you have established. These programs are important if we are to maintain the high quality of life we have in Fairfax County and the high standards we have set for ourselves. We note that for Fairfax County residents, quality of life is not just about good schools and jobs but also about having a clean and healthy environment in which to live and recreate.

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EQAC's priority recommendations this year focus on the need for continuing long-term financial support to sustain these environmental programs.

1. EQAC commends Fairfax County for its support of its ongoing stormwater program, which includes dam maintenance, infrastructure replacement, water resource monitoring and management, watershed restoration and educational stewardship programs. EQAC recommends that Fairfax County continue to adequately fund and implement this ongoing stormwater program. EQAC realizes the funding for the stormwater program will come entirely from funds generated through the Stormwater Service District rates. EQAC also realizes that there is a need for increasing capacity within the Department of Public Works and Environmental Services to provide these services.

EQAC recommends that the Stormwater Service District rate be increased in FY 2013 by a penny, from a rate of 1.5 cents per \$100 assessed real estate value to 2.5 cents per \$100. This would, once again, result in more funding for modest watershed improvement programs and a somewhat more realistic infrastructure replacement timeline. We realize that there will likely be a need for additional increases for water quality projects to meet future permit conditions, and for infrastructure reinvestment, as the system is continually growing and aging.

2. On Monday, June 21, 2004, the board, in continuation of its long history of environmental vigilance and dedication, endorsed and adopted "Environmental Excellence for Fairfax County: A 20-year Vision," also known as the Environmental Agenda (www.fairfaxcounty.gov/living/environment/eip/). By adopting the Environmental Agenda, the board not only demonstrated its commitment to environmental excellence, it provided the necessary guidance for creative decision-making and leadership for the county. The board acknowledged that the Environmental Agenda is an aggressive, multi-year plan that will require a long-term financial commitment. For this reason, **EQAC recommends that Fairfax County establish an Environmental Improvement Program projects fund.** The EIP Fund could be established and structured in a similar manner to the Information Technology fund.
3. And lastly **EQAC recommends that the Comprehensive Plan be modified to better utilize GIS technology.** Land use conditions are continuously changing with new zoning, land acquisitions and other changes. However, the latest adopted Comprehensive Plan changes are not displayed on the Plan map. The plan should be digitally formatted so that approved Comprehensive Plan changes and other appropriate updates can be incorporated in a timely manner. The Comprehensive Plan text volumes should continue to migrate to a digital format based on GIS technology. Plan language can be tagged and referenced by GIS region for access through the digital interface. Implementing this recommendation will both integrate the latest Comprehensive Plan changes and make those changes accessible to all.

Board of Supervisors
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As we do each year, EQAC would like to commend the outstanding efforts of the following groups whose actions improve and safeguard the environment in Fairfax County. The Northern Virginia Soil and Water Conservation District continues its work to provide excellent education programs, to consult with the county on innovative stream restoration work, to have a large and successful stream monitoring program and to be available to residents and developers alike for site work consultation. The Northern Virginia Conservation Trust continues to obtain easements on privately owned environmentally sensitive land. Fairfax ReLeaf continues to promote tree preservation and tree replacement programs. The Park Authority Natural Resources staff continues to provide exemplary service due to a small group of dedicated individuals, working with a very small budget, who are slowly enhancing environmental efforts in the county's parks. The members of EQAC thank all these groups, and all others who work to preserve and enhance the environment of the county.

Once again, EQAC would like to thank and commend the county staff for its continued outstanding work. We thank staff especially for providing the data for this report and for a continued willingness to meet with EQAC to discuss various issues. We commend the county's Environmental Coordinating Committee, which is chaired by Deputy County Executive David Molchany, for its continued efforts at managing environmental action within the county. We appreciate the ECC's willingness to meet with EQAC twice each year and to discuss issues of environmental significance.

As always, it gives me great pleasure as the representative of EQAC to thank and acknowledge the work of two individuals. Every year we do this and every year the members of council continue to be impressed with the work and input of these two people. First, we need to mention Noel Kaplan of the Environment and Development Review Branch, Department of Planning and Zoning. Noel provides county staff support to EQAC. Noel sets up and tapes every EQAC meeting, follows up on actions generated from the meetings and coordinates the inputs and publication of the Annual Report. Although the members of EQAC write the Annual Report, it is Noel who makes publication of the document possible. EQAC cannot thank him enough for his hard work and long hours in our support.

Second, we thank Kambiz Agazi, Environmental Coordinator, Office of the County Executive, who also attends all of our meetings and provides helpful advice and suggestions. His insight and his overview of county environmental activities are invaluable to our work. EQAC thanks him for his assistance and valuable contributions.

Finally, as I did last year, I would like to personally recognize my fellow EQAC members. They represent a diversity of views that allows for knowledgeable discussions and results in thoughtful recommendations. They spend extensive time investigating issues, write excellent resolutions and produce comprehensive chapters

Board of Supervisors
Continued

on subjects they have carefully researched. They are to be commended for their efforts.

In conclusion, EQAC encourages the Board of Supervisors to both support and fund all of the valuable programs designed to protect the county's environment and enhance the quality of life for its residents. We continue to urge you to take a look at how to integrate these excellent programs to maximize your efforts and returns.

The members of EQAC thank the Board of Supervisors for its leadership and look forward to continue working with you to achieve the goals of the Environmental Agenda in the coming years.

Respectfully submitted,

A handwritten signature in cursive script that reads "Stella M. Koch".

Stella M. Koch, Chairman

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SCORECARD

Progress Report on 2010 Recommendations

I. CLIMATE CHANGE

Climate Change Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>1 EQAC strongly recommends that Fairfax County explore methods to reduce GHG emissions from sources that are not operated by the county. For example, for new building construction, Fairfax County should explore whether commitments can be sought from developers to: (1) encourage reporting of greenhouse gas emissions estimates, which could be based on energy consumption of fuels that release greenhouse gases; (2) reduce their greenhouse gas emissions by reducing their energy consumption or by obtaining energy from sources that do not emit greenhouse gases (e.g., energy from wind, solar, hydroelectric and/or geothermal sources); and (3) expand efforts to benchmark energy use and energy efficiency beyond residential construction to include multi-use, office and commercial buildings.</p>	<p>Staff concurs with EQAC's recommendations to encourage developers, during the zoning process, to commit to levels of green building performance that are higher than the minimum expectations established in the Comprehensive Plan. Staff also supports the concept of encouraging developers to investigate the potential for use of energy sources that do not produce greenhouse gas emissions and to report the results of such investigations to the county. Staff will continue to pursue these ideas during the zoning process and is particularly hopeful that higher level green building performance commitments and commitments to innovative energy efficiency and conservation efforts will be made in conjunction with redevelopment proposals in Tysons Corner.</p> <p>With respect to the collection of building-specific energy use data and/or greenhouse gas reduction estimates, staff does not support EQAC's recommendation at this time. Rather, staff feels that a broader emphasis on energy efficiency and conservation and greenhouse gas education and outreach should be the focus of both staff and EQAC efforts. At staff's February 18, 2011 meeting with members of EQAC, much of the focus of the discussion was on the forthcoming residential outreach effort and how to best structure and implement this effort. Staff will continue to work with EQAC in the development and implementation of the outreach effort. Resources are not currently available to extend the outreach effort to a nonresidential audience. Staff encourages EQAC to consider developing recommendations as to what such an effort should entail if and when resources become available in the future. Finally, staff notes a condition of LEED certification will be the sharing of energy and water usage data for at least five years after occupancy of each newly-certified building.</p>	<p>Following review of this response and discussion with county staff, EQAC agrees with the many constructive approaches that are being taken by Fairfax County and encourages the county to continue to explore opportunities to achieve the types of goals identified in this recommendation. The recommendations at the end of the climate chapter have been revised so that they would have a better chance of adoption.</p>	<p>Progress made, but not yet completed.</p>

Climate Change Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>2. While EQAC commends the county for work on the greenhouse gas emissions inventory and the use of social media to facilitate communications and education, EQAC recommends that the board direct staff to undertake education efforts to advise both businesses and residents on ways that they can play a role in making Fairfax County a leader in reducing GHG emissions.</p>	<p>No action is necessary at this time, largely because staff's current and planned efforts regarding energy efficiency and conservation should help achieve EQAC's objective, particularly if the efforts and community stories are publicized.</p>	<p>The inventory has been completed and education efforts initiated.</p>	<p>Yes— inventory Education- efforts initiated.</p>

Climate Change Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>3. The Board of Supervisors should direct county staff to evaluate alternatives for the county to further reduce GHG emissions. More specifically, composting efforts similar to what is being pursued in the District of Columbia and Arlington County should be considered. Increasing the amount of waste recycled or composted will lower GHG emissions beyond reductions seen in incineration.</p>	<p>The Virginia Department of Environmental Quality regulates the siting and operation of both vegetative waste composting facilities and food waste composting facilities. Each of these types of facilities is regulated under separate portions of the state’s environmental rules and each type of facility must comply with different requirements. At the present time, there are no food waste composting facilities in Fairfax County or the entirety of the northern Virginia area. There are two food waste composting facilities in Maryland. One is the Recycle Green facility in Carroll County, MD and the other is Pogo Organics in Montgomery County, MD.</p> <p>Since there is no local capacity for food waste composting in the northern Virginia region, it is unlikely that this request can be acted upon in the near term. Should the Fairfax County Board of Supervisors direct staff to undertake an evaluation of the potential for composting of organic residuals from the county, county staff could undertake this evaluation.</p> <p>There is the possibility of a privately-owned company with the desire to site and operate an organic residuals composting facility conducting this activity in the county. While one private firm has expressed interest in developing an organics composting project in the county, no formal offers or requests have been received by the county.</p>	<p>EQAC is pleased that this recommendation has furthered the discussion of the possibility of food waste composting and expanding recycling for other waste streams.</p> <p>EQAC agrees that adoption of this recommendation would most likely benefit from a public private partnership and has modified the recommendation to request that the scope of materials that could be recycled through food composting and other recycling be assessed.</p>	<p>Progress made, but not yet completed.</p>

Climate Change Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>4. While the county has promoted the incorporation of energy efficient certification, such as LEED at the Silver level or higher, the Board of Supervisors should promote the evaluation of energy use for LEED certified buildings.</p>	<p>Staff concurs that the tracking/evaluation of energy use should be supported, but it does not feel that the county should establish a program to collect and interpret/evaluate energy tracking data from privately-operated facilities. Staff concerns are outlined within a March 15, 2011 memorandum, in responses to this recommendation and the first recommendation in this chapter. As staff has noted in this memorandum, if the concern about LEED certified buildings is related to assessment of energy performance of green buildings, staffs view at this time is that staff resources would be better spent on tracking broader studies of energy use and greenhouse gas emissions associated with buildings, as there are a number of factors beyond building design that will affect a building's actual energy use and it is therefore not clear to staff that the collection of energy use data from a small number of buildings can generate meaningful information that will inform the county's policy decisions.</p> <p>Staff has also noted that it does support outreach and educational efforts regarding energy efficiency and conservation, both for residential and nonresidential uses; staff also feels that this is important for all buildings and not just LEED certified buildings--New LEED buildings are only a portion of energy consumed in the county and existing buildings a larger portion. Improving existing buildings could have a larger impact in reducing energy consumption than focusing on LEED buildings that are already green.</p>	<p>EQAC agrees that outreach and education is an essential component in this area and that the goal should be to derive meaningful information about what will inform the county's policy decisions on energy.</p> <p>The new county inventory is very promising for helping to inform policy on buildings and energy use. Moreover, the U.S. Green Building Council's requirements for reporting show promise for helping to inform this recommendation when they are implemented.</p> <p>Nevertheless, in the absence of at least a sampling of different types of buildings, it seems that there will be an information gap that is needed to inform county energy policy that is not available.</p>	<p>Progress made, but not yet completed.</p>

II. LAND USE AND TRANSPORTATION

Land Use & Transportation Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. EQAC continues to recommend that the county evaluate the Plan and publish an updated version of the “State of The Plan, An Evaluation of Comprehensive Plan Activities between 1990-1995 with an Assessment of Impacts through 2010” (published in 1996) to cover plan activities between 1995-2011 and assess impacts through 2025.</p> <p>With the renewed focus on revitalization, especially in the mixed-use centers, EQAC recommends that the county formalize and prioritize the focus on these centers. . . .</p>	<p>Staff is currently quantifying and assessing the county's development potential and trends to achieve a similar end, using different technology, now that many of the recent Area Plan amendments and other planning activities are nearing completion or have been adopted by the Board of Supervisors.</p> <p>Staff is currently engaged in quantifying and summarizing these planning activities utilizing the county's Geographic Information Systems-based Comprehensive Plan Potential Application. CPPA will assist staff in determining development trends by type of land use, focusing on the past decade, and comparing this information to trends since the Planning Horizons effort in 1991. This effort is primarily intended to demonstrate how planning activities have achieved growth and conservation policies related to encouraging transit-oriented, mixed use development in the county's activity centers and other sustainability goals.</p>	<p>EQAC agrees that GIS is an excellent way to capture and represent the plan changes.</p> <p>We suggest that a summary report be issued describing the changes and showing the GIS results. This will be very informative to the board and the public.</p>	<p>Progress being made but not completed.</p>

Land Use & Transportation Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
<p>2a. EQAC is an advocate of the county GIS system and the Integrated Parcel Lifecycle System.</p> <ul style="list-style-type: none"> • New nonresidential pipeline data needs to be incorporated into IPLS. • IPLS should incorporate data regarding planned nonresidential land use intensities. 	<p>County staff has allocated the resources to work on integrating the nonresidential development pipeline into IPLS. At the moment, the Plan options for non-residential data, in addition to residential data that are currently provided to IPLS, are captured through the Plan quantification system for in house use.</p>	<p>EQAC appreciates the complexity of different data sets and the need for data cleansing and validation to maintain high quality information.</p>	<p>Progress being made.</p>
<p>2b. EQAC recommends that the county continue to expand the ability of the general public to access GIS and IPLS tools, as appropriate and feasible. This includes the next iteration of My Neighborhood and regular updates of the county digital data holdings.</p>	<p>The components of this recommendation are being addressed. The redesign of My Neighborhood has resumed, since Virtual Fairfax has been implemented. The county now has the GIS software and servers to move to the latest generation of Web-services based applications that are essential for the next version of My Neighborhood. It is being addressed and the recommendation is important.</p>		<p>Progress being made.</p>

<p>Land Use & Transportation Recommendations</p>	<p>Action taken by Agency or Department</p>	<p>EQAC Comments</p>	<p>Completed</p>
<p>2c. EQAC is impressed with the ways the county has incorporated GIS technology to transform business practices. We recommend that this continue with a larger focus on strategic applications, such as a GIS Based Digital Comprehensive Plan. This would combine:</p> <ol style="list-style-type: none"> 1. The Integrated Parcel Lifecycle System as a base data capability. 2. Three dimensional representations of the county. 3. Future projections for planned changes and growth, as well as various alternatives. 4. Environmental and Transportation models that illustrate local and countywide impacts to understand how micro and macro changes impact the county. 	<p>The recommendation for a digital Comprehensive Plan is being addressed in part. Growth projections and three-dimensional, environmental and transportation modeling are not a component of the digital Plan; however, these tools are available to the public when requested and if the information is available.</p> <p>The recommendation suggests that modeling tools, growth projection tools or their products should be added to the online digital Comprehensive Plan in order to supplement the text and map and to provide a more complete visualization of the Plan recommendations. However, staff is unclear as to whether EQAC would like staff to make the representations, information, and models active tools online or whether the recommendation requests that staff place the results of the representation or models online.</p> <p>Either way, staff has several concerns about this recommendation.</p>	<p>This recommendation had broader implications intended to transform the comprehensive plan from primarily text based to primarily GIS based, with all the inherent tools for manipulating and interacting with the plan.</p> <p>EQAC appreciates the concerns with this transformation and realizes it is a long term recommendation, but one that will be of great value in the future.</p>	<p>Under consideration.</p>

<p>Land Use & Transportation Recommendations</p>	<p>Action taken by Agency or Department</p>	<p>EQAC Comments</p>	<p>Completed</p>
<p>3. EQAC recommends that the county focus on improving transit utilization through a systematic plan that includes multiple options within a community. For example, the Virginia Railway Express Burke Centre EZ Bus provides a convenient alternative to commuting to the Burke Centre VRE station. This can be combined with pedestrian improvements, more connector bus options and biking trails that together provide a diverse transportation plan.</p>	<p>The Fairfax County Department of Transportation is already considerably involved with diverse systematic planning efforts to improve transit utilization, including multi-modal approaches within communities when appropriate and feasible. The evaluation of Fairfax County Connector Bus and other transit service is an ongoing process, as are efforts to improve pedestrian and bicycle facilities.</p> <p>Per above, FCDOT is already involved in systematic planning efforts to improve transit utilization, including multiple options within communities where feasible and when resources, including funding, are available. New possibilities and approaches for transit enhancements are considered and prioritized for implementation when resources are available as part of this planning effort. FCDOT is interested in any specific concerns or ideas EQAC may have regarding transit service and planning.</p>	<p>EQAC agrees that FCDOT is moving in the right direction with systematic planning, especially with the Connector bus system, as well as the pedestrian and bike programs. As new projects are developed, we need to reemphasize the importance of multi-modal transportation options.</p>	<p>Ongoing.</p>

III. AIR QUALITY

There were no recommendations in the 2010 Annual Report

IV. WATER RESOURCES

Water Resources Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. EQAC recommends that Fairfax County continue to adequately fund and implement its ongoing stormwater program, which includes dam maintenance, infrastructure replacement, water resource monitoring and management, watershed restoration and educational stewardship programs.</p> <p>EQAC recommends that the Stormwater Service District rate be increased in FY 2012 by a half penny, from a rate of 1.5 cents per \$100 assessed real estate value to 2.0 cents per \$100. This would, once again, result in the restoration of some more funding for modest watershed improvement programs and a somewhat more realistic infrastructure replacement timeline. We realize that there will likely be a need for additional increases for water quality projects to meet future permit conditions, and for infrastructure reinvestment, as the system is continually growing and aging.</p>	<p>No action taken on the recommendation in FY2012.</p>	<p>EQAC is disappointed in the county not increasing the District rate in FY2012 and is therefore requesting a penny increase in the rate in FY2013.</p>	<p>No.</p>

V. SOLID WASTE

There were no recommendations in the 2010 Annual Report

VI. HAZARDOUS MATERIALS

Hazardous Materials Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. EQAC recommends that the county continue to find ways to help people more easily recycle household hazardous waste. As examples of the need for such efforts, with the increased use of rechargeable batteries and compact fluorescent light bulbs, more households in the county will have these hazardous waste items to dispose of on a regular basis. EQAC understands that the plan to stop remote hazardous waste collection events has recently been adjusted to have three events within the next year. We support this decision and urge the county to continue to schedule and publicize these events in the future.</p>	<p>The county's Solid Waste Management Program operates two permanent Household Hazardous Waste collection facilities, one at the I-66 Transfer Station and the other at the I-95 complex, that support collection of household hazardous waste. The county also supported six remote hazardous waste collection events in 2010 as EQAC recommended.</p>	<p>EQAC commends the county for maintaining scheduled remote hazardous waste collection events in 2010. We urge the county to continue to schedule and publicize at least three to five of these remote events per year in the future.</p>	<p>Yes.</p>

VII. ECOLOGICAL RESOURCES

Ecological Resources Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. FCPA approved a Natural Resource Management Plan in 2004. This partially fulfills a long-standing EQAC recommendation to develop and implement a countywide Natural Resource Management Plan. However, most of this plan cannot be implemented without additional staff and funding for the FCPA. The FCPA staff estimates that implementation will require \$3 million plus per year. A more phased approach will allow FCPA to begin to manage 10 percent of parklands and set up the program to be phased in over time. Phase 1 with this approach would require \$650,000 and six positions. EQAC strongly feels that the plan needs to be implemented. Therefore, EQAC recommends that the Board of Supervisors provide sufficient funding to implement Phase 1. EQAC recognizes that in today's budget climate, such increased funding may be difficult to achieve. However, once the county's budget problems are eased, EQAC does recommend that the Board of Supervisors provide this funding as a high priority. In the meantime, EQAC recommends that some of the six staff positions and supporting funding should be found from internal FCPA staff assets.</p>	<p>As part of the county's efforts to evaluate and make changes to the limited term exempt employee system (in part a response to healthcare reform), the county converted two limited term positions to merit positions in support of Natural Resource Management Plan implementation. Only one of these positions was funded in FY 2012 due to funding constraints, and the other will be funded in a future budget year as funding appropriations permit. The funded Naturalist I position will support the continuation of the Invasive Plant Removal Program, which leverages trained volunteers to restore hundreds of acres of important natural areas. The FY 2012 budget also included \$70,000 in support of the current level of this program. In addition, in the 2008 bond, \$970,000 was included for natural and cultural resources in Sully Woodlands.</p>	<p>EQAC appreciates that FCPA took steps to continue the Invasive Plant Removal Program, and thanks FCPA for the actions that enabled the program to continue. However, EQAC believes that FCPA should expand this highly successful program. Additionally, EQAC continues to support increased funding for implementation of the Natural Resource Management Plan from the Board of Supervisors, but recognizes that achieving the full amount of additional funding is not likely due to the current budget conditions. EQAC continues to recommend that some additional staff positions and supporting funding be found from internal FCPA staff assets.</p>	<p>No.</p>

VIII-1. IMPACTS OF DEER IN FAIRFAX COUNTY

Deer Management Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1. Managed hunts should be continued as they have become both cost-effective and efficient in reducing excesses in the deer herd.	Due to staffing limitations resulting from the restrictions on the county budget, fewer managed hunts have been conducted than in some prior years. However, those held have been successful in terms of the number of deer taken.	The number of hunts and the success rates have been what could be reasonably expected given the level of staffing availability.	Yes.
2. The sharpshooter events should be continued because they are both humane and cost effective.	Due to staffing limitations resulting from the restrictions on the county budget, somewhat fewer sharpshooter events have been conducted than in some prior years. However, those held have been successful in terms of the number of deer taken.	The number of sharpshooter events and the success rates have been what could be reasonably expected given the level of staffing availability.	Yes.
3. The newly begun archery program should be continued as a means of controlling deer depredation of vegetation on residential properties where firearms cannot be used.	The use of archery to address the needs of residents to control deer depredation of their home sites has received increased emphasis and considerable work has been done with homeowners to aid them in utilizing these methods.	The archery program has been very successful in addressing one of the key needs of homeowners to control the environmental destruction caused by deer in residential neighborhoods.	Yes, within the limits of staff availability. Expanded effort would be desirable.

VIII-2. IMPACTS OF GEESE IN FAIRFAX COUNTY

Geese Management Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
1. EQAC strongly recommends that the goose management program be continued, particularly the public outreach and training activities so that a cadre of volunteers can be created to provide the labor to do the actual egg-oiling that is the principal control measure.	Due to staffing limitations resulting from the restrictions on the county budget, fewer direct goose management activities have been conducted than in some prior years. However, much of the available staff time has been applied to public outreach and training activities so that the momentum of the program can be maintained.	With the increases in the resident goose population it is desirable to increase the staffing for this program as soon as the budget situation permits.	Yes, within the limits of staff availability.

VIII-3. COYOTES IN FAIRFAX COUNTY

There were no recommendations in the 2010 Annual Report

VIII-4. WILDLIFE BORNE DISEASES OF CONCERN IN FAIRFAX COUNTY

There were no recommendations in the 2010 Annual Report

IX-1. NOISE

Noise Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. Request the Metropolitan Washington Airports Authority and Metropolitan Washington Council of Governments to collect input from stakeholders and develop a noise report format and frequency for Dulles and Reagan National Airports. Reports should be sent on a quarterly basis to the Fairfax County Board of Supervisors, relevant county staff, EQAC and other stakeholders.</p>	<p>Staff and the Metropolitan Washington Airports Authority discussed the format and frequency of reporting results from the new noise monitoring system for Washington Dulles International and Ronald Reagan Washington National Airports. MWAA will post results on its website in the same format as in years past and will make efforts to post them quarterly.</p>	<p>EQAC supports MWAA plans to continue the same format and to make the reports publicly available on the website. EQAC urges MWAA to post results quarterly and to make the website more readily accessible.</p>	<p>Not yet.</p>

IX-2. LIGHT POLLUTION

There were no recommendations in the 2010 Annual Report

IX-3. VISUAL POLLUTION AND URBAN BLIGHT

There were no recommendations in the 2010 Annual Report

**HOW TO REPORT ENVIRONMENTAL CRIMES
OR VIOLATIONS**

Type of Incident	<u>Phone Number</u>
<p><u>ANY ACTIVE RELEASE OF MATERIALS INTO THE ENVIRONMENT</u></p> <p>If the dumping of any substance into a stream, into a manhole, into a storm sewer or onto the ground is witnessed, assumptions regarding the contents of the materials should not be made. 911 should be called immediately. When calling 911, be prepared to provide specific information regarding the location and nature of the incident. The local office of the U.S. Environmental Protection Agency (703-235-1113) can be called in addition to (but not instead of) 911.</p>	<p align="center">911</p>
<p><u>HAZARDOUS MATERIALS-DANGEROUS</u></p> <p>If a suspected hazardous substance is being released, if lives are in danger or if property is threatened, 911 should be called immediately. It is also appropriate to call 911 anytime an active release is witnessed.</p>	<p align="center">911</p>
<p><u>HAZARDOUS MATERIALS-NO IMMEDIATE DANGER</u></p> <p>If a known discharge of hazardous materials has occurred in the past and no lives or property are in immediate danger; this must be reported to the Fairfax County Fire and Rescue Department's Hazardous Materials and Investigative Services Section at this number (includes Towns of Clifton, Herndon and Vienna). If there is any question about whether a release may still be occurring or whether there may be any immediate danger, 911 should be called.</p>	<p>During working hours, call: 703-246-4386</p> <p>TTY 703-335-4419</p> <p>After hours, call: 703-691-2131</p> <p>TTY 711</p>
<p><u>RELEASE OF ANY MATERIAL INTO THE ENVIRONMENT</u></p> <p>Any release of materials into the environment, whether hazardous or not, should be reported to the Northern Regional Office of the Virginia Department of Environmental Quality at this number. If the release is an active one, call 911.</p>	<p align="center">703-583-3800</p>

Type of Incident	<u>Phone Number</u>
<p><u>LAND CLEARING; EROSION AND SEDIMENTATION; DUMPING OF FILL</u></p> <p>If the illegal removal of trees, the illegal clearing of land and/or the illegal dumping of fill is suspected, contact Fairfax County's Code Enforcement Division at this number. This number should also be contacted if siltation and other harmful effects of construction activity are occurring or observed on neighboring lands and waterways. All calls received during non-working hours will be responded to during the next business day.</p>	<p>703-324-1937</p> <p>TTY 711</p>
<p><u>SOIL EROSION ON PRIVATE PROPERTY (NON-CONSTRUCTION SITES)</u></p> <p>If increased water flow is creating an erosion problem, forming ditches or becoming a hazard due to the movement of soil on private property, please call this number.</p>	<p>703-324-1937</p> <p>TTY 711</p>
<p><u>GENERATION OF DUST</u></p>	<p>703-324-1950</p> <p>TTY 711</p>
<p><u>CONSTRUCTION NOISE BETWEEN THE HOURS OF 9 P.M. AND 7 A.M.; NUISANCE NOISE</u></p>	<p>703-324-1300</p> <p>TTY 711</p>
<p><u>TRASH COLLECTION BETWEEN 9:00 P.M. AND 6:00 A.M.</u></p>	<p>703-324-5230</p> <p>TTY 711</p>
<p><u>ILLEGAL SIGNS</u></p> <p>Only the Commonwealth Transportation Commissioner or his agent has the authority to enforce the state code as it pertains to signs in the state rights-of-way. There are restrictions for signs on private property. For more information contact the Department of Code Compliance.</p> <p>For information about illegal signs go to: http://www.fairfaxcounty.gov/dpz/faqs/signsfaq.htm#6.</p>	<p><u>703-324-1300</u></p> <p>TTY 711</p>
<p><u>BLIGHTED PROPERTIES</u></p> <p>Including damaged property, junk/debris in yards and violations of grass height limits</p>	<p>703-324-1300</p> <p>TTY 711</p>
<p><u>OUTDOOR LIGHTING CONCERNS</u></p>	<p>703-324-1300</p> <p>TTY 711</p>

Type of Incident	<u>Phone Number</u>
<p><u>AIR POLLUTANTS</u></p> <p>Air pollutants are emitted by stationary sources, such as power plants, gasoline service stations, and dry cleaners, as well as by mobile and area sources, such as from automobiles, trucks and other highway activities. This phone number is for Virginia DEQ’s Northern Regional Office.</p> <p>Virginia DEQ’s air compliance program conducts inspections of facilities within Fairfax County and records information on violations in the state’s database.</p> <p>Contact information is available at http://www.deq.state.va.us/air/compliance/homepage.html</p>	<p>703-583-3800</p>
<p><u>NO RECYCLING IN SCHOOLS</u></p> <p>Section IX of the Fairfax County School Board’s Policy 8542 states that “Schools and centers will have mandatory recycling programs for paper products, cans, and bottles. Construction waste materials will be separated and recycled.” To report schools that are not recycling in accordance with this policy, contact the Fairfax County Public Schools Office of Facilities Management, Plant Operations Section. More information is available at: http://www.fcps.edu/fts/facmanagement/recycle.shtml</p>	<p>703-764-2459</p>
<p><u>HEALTH HAZARDS</u></p> <p>In addition to the above contacts, if a health hazard is suspected, contact the Environmental Health Administration or the Health Department’s Community Health and Safety Section. Asbestos-specific releases should also be reported to the Health Department.</p>	<p>703-246-2205</p> <p>or</p> <p>703-246-2300</p> <p>TTY 703-591-6435</p>

I. Climate Change and Energy

Background

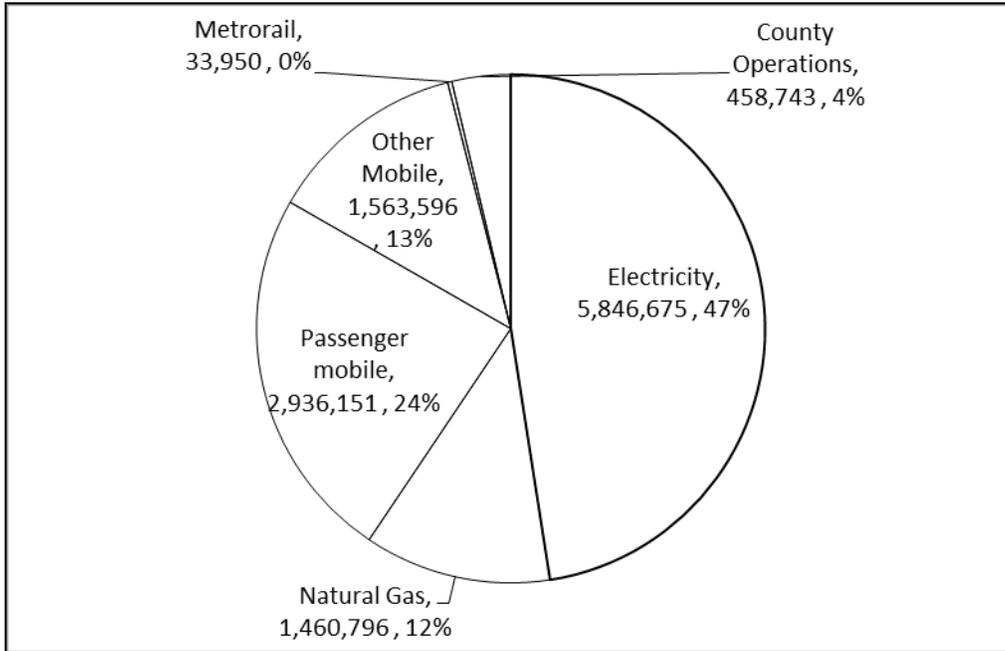
Is there evidence of climate change for Fairfax County? 2010 had the second warmest first eight months in recorded history (1998 was the warmest). In 2011, we had the warmest July on record. We are seeing more poison ivy, which has been attributed to slightly warmer temperatures. As a result of the rise in sea level, the Federal Emergency Management Agency has redrawn floodplain lines, which has put more home structures in floodplains. The Governor's Commission on Climate Change estimates that there will be a sea level rise between 1 and 1.6 feet by 2050 and between 2.3 and 5.2 feet by the year 2100. Similar impacts are being predicted around the world. National and international responses to climate change are expected and while there are few national mandates to address climate change, Fairfax County is fortunate that we are actively pursuing opportunities to inventory and reduce greenhouse gas emissions.

This summary chapter focuses on three areas: (1) activities that Fairfax County government is undertaking to reduce GHG emissions associated with county operations; (2) efforts that Fairfax County is taking to network with the greater Washington metropolitan region in these efforts; and (3) Fairfax County's GHG emissions and activities that the county is taking to reduce such emissions from residences and business operations. This summary presents highlights of the detailed chapter and the reader is referred to that chapter (available at www.fairfaxcounty.gov/eqac/report) for additional information.

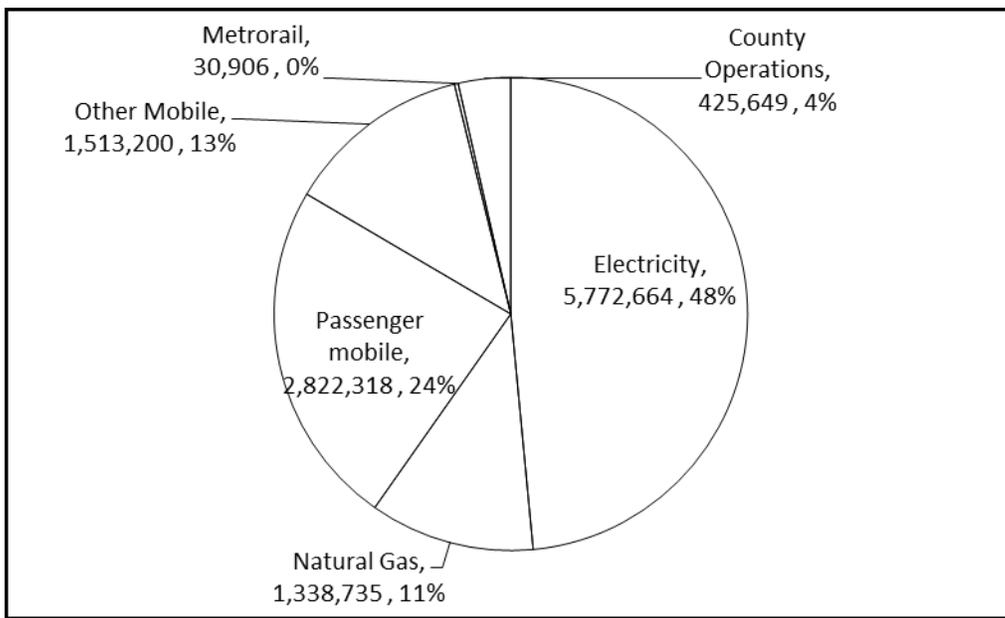
Fairfax County Greenhouse Gas Emissions Inventory

As Figure 1 shows, the main sources of GHG emissions are electricity generation (both residential and commercial) and mobile sources. The annual GHG emission per average Fairfax County resident is about 11.48 Metric Tons equivalent carbon dioxide. Information from the county's GHG emissions inventory, which includes a base year of 2006 (see Figure 2) with four additional years of data, shows that this number has decreased slightly in 2010 (11.28 Metric Tons equivalent carbon dioxide), which could be attributable to a combination of factors, including education and outreach efforts to reduce energy consumption.

**Figure 1. Total Fairfax County Greenhouse Gas Emissions, 2010
(Metric Tons per Year, eCO₂)**



**Figure 2. Total Fairfax County GHG Emissions, 2006
(Metric Tons per Year, eCO₂)**



Activities that Fairfax County Residents can Undertake to Reduce GHG Emissions

The Fairfax County GHG inventory will serve as a guide for both things that must be done and steps that can be taken on a voluntary basis. Actions that can be taken by individuals include:

- Reduce home energy demands.
- Reduce the vehicle emissions by carpooling, using mass transit, bicycling, walking or pursuing other alternatives (including work at home opportunities).
- Participate in local efforts to plan for improved land use patterns and to encourage energy efficient construction practices. Participating in these local efforts will also help to ensure that energy efficient construction practices will have a better chance of acceptance and success.

Fairfax County Operations GHG Emissions and Actions to Reduce these Emissions

The Fairfax County government has undertaken extensive efforts to both characterize GHG emissions associated with county operations and to target opportunities for increased energy efficiency. While county savings from these efforts are to be commended, the success of Fairfax County government in characterizing emissions and improving the efficiency of operations serves as a model for both businesses and residents in the county. Figure 3 shows 2010 GHG emissions for Fairfax County operations.

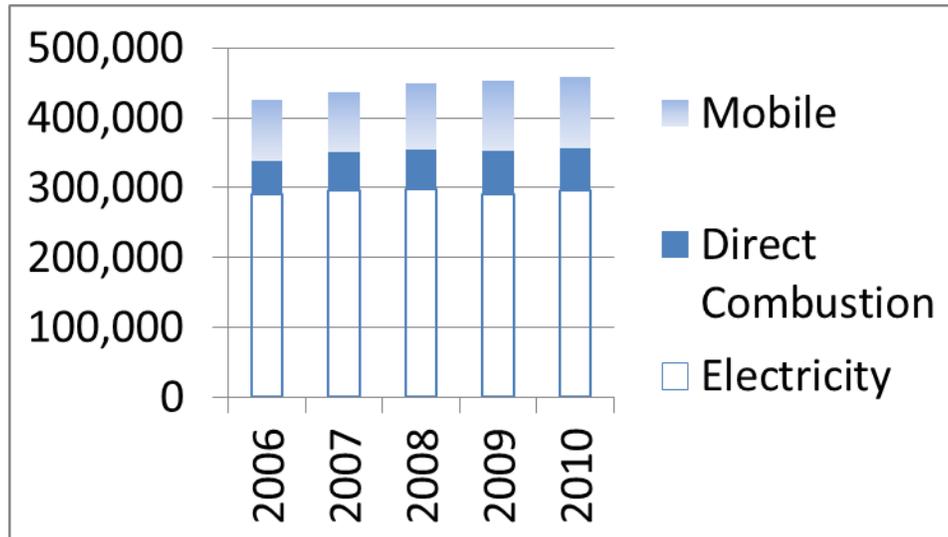
Fairfax County established a number of activities to better characterize and reduce both energy demand and GHG emissions. These activities are described in the detailed chapter.

Residential Energy Education and Outreach

Climate change is a phenomenon that can have real impacts on our lives, and yet the effects of local actions are more limited than those associated with other environmental problems. One of the most significant actions that Fairfax County has taken is the establishment of a grant to assist Fairfax County residents to understand the benefits of efforts to improve home energy efficiency, which also reduces GHG emissions.

On May 17, 2011, Fairfax County issued a request for proposals for obtaining services related to residential energy education and outreach. The purpose of the RFP is to establish a “Residential Energy Education and Outreach” effort that will explain and publicize the benefits of home energy efficiency improvements and that will encourage county residents to pursue such measures. Work on this program is scheduled for completion by fall 2012.

Figure 3. Greenhouse Gas Emissions from County Operations: 2006-2010 (Metric Tons per Year, eCO₂)



Comments

1. The Facilities Management Department cost avoidance from fiscal year 2001 to fiscal year 2010 is in excess of \$7 million or an average annual energy reduction of one percent. For example, one energy project performed by part-time efforts of one staff member resulted in a cost avoidance of approximately \$83,000 annually at the Government Center complex (variable frequency drives, lighting retrofits and lighting software upgrades). More could be accomplished with dedicated staffing. EQAC commends the county for its past efforts and looks forward to working with the county in the future on its climate change program.
2. EQAC commends the county for assembling an inventory of greenhouse gas emissions for Fairfax County facilities and for designing a GHG reporting program for county that allows for GHG emissions to be easily combined with reporting of other jurisdictions.
3. EQAC commends the county for recognizing the importance of reducing the community’s GHG emissions and for soliciting bids for a county-wide education and outreach program that would cut GHG emissions. EQAC looks forward to seeing the implementation of the program when the contract is finalized.
4. EQAC commends the county for participation in regional efforts to reduce GHG emissions and improve energy efficiency. Certain GHG programs, such as transportation related programs, district energy and reporting of carbon footprints require intergovernmental cooperation.

Recommendations

1. While the efforts of Fairfax County government help to reduce greenhouse gas emissions, the county's efforts to reduce Fairfax County government emissions may be most valuable as a model and to show that GHG emission reductions are feasible. There are often significant savings, especially over time, with changes that reduce GHG emissions. Education programs (including social media) and programs to promote energy efficiency will be very important to the future and funding for these programs will be critical for these programs to succeed. For this reason, EQAC recommends that Fairfax County implement energy and climate change-related projects that are part of the county's Environmental Improvement Program through a dedicated fund supporting EIP projects. Such a fund could be structured similarly to an existing Information Technology fund.
2. EQAC recommends that the Board of Supervisors direct county staff to evaluate alternatives for the county to further reduce greenhouse gas emissions. Step one in this process should be to assess the amount of food and other waste that could be diverted to recycling as opposed to incineration and landfilling. More specifically, composting efforts similar to what is being pursued in the District of Columbia and Arlington County should be considered. For some buildings, soiled paper products, food waste and other materials are being composted in order to increase the amount of material recycled.
3. While the county has promoted the incorporation of energy efficient certification, such as LEED at the Silver level or higher, EQAC recommends that the Board of Supervisors should also promote periodic (e.g., bi-annual) evaluation of the GHG footprints for buildings and facilities. While the county has already taken these steps for Fairfax County government buildings, such actions would also be helpful for residential and commercial sectors.
4. EQAC recommends that Fairfax County establish a program to serve as a follow-on to the Residential Energy and Education Outreach program that is being funded by a grant through the American Recovery and Reinvestment Act of 2009. The REE&O program is funded through fall 2012 using grant money, and then lacks funding to continue its operation. The program is seeking to educate county residents on energy conservation and greenhouse gas emission reductions, and would be most beneficial if it continued after the grant money was expended. Given the significant efforts and expenditures made by the county to get this program started, it would be most cost-efficient to continue the program at this time rather than stop it and then try to re-start it at some future date.

II. Land Use and Transportation

Background

Fairfax County has had a remarkable year in 2011 infusing environmental stewardship into land use and transportation activities. While this year continues to present economic challenges, the county delivered by prioritizing the integration of land use and transportation planning and projects with their mission. It was a year of adaptation, convergence and implementation.

Budget shortfalls and the recession added magnitude to the already challenging environmental issues. As a result, county staff absorbed greater workloads, adapted to federal and state mandates and extended program timelines. The county made commendable and successful adaptations to the acute budget issues. Adaptations which, in the near term, enabled continued progress on the chronic environmental challenges addressed by this chapter: urbanization, transportation pressures and population growth.

As detailed in the full Land Use and Transportation chapter, the supply of available land in the county continues to be used up (“buildout”), while the demand, thus the potential in the Comprehensive Plan, for development continues to increase. The urbanization of Fairfax County is well under way. At the same time, transportation systems across the county and metropolitan region are becoming increasingly congested. During rush hour, most highways in the county receive a failing grade for peak hour level of service. The county’s comprehensive demographic study, *Anticipating the Future: A Discussion of Trends in Fairfax County*, points out that higher density residential development in Fairfax County and its neighboring jurisdictions will increase traffic congestion. This density, however, will make public transportation alternatives more viable.

As presented in this Annual Report in previous years, due to a variety of reasons, past land use and transportation decisions in the county had often been made separately. The convergence of budget constraints, the driving forces behind urbanization and the new tools to address them is abundantly evident in the county’s implementation of land use and transportation activities this year. Examples include the Environmental Improvement Program, the Cool Counties program, the extensive community engagement evidenced in projects and the planning and implementation of multimodal transportation, transit-oriented development, **transportation demand management**, low impact development, green building and high occupancy toll lanes. What were once visionary then later innovative concepts are now becoming mainstream responsible governance of land use and transportation in Fairfax County.

Environmental stewardship and high quality of life demand a holistic systems approach to the inevitable urbanization of Fairfax County. The “silver lining” is that urbanization, to be sustainable – environmentally, socially and economically – demands the same. This summary provides a brief recap of some of the county’s recent land use and transportation activities, followed by opportunities for participatory environmental stewardship and concluding with EQAC’s comments and recommendations.

Recent Activities

Transportation Demand Management

The county has integrated transportation demand management strategies into the land development process and is working to formalize this program. In FY 2011, TDM proffers were committed for new developments in Reston and Fairfax and are being considered in Tysons Corner, Merrifield, Mount Vernon and Newington. Proffer monitoring continues for properties in Tysons Corner, Vienna, Herndon and Fairfax.

Virtual Fairfax

The Virtual Fairfax 3-D application continues to be a wonderful example of the power of digital technology. EQAC strongly applauds the county for making Virtual Fairfax available to residents on the Internet. Besides being fascinating to fly through our neighborhoods, it is very practical for boards and commissions to visualize proposed changes and make more informed decisions and recommendations.

Selected Special Studies

The Tysons Partnership - This has been incorporated and has adopted a set of bylaws. The organization is dedicated to an inclusive and collaborative process to achieve the successful redevelopment of Tysons Corner into a pedestrian-oriented and economically vibrant urban place. The partnership is a member organization that is organized into six councils that address: Marketing and Branding; Transportation; Public Facilities and Community Amenities; Urban Design and Planning; Finance; and Sustainability Initiatives. Membership is spread among six stakeholder groups or “cones.” Voting members include employers, landlords and developers, retail and hospitality representatives and resident organizations, with non-voting participation from the county professionals/consultants and neighbor organizations.

2011-2012 Area Plans Review Retrospective and Plan Monitoring - This project involves an extensive examination of the strengths and weaknesses of the APR process, evaluation of potential improvements or alternatives to the process, and updating planning resources, such as the Plan amendment database, Concept for Future Development and Comprehensive Plan map. Plan monitoring is assessing Comprehensive Plan amendments and implementation focusing on the most recent APR cycle. Trends in development will be recognized as they relate to policy goals.

Reston-Dulles Corridor Master Plan Special Study – This study considers Plan guidance for the Dulles Toll Road Corridor, Reston Town Center, residential neighborhoods and village centers. A community-wide vision statement and planning principles have been adopted. The review is being conducted in several phases and will continue into 2012.

[\(http://www.fairfaxcounty.gov/dpz/reston/\)](http://www.fairfaxcounty.gov/dpz/reston/)

Route 28 Station South Study – This study is considering the area south of the Dulles Toll Road and north of Frying Pan Road and the Town of Herndon. The working group has endorsed a

vision and planning concept for the study area and was to have reconvened in the fall to draft Comprehensive Plan language. Public facilities impacts will be analyzed based on the planning concept this summer. The anticipated conclusion for this study is early 2012.

(<http://www.fairfaxcounty.gov/dpz/projects/route28.htm>)

Baileys Community Business Center - The Board of Supervisors has adopted a Plan amendment for the Baileys Crossroads Community Business Center. The Plan amendment identifies a Town Center District along Leesburg Pike. The Plan Amendment identifies the Town Center area as a prime redevelopment area because of its strategic location with respect to the proposed streetcar route from Pentagon City to Baileys Crossroads and encourages redevelopment of the Town Center according to a new land use concept that promotes higher density mixed use development with urban parks and pedestrian amenities. Guidance for the redevelopment of the other areas of the Baileys Crossroads CBC and transportation recommendations is also provided.

Lee District Planning Process - The Lee District planning process is a unique review process that has been in place since 1976. This interjects a step before the public hearing at the Fairfax County Planning Commission. All land use cases (rezonings, special exceptions and changes to the Comprehensive Plan) are presented to the Lee District Land Use Advisory Committee. The committee asks questions, makes comments, etc. When all the information is available, the committee votes to either recommend approval or denial of the application. The Lee District Planning Commissioner participates in these meeting and typically supports the committee decision at the Planning Commission public hearing.

Transportation Activities

The Pedestrian Program

Fairfax County's Pedestrian Program was started in 2002 following a spike in pedestrian fatalities. In 2006, the board endorsed a ten-year funding goal of \$60 million for new pedestrian projects. Through FY 2012, Fairfax County has designated \$58 million in federal, state and county funding to construct pedestrian improvements in high-priority areas of Fairfax County.

Major sidewalk projects are complete along Route 1, Route 29 and Route 236. Pedestrian intersection improvements are complete along Route 7, Route 28, Route 29, Route 50, Route 123, the Fairfax County Parkway and Old Keene Mill Road. At the beginning of FY 2011, over 100 pedestrian projects and over 100 bus stop projects were under design for future construction. Pedestrian and bike access are being constructed on most of the bridges crossing the I-495 High Occupancy Toll lanes project and will improve some of the worst barriers to pedestrian and bicycle movement in Fairfax County.

The Fairfax County Department of Transportation has also funded priority roadway lighting projects and countdown signal improvements as part of the Pedestrian Program. In coordination with DPWES, roadway lighting projects are under way at initial project locations including George Mason University, Route 1, Columbia Pike and Oakwood Road at Van Dorn Metro. Fairfax County also has a greater number of modern countdown signals installed than any other jurisdiction in Virginia. The Fairfax County Department of Transportation initially funded VDOT signal upgrades at 150 locations, and VDOT has continued upgrading with state funding.

The Pedestrian Program also has a role in pedestrian education and outreach in Fairfax County. Fairfax County is the local government funding leader for regional Street Smart Pedestrian and Bicycle Safety Media campaigns, which have used television, radio, print and bus advertising to promote safety awareness responsibilities of drivers and pedestrians. The Pedestrian Program Manager, Bicycle Program Coordinator, Bus Stop Coordinator, Pedestrian/Bicycle Planner and Pedestrian Outreach Coordinator are all involved in community outreach. The Fairfax County Department of Transportation coordinates with other facility resources and departments as appropriate.

The Fairfax County Comprehensive Bicycle Initiative, launched in 2006, continues to address the growing needs of area bicyclists and is making Fairfax County bicycle-safe and friendly. The program has four major goals: (1) creating a county bicycle route map; (2) establishing a staff position with substantial responsibilities devoted to bicycle facility planning, implementation, and coordination; (3) identifying roadways that may accommodate on-road bike lanes with little or no additional construction; and (4) creating a pilot program in a specific area of the county for the establishment of an interconnected bicycle network.

As directed by the Board of Supervisors, a major goal was the development and printing of the first “Fairfax County Bicycle Route Map,” issued on May 16, 2008, “Bike to Work Day.” The map defines a network of preferred as well as less preferred on-road bike routes that enable bicyclists to traverse the county. The county printed about 6,000 copies in the initial print job and will follow up with another run of approximately 41,000 more as a result of demand for the maps. The Fairfax County Department of Transportation was also awarded a transportation enhancement grant for fiscal year 2010 to complete a bicycle map that highlights a route along historic Civil War sites in Fairfax County.

Efforts to expand and enhance bicycle parking countywide are continuing. Installation of 150 new bicycle racks is almost complete, 20 new bicycle lockers were recently installed at the Sunset Hills Park and Ride lot and 30 additional lockers were purchased in May 2011 and were to have been installed this summer. Bicycle lockers are currently located at the following park and ride lots: Sunset Hills; Herndon-Monroe; and Reston South. New summer installations will include; the Massey/Judicial Center complex, Burke VRE, and Reston North.

Staff is working closely with the Washington Metropolitan Area Transit Authority and the Metropolitan Washington Airports Authority on bicycle parking facilities at the new Silver Line stations. In coordination with Comstock Partners, FCDOT is designing a “state of the industry” secure bicycle parking room at the proposed Wiehle Avenue station capable of parking over 200 bicycles, including space for bicycle related retail use and future bicycle sharing.

Work was initiated on the expansion of the Stringfellow Road Park and Ride lot. This expansion will include new secure and covered bicycle parking facilities as well as enhanced trail and sidewalk connections.

FCDOT bicycle program staff provides technical assistance to schools, shopping centers and commercial property owners on the proper installation/location of bicycle racks. Draft Fairfax County bicycle parking guidelines, standards and specifications will be released soon, providing

additional guidance to both the development community as well as government agencies responsible for the design, installation and maintenance of bicycle racks and bicycle parking facilities.

Major Transportation Projects

Tysons Metrorail Station Access Management Study

The Board of Supervisors directed staff to develop a comprehensive public participation mechanism to bring relevant recently completed Tysons Corner studies and alternative mode transportation improvement recommendations, designed to improve access to the four new Metrorail Stations in Tysons, together to allow the public to evaluate and comment on how these transportation improvement recommendations should be prioritized. To meet this objective, the Tysons Metrorail Station Access Management Study started in January 2010. A TMSAMS Advisory Group was formed to guide the study, determine how to present information to the public and collect public input. The Perspectives Group, a private public-outreach consulting firm, was hired to work with the TMSAMS Advisory Group to conduct a robust public involvement process including public meetings, stakeholder meetings and an extensive on-line survey designed to both educate the public on recommended bus transit, bicycle and pedestrian improvements as well as to obtain the public's priorities for how these transportation improvements should be implemented.

Between March 22 and April 30, 2011, four public meetings were held, 20 smaller stakeholder meetings were held and the TMSAMS on-line survey was made available, all with the intent of educating the public and obtaining the public's implementation priorities on recommended bus transit, bicycle and pedestrian facility improvements. The public involvement process was highly successful, with close to 300 people attending a public meeting and over 1,900 people taking the TMSAMS on-line survey. A final public meeting was held on October 4th to present the findings of the TMSAMS public input process regarding multi-modal transportation improvement recommendations. A copy of the presentation provided during that meeting, including general findings of the TMSAMS public involvement process, is available at <http://www.slideshare.net/fairfaxcounty/tmsams-final-public-meeting-presentation-10-042011>. Ultimately, the public input collected through this process will be used to help Fairfax County Department of Transportation Staff prioritize recommended bus transit, pedestrian and bicycle facility improvements that will enhance access to the four new Metro Stations in Tysons Corner.

Dulles Rail Project

The Dulles Corridor Metrorail Project has completed two years of construction along the extension between I-66 at the Dulles Connector Road and Wiehle Avenue in Reston. As of the date of preparation of this chapter, approximately 36% of the construction activity had been completed, with major work efforts on the alignment along the entire line, tunnel construction along Route 123 between International Drive and Route 7 in Tysons Corner and at all five stations. The project is within budget and is slated to begin passenger service in December 2013.

The Metropolitan Washington Airports Authority anticipates completing Preliminary Engineering for Phase 2 of the Dulles Corridor Metrorail Extension (Wiehle Avenue to Dulles International Airport and Loudoun County) in fall 2011. As of the date of preparation of this chapter, there was a significant disagreement between MWAA and the funding partners (Fairfax County, Loudoun County and the Commonwealth) regarding the alignment at the airport and the cost of Phase 2. USDOT Secretary Ray LaHood stepped in to mediate the differences and progress on this is anticipated. This process will result in rail passenger service commencing by late 2016 to early 2017.

On February 23, 2010, the Board of Supervisors approved a Special Exception Amendment for expansion of the West Falls Church Service and Inspection Yard to accommodate rail car storage and maintenance for Phase 1 of the DCMP extension to Wiehle Avenue. The SEA will expand the yard capacity by 42 rail cars and add more maintenance bays in a new annex building. As part of the approval, MWAA and the Washington Metropolitan Area Transit Authority agreed to construct a new stormwater detention pond and rehabilitate the existing stream that runs through the property. In addition, a \$10 to \$12 million cover box will be installed over the eastern most curved track in the yard to reduce “wheel squeal” that occurs as rail cars are moved within the yard. These improvements will be implemented to coincide with the initiation of passenger service to Wiehle Avenue.

Approximately \$8 million in Congestion Mitigation and Air Quality funds are being used to implement pedestrian and bicycle improvements identified in the Reston Metrorail Access Group study for the Wiehle Avenue station and intersection improvements in Tysons Corner.

High Occupancy Toll Lanes on the Capital Beltway

This project will build fourteen miles of new HOT lanes (two in each direction) on I-495 between the Springfield Interchange and just north of the Dulles Toll Road. These HOT lanes will allow the Beltway to offer HOV-3 connections with I-95/395, I-66 and the Dulles Toll Road for the first time. When completed, buses, motorcycles and carpools and vanpools with three or more people can ride in the new lanes for free. Vehicles carrying two people can either travel for free in the regular lanes or pay a toll to ride in the HOT lanes. Tolls for the HOT lanes will change according to traffic conditions, which will regulate demand for the lanes and keep them congestion free - even during peak hours.

In addition to providing new travel choices, this project will also make a significant contribution to the Beltway’s 45-year-old infrastructure, replacing more than 50 aging bridges and overpasses, upgrading 10 interchanges and improving new bike and pedestrian access. This project is made possible through a public-private partnership between the Virginia Department of Transportation and Fluor-Transurban.

As of the date of preparation of this section, HOT Lanes project construction was ongoing and over 65% complete. All overpasses between the Springfield Interchange to just north of the Dulles Toll Road have at least one new overpass complete with the second spans opening later this year and into early 2012. Major Beltway traffic switches are scheduled for this year, realigning the main lanes of Interstate 495 to their ultimate configuration; construction will then

proceed to create the new inner HOT Lanes. VDOT and the HOT Lanes partners continue to work and coordinate the project landscaping efforts with the Fairfax County Restoration Project. The project has an estimated completion date of late 2012.

As a part of the Beltway HOT Lanes project, construction is in progress on the Springfield Interchange, Phase VIII work, which adds HOT/HOV connections between I-95, I-395, and I-495.

I-95 HOT Lanes

The Virginia Department of Transportation is partnering with Fluor-Transurban to develop a new I-95 High Occupancy Vehicle/High Occupancy Toll lane project that will run from Garrisonville Road in Stafford County to Edsall Road in Fairfax County.

This new project will create approximately 29 miles of HOV/HOT Lanes on I-95. This project will add capacity to the existing HOV Lanes from the Prince William Parkway to the vicinity of Edsall Road and will improve the existing two HOV lanes for six miles from Route 234 to the Prince William Parkway. A nine-mile reversible two-lane extension of the existing HOV lanes from Dumfries to Garrisonville Road in Stafford County will help to alleviate the worst traffic bottleneck in the region. As a separate project, plans are also being advanced to construct a direct ramp from the existing HOV lanes on I-395 to Seminary Road, which will connect the Mark Center site to this expanded regional transit and HOV network. The ramp will be restricted to transit and HOV use only.

VDOT has initiated an environmental review for the new HOV/HOT lanes project and expects to host citizen information meetings in late 2011 to provide residents and travelers detailed information on project plans. Construction could begin as early as the 2012 construction season and will take up to three years to complete. The estimated \$1 billion project is being financed and constructed under Virginia's Public-Private Transportation Act. The private sector is expected to contribute a majority of the project's funding and financing, with support from a state contribution. VDOT expects to finalize a financial plan for the revised project later this year.

The HOV/HOT project will directly link the I-95 HOV lanes to new HOV/HOT lanes on the Capital Beltway, creating a free-flowing network spanning more than 40 miles and providing direct HOV and transit service to major Virginia-based employment centers including Tysons Corner, Merrifield, Fort Belvoir and Quantico. The project will also relieve one of the worst traffic bottlenecks in the region where the existing HOV lanes currently end at Route 234 in Dumfries. Carpools with three or more people, vanpools and transit vehicles will have free access to the HOV/HOT lanes network. The HOV/HOT lanes will keep traffic moving by using dynamic tolling that will adjust tolls based on real-time traffic conditions, video technology to identify accidents, a series of electronic signs to communicate with drivers and state troopers to ensure enforcement. These strategies will help maintain travel speeds, make travel times more predictable and significantly reduce the number of violators. Construction of the project is expected to support more than 8,000 jobs.

Integrating Land Use and Transportation

Tysons Corner Urban Center

Tysons Corner is the only Urban Center designated in the Fairfax County Comprehensive Plan (June 22, 2010). The Tysons plan is subdivided into eight separate districts or places, each with a particular neighborhood character that allows further detailed planning. Environmental stewardship is an important aspect of the plan. Specific objectives and incentives are presented for green buildings. Open space is an integral part of the conceptual plan, with 160 acres identified as open space or parkland. Rigorous stormwater management practices are recommended in order to support broader stream restoration goals. Redevelopment will include stream valley restoration. With this green-focused redevelopment, the plan should help the county achieve an 80 percent reduction in carbon emissions by 2050 with the goal for Tysons Corner to achieve carbon neutrality by 2030.

As the county begins to implement the Comprehensive Plan recommendations for Tysons Corner, there are two significant transportation projects under way that are being coordinated by other authorities: the Dulles Corridor Metrorail Project and the I-495 Virginia HOT Lanes Project.

Comments and Ongoing Concerns

1. **Innovative Governance and Collaborative Spirit**

EQAC commends the Board of Supervisors for rising to meet environmental and economic challenges with excellent governance and a persevering commitment to the environmental, economic and social foundations of sustainability.

There has been a truly remarkable convergence of challenges and trends met with the emergence of innovative governance and collaborative spirit in the stewardship of Fairfax County environmental resources. The convergence of efforts to close budget shortfalls and cope with impacts from the recession; implement significant land use and transportation projects like Tysons, Dulles Rail, HOT Lanes and Ft. Belvoir BRAC; and to manage comprehensively environmental challenges that are increasing in scope and urgency is unprecedented. The county has responded to these challenges with outstanding community engagement efforts on budget development and mega-projects; consolidation and leveraging of some government functions; collaborative planning for Tysons resulting in an exemplary growth and development approach, focused on activity centers, that incorporates many of the principles of sustainable development; continued development and application of the Environmental Improvement Program as a comprehensive integrated mechanism to plan, manage and monitor county-funded cooperative environmental stewardship; and development and commitment to the Greater Washington 2050 Compact.

2. Improve Transit Utilization

EQAC recommends that the county focus on improving transit utilization through a systematic plan that includes multiple options within a community. For example, the Virginia Railway Express Burke Centre EZ Bus provides a convenient alternative to commuting to the Burke Centre VRE station. This can be combined with pedestrian improvements, more connector bus options and biking trails that together provide a diverse transportation plan.

3. Economic Opportunities for Revitalization

EQAC commends the Board of Supervisors for adopting “The Housing Blueprint: A Housing Strategy for FY 2011 and Beyond.” There are many land use and transportation efforts under way with significant relevance to the county’s housing goals. That coupled with evidence that the multifamily residential market holds the greatest potential for growth over the next year creates opportunities to leverage resources and interests.

Recovery from the recession presents a unique opportunity to view foreclosed homes, vacant commercial space and the expected employment rebound as targets of opportunity in achieving transportation and land use goals. EQAC suggests that the county:

- Continue to expand options for affordable housing by investing and partnering appropriately in locations that will need increased affordable options as the economy rebounds.
- Identify vacant offices and homes in locales with good transit options and coordinate with the real estate industry to aid in marketing those properties, thereby supporting new tenants with quality of life perquisites, improved commuting options and better residential/commercial or mixed use utilization.
- Coordinate with agencies and businesses to inform prospective/new workers of opportunities for desirable commutes and local housing amenities.

4. Comprehensive Understanding

The county is very good at understanding micro changes in the county. EQAC is concerned that the county is not putting enough focus on the macro effects of these micro or parcel level changes. The Integrated Parcel Lifecycle System provides a base capability to capture and analyze the changes. Additional information is still needed to aggregate information using IPLS:

- Evaluate planning issues and development options, account for Comprehensive Plan changes and capture real time plan changes.
- Facilitate public safety and plan for emergency preparedness.
- Forecast future growth.
- Understand and analyze land use at a finer resolution and provide information on mixed use.
- Evaluate the environmental effect of each parcel and provide data necessary for modeling and understanding the cumulative effect of development.

EQAC commends the county for its decision to acquire a full set of planimetric data and oblique imagery. The full planimetric data layer is an important addition to the gathering of base land use data. Oblique imagery is just starting to be incorporated and will lead to cost savings in the long run.

EQAC commends the county for initiating the APR Retrospective process. As the county reaches buildout and transforms from a development to a redevelopment focus, the review of the APR process is timely. The special studies and comprehensive reviews conducted by DPZ have proven to be much more effective at addressing community needs than the traditional APR process.

5. Green Buildings

The county is becoming a leader in building green buildings and has adopted Comprehensive Plan policy that includes broad support for green building practices and establishes linkages between the incorporation of green building/energy conservation practices and the attainment of certain Comprehensive Plan options, planned uses and densities/intensities of development, particularly in the county's growth centers.

EQAC commends the county for its commitment to green buildings and designing all new construction projects to meet at least LEED Silver certification. There are 12 buildings in construction, design, or pre-design, all targeted for LEED Silver. We are also encouraged to see four complete projects exceeding the design spec and awarded Gold certification. This confirms that green buildings can be affordably constructed with long term savings. We hope that the county will further its leadership with some projects striving for Platinum certification.

Recommendations

1. Holistic Land Use and Transportation Planning

The current Fairfax County Comprehensive Plan traces its roots back to the Planning Land Use System program that culminated in 1975 and the "Goals for Fairfax County" adopted in 1988. Numerous reviews and regular updates have occurred over the past 35 years, yet as stated in the current Plan: "Many of the key components of the 1975 Plan remain in the revised Plan, such as the emphasis on focusing growth in 'Centers'; decreasing automobile dependency; and protecting environmentally sensitive areas and stable neighborhoods. What has changed are some of the means to achieve these ends."

EQAC continues to support a comprehensive evaluation of the plan. Recent discussions have been positive towards this recommendation, especially leveraging actual data and GIS support to substantiate and illustrate the changes. As reference, the last published review was the "State of The Plan, An Evaluation of Comprehensive Plan Activities between 1990-1995 with an Assessment of Impacts through 2010" (published in 1996). The new review should cover plan activities between 1995-2011 and assess impacts through 2025.

With the renewed focus on revitalization, especially in the mixed-use centers, EQAC continues to recommend that the county formalize and prioritize the focus on these centers. The APR Retrospective is a positive step towards this recommendation. The special studies currently under way bring together a myriad of issues that can be addressed holistically and with public participation. This formalization should include incorporating GIS technology and standards for modeling future conditions and plan potential.

The evaluation and assessment will help clarify the historical lessons learned and identify areas that have proven successful at a macro level across the county and where it needs to be strengthened for a future vision. The APR Retrospective is timely in light of the significant changes being experienced in the county.

2. Data and Modeling

- a. EQAC is an advocate of the county GIS and the Integrated Parcel Lifecycle System. We recommend that the county push to have all land use and parcel based data tied into the GIS. This includes data that are more descriptive than quantitative. For example, the Land Development System is not easily used with GIS because it is textual rather than graphical. At a minimum there should be a note in GIS that additional data exist at a geospatial location.
- b. EQAC recommends that the Comprehensive Plan be modified to better utilize GIS technology. Digital maps are continuously changing with new zoning, land acquisitions and other changes. However the latest adopted Comprehensive Plan changes are not displayed on the map. The plan should be digitally formatted so that approved Comprehensive Plan changes and other appropriate updates can be incorporated in a timely manner. The Comprehensive Plan text volumes should continue to migrate to a digital format based on GIS technology. Plan language can be tagged and referenced by GIS region for access through the digital interface.
- c. IPLS has made great strides with the housing base, but other systems need to continue to be brought up to date. Continue to improve the plan amendment and plan quantification databases as well as their interface to IPLS. There should be an ability to easily track changes in plan potential, either at a parcel level or within small groupings of regions. New nonresidential pipeline data should be incorporated in IPLS. This would be very useful for forecasting and analyzing with existing data.
- d. GIS tools have become essential for county staff. EQAC commends the county for providing public access to many sources and recommends this effort be continued, as appropriate and feasible. This includes the next iteration of My Neighborhood and regular updates of the county digital data holdings.

III. Air Quality

Background

Through a federal-state-regional-local partnership, the quality of our air is monitored for specific contaminants and actions are taken against those who cause the contamination level to exceed allowed limits. Fairfax County's major responsibility involves participation and coordination with regional organizations on plans intended to reduce air pollution and improve air quality. In addition, prior to June 30, 2010, county staff operated air quality monitoring sites throughout the county. More recently, the county has also taken a leadership role beyond the limits of its traditional air quality partnership; it has helped formulate and has subsequently adopted a program to reduce gases that may be the cause of global climate change. With regard to traditional air quality matters, Fairfax County has demonstrated a continuing commitment to being an active partner in improving the region's air quality.

Recent Activities

Budget Impacts

- Due to the overall budget constraints in the county over the past several years, the Board of Supervisors made significant reductions in the budget for the Health Department, which ended the county's air quality monitoring program. Fairfax County's FY 2010 and FY 2011 budget eliminated the Air Quality Monitoring Program and the four merit positions that operated the county's air monitoring stations. None of these positions are scheduled to be reinstated in the future. The air quality planning functions will continue to be done by an Environmental Health Program Manager who also manages other Environmental Health sections. On July 1, 2010, all monitoring activities conducted by Fairfax County ceased; at this time, the Virginia Department of Environmental Quality assumed full responsibility for air quality monitoring in the county.

MWAQC FY 2012 Work Program

- The Metropolitan Washington Council of Governments, with its Air Quality Committee, provided input about its planned FY 12 activities. These include working with the states to develop a re-designation request and maintenance plan for the PM_{2.5} fine particulate matter annual standard (1997). MWAQC will continue to lay the groundwork for the ozone State Implementation Plan due in 2013, developing a multi-pollutant strategy for the Washington, DC-MD-VA region. Control measures will be evaluated on their ability to reduce ozone, NO_x, VOC, SO₂, fine particles and greenhouse gases. The core work program will also provide technical support for local government air quality initiatives. Coordinating air quality planning with state and local clean energy programs will continue to be a focus.

Air Quality Monitoring Stations

- During 2010, EQAC, along with several other parties, had many discussions with DEQ on the ramifications of shutting down air quality monitoring stations for which Fairfax County could no longer provide funding. EQAC examined a report provided by the State

Advisory Board on Air Pollution, called “Evaluation of Virginia’s Air Monitoring Network; November 30, 2009” (available at <http://www.deq.virginia.gov/air/sabrpts.html>). In addition, EQAC members followed up with an Environmental Health Program Manager to assess the specific monitors for which county funds could no longer support operations. The Program Manager noted that the Metropolitan Washington area (which includes Fairfax County as well as other parts of northern Virginia, such as Arlington County and Alexandria, portions of Maryland and the District of Columbia) has a total of 17 air monitoring sites, which exceeds the U.S. Environmental Protection Agency’s minimum requirement for the region.

- In April 2010, EQAC submitted a recommendation to the Board of Supervisors that the board provide comments to DEQ regarding its annual air monitoring network review. Specifically, EQAC recommended that the board request that DEQ include one or more of the four existing Fairfax County monitors in its future monitoring plans. Given the historically higher level of ozone concentrations at the Mount Vernon station, as compared to other county-run stations, EQAC recommended that the board request that DEQ include the Mount Vernon station in the regional monitoring plans. At that time, similar requests were made by Representative Gerry Connolly (to EPA) and the Air and Climate Public Advisory Committee (to DEQ). The board referred this issue to its Legislative Committee, which discussed the matter in September 2010; EQAC’s recommendation was not provided to DEQ.
- Virginia DEQ provided an update on the status and plans for conducting monitoring for Nitrogen Dioxide in Fairfax County, noting that the agency is currently in the planning stages for a new NO₂ monitor, to be used to assess compliance with the roadside monitoring aspect of the revised NAAQS for NO₂. There are plans to install one new NO₂ monitor in Maryland and one in Virginia, based on information about the average annual daily traffic count. For Virginia, DEQ is tentatively considering placement of the monitor on property of the Virginia Department of Transportation in the area near the Springfield I-95/I-395/I-495 interchange, pending development of a memorandum of understanding with VDOT. Current plans call for the monitor to become operational by January 2013.
- These projected changes to the air monitoring network in Northern Virginia will be included in the Annual Monitoring Network Plan, which is sent by DEQ to EPA by July 1 of each year. This report contains information on the air monitoring network, including projected changes for that calendar year. This report is posted on DEQ’s air quality Web page each year to receive public comment on all aspects of the network plan. DEQ also posts an Annual Monitoring Data Report on the Web page, which contains the monitored results for the previous calendar year. The 2009 data report is now posted at <http://www.deq.state.va.us/airmon/publications.html>.

Update on National Ambient Air Quality Standards for Criteria Pollutants

- There are several activities ongoing or completed by EPA to update NAAQS for major criteria pollutants such as ozone, fine particulate matter, Nitrogen Dioxide, Sulfur dioxide and lead, some or all of which may have impacts on Fairfax County.
- Ozone: In March 2008, EPA tightened the eight-hour ozone NAAQS from 0.08 parts per million to 0.075 ppm for both primary and secondary ozone standards, but the standard was challenged by a coalition of environmental and health advocacy groups. Additional efforts are underway to strengthen the ozone standard.
- Nitrogen Dioxide: On January 22, 2010, EPA strengthened the health-based NAAQS for NO₂ to a new one-hour NO₂ standard at a level of 0.10 ppm. The standard also requires monitoring that occurs near roads, community-wide NO₂ concentrations and low income or minority at-risk communities. This level will protect people against adverse health effects associated with short-term exposure to NO₂, including respiratory effects.
- Sulfur dioxide: On June 2, 2010, EPA strengthened the primary NAAQS for SO₂ by establishing a new one-hour standard at a level of 0.075 ppm. The new standard is the three-year average of the 99th percentile of the annual distribution of daily maximum one-hour average concentrations.

Air Quality Status in Northern Virginia

- Compliance Data – Virginia DEQ’s air compliance program conducts inspections of facilities within Fairfax County and records information on violations in the state’s database (Comprehensive Environmental Data System).
(<http://www.deq.state.va.us/air/compliance/homepage.html>)
- Ground-level Ozone – EPA designated the metropolitan Washington region as moderate nonattainment for the eight-hour ozone standard of 0.08 ppm in April 2004. Air quality data from 2007-2010 suggest compliance with the 0.08 ppm eight-hour ozone standard. However, EPA has not concluded that the region meets this standard, and, as noted above, the standard itself has been, and may further be, strengthened. Monitors in the metropolitan region recorded data on 33 days during the 2010 ozone season when ozone values ranged from 0.076 to 1.000 ppm. This was a substantial increase from the 2009 season, when the region registered four days with violations of the eight-hour standard (Note – for comparisons with prior year EQAC reports, these data are in relation to the 2008 NAAQS standard of 0.075 ppm). Various studies have shown that, during certain meteorological episodes, pollution from outside the area can cause ozone exceedances in the Washington metropolitan area. Further information about ozone measurements is provided in the long version of this report, available on the EQAC website.
- Emissions from Motor Vehicles – One of the key issues related to ozone nonattainment, and other air quality concerns, is the use of motorized vehicles and their emissions. There is extensive use of motor vehicles in Fairfax County, including a significant number that initially failed the required emissions testing. Data provided by the county indicate that more than 25 million vehicle miles were traveled daily in 2009. VDOT is

actively seeking to address transportation modes that can be used as alternatives to motorized vehicles, such as addressing increased safety for bicycling and pedestrians. These types of initiatives can serve to reduce the county's status as being in nonattainment for ozone, and should be commended.

Air Quality Planning

- MWAQC continues to be responsible for all air quality planning in the Metropolitan Statistical Area identified under Section 174 of the Clean Air Act. MWAQC was established to work cooperatively with state air agencies to conduct interstate air quality attainment and maintenance planning for the Metropolitan Washington region. Members are appointed and Fairfax County currently has three members of the Board of Supervisors on the committee.
- Virginia Department of Environmental Quality is responsible for establishing or adopting standards for air quality, as well as for performing air quality monitoring, stationary source inspection, new and existing source permitting and vehicular inspection and maintenance programs. Air quality enforcement is handled by DEQ.

Stewardship

- Residents of Fairfax County have many opportunities to contribute to improvements in air quality. While some of the metropolitan Washington area ozone problem originates outside of the area and is beyond the control of Virginia, Maryland and the District of Columbia, there are many aspects of our daily lives that can affect the quality of our air. A significant contributor to air quality issues is vehicle miles traveled. As discussed above, Virginians drive many millions of miles. Reducing the amount of driving, as well as the use of other combustion devices, especially during times where ground-level ozone is of concern (e.g., on hot days with lots of sun and little or no wind), can help to improve air quality. Examples of actions that can be taken include carpooling, taking mass transit, reducing or postponing lawn-mowing, paving and outdoor painting, limiting vehicle idling, bringing a lunch to work, avoiding drive-thru windows and refueling after dark.
- The following "Take Action Tips" are provided by Clean Air Partners (<http://www.cleanairpartners.net/>) to help residents in the Washington-Baltimore area understand how making small changes in your lifestyle at home, at work and on the road can make a big difference.

At Home:

- Postpone mowing and trimming or use electric garden equipment.
- Postpone painting or use water-based paint instead of oil-based paint.
- Replace your charcoal grill with a propane gas grill.
- Choose ENERGY STAR™ appliances and lighting.
- Cut back on heating and air conditioning when you can and turn off lights and appliances when not in use.
- Clean heating filters each month.

At Work:

Employers have a unique opportunity to make a difference. They can promote programs that help employees make positive lifestyle changes. For example, employers can encourage staff to use public transportation or carpool. Employers also can give employees the option of working from home. Encourage employees to sign up for [AirAlerts](http://www.cleanairpartners.net/airalert.cfm), a free service that delivers air quality information straight to their inbox (<http://www.cleanairpartners.net/airalert.cfm>).

On the Road:

- Keep driving to a minimum.
- Fill up your gas tank during evening hours. Avoid spilling gas and “topping off” the tank. Replace gas tank cap tightly.
- Have your car tuned regularly by replacing the oil and air filter, and keep tires properly inflated and aligned.
- Carpool or use public transportation when possible.
- Combine your errands into one trip.
- Avoid revving or idling your engine.
- Avoid long drive-through lines; instead, park your car and go in.
- Looking for a new vehicle? Consider purchasing a fuel-efficient model or a hybrid that runs on an electric motor and gasoline engine.

Comments

1. EQAC performed extensive follow up with DEQ and others about Fairfax County’s plans to cease the operation of the four ozone air quality monitors and has expressed concerns about the elimination of those ozone monitors. In April 2010, EQAC provided a recommendation that the Fairfax County Board of Supervisors provide comments to DEQ regarding its Annual Air Monitoring Network review. Specifically, EQAC recommended that the Board of Supervisors request that DEQ include one or more of the existing Fairfax County ozone monitors in its future monitoring plans. Given the historically higher level of ozone concentrations at the Mount Vernon station, as compared to the other county-run stations, EQAC recommended that the Board of Supervisors request that DEQ include the Mount Vernon station in the regional monitoring plans. EQAC plans to continue to follow this issue over the course of the next several years as additional data become available.
2. EQAC appreciates that an Environmental Health Program Manager will continue to perform air quality planning duties. This includes participation in and attendance at Metropolitan Washington Council of Governments’ Air Quality Committee meetings and meetings of the Technical Advisory Committee and subcommittees. In addition to managing other Environmental Health sections, this staff position also: collaborates with other local, regional and national air quality organizations, such as Clean Air Partners; provides support to address board matters related to air quality and the environment; coordinates with other county agencies on efforts to reduce air pollution and perform annual county survey to assess progress toward SIP commitments; serves on county groups and committees such as

Environmental Coordinating Committee and Environmental Improvement Program Action Group; reviews proposed projects for environmental impact related to air quality; performs legislative reviews; assesses the results of ongoing regional air monitoring; and participates in outreach events and encourages county residents and others to take voluntary actions to improve air quality.

Recommendations

None.

IV. Water Resources

Background

Water resources include streams, ponds, lakes and groundwater. These resources serve as sources of drinking water, recreation, stormwater conveyance and habitat for numerous organisms. Water quality can be significantly impacted by land disturbances and surface runoff. Over the past decade, Fairfax County has demonstrated a strong commitment to restore and protect its water resources through a variety of management efforts and public outreach initiatives. Unless water resources are managed properly, increasing demands put on watersheds, such as rapid development, can create many problems. For an overview of water resources concepts and a discussion regarding impacts of point and nonpoint sources of pollution and stormwater runoff volumes on the ecological health of our water resources, please see the longer Water Resources chapter in the electronic version of this report. This summary section instead focuses on recent activities, stewardship opportunities and issues of note, and it ends with a series of comments and one recommendation.

Recent Activities

Environmental Improvement Program

- The Environment Agenda (Environmental Excellence for Fairfax County: 20-Year Vision) adopted by the Board of Supervisors in 2004 continues to have significant impacts on water quality protection and environmental stewardship efforts in the county. In 2006, in response to the Board of Supervisors' directive for follow up action on the agenda, the county's interagency Environmental Coordinating Committee initiated its annual preparation of an Environmental Improvement Plan. The EIP addresses environmental and policy needs and assists county officials in making decisions regarding environmental funding and project planning. The EIP supports environmental initiatives and objectives identified in the Environmental Agenda. The ECC anticipates updating the EIP annually prior to the development of the county budget to provide sufficient time for funding decisions. Additionally, the plan will report on progress made and additional needs. Information on the EIP projects and plans may be found on-line at <http://www.fairfaxcounty.gov/living/environment/eip/>.

Monitoring of Water Resources

- The Fairfax County Department of Public Works and Environmental Services, Fairfax County Park Authority, Metropolitan Washington Council of Governments, U. S. Geological Survey, U.S. Environmental Protection Agency, Virginia Department of Environmental Quality, local water treatment plants and other organizations continue to regularly conduct water quality monitoring and testing. The Northern Virginia Soil and Water Conservation District also incorporates water quality monitoring into its volunteer stewardship activities. For an overview of monitoring see the 2010 Fairfax Stormwater Status Report http://www.fairfaxcounty.gov/dpwes/publications/stormwater/ms4/2010_stw_status_031411.pdf

Fairfax County's Stream Protection Strategy program assesses the ecological conditions of randomly selected streams in the county. In addition, the potential human health risk associated with wading or swimming in streams is assessed based on analyses of *E. coli* bacteria. The 2010 results from the 40 randomly selected sites suggest that approximately 78 percent of the county's waterways are in "Fair" to "Very Poor" condition. The 2010 Stream Quality Index shows an increase in overall stream quality from 2009. This index will be reported annually to evaluate long-term trends in the overall health of streams. Over the past seven years of sampling, a very small increase in the SQI has emerged. As more data are reported annually, emerging trends can be identified with greater certainty.

- As part of the county's National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System permit (known as the "MS4 permit"), water quality is monitored at selected storm sewer outfalls four times per year (seasonally). Outfalls are monitored during dry weather to determine the presence of illicit discharges.

Watershed Planning

- All watershed management plans have been completed and approved by the Board of Supervisors. Some implementation of these plans is already under way with riparian buffer restoration, stream channel stabilization and restoration and stormwater retrofits.
- Partners involved in implementation are often (but not limited to) the Northern Virginia Soil and Water Conservation District, Earth Sangha and the Virginia Department of Forestry.
- The Regional Stormwater Management Plan is being replaced as countywide watershed management plans are being developed. Although innovative stormwater management practices are being explored and applied throughout the county, construction of regional ponds continues to be an option used by the county to retrofit areas needing stormwater controls.

Gunston Cove Study

- Monitored since 1984, data from Gunston Cove and the nearby Potomac River provide valuable information regarding long-term trends; this information will aid in the continued management of the watershed and point source inputs.
- First, phytoplankton algae populations in Gunston Cove have shown a clear pattern of decline since 1989.
- Accompanying this decline have been more normal levels of pH and dissolved oxygen, increased water clarity and a virtual cessation of cyanobacteria blooms such as *Microcystis*.
- The increased water clarity has brought the rebound of submerged aquatic vegetation, which provides increased habitat value for fish and fish food organisms. The SAV also filters nutrients and sediments and itself will inhibit the overgrowth of phytoplankton algae.
- This trend is undoubtedly the result of phosphorus removal practices at the Noman Cole wastewater treatment plant, which were initiated in the late 1970s. This lag period of 10-15

years between phosphorus control and phytoplankton decline has been observed in many freshwater systems, resulting at least partially from sediment loading to the water column, which can continue for a number of years.

- Gunston Cove is now an internationally recognized case study for ecosystem recovery due to the actions that were taken and the subsequent monitoring to validate the response.

Stormwater Management Facilities and Infrastructure

- Fairfax County maintains more than 1,400 stormwater management facilities (as of 2001), 1,500 miles of pipe and 45,000 drainage structures designed to protect the county's streams.
- There are approximately 3,348 private stormwater facilities in the county. The county inspected 173 county facilities and 411 of the privately maintained facilities in 2010. In 2010, the county cleaned and mowed 1,136 dam embankments and completed 131 maintenance work orders to correct deficiencies in publicly maintained SWM/ BMP facilities. In 2010, more of these work orders focused on major maintenance problems, which resulted in a lower number of total work orders from recent years.
- The 2010 Fairfax County Stormwater Status Report provides updated information on the number and types of public and private stormwater management facilities in the county as well as detailed information about the types of projects being undertaken to improve and protect water quality.

Erosion and Sediment Control

- In March 2008, the Virginia Department of Conservation and Recreation approved the county's program, finding it to be "fully consistent with the requirements of the Virginia Erosion and Sediment Control Law and Regulations."
- There were four complaints received by DCR from residents on properties in Fairfax County for 2010; these were addressed by county and DCR staff.
- In 2010, a total of 655 E&S plans were submitted and approved for projects that would disturb a land area of 2,500 square feet or more. Fairfax County's Alternative Inspection Program, established in cooperation with DCR, resulted in 27,589 Erosion and Sediment control inspections. In 2010, the county issued 98 notices of violations. Criminal proceedings were started in 40 cases.

Illicit Discharges

- In 2010, the Hazardous Materials and Investigative Services Section of the Fairfax County Fire and Rescue Department received 390 complaints. Approximately 315 of the complaints involved the actual release of various petroleum or chemical substances. Of the 315 releases, 221 involved diesel fuel (23), home heating fuel oil (53), gasoline (42), motor oil (31) or hydraulic oil (72). Other releases investigated involved antifreeze, paint, sewage, mineral oil and mercury. Storm drains were involved in 45 of the releases.

On-site Sewage Disposal Systems

- Approximately 21,629 homes and business are served by on-site sewage disposal systems in Fairfax County. The county's Health Department reported that, in fiscal year 2011, 92 new sewage disposal permits were issued for single family residences. There were 89 new sewage disposal systems installed, 52 percent were alternative type systems and 48 percent were conventional systems. Approximately 824 sewage disposal system repair permits were issued (repairs ranged from total replacement of the system to minor repairs such as broken piping or pump replacement). There were 7,293 septic tank pumps outs.
- In fiscal year 2010, notices were sent to homeowners to remind them to turn their system's flow diversion valve and pump out the septic tank every three to five years.

Sanitary Sewer System Maintenance

- In 2010, 213 miles of old sanitary sewer lines and seven miles of new sewer lines were inspected through the use of closed circuit television by the Wastewater Collection Division of the Department of Public Works and Environmental Services. In 2010, one Extension and Improvement project was completed consisting of 912 linear feet of eight inch sanitary sewer and sanitary sewer connections to five existing homes. Over the past 10 years, 208.64 miles of sewer lines have been rehabilitated.

Drinking Water

- Fairfax Water withdraws water from both the Potomac River near the James Corbalis Water Treatment Plant and from the Occoquan Reservoir at the Frederick Griffith Water Treatment Plant. Fairfax Water provides drinking water to most Fairfax County residents. Fairfax Water provided 58,272 billion gallons of drinking water in 2010.
- Federal regulations require water suppliers to provide annual reports on the quality of the drinking water to their customers through the Consumer Confidence Report Rule. The 2010 Water Quality Report is available for review on the Fairfax Water website at <http://www.fairfaxwater.org/water/water.htm>.
- Fairfax Water has been testing for lead and copper in customer tap samples in accordance with EPA's lead and copper rule since 1992 and has consistently tested below the Action Level established in the lead and copper rule. In the most recent tests in 2008, the 90th percentile value for lead was 0.77 part per billion (ppb) compared to the EPA action level of 15 ppb. For copper, the 90th percentile value in 2008 was 0.064 part per million (ppm) compared to the EPA action level of 1.3 ppm. Additional information on these programs and more can be found at: www.fairfaxwater.org.
- For many different reasons, 2010 was a remarkable year. It began with a frozen-over Potomac River. Melting of the record snowfalls brought high flows, filled with road salt and sediment. It also saw drought conditions, and for only the third time in nearly three decades, the ICPRB's Section for Cooperative Water Supply Operations on the Potomac, on behalf of the cooperating Washington, D.C., metropolitan area water suppliers, requested releases of stored water to ensure adequate metropolitan-area drinking water supplies while protecting river ecology.

- Work is under way by more than 20 local governments and the Northern Virginia Regional Commission on the first Northern Virginia Regional Water Supply Plan project. The Northern Virginia Regional Water Supply Plan will include information on water sources, water use, water resource conditions, projected water demand, water management actions and an analysis of alternatives, drought and contingency plans in the event of water deficits. The plan, expected to be completed this year, will include water supply projections for the next 30 years. See preliminary document <http://www.novaregion.org/index.aspx?NID=1214>.
- There are approximately 12,500 single family residences and businesses in Fairfax County that are served by individual well water supplies. In FY 2010 there were 141 new well approvals, 34 well repairs and 155 Water Well Abandonments issued. There were 49 Geothermal Well Permits issued.

Stewardship

There are numerous actions that county residents can and should take to support water quality protection.

- Medicines, paints and other toxics should NOT be flushed down toilets and should NOT be dumped down storm drains. Instead, they should be taken to one of the county's household hazardous materials collection sites. For a list of common household hazardous materials and how to dispose of them, go to <http://www.fairfaxcounty.gov/dpwes/trash/disphhw.htm>.
- Septic systems must be pumped out every five years—it's the law! Residents with questions or with problems with their septic systems should call the Fairfax County Health Department at 703-246-2201, TTY 711.
- Residents are encouraged to get soil tests for their yards before fertilizing and then to apply fertilizers and pesticides responsibly. Grass should not be cut to the edge of a stream or pond; instead, a buffer should be left to filter pollutants and provide wildlife habitat.
- The Northern Virginia Soil and Water Conservation District can advise homeowners on problems with ponds, eroding streams, drainage, problem soils and other natural resource concerns. More information about managing land for a healthier watershed is available from the NVSWCD publications "You and Your Land, a Homeowner's Guide for the Potomac River Watershed" (<http://www.fairfaxcounty.gov/nvswcd/youyourland/intro.htm>) and the "Water Quality Stewardship Guide" (<http://www.fairfaxcounty.gov/nvswcd/waterqualitybk.htm>).
- Advice regarding drainage and erosion problems in yards can be provided by the technical staff of the Northern Virginia Soil and Water Conservation District. NVSWCD can assess the problems and advise on possible solutions. Interested parties can send an e-mail to NVSWCD at <https://www.fairfaxcounty.gov/contact/mailform.aspx?ref=9990> or call 703-324-1460.
- There are numerous opportunities throughout the year to participate in stream cleanups, storm drain labeling, volunteer water quality monitoring and tree planting projects.

Interested parties can send an e-mail to NVSWCD at <https://www.fairfaxcounty.gov/contact/mailform.aspx?ref=9990> or call 703-324-1460.

- EQAC also commends the efforts of the Alice Ferguson Foundation and encourages residents, employers and employees in Fairfax County to participate in these initiatives. Visit the foundation's website at www.Fergusonfoundation.org for further information.
- Sediment runoff from construction sites can be reported to Fairfax County's Code Enforcement Division at 703-324-1937, TTY 711; e-mail reports can also be filed at <https://www.fairfaxcounty.gov/contact/mailform.aspx?ref=70003>.
- Improper disposal of motor oil, paint or other materials into streams or down storm drains should be reported through a phone call to 911. This is particularly important if the substance being dumped can be identified as motor oil or another toxic substance but also applies to any other substance; assumptions regarding the contents of the materials should not be made. Callers to 911 should be prepared to provide specific information regarding the location and nature of the incident. If the person dumping materials into the stream or storm drain has a vehicle, the tag number should be recorded.
- Storm drains are for stormwater only, NOT motor oil, paint or even grass clippings.
- If dumping is not witnessed but is instead suspected, and if no lives or property are in immediate danger, the suspected incident can be reported to the Hazardous Materials and Investigative Services Section of the Fire and Rescue Department at 703-246-4386, TTY 711. If it is unclear as to whether or not there may be a danger to life or property, 911 should be called.

A more comprehensive table addressing how to report environmental crimes is provided immediately following the Scorecard section of this report.

Issues of Note

- Fairfax County streams and watersheds continue to be impacted by several problems, including uncontrolled stormwater runoff, erosion, high levels of bacteria and sedimentation. Progress has been made with modifications to the Policy Plan section of the county's Comprehensive Plan; watershed and stream protection, however, need to be maximized in land use planning and site design decisions. The cumulative effects of land use decisions on Fairfax County's streams still need to be effectively considered.
- Stormwater runoff and erosion continue to have the greatest detrimental impacts on Fairfax County streams. Most Fairfax County streams have increased runoff flows that exceed the capacities of their original stream channels. This has created an ongoing erosion cycle that includes eroding stream banks, heavy sediment loads and sediment-smothered stream bottoms. Streams can become damaged by the changes brought about by changes in stream hydrology and increased flow during the pre-development clearing phase. The stream sees an overall increased flow due to the increased runoff caused by the clearing. This is not just

the increase in peak flow, but the increase in the total volume of the water entering the stream. These increased flows start the cycle of damage, and once the stream is damaged it may take years or decades for the stream banks to revegetate and restabilize. This has resulted in erosion problems throughout the county that impact trail systems, homeowners' back yards, parks, utilities and infrastructure. Sediment on stream bottoms results in reduced habitat and diversity, which compromises the stream ecology and food chains.

- Sediment also compromises the quality of, and increases the expense of, treating surface drinking water supplies. Poor land use planning, inadequate enforcement of erosion and sediment control laws and inadequate stormwater management have significantly contributed to erosion problems and impaired water quality in the past. Prevention of such damage would not only be good for the environment but would also be cost effective. Strict monitoring and enforcement of adequate stormwater management and erosion and sediment controls prior to construction can help prevent damage from erosion and sediment.
- In addition to problems created in streams, runoff and erosion have resulted in numerous ponds and lakes having enormous sediment deposition. Stormwater management ponds are designed to protect downstream water quality. Ponds also provide additional amenities including recreation (boating, fishing), aesthetics and wildlife habitat. Depending on the size of the surrounding drainage area, the land uses in that area and the volume of runoff, a pond can fill up with sediment, trash and organic debris in a relatively short period of time. Although dredging is a necessary management component to remove accumulated materials and help protect water quality downstream, private pond owners are experiencing increasing difficulty conducting dredging operations given the significant expense and lack of local, adequate disposal areas.
- A total of 41 water bodies with a total of 92 impairments in Fairfax County are included in 2008 Virginia's 305(b)/303(d) Water Quality Assessment Integrated Report (the listing of impaired waters). The most common causes of impairment for riverine segments are bacteria (*Escherichia coli* or fecal coliform), impacts to benthic macroinvertebrates and polychlorinated biphenyls in fish tissue. For the estuarine water bodies, the most common causes of impairment are PCBs in fish tissue and bacteria. The causes of impairment in the Occoquan Reservoir are dissolved oxygen and PCBs in fish tissue. Water Quality Assessments are performed by the Virginia Department of Environmental Quality and are available at: <http://www.deq.virginia.gov/wqa/homepage.html>
- Sustainability of existing onsite sewage disposal systems and areas of marginal or highly variable soil remain concerns for future failing septic systems. Areas of the county with marginal or highly variable soils that were once deemed unbuildable in the past are now being considered for development utilizing alternative onsite sewage disposal technology. The final phase and release of a technical report and recommendations concerning the creation of management for alternative facilities was completed in early FY 2010. The Health Department has been reviewing the report as to its applicability to legislation approved by the Virginia General Assembly in 2009 and 2010. The legislation specifically required the State Health Department to adopt *Emergency Regulations for Alternative Onsite Sewage Systems* that establish performance requirements, maintenance requirements and

reduced vertical soil setbacks distances to restrictions for all Alternative Onsite Sewage Systems. The emergency regulations were adopted on April 7, 2010. These regulations are substantially different from the recommendations of American Water/Applied Water Management (the contractor that prepared the aforementioned technical report). The Health Department is reviewing the regulations and recommendations of the contractor for applicability in Fairfax County.

- Much credit needs to be given to Fairfax County for its comprehensive watershed management efforts, including stream restoration and protection, adequate monitoring of water resources and adding new tools such as LID and other innovative practices to its stormwater management program. All of these efforts indicate a significant change in county policy and practice towards the protection and restoration of county streams. However, as long as the rate of stream degradation surpasses stream protection and restoration efforts in Fairfax County, the trend will continue to be a downward one.

Ongoing Concerns

1. EQAC commends the county for developing and adopting amendments to the Public Facilities Manual's provision for adequate drainage that require analysis of adequacy of outfalls during the construction phase. This is another enforcement tool that will protect streams during the construction phase. However, EQAC cannot over-emphasize the importance and need for increased monitoring of predevelopment stormwater management controls and for enforcement action to ensure inadequate controls are corrected prior to construction and, if necessary, during construction. It is also important that the county hire the appropriate number of staff to handle the estimated inspection workload.
2. EQAC continues to support the full funding and implementation of the comprehensive countywide watershed management program. EQAC strongly endorses the ongoing work of county staff on the watershed planning and public outreach efforts and the comprehensive stream monitoring program. EQAC continues to support continued assessments of watersheds and development of a stream protection and restoration program that has adequate sustainable funding. EQAC continues to stress that equal importance should be devoted to environmental protection, restoration and monitoring as compared to infrastructure improvement and maintenance.
3. EQAC commends the county for its existing stream protection requirements for perennial streams. EQAC thanks the Board of Supervisors for its recent efforts to protect intermittent and headwater streams by the establishment of protective buffers. While the end result of the inquiry was NOT to move forward the process did heighten awareness of the importance of intermittent streams.
4. EQAC is pleased to note the MS4 requirement to develop a long-term watershed monitoring program to verify the effectiveness and adequacy of stormwater management goals and identify areas of water quality improvement or degradation is being implemented. While EQAC understands that a comprehensive countywide program to monitor effectiveness can

be cost-prohibitive, data are still needed, as it is still unclear as to which structures and requirements are effective and working well.

5. EQAC continues to encourage Fairfax County (the Board of Supervisors, the Planning Commission, the Board of Zoning Appeals, the Fairfax County Park Authority and various county agencies) to coordinate efforts and develop a protocol for assessing the impacts and cumulative effects of land use considerations and decisions on the county's water resources. EQAC urges these groups to use and disseminate information to protect the county's watersheds. EQAC commends the Board of Supervisors for adopting Residential Development Criteria that include supporting the provision of adequate outfall drainage and innovative water quality measures.
6. As sedimentation of stormwater management and other ponds from upstream bank erosion continues, the need to dredge these impoundments becomes more frequent. Owners are having difficulty conducting necessary dredging operations given rising expenses and lack of local, adequate disposal areas. EQAC commends the county for establishing an interagency work group that explored options, such as creating spoil disposal/recycling areas in various parts of the county to assist private facility owners and help protect water quality. EQAC commends the Stormwater personnel for their continued pursuit of viable solutions to this problem.
7. Given the anticipated increase in the number of small individual low impact development facilities that will be installed throughout the county, EQAC recognizes that the county will have an additional challenge of developing a program to track, inspect and ensure adequate maintenance of these LID facilities.

Comments

1. EQAC commends the Board of Supervisors for its actions of the past few years authorizing one penny of the real estate tax to be dedicated to the stormwater management program. The amount increased from the original amount of \$17.9 million for FY 2006 to \$22.8 million for FY 2009. In FY 2010 however, this amount decreased to about \$10.3 million due to the creation and structuring of the Service District as a funding mechanism halfway through the fiscal year.

While various maintenance repairs were implemented in FY 2010, the Board of Supervisor's adoption of the FY 2011 stormwater tax district rate of 1.5 cents has allowed the Maintenance and Stormwater Management Division to increase stormwater management infrastructure replacement, create a more comprehensive low impact development maintenance program, and rehabilitate a number of older stormwater management dams and other critical components. Much of the stormwater infrastructure in Fairfax County is reaching the end of its useful life, and as the system ages it will be critical to maintain adequate inspection and rehabilitation programs to avoid infrastructure failures and ensure the functionality of stormwater treatment systems. In addition, it is critical for MSMD to implement cost effective solutions such as trenchless pipe replacement technologies,

naturalizing stormwater management facilities and partnering with other county agencies such as Fairfax County Public Schools and the Park Authority to create efficiencies.

The county's existing stormwater conveyance infrastructure includes about 1,500 miles of pipes and paved channels, in addition to over 850 miles of perennial streams and unknown miles of non-perennial streams. The majority of the stormwater control facilities and pipes were constructed 35 years or more ago. Prior to the board providing a dedicated penny to stormwater in FY 06, there had never been consistent funding to proactively inspect or reinvest in these stormwater systems. When the video inspections of the inside of pipes were first undertaken in FY 2007, over 5% of the system was identified as being in a state of failure and another 10% in need of rehabilitation. With the recently adopted stormwater service rate, it is estimated that the reinvestment cycle for stormwater infrastructure has been reduced from well over 1,000 years to around 400 years.

In addition to the conveyance system, the county owns and maintains roughly 1,300 stormwater management facilities ranging from large flood control lakes to LID techniques such as small infiltration swales, tree box filters or rain gardens. Again, prior to providing a dedicated funding source there was not funding for reinvestment in these LID facilities. Eighteen of the county's stormwater management facilities have dam structures that are regulated by the state. The county must provide rigorous inspection and maintenance of these 18 facilities in order to comply with state requirements. In addition to providing required inspection and maintenance of these facilities, the county must provide significant upgrades to the emergency spillways on two more of our PL-566 dam structures to comply with current state dam safety requirements. The construction for one of these spillway upgrades is being funded with FY 11 funds. The remaining spillway upgrade is planned be constructed as part of the FY 12 stormwater budget. In addition, it is estimated that the sediment accumulating in just the five county maintained PL-566 flood control lakes have a combined annual removal cost of between \$750,000 and \$1,100,000, which is in addition to an estimated \$16 to \$25 million to remove the silt that has already accumulated. The current program includes a \$500,000/yr for dredging projects that will begin to restore capacity in these lakes as well as the other stormwater management facilities.

In addition to supporting infrastructure reinvestment, the capital program funds critical capital projects from the watershed management plans including: flood mitigations; stormwater management pond retrofits; implementation of low impact development techniques; and stream restorations. It is important to note that these projects are necessary to address current community needs, mitigate the environmental impacts of erosion and comply with our current MS-4 permit. The benefits of these projects include: reducing property damage due to flooding and erosion; reducing excessive sediment loading caused by erosion; improving the condition of streams; and reducing nutrient loads to the Chesapeake Bay.

The county must meet the federally mandated requirements of its Municipal Separate Storm Sewer System permit. Fairfax County and Fairfax County Public Schools are combining their MS4 responsibilities into a single permit that will be administered by the county. Following negotiations with the state, the new permit will be forwarded to the U.S.

Environmental Protection Agency for approval. Recent permits that have been approved or issued for public hearing by the EPA have included aggressive requirements to retrofit significant amounts of impervious area, such as school and county buildings and parking lots, with more effective stormwater controls. We are anticipating that these extensive additional requirements also will be included in the new MS4 permit that is issued to Fairfax County.

Staff has estimated the annual cost needed to comply with current and anticipated stormwater regulatory requirements and a sustainable infrastructure reinvestment program would likely be between \$80 and \$100 million/year. One approach to achieve these challenging requirements could be a phased approach that builds capacity over a period of time that can be based on success and experience and should result in a more cost effective and efficient program

Recommendation

1. EQAC recommends that Fairfax County continue to adequately fund and implement its ongoing stormwater program, which includes dam maintenance, infrastructure replacement, water resource monitoring and management, watershed restoration and educational stewardship programs. EQAC realizes the funding for the stormwater program will come entirely from funds generated through the Service District rates. EQAC also realizes that there is a need for increasing capacity within the Department of Public Works and Environmental Services to provide these services.

EQAC recommends that the Stormwater Service District rate be increased in FY 2013 by a penny, from a rate of 1.5 cents per \$100 assessed real estate value to 2.5 cents per \$100. This would, once again, result in more funding for modest watershed improvement programs and a somewhat more realistic infrastructure replacement timeline. We realize that there will likely be a need for additional increases for water quality projects to meet future permit conditions, and for infrastructure reinvestment, as the system is continually growing and aging.

V. Solid Waste

Background

The Fairfax County Solid Waste Management Program continues to effectively manage solid waste recycling, collection and disposal within the county through implementation of the county Solid Waste Management Plan and through code compliance activities. This section of the report highlights a number of the program's achievements and levels of performance. Also highlighted are efforts of Clean Fairfax Council.

Recent Activities

Waste Reduction and Recycling Programs

- Fairfax County's Solid Waste Management Program has maintained county recycling at 42 percent. As it has for many years now, Fairfax County's recycling rate far exceeds the Virginia minimum requirement of 25 percent. Since the recycling program's inception in 1988, the county has recycled over eight million tons and continues to exceed the state-mandated requirement.
- In 2011, rolling recycling carts were distributed to half of the county's 44,000 residential refuse and recycling collection customers. These containers will allow residents to recycle cans, bottles, paper and cardboard in the same container that can be rolled to the curb.
- The Division of Solid Waste Collection and Recycling invested in a new customer service software system to better serve residents. The new system is a Web-based tool hosted on a server maintained by the contractor that provides the software. The software was purchased to promote improved tracking and scheduling of customer service requests.
- Recycling requirements for various land uses are discussed in the longer version of this chapter available on CD or through EQAC's website at www.fairfaxcounty.gov/eqac.
- Fairfax County operates eight Recycling Drop-Off Centers at various locations throughout the county. These are unmanned facilities, open 24 hours, and there is no fee to use them. No new centers have been added to the county system in approximately 11 years, but the existing facilities are used frequently by residents, and about 4,000 tons of recyclables are collected annually in the drop-off centers.
- All county agencies receiving refuse collection and recycling services from the Solid Waste Management Program participate in the county recycling program. In FY 2011, county agency locations recycled approximately 933 tons of material.

- Fairfax County offers residents the opportunity to shred personal documents. Shredding events are held outdoors in parking lots, one in each of the county's 10 magisterial districts. In FY 2011, 10 document shredding events were held. As of January 2011, approximately 32,500 tons of personal documents had been shredded and recycled.
- In FY 2011, the Solid Waste Management Program continued its *Electric Sunday* program whereby, on one Sunday each month, residents can bring their e-wastes for recycling to the I-66 transfer complex or the I-95 Landfill complex. In FY2011, 9,761 individuals participated in the program.

Compact Fluorescent Lights and E-Wastes

- CFLs and other fluorescent lamps can be recycled at either of the county's Household Hazardous Waste facilities at the I-66 Transfer Station complex in Fairfax or the I-95 Landfill complex in Lorton. Advertising for *Electric Sunday* events includes information about the opportunity to recycle fluorescent lamps at the same time. CFL collection for Fairfax County residents and employees is also available in the program's office location at 12000 Government Center Parkway, Suite 458.

Energy/Resource Recovery Facility

- Operations at the E/RRF continue to meet or exceed accepted industry standards.
- The county has guaranteed to provide, and the E/RRF has agreed to process, at least 930,750 tons of municipal solid waste per year. The E/RRF processed 1,025,000 tons of waste in FY 2011, a one percent increase from FY2010. The county bypassed 58,000 tons of waste to a municipal solid waste landfill primarily due to a major scheduled maintenance of one of the turbine generators and the need to perform major rehab of a scrubber. Approximately 28 percent of waste processed by the E/RRF was from neighboring jurisdictions, including Prince William and Loudoun Counties and the District of Columbia.

I-95 Landfill Complex and Recycling and Disposal Center

- The Corrective Action Monitoring Plan required installation of 8 additional performance and sentinel monitoring wells within 60 days of permit issuance. This work was completed in January 2011 in anticipation of permit issuance.
- Enhanced bioremediation is specified for two areas where groundwater quality has not improved. Enhanced bioremediation involves the injection of a food-grade Hydrogen Releasing Compound, similar to molasses, into the groundwater in these areas. The injection process was completed in June 2011.
- The I-95 Landfill operates one of the largest landfill gas collection systems in Virginia, with over 350 installed wells extracting landfill gas for energy recovery. Approximately 2,500 cubic feet per minute of this gas is distributed to a variety of energy recovery systems, including the six-megawatt Michigan Cogeneration Systems electric generating facility, and the three-mile landfill gas pipeline that

provides fuel as a substitute for natural gas at the Noman M. Cole Pollution Control Plant. The landfill gas pipeline project continues to provide significant energy cost savings at the NMCPCP.

- The ash landfill has four phases. Phases I and II have reached capacity and an intermediate cover has been placed. Approximately 1,000 tons of ash is placed daily in the ash landfill. Approximately 6,000 tons of shredded tires were used as a protective layer during the construction of Phase II of the ash landfill. Using this material not only recycled the tires, but also saved approximately \$86,000 in the cost of gravel and other aggregate materials. Construction of Phase IIIA of the ash landfill was completed during March 2008. Phase IIIA has capacity for ash for approximately five years, and Phase IIIB is currently in the design stage with construction expected to begin during FY2012.
- The Recycling and Disposal Center allows county residents and small businesses to bring their municipal solid waste and recyclables directly to the I-95 complex for disposal. The center offers a full range of recycling opportunities, as well as household hazardous waste disposal service. Recycling is free to residents. During FY 2011, users visited the I-95 Recycling and Disposal Center over 67,000 times.

I-66 Transfer Station & Recycling and Disposal Center

- The I-66 Transfer Station continues to handle approximately 70 percent of the county's municipal solid waste destined for disposal.
- The Transfer Station complex also has one of the county's two Recycling and Disposal Centers where residents and small businesses self-haul their waste and recyclables. In FY 2010, users visited the I-66 site almost 208,000 times. The facility has undergone significant modernization to accommodate growing local demands for recycling and disposal services. New scales and booths, improved entrance and egress and newer technology have been installed to improve customer service and increase capacity.

Fairfax County's Solid Waste Management Program: Other Items of Note

- During the past year, the Solid Waste Management Program added its first hybrid trash and recycling collection vehicle to the fleet and continued to operate six hybrid vehicles and two electric vehicles, reducing air emissions from the operating fleet.
- The program continued to operate two landfill gas-to-energy projects at the I-95 Landfill complex and the space heating project.
- The program held three Conditionally Exempt Small Quantity Generator events in FY2011, serving companies.
- The program sponsored one remote household hazardous waste collection event, in addition to two permanent drop-off centers. Three remote events will be held in 2011.

- The contract waste disposal fee, offered to companies that sign agreements with the county, remains at \$55.00 per ton in FY 2011. The base solid waste disposal fee also remains at its FY 2010 rate of \$60.00 per ton.
- The Solid Waste Management Program conducts numerous outreach efforts. See the longer version of the Solid Waste chapter, available on CD and on EQAC's website at www.fairfaxcounty.gov/eqac.

Clean Fairfax

- Clean Fairfax, is a private, nonprofit (501(c)(3)) corporation dedicated to educating residents, students and businesses in Fairfax County about litter prevention and recycling. Clean Fairfax focuses on environmental education provided to students and adults throughout the county. The council is currently working toward a less paper-intensive outreach program including e-newsletters, an environmental blog and updated website, educational videos, interactive programs for students, community service opportunities for students (i.e., support at the council's office), classroom presentations and presentations to homeowner associations and other groups.
- There are many other programs offered by the Clean Fairfax, including programs that are beyond litter prevention/control aspects. For more information, please visit the website at www.cleanfairfax.org.

Alice Ferguson Foundation

- On April 4, 2011, the foundation held its 23rd annual Potomac River Watershed Cleanup. This was truly a comprehensive, watershed-wide effort, in that there were 575 cleanup sites in four states and the District of Columbia. A total of over 228 tons of trash were removed by 11,388 volunteers. Items removed included over 26,624 plastic bags and 2,066 tires. About 50 tons of recyclable materials were collected during the watershed cleanup and about 15 tons were actually recycled.
- There are numerous other programs and initiatives that are implemented by the foundation; the reader is encouraged to visit the foundation's website at www.fergusonfoundation.org.

Stewardship

There are numerous opportunities for residents, employers and employees in Fairfax County to participate in waste reduction and recycling activities; many of these opportunities are outlined in the longer version of the Solid Waste chapter, available on CD and on EQAC's website at www.fairfaxcounty.gov/eqac.

Issues of Note and Recommendations

None.

VI. Hazardous Materials

Fairfax County hazardous materials issues have not changed much in the last few years, although a disturbing trend continues, in that an increasing workload and increasing risk are being addressed with decreasing resources. Doing more with less is a desirable quality for all government and commercial organizations, but this essential public safety capability is being stretched to the point of concern over its ability to support the increasing workload. Fairfax County is relatively “clean.” Nevertheless, the county does have its share of problems. The main concerns are hazardous materials incidents involving spills, leaks, transportation accidents, ruptures or other types of emergency discharges. Secondary is the use and disposal of hazardous materials in either daily household activities or by small quantity commercial generators. The final concern is the cleanup and regulation of hazardous materials.

Although the news media report industrial and transportation related hazardous materials incidents, there is a general lack of awareness by the public of health and safety risks associated with the use, storage and disposal of common household hazardous materials. Educating the public on the implications of these hazardous materials on peoples’ lives remains a significant goal.

Recent Activities

- The Fire and Rescue Department’s Fire and Hazardous Materials Investigative Services section reported receiving 782 complaints involving hazardous materials in 2010, compared to 735 in 2009, 418 in 2008 and 317 in 2007. However, the number of actual releases of hazardous materials was 335 in 2010, 303 in 2009 and 330 in 2008.
- FY 2010 budget impacts that had direct impact on environmental programs relating to hazardous materials include: reorganization of the Hazardous Materials and Investigative Services Section; the loss of the Local Emergency Planning Committee Coordinator; and the elimination of the Environmental Hazards Investigation Section of the Fairfax County Department of Health. The HMIS reorganization did not involve any reduction in service or mission objectives for the section. Resources were reallocated to better distribute workload and address concerns for officer safety and staffing. The duties of the LEPC Coordinator were reassigned to the alternative placement Lieutenant assigned to the Hazardous Materials Technical Support Branch. The long-term impact for the loss of the LEPC Coordinator will come in 2012, when the alternative placement Lieutenant retires. As noted in the “comment” section below, the Environmental Hazards Investigation Section has provided valuable services that will now need to be provided by private contractors.
- In 2010, the Fire and Rescue Department, in conjunction with the Fairfax Joint Local Emergency Planning Committee, implemented a new online software program called Tier 2 Manager. This program allows companies that use, store or manufacture chemicals in the county to report this information electronically to the department and FJLEPC so that the community and first responders will be aware of these chemicals within our community as required by the Emergency Planning and Community Right to Know Act. Emergency

planners and response personnel have instant access to chemical inventories and Emergency Response Plans for each facility deemed to be a Critical Hazard Facility. Additionally, Emergency Response Plans are developed for critical infrastructure facilities such as sewage and water treatment plants and bulk petroleum storage facilities.

- Monthly events are held for discarding of older model televisions, as well as computer monitors, peripherals and other electronics to help keep lead and other metals from entering the waste to energy facility. They are conducted at the I-66 Transfer Station complex or the I-95 Landfill complex.
- The monthly e-waste collection events described above have been advertised to emphasize the county's household hazardous waste program, which is open at the same time of the e-waste collection events. Participation in the e-waste collection events has resulted in collecting increased amounts of fluorescent lamps for recycling.
- The Fairfax Joint Local Emergency Planning Committee produced a new version of the annual Hazardous Materials Emergency Response Plan on April 14, 2011. This activity is a great example of maximizing scarce resources by teaming with city resources and conducting joint planning and training.
- The program that conducted remote household hazardous waste collection events, to encourage more participation and to supplement the permanent sites, has been considered for elimination due to budget restrictions in the recent past, but the county found resources to sustain four to six events per year. EQAC commends the county for maintaining this program in 2010 and urges the county to continue to schedule and publicize four or more of these events per year in the future. The permanent sites remain available three or four days a week.

Stewardship

- What are considered to be hazardous wastes have changed in recent decades. Formerly, hazardous wastes were primarily associated with industrial releases or transportation of chemicals. Hazardous wastes now include items used in everyday life such as rechargeable batteries, compact fluorescent light bulbs, computers and televisions. To address the proper management of these materials, the county implemented its *Electric Sunday* program to divert electronics from disposal to recycling.

Issues of Note

- Compact florescent light bulbs contain small amounts of mercury; the bulbs must be disposed of properly after they are no longer functional. Fairfax County has two locations where county residents can recycle fluorescent lamps at no cost. Residents can recycle these materials and other household hazardous wastes at either the I-66 Transfer Station in Fairfax or the I-95 Solid Waste complex in Lorton.

- The Fire and Rescue Department's Fire and Hazardous Materials Investigative Services section reported a 6% increase in complaints received in 2010 (from 735 to 786), after a 76% increase in 2009 and a 69% increase in 2008.

Legislative Update

- On December 19, 2007, the Energy Independence and Security Act of 2007 was signed. Among other things, this will begin the phase out of the incandescent light bulb from the U.S. market in 2012. Although this is not new legislation, its impact is beginning to result in an increase of household hazardous waste; this will increase significantly in the next few years.

Comment

1. FY 2010 budget reductions eliminated the Environmental Hazards Investigation Section of the Fairfax County Department of Health, which has provided valuable services by responding to complaints about mold, radon, asbestos, and indoor air quality and in assisting the Fire and Rescue Department with responses to hazardous materials incidents. EQAC feels that, in the future, when budgetary conditions allow, these functions should be restored. Until these functions are restored, these services will need to be provided by private contractors.

Recommendation

1. EQAC recommends that the county continue to find ways to help people more easily recycle household hazardous waste. As examples of the need for such efforts, with the increased use of rechargeable batteries and compact fluorescent light bulbs, more households in the county will have these hazardous waste items to dispose of on a regular basis. EQAC commends the county for maintaining scheduled remote hazardous waste collection events in 2010. We urge the county to continue to schedule and publicize at least three to five of these remote events per year in the future.

VII. Ecological Resources

Background

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

Fairfax County contains a total of about 227,912 acres. Of this total, about 32,979 acres (14.5 percent) are in parks and recreation as of January 2010. Another approximately 16,577 acres (7.3 percent) are vacant or in natural uses. This compares to the about 26,700 acres (11.7 percent) that were vacant or in natural uses as of January 2003. However, not all this acreage can be considered as open space that is valuable for natural habitat. First, the park acreage consists of active recreation (ball fields, etc.) as well as passive recreation (stream valley parks, nature centers, etc.) Ball fields, while greatly needed in Fairfax County, do not do much for protecting natural habitat. In a like fashion, much private open space consists of mowed areas and isolated trees (not woodlands). Again, this does little for protecting natural habitat. Both active recreation areas and private open space, however, if properly designed can help the environment by reducing storm water runoff (by allowing storm water to infiltrate into the soil).

Second, while vacant land is often wooded, this land is subject to development. Considering the continuing rapid pace of development in Fairfax County, much of this land will soon become residential space, office space, retail space, etc., and not provide much in the way of protecting natural habitat. In 1980, vacant land accounted for 32.2 percent of the total land in Fairfax County. By 1990, this had dropped to 19.5 percent and the figure was 7.3 percent as of January 2010.

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

Recently, action by the Fairfax County Board of Supervisors 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.

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

the Northern Virginia Conservation Trust, Fairfax ReLeaf, the Fairfax County Department of Public Works and Environmental Services, and the Fairfax County Park Authority and its staff. EQAC especially commends the Fairfax County Board of Supervisors for its vision and activities in environmental areas.

EQAC also commends those residents of Fairfax County who give donations and time to a number of county organizations involved in environmental activities. EQAC encourages such volunteer activity.

Recent Activities

Fairfax County Park Authority

- Between July 2010 and May 2011, the Park Authority has added 355 acres to its parkland inventory. This brings the parkland inventory to a total of 24,657 acres as of May 2011.
- FCPA's invasive plant control projects occur at over 50 park sites throughout the county. The partnership with Earth Sangha, a local non-profit organization, continues to be a highlight of invasive plant control efforts at both the Marie Butler Leven Preserve and Wilburdale Park. The Earth Sangha donated over 4,400 volunteer hours and almost 3,000 staff hours to Fairfax County Park Authority projects and donated over 800 plants. In 2010, Earth Sangha was able to replant many native shrubs and trees in areas previously controlled for invasive plants.
- The fifth year of the Invasive Management Area program was completed in 2010. The program now has 41 sites with 41 active volunteer leaders. In calendar year 2010, 947 volunteers donated 3,589 hours of work in support of habitat restoration at IMA sites.
- In 2010, IMA had its most successful Volunteer Fest Day to date with 470 total hours, 164 volunteers and over 268 bags of invasive plant debris removed.
- An outgrowth of the Invasive Management Area program has been the state-wide Invasive Plant Removal Day. On May 7th, 2011, the IMA program participated in the 3rd annual state-wide event and 4th annual countywide event. Over 290 hours of volunteer service were provided to remove 84 bags of invasive plants, mostly, the biennial garlic mustard.
- The Invasive Management Area program began the fifth year by adding a new component – the Early Detection Rapid Response project. Early detection allows for the location and treatment of aggressive non-native invasive plants before they become established and vastly more difficult to treat. Thirteen volunteers joined the Park Authority to be trained in identifying non-native invasive plants before these plants pose a serious threat to parkland. Key successes include the first reports of Java-leaf dropwort and Amur corktree in Fairfax County. Over 400 acres have been surveyed and efforts are underway to control these aggressive invaders

- The Fairfax County Park Authority, along with and in partnership with other agencies, continues to work on stream stabilization/bioengineering projects. Project planning began on the stabilization of 300 linear feet of stream in Wakefield Park in partnership with the Northern Virginia Soil and Water Conservation District. This project is being paid for with the compensation funds from VDOT for land taken from the park for the I-495 High Occupancy Toll lanes project. Two stream restoration projects were begun on parkland from July 2010 to June 2011: The Schneider Branch and Flatlick Branch stream stabilization projects, both in Cub Run Stream Valley Park, each address approximately 1,000 linear feet of stream. Construction began in winter 2010 and will largely be completed in summer 2011. Restoration plantings for the projects will be completed in fall 2011. The Park Authority partnered with Northern Virginia Stream Restoration, L.C. and Reston Association to restore 232 linear feet of eroded and degraded stream channel on a tributary of Colvin Run upstream of Lake Fairfax.

Northern Virginia Regional Park Authority

- The Northern Virginia Regional Park Authority owns and operates 25 regional parks and owns 10,704 acres of land throughout the region. It also holds conservation easements on 115 parcels covering more than 652 acres.
- Since 2008, NVRPA has ensured interpretive/educational offerings at every one of its parks. One of the most successful interpretive efforts in the history of the authority has been the addition of a permanent roving naturalist. This naturalist organizes nature education programs targeted towards NVRPA's more recreationally focused parks. A portable nature center and scheduled nature programs are brought right to the water parks, campgrounds, light show and other events that see high public turnout, to bring nature education to where the park visitors are.
- In the management of its natural and historic resources, NVRPA has completed resource inventories on 12 of the 15 parks planned to be done by 2012. It also has continued training its park managers, assistant managers and rangers in natural resource management and in the last two years has sent 55% of staff through such professional development.
- NVRPA and its foundation recently kicked off its newest program, Nature Nuts, which focuses on engaging children with nature. The goal of this regional program is to provide a meaningful outdoor experience to half a million children over the next five years throughout Northern Virginia.

Fairfax ReLeaf

- Fairfax ReLeaf is a non-profit (501(c)(3)), non-governmental organization of private volunteers who plant and preserve trees in Northern Virginia, preserve native habitat and educate the public about the benefits of trees. Fairfax ReLeaf planted and distributed 6,845 trees in calendar year 2010. Nearly 700 volunteers spent over 2,000 hours planting tree seedlings, removing invasive species and maintaining planting sites. Highlights of Fairfax ReLeaf's 2010 plantings were: 1,360 trees were planted in parks, including private, county

and national parks; over 800 trees were planted on school grounds; and approximately 900 trees were planted in riparian areas.

- Fairfax ReLeaf provided many opportunities for community groups to serve Fairfax County in 2010. These included eight school groups, four Eagle Scout projects and planting events by a Boy Scout as well as two Girl Scout troops; one such event was the completion of a Silver Award. ReLeaf led six corporate workdays, where employees from workplaces such as Level Three, Winchester Homes and Deloitte & Touche gave their time to improve Fairfax County. Fairfax ReLeaf also conducted two workshops to prepare individuals to lead plantings
- ReLeaf's educational and outreach activities in 2010 included classroom visits, exhibiting at the Fairfax County Earth/Arbor Day celebration, Celebrate Fairfax and a 4-H Fair.

Northern Virginia Conservation Trust

- The Northern Virginia Conservation Trust was founded in 1994 as the Fairfax Land Preservation Trust. In 1999, the trust changed its name to The Northern Virginia Conservation Trust. NVCT is a 501(c)(3) nonprofit land trust dedicated to preserving and enhancing the natural and historic resources of Northern Virginia. From the time NVCT accepted its first easement in 1999 through June 2011, NVCT has preserved over 685 acres of open space in Fairfax County through easements, fee simple ownership and partnerships. A major project started in FY 2010 and nearly completed is the transfer to the Fairfax County Park Authority of over seven acres owned by NVCT in the Providence District for use as a public park. NVCT prepared for the Park Authority a Land and Water Conservation Fund grant request to help fund this acquisition/transfer. The \$125,000 grant is approved and will be available as soon as the Park Authority and NVCT finalize and record the transfer documents. NVCT continued work on numerous other projects, closing on a 24-acre conservation easement in Great Falls with, among other things, two perennial streams and a historic house listed on the National Register. NVCT also purchased five acres in the Potomac gorge and sold it to a neighbor; the acreage is protected by a no-build conservation easement.

Northern Virginia Soil and Water Conservation District

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

- The Fairfax County Chesapeake Bay Preservation Ordinance and Agricultural and Forestal District Ordinance require land in agricultural use to have a soil and water quality conservation plan. In 2010, soil and water quality conservation plans were prepared for 40 parcels on 489 acres. These included 29,654 linear feet of Resource Protection Area, primarily stream buffers, of which 5,000 linear feet were new vegetated buffers and 24,654 linear feet were re-planned buffers. All plans allow landowners to comply with the county's Chesapeake Bay Preservation Ordinance. Three of the plans were required for the renewal of Agricultural and Forestal Districts in the county. In 2010, 55 participants attended two horse management seminars that were sponsored by NVSWCD. The seminars covered pasture planning and horse waste management.
- The Northern Virginia Soil and Water Conservation District's annual seedling program emphasizes the role of vegetation in preventing erosion, conserving energy and decreasing and filtering stormwater runoff. In spring 2011, a variety of 6,500 native seedlings were sold at a small cost to promote urban reforestation, habitat enhancement and water quality protection. There were 434 *Deer Not Here* packages with species of shrubs and small trees that deer do not prefer. There were also 194 packages of tree seedlings.
- NVSWCD provided technical assistance to the county's Code Enforcement Division and three landowners by preparing plans for properties cited for County Code violations. They included: a remediation plan for tree removal and clear-cutting beyond the limits of a soil and water conservation plan; an erosion and sediment control plan, followed by a soil and water quality conservation plan, for a horse operation that imported fill without having submitted a rough grading plan; and a restoration plan to correct illegal activities and improper use of an RPA.

Fairfax County Wetlands Board

- The Fairfax County Wetlands Board reviewed the first application under the Coastal Primary Sand Dune Zoning Ordinance, Chapter 123 of the Fairfax County Code in July, 2011. One other Wetlands Board permit request was approved by the Wetlands Board on October 6, 2011.
- Tidal shoreline issues were the subject of Senate Bill 964, which was adopted by the 2011 General Assembly. The legislation established several new requirements, including requirements for: incorporation of coastal resource management guidance into Tidewater localities' comprehensive plans; development by the state of additional coastal resource management guidance for local governments; and development by the state of a general permit for "living shoreline" stabilizations, which were encouraged by the bill as a preferred approach.
- Staff from the Virginia Institute of Marine Science has developed an interactive mapping tool demonstrating the results of a recently-completed Shoreline Inventory Report. The file path for this tool can be found at http://ccrm.vims.edu/gis_data_maps/shoreline_inventories/virginia/fairfax_alex/Fairfax-

[Alexandria%20Shoreline%20Inventory_Report.pdf](#), and the file path for the interactive viewer can be found at http://ccrm.vims.edu/ccrmp/fairfax_beta.html

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. VDOT created approximately eight acres of wetlands (seven acres non-tidal and one acre tidal) and restored 2,635 linear feet of streams in Fairfax County's watersheds as compensatory mitigation for unavoidable impacts from highway construction projects including the Fairfax County Parkway, the Route 28 widening, the Roberts Parkway bridge overpass, the Springfield Interchange improvements, the Route 29 bridge replacement over Big Rocky Run, the Route 1 widening and the Woodrow Wilson Bridge replacement. VDOT is currently monitoring the establishment of the following wetland mitigation sites in Fairfax County:
 - Approximately 0.3 acre of tidal wetland enhancement adjacent to Cameron Run at the I-95/Route 1 interchange improvement (Belle Haven).
 - Approximately 0.5 acres of wetland creation, 1.17 acres of wetland restoration, and 1.08 acres of submerged aquatic vegetation remediation at the I-95/Route 1 interchange improvement (Woodrow Wilson Bridge Project – Route 1 sites).

Virginia Department of Forestry

- In 2009, the Virginia Department of Forestry provided project leadership and technical support to tree planting efforts in partnership with elementary school children, private landowners, Fairfax ReLeaf and the Potomac Conservancy.
- The Virginia Department of Forestry participates in the Fairfax County Arbor Day on the last Saturday in April each year. The county earned again, for the 28th year, the Tree City USA award. The award is applied for by the Fairfax County Urban Forest Management Division and given through the State Department of Forestry. Tree seedlings are distributed by VDOF to people attending the Arbor Day celebration. In 2010, 300 donated short leaf pine seedlings were distributed for planting by volunteers in their communities.
- The Virginia Department of Forestry sponsored a drop-off site in Fairfax County for the Growing Native project. This project involves the collection of tree seeds (acorns, hickory nuts, black walnuts etc.) which are transported to VDOF nurseries where the seeds are planted and seedlings are grown. In 2010, approximately 4,000 pounds of seeds (mostly acorns) were collected. Each year, 500-700 seedlings are given to volunteers for planting on public lands in Fairfax County.
- The conservation of the forested land base in Fairfax County is a part of the VDOF plan. The Fairfax County office works closely with the Fairfax County Department of Planning and Zoning to review Agricultural and Forestal District applications. A&F District forest

management plans are prepared by VDOF; these efforts support the management of forested land for conservation purposes. Two A&F plans covering 102.4 acres were prepared in 2010. VDOF also provides forestry management advice to homeowners associations and civic groups. No formal community forestry plans were prepared in 2010.

- The Virginia Department of Forestry also helps protect water quality and forest resources in the county by reviewing and commenting on rezoning applications and development plans. VDOF reviewed 44 applications and plans in 2010. In addition VDOF annually inspects dry hydrants to make sure they are available to fight wildfires in the county
- The department maintains an active public education and outreach program. Audiences range from school groups to adults. In 2010 VDOF conducted 47 talks on the general benefits of urban forests and riparian buffers.

Urban Forestry—Urban Forest Management Division, general activities

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

- Amendments to the Public Facilities Manual:
Tree Conservation Ordinance Amendments to Chapter 122 (Tree Conservation Ordinance) of The Code of the County of Fairfax, Virginia, and the Public Facilities Manual regarding conservation of trees during the land development process were approved by the Board of Supervisors on November 16, 2010. These amendments were proposed to address feedback from the development community regarding the applicability of the ordinance to minor plans and the impacts observed during the first full year of administering the ordinance.
- i-Tree Urban Ecosystem Analysis 2010:
The Urban Forest Management Division gathered field data to help identify various environmental and socioeconomic benefits provided by trees in Fairfax County. These findings underscore the need to conserve the county's tree and forest assets:
 - Number of trees in the county: 20,900,000.
 - Most common species: red maple, American beech and tulip poplar.
 - Annual air pollution removal value: \$21.7 million.
 - Carbon storage value: \$ 80.2 million.
 - Carbon sequestration value: \$4.5 million/year.
 - Annual utility savings: \$12.3 million.
 - Avoided carbon emissions: 218,000 tons of carbon/year.
 - Replacement value of tree canopy: \$29.2 billion.
- Continuation of Implementation of the Tree Action Plan: In 2010, UFMD continued to implement various strategies, tactics and actions plans identified in the Tree Action Plan, which is a board-endorsed plan to conserve and manage the county's tree and forest resources from 2007 to 2027. Over the past year, UFMD staff has made significant

progress towards meeting goals and executing strategies of the plan. UFMD is currently engaged in numerous strategies associated with seven of the 12 core recommendations.

- Receipt of the Tree City USA award for the 28th consecutive year: For the 28th year, Fairfax County received the Tree City USA award at the Earth Day/Arbor Day celebration held at the Fairfax County Government Center.

Urban Forestry—Urban Forest Management Division--activities of the Forest Conservation Branch

- Tree Preservation and Planting Awards:
As part of the 2010 Land Conservation Award program, the following Tree Preservation and/or Tree Planting Awards were presented to developers and builders to recognize outstanding efforts to preserve or plant trees within new developments. The Tree Commission awarded the following projects:
 - Aerospace Corporate Headquarters: Tree Preservation and Planting.
 - Hunter's Branch: Tree Preservation.
 - Huntley Terrace: Tree Planting.
 - Francis Scott Key Middle School: Tree Planting.
 - Pohick Stream Valley Trail: Tree Preservation and Planting.
 - Potomac School: Tree Preservation and Planting.
- Increased Public Awareness and Outreach: As recommended by the Tree Action Plan, FCB staff continues to provide educational and outreach sessions to the public concerning the value of protecting and managing trees on public and private property. FCB conducted the following sessions during 2010:
 - Provision of talks to homeowners associations, scout groups, school groups and garden clubs.
 - Participation in "A Day of Arboriculture" for horticulture students at Virginia Tech.
 - Participation in the 2010 Earth Day/Arbor Day celebration.
 - Presentation of the "*Tree Preservation during Land Development*" class to the Engineers and Surveyors Institute members for ESI's continuing education unit program supporting the "Designated Plans Examiner" certification program.
- Tysons Core Team: FCB staff participated on the Tysons Urban Design Core Team to help develop urban street tree and streetscape design criteria for use in the redevelopment of Tyson's Corner.

Urban Forestry – Urban Forest Management Division--pest management activities

- Gypsy Moth Caterpillar: In calendar year 2011, gypsy moth caterpillar populations remained very low. There was no measurable defoliation reported in Fairfax County and the State of Virginia. The gypsy moth staff will continue to monitor populations in fall 2011, and treatment is unlikely in 2012. It is important to note that gypsy moth populations are cyclical in nature and it is not uncommon for outbreaks to occur following dormant phases.

- Fall Cankerworm: The fall cankerworm is native to the United States and feeds on a broader range of trees than the gypsy moth. Periodic outbreaks of this pest are common, especially in older declining forest stands. Staff has monitored for adult female moths throughout the Mount Vernon and Lee districts since January 2001. The result of the winter 2010 – 2011 monitoring effort indicated that no aerial treatment was required in spring 2011.
- 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.

Fairfax County Restoration Project

- FCRP has continued its coordination with the Virginia Department of Transportation on reforestation efforts in areas cleared for the Capital Beltway High Occupancy Toll lanes project.
- FCRP has recently initiated a tree gifting program known as “Reforest Fairfax.” Each \$35 gift that is purchased through this program includes five tree seedlings that will be planted in Fairfax County by Fairfax ReLeaf during the next planting season, a gift card with a personal greeting, a gift certificate with the registration numbers of the trees that have been purchased and access to an on-line locator tool to see the areas within which the trees were planted.
- Additional FCRP activities are noted in the detailed report and on the project’s website at <http://www.fcrpp3.org/>. FCRP’s numerous efforts resulted in the organization’s receipt of an Environmental Excellence Award in 2011.

Stewardship

- 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 these websites: <http://www.fairfaxcounty.gov/parks/resources/stewardship.htm> and <http://www.fairfaxcounty.gov/parks/resources>.
- Fairfax County residents and other interested parties can donate to the Fairfax County parks through the Fairfax County Park Foundation. The Fairfax County Park Foundation is a 501(c)(3) not-for-profit organization and donations are tax deductible to the fullest extent allowed by law. The foundation's mission is to raise funds to support the parks and land

under the stewardship of the Fairfax County Park Authority. Those interested in giving tax-deductible donations to the foundation can contact the foundation at:

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

- Environmental Stewardship opportunities for volunteers are available at Meadowlark Botanical Gardens, Potomac Overlook Regional Park, Upton Hill Regional Park, Pohick Bay Regional Park and various other parks on occasion. More information can be found at http://www.nvrpa.org/park/main_site/content/volunteer.
- Fairfax ReLeaf offers a number of opportunities for stewardship. For further information on Fairfax ReLeaf, visit its website at <http://www.fairfaxreleaf.org>. The organization can be reached at:

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

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

Comments

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

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

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

Recommendation

1. The Fairfax County Park Authority approved a Natural Resource Management Plan in 2004. This partially fulfills a long-standing EQAC recommendation to develop and implement a countywide Natural Resource Management Plan. However, most of this plan cannot be implemented without additional staff and funding for the FCPA. The FCPA staff estimates that full implementation will require approximately \$8 million per year and dozens of staff positions. This includes about \$3.5 million to focus on general natural resource management and \$4.5 million for a non-native invasive plant control program. A more phased approach will allow FCPA to begin to manage 10 percent of parklands and set up the program to be phased in over time. Phase 1 with this approach would require \$650,000 and six positions. EQAC strongly feels that the plan needs to be implemented. Therefore, EQAC recommends that the Board of Supervisors provide sufficient funding to implement Phase 1. EQAC recognizes that in today's budget climate, such increased funding may be difficult to achieve. However, EQAC recommends some increase in funding by the Board of Supervisors. And, once the county's budget problems are eased, EQAC further recommends that the Board of Supervisors increase funding as a high priority. Ultimately, this increased funding should support the full implementation of the Natural Resource Management Plan. In the meantime, EQAC recommends that some additional staff positions and supporting funding be found from internal FCPA staff assets.

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

VIII. Wildlife Management

Background

Adult deer consume some six to seven pounds of vegetation per day. This coupled with the growth in the number of deer in the county has resulted in unacceptable destruction of residential landscaping and the understory of our parks and woodlands. The loss of understory has, in turn, cost us many of our birds and small animal species. The Board of Supervisors implemented the Deer Management Program in 1999 in accordance with recommendations that had been developed by the county executive's Deer Management Committee and established the position of county Wildlife Biologist to lead many of the program activities.

The two methods found most effective in reducing the county's deer herd to more acceptable levels are managed hunts and sharpshooters. Due to state law limitations on the discharge of firearms in or near residential neighborhoods, both of these methods have been conducted primarily in parkland. Managed hunts require qualifying participants beforehand and providing supervision during events. Sharpshooter events are conducted by the Tactical Teams of the Police Department Operations Support Bureau. In situations close to residences, archery is the preferred method, since the projectiles travel relatively short distances and are correspondingly less hazardous.

In parks where these measures have been used for three successive years, the understory has shown considerable regeneration; with moderate annual attention to limit the size of the local deer herd, these efforts can achieve full restoration of a biodiverse habitat.

Geese, and to a lesser extent ducks, are primary polluters of our streams and ponds. While they have been federally protected as migratory waterfowl, they have increasingly become permanent residents and thus a year-round problem. Under the protection of the federal laws, the main control measure has been coating the eggs with corn oil and replacing them in the nests. The oil coating prevents oxygen from penetrating the shell and thus the eggs from hatching; replacing them in the nest makes the goose think they are okay and prevents more eggs being laid. The county and the Park Authority have been conducting egg-oiling at some sites for as long as ten years.

Recent Activities

- The county Wildlife Biologist position became vacant in 2008 and there was a considerable lapse in program activities until a suitable replacement could be identified and brought aboard. At the same time the nationwide recessionary environment severely impacted the county budget and caused additional reductions in program activities. The county Wildlife Biologist position has now been filled by a highly qualified individual who has conducted a thoroughgoing assessment of the wildlife management programs and introduced some additional activities.
- However, despite the temporary position vacancy, the deer management program was able to conduct one managed hunt which took 32 deer; an additional five

sharpshooter events took 27 deer. The Park Authority on its separate federal permit oiled 439 goose eggs in 137 nests.

- The new county Wildlife Biologist and the Director of Animal Services have been conducting an extensive program review in order to maximize the on-going effectiveness of these programs and the most efficient application of fiscal resources.
- An archery program has been implemented, which will make it possible to address deer control in residential areas where discharge of firearms is prohibited.

Issues of Note

- EQAC feels that it is essential to maintain the programs for controlling the deer population. Otherwise: (1) each year we will lose ground and the damage to key vegetation will increase; and (2) the diet of the excessively large deer herd will become less adequate and the health of the individual members of the herd will suffer.

Comments

Impacts of Deer in Fairfax County

1. The county Wildlife Biologist position became vacant in 2008, and there was a considerable lapse in deer management activity until a suitable replacement could be identified and hired. Even so, there was one managed hunt conducted with 32 deer taken, and five sharpshooter events with 27 deer taken for a total reduction in the deer herd of 59 animals.
2. Due to the current recessionary environment in which the county has been operating, it was necessary to cancel the Assistant Wildlife Biologist position that had been authorized but not yet filled. It is hoped that eventually economic recovery will make it possible to reactivate this position.
3. Public understanding and perceptions of the deer management program were assessed through a survey conducted in mid-2010. The results of the survey are available on the county website <http://www.fairfaxcounty.gov/living/animals/wildlife/deer-management-survey-results.htm>.

Impacts of Geese in Fairfax County

1. The Park Authority has recently held exploratory discussions to examine the feasibility of using managed shotgun hunts for reduction of resident goose populations and the regulatory limitations that may be applied to this approach. An initial pilot test has been conducted on a county-owned privately-managed golf course. This approach has considerable promise for efficiently meeting FCPA control needs and should be expanded and fully supported.

Coyotes in Fairfax County

1. A small number of coyotes are becoming resident in Fairfax County. Currently the potential advantages and disadvantages seem about evenly balanced. Thus, there are no recommendations at this time except that the County Wildlife Biologist should monitor the situation and keep the relevant county agencies and the public informed.

Wildlife Borne Diseases of Concern in Fairfax County

1. EQAC commends the Board of Supervisors for providing continued active support to the following ongoing programs:
 - The Stream Monitoring Program in which the Stream Protection Strategies Program of the DPWES performs sample collection and field testing and the Health Department performs laboratory testing and analysis functions.
 - Enhanced public education programs and initiatives in key areas, such as control of rabies and of wildlife contributing to pollution of surface waters, epidemiology and abatement of insect borne diseases such as West Nile Virus and Lyme Disease.
 - EQAC commends the Health Department for its excellent public education programs and advocates posting of advisories on the county website when polluted waters are identified.
2. EQAC feels that the Board of Supervisors should monitor these programs by scheduling periodic reports to its Environment Committee by county staff.
3. Recently, there has been an incident of a feral cat that bit both an adult and child and when apprehended by Fairfax County Animal Control was found to have rabies, which necessitated rabies treatment for the victims. Since feral cats often live in small groups they should be closely monitored as a potential rabies hazard.

Recommendations

Impacts of Deer in Fairfax County

There are three recommendations for continuance of activity in the deer management program:

1. Managed hunts should be continued as they have become both cost-effective and efficient in reducing excesses in the deer herd.
2. The sharpshooter events should be continued because they are both humane and cost-effective.
3. The newly begun archery program should be continued as a means of controlling deer depredation of vegetation on residential properties where firearms cannot be used.

Impacts of Geese in Fairfax County

1. EQAC strongly recommends that the goose management program be continued, particularly the public outreach and training activities so that a cadre of volunteers can be created to provide the labor to do the actual egg-oiling that is the principal control measure. In addition, the shotgun hunt pilot test conducted by the Park Authority should be expanded into an established program.

IX. Noise, Light Pollution and Visual Blight

The final chapter of the Annual Report on the Environment addresses a series of environmental concerns that may be considered by some to be byproducts of our lives in a populous urbanizing locality and by others as avoidable (or at least mitigatable) intrusions on our health and quality of life.

Noise, and transportation-generated noise in particular, can have a variety of adverse impacts on individuals and communities. The Annual Report focuses on noise from aircraft operations, noise from motor vehicle traffic on highways and noise from a Metrorail maintenance yard.

Improperly designed lighting can have adverse effects on safety and quality of life. The trespass of light from one property to another, excessive brightness (“glare”), urban sky glow and excessive energy use are all avoidable results of improper lighting.

Our quality of life can also be degraded by a variety of visual pollutants. Previous Annual Reports have reported on signs, billboards, telecommunication towers and utility transmission lines; this year’s report carries forward the information that was included in last year’s report, focusing on two particular forms of visual blight: cigarette butts and illegal signs.

As is the case with all of the issues addressed in this summary report, EQAC has prepared overviews of these issues and concerns in considerable detail in the larger report that is available electronically through EQAC’s website (www.fairfaxcounty.gov/eqac/report).

Noise

Background

While transportation-generated noise impacts cannot be eliminated from the urban or suburban environment, they can be minimized through careful planning and through mitigation efforts. For example, there may be opportunities for air traffic controllers to route aircraft operations over commercial and industrial areas as opposed to residential areas. Further, local governments with land near airports can encourage, through planning and zoning measures, noise-compatible uses in areas with high projected noise exposures. Noise from highways can be mitigated to a certain degree through the use of noise barriers, and noise sensitive structures that are built near highways or airports can incorporate building materials with acoustical properties that reduce substantially the amounts of noise that are transmitted into interior spaces.

Recent Activities

Airport Operations

- The numbers of operations at Ronald Reagan National Airport and Washington Dulles International Airport have remained steady with the 2009 levels, and continue to be significantly below the 2007 levels. These reductions were likely due to a combination of record high fuel prices and an overall downturn in the economy.
- That being noted, approximately 41.8 million passengers traveled through these two airports on roughly 610,000 flights; there continued to be fewer flights at Reagan National than at Dulles.

Noise Monitoring

- The Metropolitan Washington Airports Authority, which operates both airports, replaced its aging noise monitoring system with a new monitoring system. The new system, which became operational in late 2008, monitors noise at 40 locations throughout the metropolitan Washington, DC area, including 15 sites in Fairfax County. Previously, there were 32 locations, with 11 in Fairfax County. The four new monitoring stations in Fairfax County were located near Dulles Airport; the other four new monitoring sites were established in Loudoun County.

Washington Dulles International Airport

- Construction of a new north-south runway has been completed, and the new runway opened to operations in November 2008. With the new runway open for service, the older runways have been closed, one at a time, for maintenance, which continued into 2011. All four runways are temporarily open during the busy holiday season.
- A number of other construction projects at Dulles Airport are under way.

Ronald Reagan National Airport

- In early 2008, the Federal Aviation Administration completed its review of the Part 150 Noise Compatibility Study for Reagan National Airport. Only four of the eight proposed noise abatement measures in the study were approved, as were all six of the mitigation measures, with the acknowledgment that these measures were beyond the authority of FAA. The four measures that were disapproved were done so because there are “no present or forecasted incompatible land uses within the DNL 65 dB” noise contour.

Aviation Policy Committee

- The Metropolitan Washington Council of Government’s Aviation Policy Committee was discontinued effective January 2011 and oversight for regional aviation policy was returned to the COG board. An Aviation Policy Liaison will be appointed to

coordinate with COG staff and to coordinate with MWAA; this was considered to be the best use of limited COG resources.

Helicopter Noise

Recognizing both the vital need for helicopters in the region as well as community concern over related noise impacts, COG asked the Aviation Policy Liaison to work with local elected officials, citizens and officials from the Federal Aviation Administration and the Military District of Washington to look for a solution that aggregates community noise concerns and is able to address “hot spots.” The liaison will report back to the COG board in 2011 with recommendations.

Highway Noise Barriers

- The I-495 High-Occupancy Toll Lanes Project is well under way. The widening of I-495 will result in significant noise impacts; nine new noise barriers will need to be constructed, and eight existing barriers will need to be replaced, enhanced and/or extended. Barrier heights will range from seven to 39 feet.
- New noise barriers are also being provided for the I-95/Telegraph Road interchange project, the I-95 4th Lane Widening project, the extension of the Fairfax County Parkway through the Fort Belvoir North Area (formerly known as the Engineering Proving Ground), and the new Fairfax County Parkway/Fair Lakes Parkway Interchange Project.

Metro Yard Noise

- As part of the proposed expansion of the Metro Service and Inspection Yard located near the West Falls Church Metro station, a sound box is to be built over the noisiest portion of a loop track at the site. The sound box is expected to ensure that all conditions and requirements relating to noise generated from the tracks will be satisfied. It will cover approximately 1,000 linear feet of track and should be completed by 2013.

Stewardship

- The Fairfax County Restoration Project, a Public-Private Partnership, launched in spring 2010 with its initial focus on restoration of areas negatively impacted by the I-495 HOT Lanes Project. FCRP is working with VDOT to modify VDOT’s landscaping plans to include restoration of cloverleaf areas and areas inside and outside the sound walls. Vegetation planted inside and outside the sound walls will provide many benefits, including reduction in stormwater runoff, habitat for pollinators, birds and small mammals and visual relief for both motorists and residents. In recognition of its many projects already underway in different parts of the county, the FCRP has been awarded a 2011 Environmental Excellence Award

(see Appendix C). Anyone interested in joining the efforts should contact the FCRP at info@fcrpp3.org.

Issues of Note

- EQAC welcomes the implementation of the upgraded noise monitoring network for Reagan National and Dulles Airports and looks forward to reviewing monitoring data.
- While the FAA rejected noise abatement measures that were proposed outside the DNL 65 dBA impact area associated with Ronald Reagan National Airport, EQAC feels that noise impacts do not stop at DNL 65 dBA and that areas beyond the DNL 65 dBA noise contour both north and south of the airport continue to be affected by noise associated with operations at the airport.

Comments and Ongoing Concerns

1. Continue to support airport noise-compatible land use planning near airports in the county through the implementation of policies and regulations that reference the most current airport noise contour projections for the airports and that are at least as stringent as federal noise compatibility guidelines.
2. Staff should continue to review all airport and highway studies that require Environmental Assessments or Environmental Impact Statements under the National Environmental Policy Act for consistency with county policies addressing transportation-related noise and mitigation and report its findings to the board. In turn, the Board of Supervisors should, when appropriate, adopt resolutions with specific requests and/or recommendations and transmit these to the Metropolitan Washington Airports Authority, Federal Aviation Administration, Commonwealth Transportation Board, Virginia Department of Transportation and other state and federal agencies as applicable.
3. Pending research on legal authority, consideration should be given to requiring disclosure of airport noise exposure for new residential development within the DNL 60 dBA contour of Dulles Airport.
4. Encourage the retention and planting of noninvasive vegetation to provide visual shielding of residents from highways. Where possible, support the provision of vegetated areas adjacent to highways that are wide enough and dense enough to provide noise reduction benefits to residential areas near the highways. Where feasible and appropriate, pursue such approaches in lieu of noise walls.
5. EQAC is pleased that a series of Web pages addressing noise issues have been established on the county's website. The county should ensure that this page is kept current through regular updates.

6. Once one year of community noise impact data from the new runway configuration at Dulles Airport, with all four runways fully operational, are available, the Metropolitan Washington Airports Authority should review and analyze the data to identify operations on the new runways as they relate to community noise impacts and whether or not such impacts would suggest the need for consideration of operational changes.

Recommendation

1. EQAC supports efforts by the Metropolitan Washington Airports Authority to report, on its website, results from the new noise monitoring system for Washington Dulles International and Ronald Reagan Washington National Airports. EQAC recommends, however, that the Board of Supervisors request to MWAA that these results be reported on a quarterly basis and that access to the website be simplified.

Light Pollution

Background

Light pollution is a general term used to describe light output, primarily from exterior (outdoor) sources, in commercial, residential and roadway settings that is excessive in amount and/or that causes harmful glare to be directed into the path of travel or into residential neighborhoods. Light pollution is thus both a safety issue and a quality of life issue. A major effort was undertaken in 2002 to write a totally new and modern Outdoor Lighting Ordinance. This highly successful effort came to fruition in early summer 2003 with the adoption of the new Outdoor Lighting Ordinance. However, there are a few areas that could not be addressed adequately by the new ordinance, since suitable standards and convenient measurement technology were not available at that time. This report focuses on the most pressing of these areas.

In order to achieve more efficient usage of its existing athletic fields, the Fairfax County Park Authority installed pole-mounted lights on several fields so they could be used into the evening hours. However, in some cases, where the fields were located adjacent to residences, there were complaints that the lights eroded the quality of life for the residents. In an effort to assure that effects on surrounding neighborhoods were minimized, the Park Authority had consultants prepare design specifications that would limit light spilling beyond the field area and limit the glare from the high-intensity, pole mounted light fixtures. Unfortunately, the glare problem and complaints continued. In an earlier report, EQAC recommended that it work with the Park Authority do a proper study of these problems and produce an improved set of specifications.

Recent Activities

- There are several revisions to the Outdoor Lighting Ordinance that are needed to address specific problems. There have been two task force meetings to define the scope of these revisions and drafts of the revision are being prepared.
- The Fairfax County Park Authority's efforts to achieve more efficient usage of its athletic fields is both commendable and highly cost-effective despite the presence of some problems with lighting disturbance in residential neighborhoods. EQAC has noted these problems in prior reports and this past year has worked closely with the Planning and Development Division of the Park Authority to address the problems of light spill beyond the park property and the problem of glare from the high-intensity, pole-mounted athletic field lights. Fortunately, light spill has become a non-problem since recent tests have shown that the Park Authority specifications for spill light are being well met. However, extensive investigation of the "glare" problem shows that bright lights against a dark-sky background are subject to some fundamental laws of nature that are for all practical purposes beyond the control of mankind. EQAC has collaborated with the Park Authority in preparing an extensive report, sometimes known as a "white paper," on the problems of athletic field lighting including the limitations on solutions of the glare problem and a detailed set of technical

specifications for design of field lighting that will, insofar as possible, minimize problems for surrounding neighborhoods.

Comments and Ongoing Concerns

1. In response to a recommendation in earlier EQAC Annual Reports on the Environment, the Fairfax County Park Authority commissioned several studies of sports field lighting design and technology. The Park Authority issued a set of specifications, dated November 2006, for new athletic field lighting installations that addressed all of the issues adequately except for glare. The Park Authority then commissioned a special study of the glare problem. The Park Authority Director of Planning and Development requested EQAC to collaborate with his staff to develop this study. The final document, based on the underlying science, reveals that much of the glare problem is dependent on source-to-background contrast ratio, which is a fundamental law of nature and not under the control of man.
2. The earlier EQAC Annual Report recommendation that the Department of Planning and Zoning undertake some modest but needed revisions of the Outdoor Lighting Ordinance has come to fruition in the form of current meetings of a task force of stakeholders to develop specifications for such revisions. The originally scheduled revisions have been expanded to include consideration of light emitting diode lamps. The Park Authority has recently begun to use these for walkway lighting due to their much lower operating and maintenance costs. The revisions should be in final form before the end of the current year.
3. EQAC continues to support that the Board of Supervisors work with VDOT and Virginia elected officials to eliminate unnecessary roadway lighting and whenever possible to accelerate replacement of existing poorly designed fixtures under the control of VDOT with full cut-off fixtures.

Visual Blight

EQAC does not have updates to the Visual Blight section as presented in the 2010 Annual Report on the Environment and is therefore carrying forward the section from the 2010 report. EQAC thanks Ned Foster, the previous Springfield District EQAC representative, for authoring this section.

Background

Visual blight is a subjective impact; one person's definition of this term may differ from someone else's. However, there are some visual impacts that would probably meet most people's definition of "blight," and EQAC has chosen to focus on two of them in this year's Annual Report: cigarette butts and illegal signs along roads.

Recent Activities

- To illustrate the significance of the cigarette butt issue, in April 2009, the author of the Visual Blight section of the report picked up 952 cigarette butts in a 100-foot stretch of a left turn lane on a local highway.

Issues of Note

- The Fairfax County website points out that "Section 33.3-346 of the Code of Virginia makes littering or dumping trash a Class 1 misdemeanor, punishable by up to 12 months in jail and/or a fine up to \$2,500."
- The Commonwealth of Virginia has one of the most progressive and no-nonsense laws in the United States. Under this law, no one can put a sign in the right-of-way of state-maintained highways without a permit. The cogent parts of this law say: "§ 33.1-373.... any advertisement within the limits of any highway shall be assessed a civil penalty of \$100. Each occurrence shall be subject to a separate penalty...Advertisements placed within the limits of the highway are hereby declared a public and private nuisance and may be forthwith removed, obliterated, or abated by the Commonwealth Transportation Commissioner or his representatives without notice."
- It also appears that a bill exempting Fairfax County from complying with that law has been passed--§ 33.1-375.1 appears to allow signs in the right-of-way. It also appears that Fairfax County would be required to negotiate with VDOT to take over responsibility for the right-of-way and a subsequent public hearing would need to be held.
- On April 14, 2010, EQAC discussed with staff from the Fairfax County Police Department whether there are any impediments to the issuance of citations for littering and in whether a public education program can be established to support

responsible cigarette butt disposal. FCPD staff noted the difficulties associated with enforcement, and no further action was taken.

- At the same meeting, EQAC met with county staff and with VDOT staff to clarify the rules governing signs in the VDOT rights-of-way; EQAC subsequently developed a series of recommendations regarding sign enforcement issues to the Board of Supervisors; so far there is no movement on the part of the county to deal aggressively with illegal signs.

Comments and Recommendations

In regard to visual blight issues, EQAC has no comments or recommendations this year.