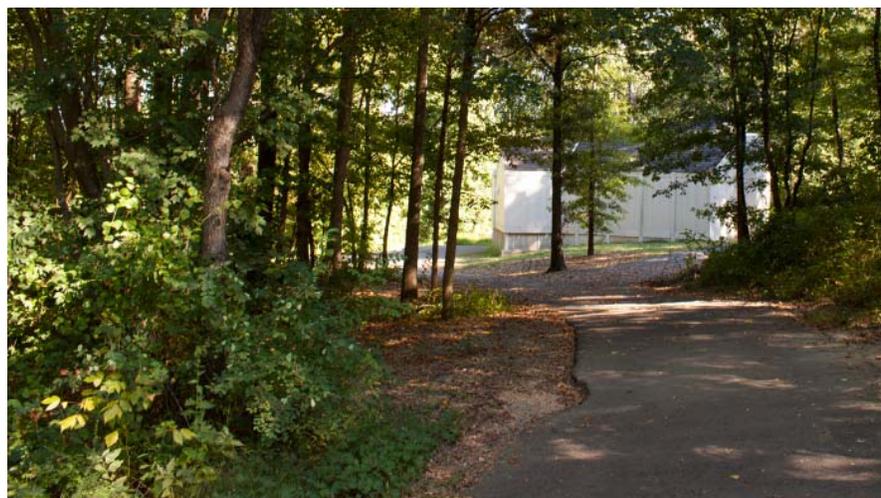


Annual Report on the Environment 2010

Summary Report



Environmental Quality Advisory Council



A Fairfax County, Virginia
Publication--November 2010

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



To request this information in an alternate format, call the Department of Planning and Zoning: (703) 324-1380 TTY 711

The cover shows: electrical transmission lines along Interstate 495; noise barrier construction along Interstate 495 near Gallows Road; and a trail within Mason District Park in Annandale. Cover design and photos by Kevin Sun, Student Member, Environmental Quality Advisory Council.

ANNUAL REPORT
on the
ENVIRONMENT
2010



SUMMARY REPORT

Fairfax County, Virginia

Environmental Quality Advisory Council
November 2010

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: global climate change as it relates to Fairfax County; 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. 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 2009; however, in some cases, key activities from 2010 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 Information Technology¹
 Fairfax County Department of Systems Management for Human 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 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 2009 *Annual Report on the Environment*, as well as the ongoing efforts of the interagency Energy Efficiency and Conservation Coordinating Committee.

¹ In the published version of this report, the Fairfax County Department of Information Technology was inadvertently omitted from this list. EQAC regrets this error.



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

November 16, 2010

Chairman Bulova and Members of the Board:

The Environmental Quality Advisory Council is pleased to present the 2010 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 2009, but also includes significant actions from 2010 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 printed summary version, and secondly, an on-line complete version with all data included. We have again highlighted environmental stewardship opportunities within the report chapters.

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 and have resulted in some very challenging choices, including those affecting environmental services.

EQAC asks that you continue to support the environment programs you have established. The 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. This support for environmental programs includes funding for the Environmental Improvement Program for the upcoming fiscal year. The EIP is a reflection of those non-stormwater programs, including implementation of the Cool Counties initiative. Funding the EIP is necessary to implement the Environmental Agenda adopted by the board for this county.

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Board of Supervisors
Continued

We therefore have three key requests this year among the many recommendations we have made in our report. The key recommendations are:

1. EQAC commends the Fairfax County Board of Supervisors for its leadership to increase energy efficiency and reduce greenhouse gas emissions throughout the county. We also commend the continued efforts of the county's Energy Efficiency and Conservation Coordinating Committee, being led by Deputy County Executive David Molchany. We thank you for the funding of the countywide greenhouse gas emissions inventory to be finished this fall. We fully support the residential energy education and outreach effort that will be getting under way soon that will address ways to increase energy efficiency in individual households. **EQAC encourages the county to expand these efforts to include energy use benchmarking and monitoring in non-residential buildings.**
2. 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 realizes under the present budget there will be no monies available from the General Fund and that the funding for the stormwater program will come from funds generated through the Stormwater Service District rates. However, one only has to look at the variability over the last five years of water quality in our streams to understand the depth of need of increased funding for these programs.

EQAC recommends that the rate be increased by another ½ penny for funding the stormwater program through the Service District. This would result in some additional funding for modest watershed improvement programs and some funds for infrastructure replacement. In terms of infrastructure replacement, the present level of funding is simply not acceptable. We also 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.

3. EQAC commends the county for its high density mixed use development planned near Metro stops and for the finalization of the Tysons Plan this year. All of these efforts recognize the need for increased transit use in the county to reduce traffic congestion, improve air quality and reduce greenhouse gas emissions. **EQAC recommends that the county improve transit utilization through a systematic plan that includes multiple options within a community.** For example, specific projects for the Wolfrap Road bicycle and pedestrian bridge, Pohick Stream Valley “VRE 2 VRE” and the “Bobann Bikeway” provide trail connections to transit opportunities. In addition, we need to ensure that the public is aware of all of these opportunities as they become available. These are the kinds of improvements to our overall transportation system that we want the county to continue with and to expand on.

Board of Supervisors
Continued

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.

As we do each year, 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 a 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.

Third, 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". The signature is written in black ink and is positioned above the printed name.

Stella M. Koch, Chairman

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SCORECARD
Progress Report on 2009 Recommendations

I. CLIMATE CHANGE

Climate Change Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. Explore whether commitments should be sought from developers to: (1) encourage reporting of greenhouse gas emissions estimates; and (2) reduce greenhouse gas emissions by reducing energy consumption or by obtaining energy from sources that do not emit greenhouse gases. The use of electronic reporting standards employed by the Climate Registry or other sources should reduce the need for human intervention in the handling of data. The pursuit of commitments to LEED certification at the Silver level or higher should be considered as well.</p>	<p>1) Staff is interested in getting further guidance from EQAC regarding the anticipated needs and uses for energy consumption data and greenhouse gas emissions estimates from buildings that will be constructed in Fairfax County. Staff feels that reporting should be encouraged but that it should not be tied to the development process as the issue is as important for existing buildings as it would be for new buildings, and as there would be difficulties in developing approaches that would be acceptable to applicants and enforceable. 2) While staff supports the use of energy from sources that do not emit greenhouse gases, staff believes that it is unlikely that developers will be amenable at this time to commitments to renewable energy approaches due to cost efficiency concerns.</p>	<p>1) The report has clarified that energy use information provides the most reliable indicator of efficiency. While LEED certification should reduce greenhouse gases, the proof will be in the actual energy savings. Other jurisdictions have set the standards so that developers may want to increase density beyond the stated requirement and the proffering of agreements for environmentally sensitive actions, including LEED certification can be used for modest increases in density that increase developer profit. The EQAC has suggested that information on greenhouse gases be collected by a regional agency such as the Council of Governments using uniform reporting formats. 2) While economics will play a role in decisions to undertake actions to reduce greenhouse gases, we believe that the positive reactions of citizens will likely also play a role in influencing company behavior.</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 recommends that the county produce an updated version of the “State of the Plan, An Evaluation of Comprehensive Plan Activities.” EQAC also recommends that the county consider the process for a complete review of the Comprehensive Plan.</p>	<p>Staff recommends that, upon completion of the current Area Plans Review cycle and the Area Plans studies, there be an evaluation of the collective implications of all Plan changes that will have been made of the past several years. Upon completion of this evaluation, there could, based on the results, be an assessment as to whether additional Plan changes should be considered. Staff feels that a full scale rewrite of the Comprehensive Plan would only be productive if this evaluation was to suggest a need for fundamental changes to the Plan.</p> <p>Until the aforementioned Plan evaluation is performed, staff feels that the best approach to Plan monitoring is the current approach described above; this approach serves as a tool for both in-house DPZ purposes and the larger goal of shared use in the county system. Furthermore, the new GIS-based approach monitors Plan changes at a more detailed level than analyzed in the <i>State of the Plan</i> document. The current monitoring tracking system allows up to parcel-level analysis, while the <i>State of the Plan</i> analysis provides only summary information for large areas, such as planning districts.</p>	<p>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” to cover plan activities between 1995-2008 and assess impacts through 2025.</p> <p>EQAC understands the constraints on the staff to complete APR and the Area Plan Studies and looks forward to a more comprehensive review once those tasks are complete.</p>	<p>No.</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 agrees with this recommendation and put resources into place to begin work integrating the nonresidential development pipeline into IPLS. Department of Planning and Zoning (DPZ) staff will take the lead on the nonresidential development pipeline work in coordination with the Department of Information Technology (DIT) and the Department of Systems Management for Human Services (DSM). DPZ staff will research the availability of nonresidential development pipeline data and determine the business rules for creating and analyzing new IPLS tables containing these data. DIT staff will work with DPZ staff to create the tools that will use the business rules to pull the desired data into the IPLS tables and to create the analysis tools specified by DPZ staff. DSM staff will work with DPZ and DIT staff to facilitate the work. Staff anticipates beginning the work on designing a nonresidential development pipeline interface for IPLS in March 2010.</p>	<p>EQAC anticipates the completion of the integration of non-residential pipeline data and nonresidential land use intensities into IPLS.</p>	<p>In progress.</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</p>	<p>Planning for the next version of My Neighborhood is underway. The GIS Branch will work with the Department of Systems Management for Human Services during that planning to identify approaches to include IPLS data and the annual American Community Survey data in the reporting of My Neighborhood.</p>	<p>EQAC appreciates regular updates to My Neighborhood that include new sources of information.</p>	<p>In progress.</p>

Land Use & Transportation Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
<p>2c. EQAC is impressed with the ways that the county has incorporated three-dimensional models across the various agencies. These have had a transformative effect on business operations. We recommend that the county continue to enhance its investment in GIS technology and updates to the source data.</p>	<p>The GIS Branch obtained 3-D models of two key areas of the County: Tyson's Corner and the Reston/Herndon toll road corridor (5 sq miles of Reston/Herndon and 3 sp miles of Tyson's Corner area). In all, 3-D models exist for over 2,000 buildings in those two areas. Those models and orthoimagery are viewable through Virtual Fairfax which will be released in FY 2010. In addition, several copies of software that enable 3-D model creation have been obtained.</p>	<p>The Virtual Fairfax application has been released and is a wonderful addition to the tools available to planning boards and commissions as they proceed to plan for future changes to the County. EQAC will continue to recommend that additional data be incorporated into these tools.</p>	<p>Complete.</p>

Land Use & Transportation Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
<p>d. EQAC further recommends that the county develop a Digital Comprehensive Plan. The Digital Comprehensive Plan 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 with both local and macro impacts. 	<p>The recommendation for a digital Comprehensive Plan is being addressed in part. The Comprehensive Plan in digital format is available on the Department of Planning and Zoning’s website. The website has been redesigned in order to make the Plan and its contents more accessible to the general public. The website outlines and provides links to the Policy Plan, individual Area Plans, and their respective community planning sectors and/or special areas. If a user has knowledge of a specific property’s location within the Plan, the user can directly and quickly link to the corresponding Plan recommendation. At the same time, a new feature provides a link to a webpage that helps a novice user determine the location of the Plan in which a property is located. The linked website allows a user to click on a location within a map of the county and directly connects the user to the corresponding Comprehensive Plan text. The reference map provides several options by which to search a property location. The options include Planning District, major roads, and local streets. Three-dimensional modeling, growth projections, and environmental and transportation modeling are currently being used by the county to anticipate and assess growth and land use changes. The results of these modeling tools are available to the general public in paper or other non-digital forms.</p>	<p>EQAC envisions this as a longer term project to transform the Comprehensive Plan from a text form into a GIS form with many layers of information, 3-d models such as those provided by Virtual Fairfax, projections of plan capacity based on zoned density, and models to consider changes. The current online Comprehensive Plan while being digital, does not embrace new technology to enhance planning and the integration of Land use and transportation.</p>	<p>No.</p>

Land Use & Transportation Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
<p>3. The current 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 recommends that the county prepare a strategy for the recovery that includes ideas such as:</p> <ul style="list-style-type: none"> • Continue to expand options for affordable housing by investing and partnering appropriately in areas 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. • Coordinate with agencies and businesses to inform prospective/new workers of opportunities for desirable commutes and local housing amenities. 	<p>The BOS has adopted policies and programs that address these recommendations. The Affordable Dwelling Unit Program, requires the provision of affordable housing in new construction that is four-stories or lower (at least 12% of all housing be affordable, ADU and/or Workforce Housing). In redeveloping areas not subject to the ADU Program, the Workforce Housing Program requires that 12% of the total number of units be either ADUs or workforce units. Significant partnering efforts have preserved affordable units accessible to public transportation and jobs, reducing displacement of the lower wage workforce and impacts on transportation and land use. Fed. funds are being used to support non-profit orgs.' purchase of foreclosed homes to assist those in need. DHCD assists first-time homebuyers in buying foreclosed homes. Engagement with the real estate community makes this possible. Comp. Plan Amendments for Lake Anne, Springfield, Annandale, Baileys Crossroads and Tysons were adopted within the past year. Enhanced amenities that include affordable housing close to employment and transportation opportunities have been incorporated within each amendment. County public/private partnerships include the establishment of the county's first Community Development Authority.</p> <p>The Economic Development Authority gathers and maintains information on office/flex buildings and provides options. EDA does not give preference to any particular type of space or promote one particular property over another. Information provided to customers is based solely on the criteria that the customer conveys to the EDA.</p> <p>Housing preservation activities have been redirected by the BOS through adoption of the Housing Blueprint to primarily serve lower income and at risk individuals. The 2010 budget for preservation activity was cut in half and these funds are obligated. Budget constraints reduce the ability to respond to EQAC recommendations to support lower income individuals in these and other programs.</p>	<p>EQAC commends the board and county agencies for the extensive work and programs in place to address land use and transportation issues through the real estate market.</p> <p>EQAC encourages the county to continue to coordinate these efforts across agencies and in concert with potential real estate opportunities arising from depressed property values and increased vacancy rates.</p> <p>EQAC recognizes that the overall budget constraints in the county impair the ability to implement these programs fully.</p>	<p>In progress.</p>

III. AIR QUALITY

Air Quality Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. EQAC acknowledges the budget limitations that can be expected to continue for a few years, yet also recognizes that without a continued commitment to traditional air pollution problems, the area will not attain national air quality standards. EQAC commends the Board of Supervisors for retaining, in the FY 2010 budget, the county's air quality management position and recommends that this position be retained in future budgets as well.</p>	<p>The air quality management position is being retained.</p>	<p>EQAC thanks the Board of Supervisors for retaining this position.</p>	<p>Yes.</p>

IV. WATER RESOURCES

Water Resources Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. EQAC recommends that Fairfax County adequately fund and implement its ongoing Stormwater Program. EQAC recommends that the Stormwater Program continue to be funded by the Service District, and that the rate be increased to a penny and a half. 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>The County Executive recommended that the Stormwater Program be funded by an increased rate of a penny and a half in the FY2011 budget.</p>	<p>The Board of Supervisors did adopt this penny and a half in the FY2011 budget. EQAC thanks the County Executive for proposing the penny and a half for the FY2011 budget and the Board of Supervisors for adopting this recommendation in the FY2011 budget.</p>	<p>Yes</p>

V. SOLID WASTE

There were no recommendations in the 2009 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 regular basis. Consideration should be given to continuing remote household hazardous waste collection events.</p>	<p>Staff does not concur with this recommendation at this time. Fairfax County has two permanent sites that accept household hazardous waste. Remote collection events serve less people than the two permanent sites and cost more (\$32 per customer at the permanent sites versus \$58 per customer at the remotes. Staff could reconsider the remote sites when more funding becomes available.</p>	<p>EQAC continues to believe that remote hazardous waste collection events would better serve the citizens of Fairfax County. More household hazardous waste could be correctly handled with these remote sites.</p>	<p>No.</p>

VII. ECOLOGICAL RESOURCES

Ecological Resources Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. The Fairfax County Park Authority approved a Natural Resource Management Plan in 2004. This partially fulfills a long-standing EQAC recommendation to develop and implement a countywide Natural Resource Management Plan. However, most of this plan cannot be implemented without additional staff and funding for the FCPA. The FCPA staff estimates that implementation will require \$3 million plus per year. A more phased approach will allow FCPA to begin to manage 10 percent of parklands and set up the program to be phased in over time. Phase 1 with this approach would require \$650,000 and six positions. EQAC strongly feels that the plan needs to be implemented. Therefore, EQAC recommends that the Board of Supervisors provide sufficient funding to implement Phase 1. EQAC recommends that some of the six staff positions should be found from internal FCPA staff assets.</p>	<p>The Park Authority concurs with the recommendation to fund and implement the Natural Resources Management Plan, but at this time cannot realign staff from other important existing programs and services to the natural resources management program. We are unable to reallocate staff to the natural resources management program without sacrificing other important existing programs and services to the public. However, the Park Authority will continue to work with the Department of Management and Budget to seek funding in future years. If funding is provided, we will look at our positions again to see if any can be realigned to the natural resources program.</p>	<p>The Park Authority has two equally important missions – to provide active recreation to Fairfax County citizens and to protect the natural resources of Fairfax County. However, for many years, the priority has been given to active recreation. The Staff response continues this allocation of resources. EQAC strongly believes that the two different missions of the Park Authority need to be brought into balance. EQAC reiterates its recommendation.</p>	<p>No</p>

VIII-1. IMPACTS OF DEER IN FAIRFAX COUNTY

Deer Management Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. Insofar as staff resources permit, managed hunts should be continued as they have become both cost-effective and efficient in reducing excesses in the deer herd.</p>	<p>The Fairfax County Wildlife Biologist developed a new Archery Program as a management tool to more effectively implement the Deer Management Program. Managed hunts and sharpshooting operations remain integral strategies as a core component of the Deer Management Program.</p>	<p>EQAC is glad to see that managed hunts and sharpshooting operations continue. However, deer continue to be a problem in many of Fairfax County parks and these operations should increase.</p>	<p>Yes.</p>
<p>2. The sharpshooter events should be continued since the Police Department Tactical Teams must engage in required practice in order to maintain proficiency, and using deer as targets is both cost effective and more closely replicates operational situations than does practice on the target range.</p>	<p>Sharpshooting remains an integral strategy. The Wildlife Biologist, however, recommends that the assertion of sharpshooting events as target practice be discontinued. Rather, they should be noted as a cost effective and efficient (humane) strategy for reducing excesses in the deer herds.</p>	<p>EQAC is glad to see that sharpshooting events continue.</p>	<p>Yes.</p>

VIII-2. IMPACTS OF GEESE IN FAIRFAX COUNTY

Geese Management Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1 EQAC strongly recommends that, insofar as staff time is available, 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.	The Fairfax County Wildlife Biologist will begin the process of public education and community outreach to educate the public regarding addling (egg oiling) and the training of interested parties in March 2010.	EQAC commends the Wildlife Biologist for the public education and community outreach program.	Yes.

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VIII-3. COYOTES IN FAIRFAX COUNTY

There were no recommendations in the 2009 Annual Report

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

There were no recommendations in the 2009 Annual Report

IX-1. NOISE

There were no recommendations in the 2009 Annual Report

IX-2. LIGHT POLLUTION

Light Pollution Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
<p>1. The Zoning Administration Division of the Department of Planning and Zoning should attempt to have a draft of the proposed revisions to the Outdoor Lighting Ordinance by summer 2010. EQAC will collaborate with them to this end.</p>	<p>Each year the Board of Supervisors adopts a Zoning Ordinance Amendment Work Program (ZOAWP) which contains a Priority 1 list of amendments that staff will be working on during the year and a Priority 2 list of items that will be maintained for future prioritization. The 2009 Priority 1 ZOAWP adopted by the Board on March 30, 2009 contained an item to consider revisions to the outdoor lighting standards. Staff began working on this amendment and in early 2010 a workgroup consisting of county staff and private sector individuals will be reconvened to review aspects of the outdoor lighting standards that may require revision. It is anticipated an amendment should be ready to present to the Board for authorization to advertise public hearings in fall 2010.</p>	<p>EQAC is pleased that staff is moving forward on this recommendation.</p>	<p>In progress; nearing completion.</p>
<p>2. The Fairfax County Park Authority should attempt to have a finished draft of the “white paper”, which discusses the scientific basis for the glare problem and the limitation for a solution to it, and improved technical design specifications for athletic field lighting design ready for publication by late spring 2010.</p>	<p>The recommendation for the completion of the White Paper is in the process of being addressed through a series of collaborative meetings with key members of EQAC and DPZ. The final “white paper” will include a more comprehensive discussion on glare, control limitations and possible solutions for control and should be available for public review by mid-summer.</p>	<p>EQAC thanks the Park Authority Director of Planning and Development for the opportunity to collaborate on this paper. The final document reveals that much of the glare problem is dependent upon source-to-background contrast ratio and as such is a fundamental law of nature and not under the control of man.</p>	<p>Yes.</p>

IX-3. VISUAL POLLUTION AND URBAN BLIGHT

There were no recommendations in the 2009 Annual Report

I. Fairfax County and Global Climate Change

Background

The impact of environmental contamination on climate change/global warming is the result of world-wide emissions of greenhouse gases (GHG), including carbon dioxide (CO₂). While it is world-wide emissions that contribute to climate change, reductions in GHG emissions will be addressed at the local/community level.

Is there evidence of climate change for Fairfax County? 2010 had the second warmest first eight months in recorded history (1998 was the warmest). We are seeing more poison ivy, which has been attributed to slightly warmer temperatures. The Federal Emergency Management Agency (FEMA) 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 GHG emissions.

In the summer of 2006, Fairfax County was approached by the Sierra Club and was asked to join its Cool Cities Program. This program was designed to help cities meet the conditions of the U.S. Mayors Climate Protection Agreement, which was to reduce their greenhouse gas outputs seven percent below their 1990 levels by 2012. Chairman Gerald E. Connolly and other members of the Fairfax County Board of Supervisors decided to develop a program that would be more robust and contain similar goals and be better suited to county protocols. This program, Cool Counties, which was first mentioned by Chairman Gerald E. Connolly in his 2007 State of the County address, was developed in collaboration with the Sierra Club and other local government partners, and was officially unveiled in July 2007 at the National Association of Counties annual conference that was held in Richmond, Virginia.

Much of what Fairfax County lists within the framework of this Cool Counties program was initiated previously to address clean water and clean air issues. However, on October 1, 2007, county staff presented its climate change initiatives as part of its fiscal year 2009 Environmental Improvement Program.

<http://www.fairfaxcounty.gov/living/environment/eip/>)

Solving climate change is admittedly a daunting task by any measure, but we as county governments have a unique role to play in this effort. Through our regional cooperation and influence on major environmental policy and operations like air quality, land use planning and zoning, transportation, forest preservation, solid waste management and recycling and water conservation, we can lead by example by looking at our own operations to assess what policy or program changes we have the authority and resources to enact in order to lower the emissions produced by our operations.

Fairfax County has already taken a number of these actions, such as purchasing hybrid vehicles, promoting green buildings, purchasing wind power and teleworking to name just a few. Fairfax County now has hybrids as part of its vehicle fleet. Fairfax County now has 112 hybrids in its vehicle fleet. In 2006, the county converted one of its Toyota Priuses to a “plug-in-hybrid-electric” vehicle. This car travels up to 30 miles on electric power from the grid before engine-generated electric power is used; on some trips it has a fuel efficiency over 100 miles per gallon of gas (plus grid electricity).

In addition, Fairfax County is purchasing energy from renewable energy sources, which both reduces GHG emissions and encourages the further development of renewable energy sources. In April 2007, the county signed a new three-year wind energy purchase contract with 3-Phases Climate Solutions, Inc. Fairfax County continued the commitment of purchasing five percent of the general county’s electricity from wind energy in 2007 and 2008 and expanded that commitment to 10 percent of the general county usage in 2009. The County Executive and Board of Supervisors opted not to extend our “Wind Energy” contract beyond March 31, 2010. Wind Energy credits/purchase is now available on a facility-by-facility basis through Dominion Virginia Power. While Fairfax County does not receive information on residential purchases of wind or solar energy purchases, such purchases are available through Dominion Virginia Power.

Telework is another effective tool for reducing our GHG emissions by taking cars off our roadways and commuters out of already-crowded trains and buses. Removing just five percent of cars from the road reduces traffic congestion by up to 20 percent. In 2000, the Metropolitan Washington Council of Governments set the goal of having at least 20 percent of all eligible workers in our region telecommuting one day a week by 2005. All 17 jurisdictions in the region endorsed that goal, and Fairfax County was the first to achieve it.

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. Counties across the U.S. are taking steps to reduce GHG emissions and inform people who live and work in these counties. To address this challenge, Fairfax County is exploring the use of social media to facilitate communications and education on climate change.

Recent Activities

- Fairfax County has pursued a number of efforts to support greenhouse gas emissions reductions. A few examples are noted here; additional examples are identified in the longer chapter within the electronic version of the Annual Report on the Environment.
- Much of what Fairfax County lists within the framework of this Cool Counties program was initiated previously to address clean water and clean air issues. However, on October 1, 2007, county staff presented its climate change initiatives as

part of its fiscal year 2009 Environmental Improvement Program.
<http://www.fairfaxcounty.gov/living/environment/eip/>)

- Fairfax County has already taken a number of actions, such as purchasing hybrid vehicles, promoting green buildings, purchasing wind power and teleworking to name just a few. Fairfax County now has hybrids as part of its vehicle fleet.
- In addition, Fairfax County has purchased energy from renewable energy sources, which both reduces GHG emissions and encourages the further development of renewable energy sources. In April 2007, the county signed a new three-year wind energy purchase contract with 3-Phases Climate Solutions, Inc. Fairfax County expanded this commitment in 2009 from five to 10 percent of the general county government usage. Budget cuts have impacted many areas and as a result of budget cuts, Fairfax County has terminated funding for the purchase of wind energy.
- In 2000, the Metropolitan Washington Council of Governments set the goal of having at least 20 percent of all eligible workers in our region telecommuting one day a week by 2005. All 17 jurisdictions in the region endorsed that goal, and Fairfax County was the first to achieve it.
- One of the most significant activities that Fairfax County has undertaken is the preparation of a GHG emissions inventory. The inventory will conform to reporting standards so that it can readily be combined with other regional and national inventories to provide a snapshot of Fairfax County's GHG emissions. While this inventory is in process, it was not completed in time to be reflected in this report.

Stewardship

- The regional greenhouse gas emissions reduction implementation plans that Fairfax County will be contributing to will serve as a guide for both things that must be done and steps that can be taken on a voluntary basis. Some efforts, such as saving energy, reducing vehicle miles, carpooling or maybe riding a bike to work will involve changes in lifestyle that can be better for the planet and good exercise. Opportunities for reducing one's personal GHG footprint can be organized in many ways but the following suggestions may be helpful.
 - Reduce home energy demands. Insulation, energy efficient windows, solar panels, geothermal energy and wind power can all help to reduce GHG emissions. As the use of renewable energy sources increases, the availability and cost of these sources will hopefully decrease.
 - Reduce the use of single occupancy vehicles by carpooling, using mass transit, bicycling, walking or pursuing other alternatives (including work at home opportunities).

- Participate in local efforts to plan for efforts to improve land use planning and encouraging 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.

Comments

1. The Facilities Management Department cost avoidance from FY 2001-FY 2009 for electricity and natural gas is \$6.7 million without dedicated staffing. 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 GHG 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 research on social media to more effectively communicate information on global climate change.

Recommendations

1. While EQAC commends Fairfax County for its many efforts to improve energy efficiency and reduce the emission of greenhouse gases, EQAC also recognizes that Fairfax County operations comprise only a fraction of the overall GHG emission inventory for Fairfax County. 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.
2. While EQAC commends the county for work on the GHG 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.

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.
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.

II. Land Use and Transportation

Background

Fairfax County has had a remarkable year in 2010, infusing environmental stewardship into land use and transportation activities. While the year started with daunting economic realities and concerns, to match ongoing environmental challenges, the county delivered a turning point year in integrating land use and transportation planning and projects. It was a year of adaptation, convergence and implementation.

Budget shortfalls and the recession added magnitude to the already challenging environmental issues. Among the many adaptations the county made to maintain service while cutting budgets were the consolidation of various functions, such as those from the Department of Planning and Zoning and the Department of Public Works into a new Department of Code Compliance. In addition to organizational changes, 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 (available in electronic format), 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 underway. 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 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 2010, 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 new Virtual Fairfax 3-D application is 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 Amendments to Area Plans for 2010

The Area Plans Review process is a community-wide review of site specific changes proposed to the Area Plan volumes of the Comprehensive Plan, organized by the Supervisor districts. Adopted amendments, in addition to guiding future development, indicate the challenges and the direction the county is going in managing growth. Plan Amendments adopted in 2010, and detailed in the full report, include:

The Springfield Connectivity Plan Amendment; the 2009 Heritage Resources Plan Update; the Loisdale Road Special Study; the Tysons Corner Urban Center; and the Baileys Community Business Center. The northern portion of the county, which includes Dranesville, Hunter Mill, Providence and Sully districts, was reviewed in 2009.

Policy Plan amendments in 2010 included an amendment to clarify decision making for disturbances to Environmental Quality Corridors and an amendment to support the visual and performing arts.

Transportation Activities

The Pedestrian Program

Through FY 2012, Fairfax County has designated \$58 million in federal, state and county funding to construct pedestrian improvements in high-priority areas of the county. In 2010, major sidewalk project and pedestrian intersection improvements were completed. Pedestrian and bike access are being constructed on most of the bridges crossing the I-495 HOT Lanes project. At the beginning of FY 2011, over 100 pedestrian projects and over 100 bus stop projects are currently under design for future construction. The Fairfax County Department of

Transportation has also funded priority roadway lighting projects and countdown signal improvements.¹

Fairfax County Comprehensive Bicycle Initiative

The Fairfax County Comprehensive Bicycle Initiative continues to update and reprint the “Fairfax County Bicycle Route Map.” The Fairfax County Department of Transportation was 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. Utilizing county transportation bond funds and federal Congestion Mitigation and Air Quality grant funds, project scopes are being prepared for bicycle spot projects countywide. Projects include the installation of bicycle racks and lockers, construction of missing segments of trails and bridges in order to provide connectivity and retrofitting roadways with on-road bicycle facilities.²

Fairfax County Telework Initiative and Employer Services Program

Increased publicity and organizational focus on teleworking has resulted in an increase in the number of teleworkers, surpassing the Metropolitan Washington Council of Governments’ goal. As of August 2010, there are 1,500 county teleworkers, estimated to be saving 80,000 commuting hours and 2.5 million commuting miles in a year. The county also emphasizes it as an important component of its Continuity of Operations Planning.³

Major Transportation Projects

Dulles Rail Project

The Dulles Corridor Metrorail Project has completed its first 15 months of construction along the extension between I-66 at the Dulles Connector Road and Wiehle Avenue in Reston. The project is within budget and is slated to begin passenger service in December 2013. The DCMP has been working closely with landowners in Tysons Corner to accommodate requests for direct connections to the Metrorail system. The county approved the rezoning for a transit oriented, mixed use development on nine acres of county land at the Wiehle Avenue station. The DCMP website is at: <http://www.dullesmetro.com/>

Tysons Metrorail Access Group

The Tysons Metrorail Station Access Management Study started in January 2010. A TMSAMS Advisory Group has been formed to guide the study and collect public input, concurrently with Tysons Bicycle Master Plan efforts, to prioritize bicycle, bus transit and pedestrian transportation improvements that will enhance access to the four new Metro stations in Tysons Corner. Approximately \$4 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.

¹ Transportation Information for EQAC Updated July 20, 2010, Dan Southworth, FCDOT; Fairfax County Pedestrian Program Activity Status Summary presented on August 11 to EQAC, and EQAC Minutes from the August 11th Meeting

² Transportation Information for EQAC Updated July 20, 2010, Dan Southworth, FCDOT; EQAC Minutes from August 11, 2010

³ E-mail from Catherine Chianese, Assistant Fairfax County Executive, August 13, 2010

Columbia Pike Streetcar Project

Currently, the Columbia Pike Streetcar Project is in the Environmental Assessment phase. Through the EA process, the project team will determine the environmental impacts, ultimate alignment, minor preliminary engineering, a financial strategy and a project sponsor/operator that will advance the project through full engineering, construction and operation. Funding for this project is anticipated from the Federal Transit Administration, local and state transportation fund fees and taxes, as well as other options.

High Occupancy Toll Lanes on the 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. VDOT continues to work and coordinate the project landscaping efforts with the Fairfax County Restoration Project.

I-95/395 HOV/Bus/Hot Lanes

The I-95/395 HOV/Bus/HOT Lane project will improve vital links between key employment, commercial and residential centers, ensure that the interstate continues to support the economic vitality of the region and create new public transportation and carpooling opportunities. Fairfax County is coordinating with VDOT Mega projects on corridor issues such as transit, the Franconia-Springfield Pedestrian Bridge, and Park and Ride lots.

Programmatic Progress in 2010

The county continued to make progress in 2010 on such programs as: Transportation Demand Management (over 400 Fairfax County employers have implemented programs); the RideSources Program; Fairfax County government Commuter / Transportation Benefits Program; outreach efforts on HOV lanes, RideSharing, Guaranteed Ride Home, car sharing, using bus and rail and teleworking; outreach efforts including congestion mitigation and support for BRAC construction and relocation efforts; providing transportation alternatives to employers impacted by both HOT Lanes and Rail to Dulles construction; partnering with over 210 multi-family complexes, area developers and civic organizations to promote telecommuting and the use of mass transit, carpools, vanpools, biking and walking; supporting organizations that assist commuters and the community, including the Dulles Area Transportation Association, LINK of Reston Town Center, TyTran in Tysons Corner and the Transportation Association of Greater Springfield; TaxiAccess; and the *Seniors On-The-Go!* program.⁴

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

⁴ Transportation Information for EQAC Updated July 20, 2010, Dan Southworth, FCDOT

identified as open space or parkland. Rigorous storm-water 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 underway that are being coordinated by other authorities: the Dulles Corridor Metrorail Project and the I-495 Virginia HOT Lanes Project.

Revitalization Projects in Targeted Commercial Areas

Annandale

On July 13, 2010, the Board of Supervisors approved the Annandale Community Business Center Comprehensive Plan Amendment that covers approximately 200 acres, including all of the Commercial Revitalization District (CRD). The Plan uses a new form-based approach that provides flexibility by using building form and height to guide development instead of floor area ratios (FARs). The Annandale Transportation Study was completed in April 2010. This study, “was conducted to analyze transportation system network alternatives, and to develop associated recommendations for a transportation system plan that handles local and through traffic in an efficient manner, while facilitating the community redevelopment and revitalization needs.”⁵

Bailey’s Crossroads/Seven Corners

On July 13, 2010, the Fairfax County Board of Supervisors approved the Bailey’s Crossroads Community Business Center Comprehensive Plan Amendment, which covers approximately 530 acres, including portions of the Commercial Revitalization District (CRD). This Plan Amendment sets forth a concept for future development that encourages a transition from a predominately retail environment to one that balances retail, office, residential, civic uses and open space. The plan also supports redevelopment of a “Town Center” to take advantage of the proposed transit stops for the Pike Transit Initiative Route from Pentagon City to Skyline. The recommended transportation improvements are intended to balance land use with infrastructure, and provide intermodal connectivity. Other guidance regarding open space and urban design is also provided in the new plan.⁶

In April, 2010, the Bailey’s Crossroads Planning Study was presented to the community, as outlined in this excerpt from a county news release:

“The concept is intended to stimulate revitalization of this area, as well as take advantage of the [proposed streetcar route](#) to run between the CBC and Pentagon City. It features more mixed-used development; easier pedestrian, bicycle and transit rider access; and increased green spaces. Future development also would be compatible with the surrounding neighborhoods.

⁵ <http://www.fcrcv.org/annandale/comprehensive.htm>

⁶ <http://www.fcrcv.org/baileys/comprehensive.htm>

It is envisioned that the densest development will be focused in the area near the future streetcar stop along South Jefferson Street on the north side of Leesburg Pike. This urban-style downtown will incorporate mixed-use buildings with ground-floor retail, a tree-lined grid of streets and a new arts center. A greenway will connect the north and south sides of Leesburg Pike. The preferred concept is based on public input on two previous conceptual options, incorporating desired elements from both.”⁷

Lake Anne

On August 8, 2010, the Lake Anne Village Center Commercial Reinvestment Plan was presented at a public workshop to assist the commercial property and business-owners in identifying strategic opportunities to stabilize and sustain current establishments and to attract viable and complementary new non-residential uses to the LAVC.⁸

Springfield

The website of the Office of Community Revitalization and Reinvestment provides the following overview: “A number of projects are ongoing in Springfield and will provide catalyst for future redevelopment within Springfield. Springfield Mall was recently approved for redevelopment as a lifestyle shopping and entertainment center while adding over 2,000 residential units. The newly rebuilt Richard Byrd Library will be part of a walkable village town center convenient to neighborhoods. Older apartment buildings are expected to be renovated and new luxury and workforce housing will be built. The new vision and redevelopment opportunities were recently adopted in the Springfield Connectivity Plan Amendment which was approved by the Board of Supervisors in January 2010. The Comprehensive Plan changes included raising land use and intensity within the CRD to spur redevelopment, new transportation infrastructure improvements and provide detailed guidance with respect to urban design, streetscape, and placemaking concepts.”⁹

The Merrifield Suburban Center

On June 11, 2001, the Board of Supervisors adopted an amendment to the Comprehensive Plan that created the Merrifield Suburban Center. The area is served by the Dunn Loring – Merrifield Metrorail station and has regional and local access from I-66, I-495, Route 29, Route 50 and Gallows Road. As set forth in the Comprehensive Plan, the vision for the Merrifield Suburban Center includes two core areas: one focuses on development near the transit station and the second is planned to evolve into a town center. A new “Main Street” would connect the two core areas.

Stewardship Opportunities for Every Individual

Transportation

Everyone who uses transportation systems in the county can protect and nurture a healthy environment by assessing their needs and habits and looking into the growing number of

⁷ <http://www.fairfaxcounty.gov/news/2010/bailys-crossroads-land-use-concept-presentation.htm>

⁸ <http://www.fcrcv.org/lakeanne/index.htm> and
<http://www.fcrcv.org/lakeanne/ReinvestmentPlan.htm>

⁹ <http://www.fcrcv.org/springfield/index.htm>.

alternatives to our current traffic volumes. Some examples of these alternatives, from the county website, include the following:

- [Bike Program](#) In 2006 the Fairfax County Board of Supervisors approved the comprehensive bicycle initiative--a program committed to making Fairfax County bicycle friendly. The program addresses the needs of bicyclists through construction, planning, and public information.
- [Community Residential Program](#) The Fairfax County Community Residential Program partners with residential developments, multi-family complexes and associations to promote use of alternative modes of transportation including public transit. CRP is dedicated to encouraging people who live, work or commute through Fairfax County to use mass transit, carpools, vanpools, walking, biking or teleworking instead of driving alone.
- [Employer Services](#) The **Fairfax County Employer Services Program** helps businesses and employees find transportation solutions that will not only make companies more successful, but will improve the economic vitality and quality of life for the entire region. The Employer Services Specialists work on-site with businesses to help them realize the bottom-line benefits of commute alternatives.
- [Guaranteed Ride Home](#) The **Guaranteed Ride Home Program** is for commuters who regularly take the bus, rail, vanpool, carpool, bike or walk to work. The program is designed to serve commuters who are worried about how they'll get home when an emergency arises.
- [Pedestrian Program](#) The Pedestrian Program for Fairfax County addresses pedestrian safety and community-generated pedestrian systems improvements. The Pedestrian Task Force, consisting of residents, appointed commission members and multi-disciplined staff, reviews existing Fairfax County pedestrian programs and activities, makes recommendations on improving these programs, develops coordinated education and outreach efforts and prioritizes funding for pedestrian projects.
- [Ride Sources](#) The RideSources Program is operated by the Fairfax County Department of Transportation and is a member of Commuter Connections. The RideSources program provides commuters with free ridesharing information, including ridematching assistance to form or join carpools or vanpools.
- [Travel Training - MATT Bus](#) is a unique Fairfax Connector bus that has been renovated and designed for training senior citizens to travel safely and independently on regional transit systems.

Land Use

Residents may practice stewardship with regard to land use in three significant arenas: the first is on their own properties, condo/homeowners association properties or apartment complexes; the second is in regard to development and revitalization activities in the county; and the third is through volunteering with organizations that have a stewardship mission. Residents can all do

their parts at home by becoming aware of the impacts of their activities and the buildings in which they live. Residential stewardship may be as simple as planting a tree or small garden or choosing more efficient appliances and as complex as retrofitting with green features, reducing impermeable surfaces or creating a certified wildlife habitat.

Becoming more informed and, in turn, informing others is a crucial component of stewardship and sustainability. There are vast resources and communications tools at our disposal. Fairfax County is a leader in information technology and offers some excellent tools from our tax dollars. The new **Virtual Fairfax** 3-D application is an excellent example. In addition to the cool factor virtually flying through our neighborhoods, it is very practical for boards, commissions and individuals to visualize proposed changes, make more informed decisions and recommendations, and view land uses and transportation options. Land use issues, in terms of development and revitalization, are generally focused through the county's planning and zoning, community revitalization and public works programs, and the county website provides an excellent starting point. LDSnet, which provides access to information in the Fairfax County Land Development System, is comprised of the Zoning and Planning System ([ZAPS](#)) and the Plan and Waiver System ([PAWS](#)). Through LDSnet, it is possible to search for individual zoning applications and/or plans and studies submitted to the county to perform land-disturbing activities. The Northern Virginia Soil and Water Conservation District is an excellent starting point for residents wishing to learn more about stewardship practices and is also an entre to other stewardship organizations.

The county provides a number of online tools for residents to use to learn more about their own properties and revitalization efforts throughout the county. These include county land use applications such as [iCare—Real Estate Assessments](#), the [Land Development System](#) , and [My Neighborhood](#).

Volunteers are increasingly crucial to environmental stewardship, and residents and other volunteers can broaden their knowledge while serving. There are a wide variety and number of environmental organizations from which to choose and the Fairfax County website, at <http://www.fairfaxcounty.gov/volunteering/> and Volunteer Fairfax, at <http://www.volunteerfairfax.org> are good places to start.

Stewardship Responsibilities and Opportunities for Corporations

According to a national survey commissioned by the Fairfax County Economic Development Authority, of the respondents who work in the suburbs, nearly half (47 percent) wish that their working environment offered more, such as: more parks and other open spaces nearby; a broader array of employers and work environments; access to convenient public transportation; greater cultural diversity; a more walkable environment; and proximity to housing options. Fairfax County already has many of these characteristics; however, as this EQAC report indicates, these characteristics may be in jeopardy without informed and concerted environmental stewardship.

As environmental stewardship has become more mainstream, the awareness and practice of corporate social responsibility have developed to address employee sensibilities, community

relations and the “double bottom line.” There are tremendous opportunities in Fairfax County for partnerships across the sectors to join resources, interests and expertise to protect and enhance our quality of life. In every major development, and many minor ones, opportunities exist for the environmental and social services agencies to work with the Economic Development Authority, developers, the real estate industry and future corporate tenants in new or revitalized developments. Tysons, the Dulles Corridor and other transit-oriented development projects are good examples of success and foundations for extending strategic stewardship partnerships. Issues such as affordable housing and an aging population in the county have land use and transportation components; these can be folded into broader land use and transportation issues to create broader solutions.

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 in 2010. 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. 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.

3. Comprehensive Understanding

The county is very good at understanding micro changes in the county. EQAC is concerned that the county is missing the macro effects of these micro changes. The Integrated Parcel Lifecycle System provides a base capability to capture and analyze the changes. EQAC will continue to work with staff as IPLS evolves to realize those benefits:

- 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.

4. 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 committing to LEED certification (generally at the silver level) for all new county buildings and for its efforts to encourage green building and energy conservation practices through the zoning process. EQAC encourages the county to further support green building design and energy efficient buildings.

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 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.

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. The special studies currently under way provide a blueprint and a basis for extracting best practices that can be applied. These special studies bring together a myriad of issues that can be addressed holistically and with public participation. This would be in lieu of a complete review of the Comprehensive Plan. 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 comprehensive preparations are timely with the significant changes happening in the county.

2. Data and Modeling

- a. EQAC is an advocate of the county GIS system and the Integrated Parcel Lifecycle System. We understand that there are financial and training costs associated with these advanced technologies, but we recommend that the county continue to invest in these capabilities. In particular:
 - New nonresidential pipeline data needs to be incorporated into IPLS. This would be very useful for forecasting and analyzing with existing data.
 - IPLS should incorporate the COG forecast for regional household and employment data.
- b. These tools have become essential for county staff to get its jobs done. EQAC recommends that the county continue to expand the ability of the general public to access these tools, as appropriate and feasible. This includes the next iteration of My Neighborhood and regular updates of the county digital data holdings.

- c. 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:
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.

Such information is necessary as the county becomes more complex and densely developed.

3. 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.

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 and has helped formulate and subsequently adopt 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, 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 2011 budget eliminated the Air Quality Monitoring Program and the two remaining merit positions that operated the county's air monitoring stations. The Program Manager position that deals with air quality will be retained and will continue to participate in regional air quality planning. On July 1, 2010, all monitoring activities conducted by Fairfax County ceased; at this time, the Virginia Department of Environmental Quality (DEQ) assumed full responsibility for air quality monitoring in the county. Vacant positions in the Fairfax County Division of Environmental Health are being held open as part of the agency's vacancy management initiative related to the FY 2011 budget.

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 and Alexandria, and portions of Maryland, West Virginia and the District of Columbia) has a total of 17 air monitoring sites, and U.S. Environmental Protection Agency's (EPA's) minimum requirement for the region is three monitoring sites.
- 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 (NO₂) 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 National Ambient Air Quality Standard 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 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 (NAAQS) 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 (referred to as PM_{2.5}, or particulate matter less than 2.5 microns in diameter), Nitrogen Dioxide (NO₂), Sulfur dioxide (SO₂) and lead, some or all of which may have impacts on Fairfax County.
- Ozone: In March 2008, EPA tightened the 8-hour ozone NAAQS) from 0.08 parts per million (ppm) 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 under way to strengthen the ozone standard.
- Nitrogen Dioxide (NO₂): On January 22, 2010, EPA strengthened the health-based NAAQS for NO₂ to a new 1-hour NO₂ standard 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 (SO₂): On June 2, 2010, EPA strengthened the primary NAAQS for SO₂ by establishing a new 1-hour standard of 0.075 ppm. The new standard is the three-year

average of the 99th percentile of the annual distribution of daily maximum 1-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 [CEDDS]).
(<http://www.deq.state.va.us/air/compliance/homepage.html>)
- Ground-level Ozone – EPA designated the metropolitan Washington region as moderate nonattainment for the 8-hour ozone standard of 0.08 ppm in April 2004. Air quality data from 2007-2009 suggest compliance with the 0.08 ppm 8-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 four days during the 2009 ozone season when ozone values ranged from 0.076 to 0.085 ppm. This was a substantial reduction from the 2008 season, when the region registered 16 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.
- 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 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

- The Metropolitan Washington Air Quality Committee (MWAQC), as a part of the Metropolitan Washington Council of Governments (MWCOG), 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.
- The Virginia Department of Environmental Quality (DEQ) 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 small changes in your daily life 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](#), 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 the efforts by the board to maintain funding for the Health Department's Environmental Health Program Manager position, and notes that this is a minimum for the county to do to support air quality planning efforts. The Environmental Health Program Manager will continue to participate in air quality planning through attendance at Metropolitan Washington Council of Governments' Air Quality Committee meetings and participation on the Technical Advisory Committee and subcommittees. 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.

- 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 2009 results from the 40 randomly selected sites suggest that approximately 88 percent of the county's waterways are in "Fair" to "Very Poor" condition based on a decrease in biological diversity.
- 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

- Six watershed management plans (Little Hunting Creek, Popes Head Creek, Cub Run/Bull Run, Difficult Run, Cameron Run, and Middle Potomac) have been completed and approved by the Board of Supervisors. Combined, these six plans cover 11 watersheds and 50 percent of the land area in the county. Some implementation of these plans is already under way with riparian buffer restoration, stream channel stabilization and restoration and stormwater retrofits. Plans for the remaining watersheds in the county (Accotink Creek, Dogue Creek, Little Rocky Run/Johnny Moore Creek, Pohick Creek, Sugarland Run/Horsepen Creek, Lower Occoquan Watersheds and Nichol Run/Pond Branch) are anticipated to be completed by the end of 2010.
- 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. In 2009, no new regional stormwater management facilities were built.

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 1,284 stormwater management facilities (as of 2009), 1,400 miles of pipe and 45,000 drainage structures designed to protect the county's streams.
- There are approximately 3,164 private stormwater facilities in the county. The county inspected 926 county facilities and 570 of the 3,234 privately maintained facilities in 2009. In 2008, the county cleaned and mowed 1,027 dam embankments and completed 314 maintenance work orders to correct deficiencies in publicly maintained SWM/ BMP facilities. Additionally, the county inspected 338 miles of county maintained storm drainage conveyances.
- The 2009 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 five complaints received by DCR from residents in Fairfax County during FY 09; all but one were addressed by county and DCR staff and closed. The remaining one complaint is being addressed but the case has not been closed.
- In 2009, a total of 616 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 33,797 Erosion and Sediment control inspections. In 2009, the county issued 188 notices of violations. Criminal proceedings were started in 36 cases.

Illicit Discharges

- In 2009, the Hazardous Materials and Investigative Services Section of the Fairfax County Fire and Rescue Department received 465 complaints. Approximately 292 of the complaints involved the actual release of various petroleum or chemical substances. Of the 292 releases, 174 involved diesel fuel (30), home heating fuel oil (49), gasoline (33), motor oil (17) or hydraulic oil (45). Other releases investigated involved antifreeze, paint, sewage, mineral oil and mercury. Storm drains were involved in 52 of the releases.

On-site Sewage Disposal Systems

- Approximately 23,000 homes and business are served by on-site sewage disposal systems in Fairfax County. The county's Health Department reported that, in fiscal year 2010, 86 new sewage disposal permits were issued for single family residences. There were 88 new sewage disposal systems installed, 52 percent were alternative type systems and 48 percent were conventional systems. Approximately 766 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 6,390 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 2009, 226 miles of old sanitary sewer lines and 7.7 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. Approximately 114,681 feet of sanitary sewer lines were rehabilitated and 32 dig-up and 118 trenchless point repairs were completed (118 tophats). Over the past 12 years, 274 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 52,869 billion gallons of drinking water in 2009.
- 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 2009 Water Quality Report is available for review on the Fairfax Water Web site at www.fairfaxwater.org.
- In 2009, Fairfax Water monitored 3,301 taps for coliform bacteria. The monthly monitoring results were within EPA required limits. Fairfax Water also monitored surface source water and finished drinking water for 42 volatile organic compounds and 40 synthetic organic compounds. Low levels of atrazine, simazine and

metolachlor were detected in the source waters, and a very low level of atrazine was detected in finished waters sourced by the Occoquan Reservoir.

- Fairfax Water has been testing for lead and copper in customer tap samples in accordance with EPA's lead and copper rule (LCR) since 1992 and has consistently tested below the Action Level established in the LCR. 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.
- The Interstate Commission on the Potomac River Basin reported that flow in the Potomac River was more than adequate to meet drinking water withdrawal needs by the region's major utilities in 2009. No releases from upstream reservoirs to augment water supplies were needed in that time, and it is unlikely that releases will be needed for the remainder of 2010.
- 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 in 2011, will include water supply projections for the next 30 years.
- There are approximately 12,500 single family residences and businesses in Fairfax County that are served by individual well water supplies. In FY 2008, there were 50 new well approvals, 39 well repairs and 153 Water Well Abandonments issued. There were 81 Geothermal Well Permit (HVAC) 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. They 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 in the Hazardous Materials chapter of the electronic version of the *Annual Report on the Environment*.

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 (PCBs) 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 (DEQ) 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 (AOSS). 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.
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 ponds from upstream bank erosion continues, the need to dredge facilities becomes more frequent. Facility 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 to explore 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 is pleased that staff will investigate the pros and cons of dredging, hauling, and disposal options and will present its findings and recommendations to the Board of Supervisors.
7. Given the anticipated increase in the number of small individual low impact development (LID) 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 notes with concern that results from the 40 randomly selected sites in the 2009 Stormwater Status Report suggest that now approximately 88 percent of the county's waterways are in "Fair" to "Very Poor" condition based on a decrease in biological diversity. This is significant downward trend from the previous years where about three quarters of the county's streams were considered "Fair" to "Very Poor".
2. 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 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 to 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 (MS4) 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 (EPA) for approval. Recent permits that have been approved or issued for public hearing by the EPA have

included aggressive requirements to retrofit significant amounts 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 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 current budget constraints have removed monies available from the general fund and that the funding for the stormwater program will come from funds generated through the Service District rates.

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.

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 39 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 7.5 million tons and continues to exceed the state-mandated requirement.
- 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 10 years, but the existing facilities are used frequently by residents and about 5,000 tons of recyclables are collected annually in the drop-off centers. Recycling Drop-Off Centers continue to play an important role in supporting recycling in the community, serving patrons in multifamily units and small businesses. However, the centers appear to be experiencing a gradual downward trend in usage, and the county bears significant costs to clean up illegal dumping of garbage, appliances, demolition debris and other inappropriate materials at these sites.
- All county agencies receiving refuse collection and recycling services from the Solid Waste Management Program participate in the county recycling program. In FY 2010, county agency locations recycled approximately 875 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 2010, 11 document shredding events were held. As of January 2010, approximately 300 tons of personal documents had been shredded and recycled.
- In FY 2010, 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 station. The program now schedules some of the events at the I-95 Landfill

Complex. In FY2010, 8,815 individuals participated in the program. In FY 2010, 6,209 monitors with cathode ray tubes and 6,973 televisions were collected for recycling.

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. Due to this expanded advertising, participation in the HHW program on the days of *Electric Sunday* events has at least doubled. 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. In FY 2010, the E/RRF processed approximately 1,015,000 tons of waste (almost 85,000 tons per month). Of this, about 967,000 tons were part of the tonnage guarantee, with 757,000 tons of this waste (75 percent) originating in Fairfax County. The remainder came primarily from Prince William County and the District of Columbia. The quantity of Fairfax County waste generated has been reduced, partly due to increased recycling initiatives but primarily due to the economic slowdown.
- In addition to recovering energy from municipal solid waste, metals are recovered from the ash residue and recycled. In FY 2010, 22,645 tons of ferrous metal and 1,507 tons of non-ferrous metal were recycled from the ash.

I-95 Landfill Complex and Recycling and Disposal Center

- The Solid Waste Management Program has prepared both an Assessment of Corrective Measures and a Corrective Action Plan to address groundwater contamination at the I-95 Sanitary Landfill; the county is awaiting approval of these documents from the Virginia Department of Environmental Quality. Meanwhile, a number of engineering controls (leachate collection, landfill gas system and placement of cover) have been installed, and a cap was placed on the municipal solid waste portion of the landfill. The entire portion of the landfill that received municipal solid waste has now received its final closure cap.
- 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. During FY 2010, county staff continued to install new landfill gas wells and to replace existing wells that cease to function properly due to normal landfill settlement.

County staff has also converted space heating at the landfill shop facility to landfill gas (the original heating system used bottled propane gas). This conversion is saving approximately \$9,000 per year in heating costs, and received a National Award from the U.S. Environmental Protection Agency in 2006.

- 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. A certificate to operate from the Virginia Department of Environmental Quality was obtained on August 21, 2008 and the county has been placing ash in the new cell since October 2008. Phase IIIA has a disposal capacity for ash of five years.
- 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 2010, users visited the I-95 Recycling and Disposal Center over 66,000 times.

I-66 Transfer Station & Recycling and Disposal Center

- The I-66 Transfer Station continues to handle approximately 75 percent of the county's municipal solid waste destined for disposal.
- In FY 2009, the project to convert space heaters to use landfill gas at the Department of Vehicle Services shop near the closed I-66 landfill was completed. This project is expected to save \$50,000 annually on fuel costs. Landfill gas is also used at the transfer station's truck wash and shop buildings.
- 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 more than 198,000 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 continued to provide waste collection and recycling services to over 45,000 homes in designated County Sanitary Districts. The program also moved a daily average of 170 tractor-trailer loads of municipal solid waste from the I-66 Transfer Station to the Energy/Resource Recovery Facility and other appropriate disposal locations.
- In addition to its permanent collection sites at the I-66 and I-95 complexes, the Solid Waste Management Program conducted one remote household hazardous waste collection event during FY 2010. As noted in the Hazardous Materials section of this report, this program had been identified for elimination due to budget constraints.

EQAC understands, however, that the Solid Waste Management Program plans to hold three remote household hazardous waste events over the next year, funded from tipping fees

- 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

- In its FY 2010 annual report to the Virginia Department of Environmental Quality, Clean Fairfax reports that 1,608 people participated in 127 cleanup events with over 285 cubic yards of litter collected.
- Clean Fairfax conducted a complete redesign of its website at www.cleanfairfax.org. One of the main features of the website redesign is the ability to use the "Report a Litterer" program on line. This program allows residents who observe someone littering from a car to report information about the vehicle to Clean Fairfax. Clean Fairfax provides this information to the Fairfax County police, which issues letters to the vehicle owner about littering.

Alice Ferguson Foundation

- On April 10, 2010, the foundation held its 22nd annual Potomac River Watershed Cleanup. In Fairfax County and the City of Fairfax, 2,115 volunteers working at 89 sites collected over 58,600 pounds of trash, including 340 tires, over 26,200 bottles and over 2,200 cigarette butts.
- 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

None.

Recommendations

None.

VI. Hazardous Materials

Fairfax County hazardous materials concerns may be considered less significant as compared to other jurisdictions; the industrial base within the 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 clean up and regulation of hazardous materials.

Although the news media are constantly reporting 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 Hazardous Materials and Investigative Services section reported receiving 735 complaints involving hazardous materials, compared to 418 in 2008 and 317 in 2007 the previous year. However, the number of actual releases of hazardous materials was 303 in 2009 compared to 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.
- The program of holding remote collection sites 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 has been replaced with a monthly collection event at either 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 program that funded remote household hazardous waste collection events, to encourage more participation and to supplement the permanent sites, had been identified for elimination due to budget restrictions. However, EQAC understands that the Solid Waste Management Program plans to hold three remote household hazardous waste events over the next year, funded from tipping fees. 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 which 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 Hazardous Materials and Investigative Services section reported an almost 76% increase in complaints received in 2009, after a 69% increase in 2008.

Legislative Update

- The Fairfax County Board of Supervisors adopted amendments to Chapter 62 of the Fire Prevention Code effective July 1, 2009. The amendments that directly impact environmental stewardship primarily involve changes to Chapter 27 of the Statewide Fire Prevention Code. The amendment to Section 2703.3.1 requires that "Any person who witnesses, discovers, or otherwise has knowledge of a spill, leak or other release of a hazardous material or other material that may negatively impact the environment, regardless of quantity, shall immediately report such spill, leak or release to the Department of Public Safety Communications and to the Fire Marshal." This requires that the release of any material that may cause an environmental impact, not just hazardous materials, be reported to investigation and follow up.
- 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.

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 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.

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 227,929 acres. Of this total, about 33,066 acres (14.5 percent) are in parks and recreation as of January 2009. Another approximately 16,595 acres (7.3 percent) are vacant or in natural uses. This compares to the about 26,700 acres (11.7 percent) that were vacant or in natural uses as of January 2003. However, not all this acreage can be considered as open space that is valuable for natural habitat. First, the park acreage consists of active recreation (ball fields, etc.) as well as passive recreation (stream valley parks, nature centers, etc.) Ball fields, while greatly needed in Fairfax County, do not do much for protecting natural habitat. In a like fashion, much private open space consists of mowed areas and isolated trees (not woodlands). Again, this does little for protecting natural habitat. Both active recreation areas and private open space, however, if properly designed can help the environment by reducing storm water runoff (by allowing storm water to infiltrate into the soil).

Second, while vacant land is often wooded, this land is subject to development. Considering the continuing rapid pace of development in Fairfax County, much of this land will soon become residential space, office space, retail space, etc., and not provide much in the way of protecting natural habitat. In 1980, vacant land accounted for 32.2 percent of the total land in Fairfax County. By 1990, this had dropped to 19.5 percent and the figure was 7.3 percent as of January 2009.

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

Recently, 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

Department of Public Works and Environmental Services

- Poplar Springs stream restoration, a 692 linear foot stream restoration project in Burke, on an unnamed tributary to Pohick Creek, within FCPA owned property known as Hatches Lake, was completed in April 2009.

Fairfax County Park Authority

- Between July 2009 and June 2010, the Park Authority has added 40.05 acres to its parkland inventory. This brings the parkland inventory to a total of 24,302 acres as of June 2010.
- FCPA's invasive plant control projects occur at over 50 sites throughout the county parkland. The partnership with Earth Sangha, a local non-profit organization, continues to be a highlight of invasive plant control efforts at both the Marie Butler Leven Preserve (MBLP) and Wilburdale Park. In 2009, Earth Sangha was able to replant many native shrubs and trees in areas previously controlled for invasive plants. The Invasive Management Area program completed its fourth year in 2009. FCPA successfully captured some of the enthusiasm of volunteers for unstaffed parks, establishing 42 sites with 42 active volunteer leaders. From June 2008 to July 2009, nearly 1,300 volunteers donated 3,030 hours of work towards habitat restoration.
- An outgrowth of the Invasive Management Area program has been the state-wide Invasive Plant Removal Day. On May 1st, the IMA program participated in the 2nd annual state-wide event and 3rd annual county wide event. Over 480 hours of volunteer service were provided to remove 80 bags of invasive plants, mostly the biennial garlic mustard.
- FCPA's Natural Area Geospatial Analysis Model Feasibility Study was completed in December 2009. The final product includes an assessment of other green infrastructure and natural area models; evaluation of existing data; and recommendations for model options including costs of development and data acquisition. Development of the model for the entire county will be considered based

upon results of this study and availability of funding. The ideal model would cost up to \$2 million and requires dedicated technical staff and funding for model and data maintenance.

- The Fairfax County Park Authority, along with and in partnership with other agencies, continues to work on stream stabilization/bioengineering projects. One stream restoration project was completed on park land during FY 2010: the Dead Run Stabilization in McLean Central Park stabilized approximately 1,000 linear feet of stream. Funding for the project was supplied by DPWES. Construction began in December 2009 and was completed in February 2010.

Northern Virginia Regional Park Authority

- The Northern Virginia Regional Park Authority (NVRPA) holds conservation easements on 114 parcels covering more than 650 acres.
- 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.

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 7,923 trees in calendar year 2009. Nearly 1,000 volunteers spent over 3,000 hours planting tree seedlings, removing invasive species and maintaining sites. Highlights of its 2009 plantings were: the planting of over 1,400 trees in parks, including private, county, and national parks; the planting of nearly 1,000 trees at school sites; and the planting of over 1,000 trees in riparian areas near storm water ponds and streams.
- Fairfax ReLeaf provided opportunities for community groups to serve Fairfax County, including eight school groups, five Eagle Scout plantings and a home school co-op. ReLeaf led seven corporate workdays, where employees from workplaces such as Bearing Point, Level Three, Winchester Homes, Deloitte & Touche and The Cheesecake Factory gave their time to improve Fairfax County. Fairfax ReLeaf also conducted two workshops to prepare individuals to lead plantings.
- ReLeaf's educational and outreach activities in 2009 included visiting classrooms, exhibiting at the Fairfax County Earth/Arbor Day celebration, Celebrate Fairfax and a 4-H Fair.

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 2010, NVCT has preserved about 656 acres of open space in Fairfax County through easements, fee simple ownership and partnerships. A major project started in FY 2010 and nearly completed is the transfer to the Fairfax County Park Authority of over seven acres owned by NVCT in the Providence District for use as a public park. NVCT prepared for the Park Authority a Land and Water Conservation Fund grant request to help fund this acquisition/transfer. The grant application was successful through the first phase, and it is expected the county will receive a \$125,000 LWCF grant around the beginning of the new year. NVCT continued work on numerous other projects, some of which are close to completion, including conservation easements, fee acquisitions and trail easements. Two are on the Potomac Gorge, and one a historic property on more than 20 acres.

Northern Virginia Soil and Water Conservation District

- NVSWCD is facilitating Phase II of the Kingstowne Restoration Project. A major factor in securing this project was the success of Phase I of the Kingstowne Stream Restoration Project, which was completed in 2000. The U.S. Army Corps of Engineers has approved a similar restoration of the next 2,500 feet of the stream, which will be funded by \$1 million from the Virginia Aquatic Resources Trust Fund. Construction will begin in late 2010-early 2011.
- The Fairfax County Chesapeake Bay Preservation Ordinance requires land in agricultural use to have a soil and water quality conservation assessment; in addition, soil and water quality conservation plans are also prepared pursuant to the Agricultural and Forestal District Ordinance. In 2009, soil and water quality conservation plans were prepared for 39 parcels on 461.3 acres, which included 30,929 linear feet of Resource Protection Area, primarily stream buffers. All plans comply with the requirements of the Chesapeake Bay Program and allow landowners to comply with the county's Chesapeake Bay Preservation Ordinance. Two seminars were held for the equine community on pasture management and on horse waste management. During 2009, three conservation plans were prepared and technical assistance provided to help the landowners successfully resolve pollution problems, which were identified in one complaint filed under the Virginia Agricultural Stewardship Act and two citations for County Code violations.
- 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 the spring of 2010, a variety of 6,500 native seedlings were bundled into 517 shrub packages and 152 tree packages and sold at a small cost to promote urban reforestation, habitat enhancement and water quality protection.
- The soil scientist continues to assist with providing technical assistance to homeowners, homeowner associations, the development and construction community

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

Fairfax County Wetlands Board

- In support of the Virginia General Assembly's 2008 action to extend the Coastal Primary Sand Dune Protection Act to all Tidewater Virginia localities, the Fairfax County Board of Supervisors adopted the Coastal Primary Sand Dune Zoning Ordinance, Chapter 123 of the Fairfax County Code, on February 23, 2010. Administration of the new ordinance is designated to the Wetlands Board.
- During fall 2009, the Virginia Institute of Marine Science (VIMS) began evaluating the Northern Virginia tidal shoreline. Prior to this current effort, VIMS performed a Northern Virginia tidal shoreline inventory approximately 35 years ago. Thus, a current inventory and analysis of the Northern Virginia tidal shoreline will be most helpful. In addition, a future phase of VIMS tidal shoreline analysis will involve the impact of sea level rise on coastal Virginia. This analysis is contingent upon VIMS' success in securing grant funding to complete this additional analysis. VIMS provides Virginia localities with guidance to make good shoreline decisions based on an integrated approach to shoreline management techniques.
- The Wetlands Board's staff liaison is in discussion with the Northern Virginia Regional Commission (NVRC) and VIMS regarding a fall 2010 training session for Northern Virginia Wetlands Board members in the use of VIMS' Coastal Management decision tree toolkit. The decision tree toolkit was developed by VIMS to assist decision makers to render good permitting choices based on an integrated shoreline management approach.
- The Wetlands Board has not received a complete application request for tidal wetland permit during 2010. No known tidal wetlands violations exist at this time.

Virginia Department of Transportation

- The Virginia Department of Transportation mitigates unavoidable impacts to water resources within Fairfax County that occur during highway construction projects as required by federal and state laws and regulations. VDOT is currently monitoring the establishment of the following wetland mitigation sites in Fairfax County:
 - Approximately 0.8 acres of tidal wetlands, 0.7 acres of riparian buffer and 0.3 acres of tidal wetland enhancement adjacent to Cameron Run at the I-95/Route 1 interchange improvement (Woodrow Wilson Bridge Project – Belle Haven sites).
 - Approximately 0.5 acres of wetland creation, 1.17 acres of wetland restoration and 1.08 acres of submerged aquatic vegetation remediation at I-95/Route 1 interchange improvement (Woodrow Wilson Bridge Project – Route 1 sites).

Virginia Department of Environmental Quality

- In 2009 the Virginia Water Protection Wetland Permitting Program (Northern Regional Office) received eight applications to impact surface waters in Fairfax County. A total of seven new permits were issued in 2009 to include six general permits and one individual permit. The permits authorized the total permanent impact of approximately 1.32 acre of surface waters, consisting of 0.8 acre of wetlands, 0.01 acre of open water and 0.51 acre (2,970 linear feet) of stream channel in Fairfax County. Included in these totals were the impacts associated with the Fort Belvoir Main Post Infrastructure Realignment and the Third Track Rail project. Compensation for impacts to surface waters was proposed to be provided through the purchase of bank credits and on-site restoration and preservation of surface waters in the Potomac River watershed.

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 27th year, the Tree City USA award. The award is applied for by the Fairfax County Urban Forest Management Branch and given through the State Department of Forestry. Tree seedlings are distributed by VDOF to citizens attending the Arbor Day celebration. In 2009, 400 donated hardwood seedlings were distributed for planting by residents in their communities.
- The Virginia Department of Forestry sponsored a drop-off site in Fairfax County for the Growing Native project. This project involves the collection of tree seeds (acorns, hickory nuts, black walnuts etc.) which are transported to VDOF nurseries where the seeds are planted and seedlings are grown. In 2009, approximately 2,000 pounds of seeds, mostly acorns, were collected. Each year, 500-700 seedlings are given to citizens for planting on public lands in Fairfax County.
- The conservation of the forested land base in Fairfax County is a part of the VDOF plan. The Fairfax County office works closely with the Fairfax County Department of Planning and Zoning to review Agricultural and Forestal District applications. A&F District forest management plans are prepared by VDOF; these efforts support the management of forested land for conservation purposes. Six A&F plans covering 494.4 acres were prepared in 2009. VDOF also provides forestry management advice to Home Owners Association and Civic Groups. In 2009, six community forestry plans were prepared covering 65 acres.
- The Department maintains an active public education and out reach program. Audiences range from school groups to adults. In 2009, VDOF conducted 49 talks on the general benefits of urban forests and riparian buffers.

Urban Forestry—Urban Forest Management Division activities

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

- National Association of Counties (NACo) award for Tree Conservation Ordinance: In 2009, Fairfax County received a NACo *Best of Category Award* in the *Environmental Protection and Energy* Category.
- Continued implementation of the Tree Action Plan: In 2009, UFMD staff and the Tree Commission made substantial progress in executing implementation plans identified in the Tree Action Plan. UFMD is currently engaged in activities associated with six of the 12 core recommendations of the Tree Action Plan. UFMD anticipates that the first edition of an annual progress report on Tree Action Plan activities will be prepared and forwarded to the board in 2010, and that a summary of that report will be made available in future *Annual Reports on the Environment*.
- Production of educational video: In late 2009, UFMD worked with Fairfax County Cable and Consumer Services staff to produce an educational video entitled “Remarkable Trees.” This video, shown regularly on Channel 16, highlights the importance of preserving and planting trees and what residents can do in their own yards to help achieve the county’s 30-year tree canopy goal.
- County Receives Tree City USA: For the 27th year, one of the five longest running records in Virginia, Fairfax County received the Tree City USA Award at the Earth Day/Arbor Day celebration held at the Northern Virginia Community College.

Urban Forestry--Forest Conservation Branch activities

- Enhancements to the Tree Conservation Ordinance: After the first full year of administering the new Tree Conservation Ordinance, FCB staff prepared a set of proposed amendments to address feedback from the development community regarding the applicability of the ordinance to minor plans and to modify the new tree inventory and condition analysis requirements in a manner that is likely to reduce the time and expenses associated with preparing site plans. The proposed amendments are being considered for adoption, in late 2010, through the public hearing process.

Agricultural and Forestal Districts

- Landowners may apply to place their land in special Agricultural and Forestal Districts that are taxed at reduced rates. There was a net loss of one Local District, from 43 to 42, during the period of January 1, 2008 to August 31, 2009. However, there was a net gain of gain of 84.21 acres. This increases the total acreage in all districts in Fairfax County, local and statewide, to 2,988.78 acres.

Gunston Cove Ecological Study

- Gunston Cove is a tidal freshwater embayment of the Potomac River located approximately 20 miles south of Washington, DC. An ecological study of Gunston Cove, conducted by the Department of Environmental Science and Policy at George

Mason University and supported by the Department of Public Works, continued during 2008. This study is a continuation of work originated in 1984.

Data from 2009 generally reinforced the major trends reported in previous years. A significant change in water quality documented by the study has been the removal of chlorine and ammonia from the Noman M. Cole, Jr. Pollution Control Plant effluent. The declines in ammonia and chlorine have allowed fish to recolonize tidal Pohick Creek.

Another trend of significance is changes in the relative abundance of fish species. While white perch is still the dominant species in trawls, it has gradually been displaced in seines by banded killifish. Blue catfish have entered the area recently and brown bullhead has decreased greatly in the cove. The introduction of snakeheads of recent years may have some pronounced effects on the other fish species. Clearly, recent increases in SAV provide refuge and additional spawning substrate for the adhesive eggs of banded killifish. Data show that SAV harbors high densities of banded killifish. Overall, the fish assemblage in Gunston Cove is dynamic and supports a diversity of commercial and recreational fishing activities.

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

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.htm>. More information about FCPA and its programs is available at these websites: <http://www.fairfaxcounty.gov/parks/resources/stewardship.htm> and <http://www.fairfaxcounty.gov/parks/resources>.
- Fairfax County residents and other interested parties can donate to the Fairfax County parks through the Fairfax County Park Foundation. The Fairfax County Park Foundation is a 501(c)(3) not-for-profit organization and donations are tax deductible to the fullest extent allowed by law. The foundation's mission is to raise funds to support the parks and land under the stewardship of the Fairfax County Park Authority. Those interested in giving tax-deductible donations to the foundation can contact the foundation at:

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

- Environmental Stewardship opportunities for volunteers are available at Meadowlark Botanical Gardens, Pohick Bay Regional Park and various other regional 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>.

Issues of note

- 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.

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

EQAC's past recommendation on developing a countywide Natural Resource Management Plan has been partially fulfilled by the Fairfax County Park Authority. On January 14, 2004, the Park Authority Board approved the Natural Resource Management Plan (NRMP) for Park Authority property.

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

Comments

1. EQAC commends the Board of Supervisors for its endorsement and continuing support of the Tree Action Plan, its tree canopy cover goal for the county of 45 percent coverage by the year 2037 and the Tree Conservation Ordinance, which strengthened tree preservation policies and procedures. The Urban Forestry Management Division, Virginia Department of Forestry and the Tree Commission continue to make exemplary progress in 2010 as evidenced by:
 - Issuing the "2009 State of the Tree Action Plan Report," the first annual report prepared in response to a 2010 board directive to the Tree Commission for such reports.
 - Developing the Celebrated Trees of Fairfax County project to renew or inspire appreciation of the county's trees and urban forest.
 - Developing a Tree Stewards Program of knowledgeable tree volunteers to help engage and educate citizens.

- Convening a cross-agency committee to address tree preservation on county property including a review of existing capital improvement project planning and implementation to make recommendations to enhance tree protection and planting in this process.
- Advocating that the urban forest be managed as “Green Infrastructure” and viewed as a capital facility, requiring both capital account funding to establish or renovate parts of the facility and current account funding for maintenance.
- Conducting a transformative i-Tree Eco analysis of the county’s urban forest resources. This analysis, based on software developed by the U.S. Forest Service and its partners, provides a statistically valid sample of Fairfax County’s existing urban forest and an estimate of the value of the urban forest to the county.

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

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

management of the county's parks. EQAC also notes the accomplishment of the Park Authority in preparing and publishing a Natural Resources Plan for management of the county's parks and urges the Park Authority to fully implement this plan. EQAC fully supports these efforts, urging that they culminate in a countywide Resource Management Plan. EQAC's intent is that Fairfax County should have all the tools in place (the policy and the data) to create a plan that will support the active management and conservation of the county's natural resources.

Recommendation

1. The Fairfax County Park Authority approved a Natural Resource Management Plan in 2004. This partially fulfills a long-standing EQAC recommendation to develop and implement a countywide Natural Resource Management Plan. However, most of this plan cannot be implemented without additional staff and funding for the FCPA. The FCPA staff estimates that implementation will require \$3 million plus per year. A more phased approach will allow FCPA to begin to manage 10 percent of parklands and set up the program to be phased in over time. Phase 1 with this approach would require \$650,000 and six positions. EQAC strongly feels that the plan needs to be implemented. Therefore, EQAC recommends that the Board of Supervisors provide sufficient funding to implement Phase 1. EQAC recognizes that in today's budget climate, such increased funding may be difficult to achieve. However, once the county's budget problems are eased, EQAC does recommend that the Board of Supervisors provide this funding as a high priority. In the meantime, EQAC recommends that some of the six staff positions and supporting funding should be found from internal FCPA staff assets.

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

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 eight 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 and five sharpshooter events

that took 27 deer. The Park Authority on its separate federal permit oiled 522 eggs in 123 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.

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. This approach has considerable promise for efficiently meeting program goals and a site has been identified for testing a pilot program. It is strongly suggested that a pilot program be implemented in the coming year.

Coyotes in Fairfax County

1. 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.

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.

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 focuses 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 has continued to drop from 2007 levels, reflecting the first significant decrease in traffic since the terrorist attacks in 2001. These reductions were due to the overall downturn in the economy.
- That being noted, approximately 41 million passengers traveled through these two airports on roughly 615,000 flights; there were about half as many 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. One of the older north-south runways was taken out of operation in July 2009 for repair and was returned to full service in summer 2010.
- 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 Governments’ Aviation Policy Committee continues to oppose efforts to weaken regional/local authority over the region’s airports and efforts to weaken the rules affecting the numbers and lengths of flight operations associated with Reagan National Airport.

Highway noise barriers

- The I-495 HOT Lanes Project has begun construction. The widening of I-495 will result in significant noise impacts; 13 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 Engineer Proving Grounds site, the I-495/Georgetown Pike interchange 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 of 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 its 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. Anyone interested in joining the efforts should contact the FCRP at www.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 Federal Aviation Administration 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. Continue to encourage the use of opportunities provided by the Virginia Department of Transportation that allow for third party contributions to noise barrier construction when the VDOT cost criteria preclude VDOT's construction of such barriers. Through this VDOT policy, neighborhoods affected by high levels of highway noise can participate in the funding of barriers that would not otherwise be constructed.
3. 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.
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 have been established on the county's website addressing noise issues. The county should ensure that this page is kept current through regular updates.
6. EQAC would like to discuss with the Airports Advisory Committee and staff the Federal Aviation Administration's views on the scope of Part 150 studies to determine what, if anything, the county can and should do in response to limits on noise abatement measures that are accepted by Federal Aviation Administration. EQAC may recommend further action subsequent to this coordination.

Recommendation

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.

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 we 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 lights. Fortunately, the former has become a non-problem in that 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 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

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.