Annual Report on the
ENVIRONMENT
2009

SUMMARY REPORT

Fairfax County, Virginia

Environmental Quality Advisory Council

A Fairfax County, Va. Publication

November 2009

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

The cover shows a portion of the Great Falls of the Potomac River; the river forms Fairfax County's border with Maryland. Photo by Ben Swanson, Student Member, Environmental Quality Advisory Council.

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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.

EQAC is presenting this year's Annual 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 this year. It is EQAC's hope that the new 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 2008; however, in some cases, key activities from 2009 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 Council, Inc.
Coalition for Smarter Growth
Fairfax County Deer Management Committee

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 Executive's Office
Fairfax County Environmental Coordinator
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 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
Potomac Conservancy
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 2008 *Annual Report on the Environment* and welcomes the efforts of the newly formed interagency Energy Efficiency and Conservation Coordinating Committee.

County of Fairfax, Virginia

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

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

November 16, 2009

Chairman Bulova and Members of the Board:

The Environmental Quality Advisory Council is pleased to present the 2009 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 2008, but also includes significant actions from 2009 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 first and newest chapter reflects the county's leadership and efforts to address global climate change. The rest of the chapters are arranged to reflect the order of topics listed in the Board of Supervisors' Environmental Agenda. This year we have created two versions of the report; one a published summary version, and secondly, an on-line complete version with all data included. This year we have also highlighted environmental stewardship opportunities within the report chapters.

EQAC thanks the board for its continued strong support of environmental programs. We understand that budget constraints this year 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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We therefore have two key requests this year among the many recommendations we have made in our report. EQAC members have also asked that two other recommendations be highlighted. The key recommendations are:

1. EQAC recommends that Fairfax County 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 Stormwater Service District rates.

   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. This would result in the restoration of some 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.

2. **EQAC recommends that the Remote Hazardous Waste Events be reinstated.** In FY 2009, five of these events were conducted in Mount Vernon, Mason (there were two events in Mason), Dranesville and Springfield Districts. These events require the use of an outside contractor to augment county staff, as the events are held on Saturdays, which is the same time that county permanent sites receive maximum use. The cost of the remote events is approximately $16,870 per event. They are provided at no cost to county residents and are, therefore, dependent upon the special funding from the Board of Supervisors. 1,450 households participated in the five events. These events removed over 90,000 pounds of materials from the waste stream and disposed of approximately 1,300 compact fluorescent lights. EQAC is concerned that if these events are not held, the materials that would have been collected there may not be properly disposed of and have the potential to create problems at a greater cost to clean up later.

The other recommendations that EQAC wishes to highlight are:

1. EQAC commends the Fairfax County Board of Supervisors for supporting Cool Counties, Energy Star and other programs to promote energy efficiency. While the county has set an example for reducing carbon dioxide emissions through energy efficiency and is encouraging LEED certification or equivalent for projects that come through the zoning process (particularly those in the county's growth centers), **EQAC encourages the county to explore whether commitments should be sought from developers to 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).

2. **EQAC understands that additional information could be incorporated into the Integrated Parcel Lifecycle System to make the system more useful, and EQAC recommends that this information be incorporated.** Specifically, the following are noted:

   - The incorporation of new nonresidential pipeline data into IPLS would be very useful for forecasting and analyzing with existing data.
   - IPLS should incorporate data regarding planned nonresidential land use intensities.

Each chapter of this year's Annual Report contains the remainder of our recommendations. We urge you to consider and act on each of these.

As previous reports have done, we 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 Robert A. Stalzer, 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. We also commend the establishment of the county's Energy Efficiency and Conservation Coordinating Committee, which is chaired by Deputy County Executive David Molchany. We look forward to continued coordination with this new interagency committee.

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 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,

Stella M. Koch

Stella M. Koch, Chairman
Environmental Quality Advisory Council

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SCORECARD
Progress Report on 2008 Recommendations

I. CLIMATE CHANGE

Climate Change Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1. EQAC continues to support the hiring of an Energy Coordinator for Fairfax County.	At the direction of the Board of Supervisors' Environmental Committee in October 2007, the county executive included within the fiscal year 2009 advertised budget an energy coordinator position. The Board of Supervisors adopted the FY 2009 budget with the energy coordinator position authorized in the budget. The position was to be established through the abolishment of a vacant assistant to the county executive position. In a memorandum from the county executive to the Chairman of the board, dated November 17, 2008, the county executive indicated that while he had every intention of filling the position, due to the worsening fiscal crisis in the county, the county executive concluded that filling the vacant energy coordinator position would not be fiscally prudent at this time. The county executive, after consulting with appropriate staff, believed that a viable alternative was to formally establish an Energy Efficiency and Conservation Coordinating Committee, which serves as an interagency forum for cross-organizational collaboration and coordination of energy efficiency and conservation efforts.	While EQAC continues to support the hiring of an energy coordinator, EQAC recognizes the budget problems. Given these problems, the EECCC appears to be a viable alternative. When future budgets permit, consideration should be given to hiring an energy coordinator.	No, but overtaken by events for now.

II. LAND USE AND TRANSPORTATION

Land Use & Transportation Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1. EQAC recommends that the county produce an updated version of the "State of the Plan, An Evaluation of Comprehensive Plan Activities." EQAC would like to discuss with staff what would be entailed in pursuing a complete review of the Comprehensive Plan. The evaluation and assessment would 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 would be timely with the significant changes happening in the county.	The main component of the recommendation, to comprehensively monitor Plan recommendations, is being addressed through a different method than suggested by EQAC. Although an evaluation following the *State of the Plan* approach would be possible if staff resources are available, DPZ believes that a full scale rewrite of the Comprehensive Plan would only be productive if fundamental changes in the Plan are required. At the present time, staff resources are limited due to the ongoing planning efforts. Historically, staff has initiated discussions with the Planning Commission and the community towards the end of the current APR cycles. These discussions address broader issues such as how to: update the "character" sections of the Area Plans; incorporate factual edits such as tax map changes/corrections and geographic description corrections; provide new guidance for how specific neighborhoods should be preserved or how they should develop in the future; and provide an assessment of the cumulative impacts of land use changes that have been adopted through amendments to the Comprehensive Plan. Staff still believes the current method of Plan monitoring is a more effective tool for evaluating development and growth in the county. Furthermore, the new GIS-based approach monitors Plan changes at a more detailed level than analyzed in the *State of the Plan* document.	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. EQAC also continues to recommend that the county consider the process for a complete review of the Comprehensive Plan.	No.

Land Use & Transportation Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
2a. EQAC recommends that Geographic Information System tools and capabilities continue to be pushed out for use by the general public.	Staff concurs with making more data and tools available via the Web. The process of doing that will be gradual: for instance some of the key models used in transportation are not GIS-based and do not provide GIS output. The My Neighborhood application now includes links to LDSNet, to property assessment data and to watershed information. Planning for the next version of My Neighborhood is underway.	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.	In progress.
2b. EQAC recommends that the county begin leveraging three-dimensional models into the planning process.	This recommendation is being addressed. Staff utilizes aerial imagery, oblique imagery, and three-dimensional modeling, as part of the current review process for Plan amendments and special studies. The county's three-dimensional modeling usage has been done through several different products, as the county's use is still in its pilot phase and new applications are rapidly becoming available. As a result, the most effective tool for county use has not been determined yet.	EQAC is impressed with the ways the county has incorporated three-dimensional models. We recommend that the county continue to enhance its investment in GIS technology and updates to the source data.	In progress.

Land Use & Transportation Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
2c. EQAC recommends that the county invest in models that leverage GIS capabilities and county data.	This recommendation is being addressed. The environmental analyses relating to land cover and impervious surface require accurate planimetric data, for which the effort is ongoing with and continuously updated. Runoff modeling at the macro scale currently is being standardized countywide. With respect to transportation, the development of models that allow analysis of macro effects of land use and transportation decisions is being addressed and implemented as indicated above. Transportation demand management measures are being used in significant new development projects to reduce trips and increase transit use, and the implementation of these strategies will continue. In regards to air quality analysis, staff will continue to work with the Metropolitan Washington Council of Governments in its efforts to model emissions on a regional and sub-regional planning level.	EQAC supports the current efforts and recommends that these efforts continue. Ultimately, this can result in a Digital Comprehensive Plan that includes the Integrated Parcel Lifecycle System as a base data capability, three-dimensional representations of the county, future projections for planned changes and growth and environmental and transportation models with both local and macro impacts.	In Progress.

III. AIR QUALITY

Air Quality Recommendation	Action taken by Agency or Department	EQAC Comments	Completed
1. EQAC recommends that the county add one supervisory staff position to provide needed compliance assistance, program coordination and public outreach in order to help eliminate ozone-related air pollution violations occurring within the county, in order to reach full compliance with PM 2.5 ambient air quality standards and in order to ensure adequate participation in regional planning activities.	At the time of preparation of responses to the recommendations (prior to adoption of the FY 2010 budget), the Health Department concurred with the recommendation. The response noted that a key issue in the Air Quality Monitoring Program was the need for a dedicated supervisory staff to oversee the complex daily monitoring activities, provide guidance to the program staff, expand efforts in air quality planning, conduct environmental impact reviews, develop strategy, expand outreach activities and ensure the data from the monitoring network is of the highest quality so accurate ozone forecasting and daily pollution indexes are disseminated to the public. However, the County Executive concluded that due to the worsening fiscal crisis and budget shortfall, it was necessary for the Air Monitoring Program to be placed as a budget reduction option for the Board of Supervisors to consider. As detailed in the Air Quality chapter, county monitoring efforts are being phased out; the state will need to assume monitoring responsibilities in FY 2011.	EQAC supports the board for retaining, in the FY 2010 budget, the county's air quality management position. EQAC recognizes, however, that the overall budget constraints in the county that led the Board of Supervisors to make significant reductions in the budget for the Health Department could potentially affect air quality in the county.	No.

IV. WATER RESOURCES

Water Resources Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1. Continue to adequately fund and implement the county's ongoing water resource monitoring, management, restoration and educational stewardship programs.	In order to restore the full value of the original dedicated penny while continuing to absorb operating costs, Stormwater Management supported the implementation of a "service district," as authorized by Va. Code Ann. §§ 15.2-2400 to -2403.1 (2008). The district would encompass the entire county with the exception of Fort Belvoir, and it would levy its own tax rate as approved by the Board of Supervisors. The DPWES recommended tax rate was $0.015 per $100. The BOS did establish the service district, and set the tax rate of $0.010 per $100.	EQAC is pleased to note that the Service District has been established. However, EQAC feels that the district should be funded at a minimum rate of $0.015 rather than the current rate of $0.010 per $100. EQAC recognizes that stormwater funding remains a critical problem and is inadequate. The tax rate need to increase to a penny and a half at minimum so that funding is available for needed efforts.	In progress.

V. SOLID WASTE

There were no recommendations in the 2008 Annual Report

VI. HAZARDOUS MATERIALS

There were no recommendations in the 2008 Annual Report

VII. ECOLOGICAL RESOURCES

Ecological Resources Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1. FCPA approved a Natural Resource Management Plan in 2004. However, most of this plan cannot be implemented without additional staff and funding. A phased funding approach will allow FCPA to begin to manage ten percent of parklands and set up the program to be phased in over time. Phase 1 would require $650,000 and six positions. EQAC recommends funding and staff positions to implement Phase 1 and that some of the six positions be found from internal FCPA staff assets.	The Fairfax County Park Authority has sought funding for the Natural Resource Management Plan through the regular budget process for the last few years. In its request for the FY 2008 budget, funding was requested for Phase 1 of the NRMP (six positions and $650,000). Additionally, FCPA did thoroughly investigate positions throughout the agency to re-align and did identify one position that could be abolished and re-established for the natural resource management program should the county provide funding and one position. However, funding and staff was not provided in the FY 2008 budget and the position is no longer available. At this time, FCPA is unable to reallocate staff to the natural resource management program without sacrificing other important existing programs and services for 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, FCPA will look at its positions again to see if any can be re-aligned to the natural resources program.	EQAC feels that the allocation of resources by FCPA is not in balance between the two primary missions of FCPA – providing resources for recreation of the citizens and protecting sensitive environmental areas. EQAC continues to stress that more resources need to be devoted to protection of sensitive environmental areas and that a better balance exists in how resources are allocated. EQAC reiterates its recommendation.	No.

VIII-1. IMPACTS OF DEER IN FAIRFAX COUNTY

Deer Management Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1. The authorized Assistant County Wildlife Biologist position should be filled forthwith. This position is critical to implementation of deer herd reduction goals, to attainment of public education program goals and to an appropriate level of networking with other local, state and federal agencies.	While staff concurs with EQAC's recommendation, due to various factors, efforts to fill this position were unsuccessful. Three interview processes were conducted without successfully filling the position. Before a fourth attempt could be initiated, it became clear that the position would be frozen due to budgetary constraints. Since that time, funding for the entire program has been cut. Due to the continued decline of the county's budgetary outlook, it is expected that this position will remain vacant for the foreseeable future.	It is hoped that recovery from the recession will permit reactivation of this position.	Not applicable.

VIII-2. IMPACTS OF GEESE IN FAIRFAX COUNTY

Geese Management Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1 EQAC strongly recommends additional staffing at the earliest budgetarily feasible time for this program in the form of one full-time equivalent Assistant Wildlife Biologist, to undertake several initiatives relating to geese management.	Funding for the Goose Management Program within the Police Department was cut in early November 2008. Existing position vacancies within the Wildlife Section were frozen. This includes the full time Assistant Wildlife Biologist position. The Fairfax County Wildlife Biologist position became vacant after February 20, 2009 [EQAC notes that the position was filled after the staff response was provided]. Given the budgetary constraints and the other uncertainties associated with the future of the Wildlife Section, it is unlikely that any additional positions will be established in the near term.	It is hoped that recovery from the recession will permit authorization of this position.	Not applicable.

VIII-3. COYOTES IN FAIRFAX COUNTY

There were no recommendations in the 2008 Annual Report

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

There were no recommendations in the 2008 Annual Report

IX-1. NOISE

Noise Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1. Formally request the Metropolitan Washington Airports Authority and the Federal Aviation Administration to evaluate options for the operation of the existing and new runways at Washington Dulles International Airport to identify approaches that will optimize flight operations in a manner that minimizes community noise exposure. Include an evaluation of noise impacts beginning at the time the first of the new runways is opened for use and to continue in perpetuity. The results of all such noise evaluations should be reported quarterly and should be provided to a number of stakeholders.	Staff has communicated with Metropolitan Washington Airports Authority and Federal Aviation Administration noise abatement staff about evaluating operational approaches that will minimize community noise exposure; concerns have been raised to staff regarding the implications of competing use of airspace, and, based on a recent FAA action in response to proposed noise abatement measures at Ronald Reagan Washington National Airport, FAA is likely to be reluctant to approve, pursuant to Part 150 of the Federal Aviation Regulations (Code of Federal Regulations, Title 14, Chapter I), any noise abatement measure that is pursued outside of the DNL 65 dBA noise impact area that does not also reduce the number of noise sensitive land uses within that contour. Staff has recommended that EQAC hold discussions with FAA, MWAA and county staff before pursuing the formal request identified in the recommendation. Staff further encourages EQAC to coordinate on this matter with the county's Airports Advisory Committee.	EQAC agrees with staff comments and will follow up. (See Recommendation 2 in the Noise Chapter.)	Ongoing.

Noise Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
2. EQAC is pleased that a series of Web pages have been established on the county's Web site addressing noise issues. The county should ensure that this page is kept current through regular updates.	The Web pages have been established, and staff plans to update them as needed.	EQAC encourages the county to update the Web pages. (See Comment 5 in the Noise Chapter.)	Ongoing.

IX-2. LIGHT POLLUTION

Light Pollution Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1. EQAC recommends that the Board of Supervisors direct the Department of Planning and Zoning to move ahead as rapidly as possible on revisions to the Outdoor Lighting Ordinance. The revisions need to address glare and several minor issues.	Each year the Board of Supervisors adopts a Zoning Ordinance Amendment Work Program which contains a Priority 1 list of amendment items that staff will be working on during the year and a Priority 2 list of items that will be maintained for future prioritization. The 2008 Priority 1 ZOAWP list adopted by the Board on March 31, 2008 contained an item to consider revisions to the outdoor lighting standards pertaining to security lighting, outdoor sports facility lighting, automatic teller machine lighting and single family residential lighting exemptions. A major component of this effort is contingent upon ongoing coordination and input from the Fairfax County Park Authority. Staff is recommending that the outdoor lighting item remain on the Priority 1 list of the 2009 ZOAWP,.	Needed revisions and additions have been identified. Final writing up and review needs to be completed.	Partially completed.
2. EQAC recommends that the Board of Supervisors designate EQAC to work with the Fairfax County Park Authority to review and fine tune its specifications for athletic field lighting to correct the current deficiencies.	This recommendation is in the process of being addressed through coordination and collaboration with key members of EQAC, the Fairfax County Park Authority and the Department of Planning and Zoning. It is the opinion of DPZ that additional discussion should occur regarding the differences between glare and light intensity, and that the white paper should be revised to more fully consider those distinctions. The white paper is currently being revised to better address the comments provided to FCPA by EQAC and DPZ.	The progress has been very satisfactory. The scientific study on glare is in final write-up, while the extensive engineering specifications are substantially complete. Final review needs to be completed prior to publication.	In progress.

IX-3. VISUAL POLLUTION AND URBAN BLIGHT

Visual Pollution Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
1. EQAC recommends that the county continue negotiations with the commonwealth to enable the county to remove signs from the VDOT right-of-way and to enforce limitations and restrictions on such signage in the same manner as though the signs were covered under the Fairfax County ordinances, including the application of civil penalties.	Staff concurs that sign proliferation within rights-of-way detracts from community appearance and can pose a hazard to the traveling public. However, due to a significant increase in the workload related to zoning and property maintenance complaint investigations and due to the uncertain staffing levels which may occur in FY 2010, staff at this time is not in a position to undertake the implementation of a program dealing with this issue. Given the lack of resources available to address this issue, action on this will need to be deferred again.	EQAC believes that the county should more forward on this issue. We recommend that the county work with VDOT and empower all Fairfax County residents to remove unauthorized signs from the VDOT Right-of-Way. We also recommend that the county petition the state legislature to restore the original penalty set forth in the 1993 version of §33.1-373 and that revenue be shared equally between the state and the locality. Finally, we recommend that §33.1-375.1 be stricken from Virginia state code unless it is modified to be a “zero tolerance” law and makes no exceptions for anything other than official government business.	No.

Visual Pollution Recommendations	Action taken by Agency or Department	EQAC Comments	Completed
2. EQAC recommends that the lack of an explicit provision within Article 12-300 of the present [sign] ordinance for assessment of civil penalties be rectified at the earliest opportunity (EQAC provided suggested language). It is further recommended that the modified ordinance be issued similar to a "Letter to Industry." When an illegally posted sign is observed by an inspector, or reported by a resident, such a letter, containing the text of the ordinance, including the penalties clause, could be sent to the offending party as a means of strongly discouraging continuance or repetition of the violation.	Provisions of the Zoning Ordinance, adopted by the Board of Supervisors in 1985, delineated those sign violations which are regulated as a civil penalty and those regulated as a misdemeanor. Prior to this change, all violations of the sign regulations were classified as misdemeanors. With the adoption of this change 1985, it was the intent of the amendment to classify the most common types of sign violations a civil penalty, which also reduces the burden of proof in such enforcement actions. However, it had been the experience of staff that requesting injunctive relief in the Circuit Court to enforce the Sign Ordinance had proven to be more effective than either the civil penalty process or the misdemeanor process because it provided for permanent relief with the ability to seek contempt sanctions if the court's order is violated in the future. In November 2008, the board adopted an amendment to the Zoning Ordinance which provides for a 10 day appeal period to the Board of Zoning Appeals for Notices of Violation related to the illegal placement of signs on private property as well as other types of violations. Staff notes that issuing a "Letter to Industry" as suggested by EQAC will result in further delays in enforcement. Regarding the recommendation to revise the Zoning Ordinance in Article 12 to provide for a separate penalty provision for signs, it is staff's position that the existing format with the penalty provisions established in a single section provides for a consistent approach for all violations of the Zoning Ordinance.	EQAC notes that the proliferation of illegal signs continues and that present strategies don't appear to be working. EQAC agrees that the "Letter to Industry" would result in delays in enforcement. Therefore, EQAC recommends that no warnings be given but that people be forewarned via announcements in the media.	No.

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 (CO_2). While it is world-wide emissions that contribute to climate change, reductions in GHG emissions will be addressed at the local/community level. Fairfax County is fortunate that we are actively pursuing opportunities to 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.

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.

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 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 has continued its commitment of purchasing wind energy and expanded this commitment in 2009 from five to 10 percent of the general county government usage.

- 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.

Stewardship

- The regional greenhouse gas emissions reduction implementation plans that Fairfax County will be contributing to for the region 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, bicycle, walk or 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. When the opportunity for reporting of GHG emissions is available, the county should pursue reporting of GHG emissions so that the reporting can be readily combined with reporting of other jurisdictions. Reporting requirements are currently under consideration by the Environmental Protection Agency and we expect those requirements to be similar to those recommended by the Climate Registry. The reporting format of the Climate Registry would standardize electronic reporting, minimizing the need for data handling. If common definitions and electronic reporting are not part of the planning for reporting, the quality of reporting is likely to be impacted and the cost of preparing the GHG emissions inventories will increase.

Recommendation

1. For new building construction, Fairfax County should explore whether commitments should 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; and (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). 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.

II. Land Use and Transportation

Introduction

This is an extraordinary time in the history of environmental planning and management, locally and globally, with land use and transportation at the fulcrum of decisions that will make or break communities as sustainable and livable human environments. As one of the wealthiest and best educated populations on the planet, Fairfax County is an exemplary human environment, with all of the typical issues of a suburban community, plus profound opportunities and challenges presented by urbanization, plus the twenty-first century forces that are now influencing the plans and activities summarized in this report. Among those forces, three in particular stand out for their impact on land use and transportation in the County: the economic recession, climate change and the mainstreaming of environmental stewardship.

The typical issues in suburban land use and transportation discussed in this report are a continuation of trends presented in past reports and include: traffic congestion; development pressures; opportunities and conflicts; environmental quality and quality of life; and changing demographics. According to the Texas Transportation Initiative, our region is the second most congested in the country. "In 1982 the average metropolitan resident spent 16 hours in congestion, by 2007 that ballooned to 62 hours wasted in congestion. That can be translated into $2.8 billion, 133 million hours and 90 million gallons of gas in lost productivity and wasted fuel."[1] Development pressures and conflicts are demonstrated by the extensive, even in a poor economy, transportation and land use projects summarized below. These include large projects like Tysons Corner redevelopment, Ft. Belvoir BRAC development and the Dulles Corridor/Metro Extension development, extensive revitalization of seven commercial areas and major roadway and transit improvements.

While this development carries great potential for economic vitality, it has immediate and potential impacts, positive and negative, on environmental quality and quality of life. The county has been and must remain diligent and innovative in managing these impacts. The county is doing a laudable effort through its Environmental Improvement Program, the Cool Counties program, adaptation of Transit Oriented Development, Low Impact Development and good governance, process and public involvement, as reflected by the projects under way.

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 Web site (www.fairfaxcounty.gov/eqac/report).

[1] Texas Transportation Initiative, 2007 Urban Mobility Study

Recent activities

The county has several significant land use and transportation related projects under way along with a refocus on our Revitalization Districts and the Cool Counties program that is leveraging Land Use and Transportation as a component of overall energy efficiency.

Tysons Corner

- Tysons Corner is often referred to as Fairfax County's downtown and is the only Urban Center identified on the county's Concept Map for Future Development. In September 2008, the Tysons Corner Task Force released its Transforming Tysons Vision and Area-wide Recommendations for a new transit oriented community. That vision is being realized into a Comprehensive Plan amendment by a special committee of the Planning Commission. A strawman draft of the amendment was published in February 2009 and a second draft was issued in September 2009. The new plan will align with the funding approval for the first phase of the Dulles Metrorail extension that is under construction with service planned for 2013.

Dulles Corridor Special Study

- On May 18, 2009, the board authorized a special study of the Reston segment of the Dulles Corridor, in conjunction with the review of the Reston Master Plan. This special study is being conducted in the following four segments: 1) a land use college and existing conditions analysis; 2) a review of the planning for the Town Center and the Reston areas along the Dulles Corridor; 3) a review of planning principles for Reston and the planning for the Reston residential neighborhoods; and 4) a review of the Reston Village Centers.

Ft. Belvoir—Base Realignment and Closure Area Plan Review Process

- On January 26, 2009, Fairfax County's Board of Supervisors adopted Comprehensive Plan Amendments for seven BRAC Area Plan Review nominations. The adopted changes modify Plan guidance for parts of the Woodlawn Community Business Center along Richmond Highway, the Springfield CBC and a block near the Huntington Metro Station.

- The purpose of the BRAC APR cycle was to determine whether amendment of the Comprehensive Plan was warranted given the relocation of approximately 20,000 jobs to Fort Belvoir. The impacts of the planned movements will significantly affect transportation systems, the natural environment and the quality of life both on- and off-post. The new jobs and residents moving to the area also may have a beneficial impact on the local economy.

Major Revitalization Projects

The Fairfax County Office of Community Revitalization and Reinvestment is facilitating strategic redevelopment and investment opportunities in seven targeted commercial areas:

- **Annandale -** The Annandale Design Guidelines for developing property or making site or building improvements in Annandale were completed in September 2009.

- **Bailey's Crossroads/Seven Corners -** The Baileys Crossroads Planning Study focuses on evaluating and refining the concepts and strategies developed by the Urban Land Institute Advisory Services Panel.

- **Lake Anne -** The Board of Supervisors adopted the final Comprehensive Plan text to guide the revitalization of the Lake Anne Village Center in Reston on March 30, 2009.

- **McLean -** The McLean Revitalization Corporation secured funding to test the viability of several revitalization concepts, estimate their costs and recommend an approach to implementation. The MRC has also been working with the county to begin the first phase of a long-term process to move utility infrastructure underground.

- **Merrifield -** On April 27, 2009, the Board of Supervisors created the county's first Community Development Authority for the proposed Mosaic - Merrifield Town Center development.

- **Richmond Highway Corridor -** The Richmond Highway corridor has an uncoordinated, strip-commercial appearance that serves a dual purpose of being a Main Street for surrounding residential development as well as a major north-south oriented transportation route, carrying heavy volumes of commuter traffic.

- **Springfield –** Following recommendations of an Urban Land Institute Advisory Panel, the Springfield Town Center rezoning was approved in July 2009 as the core of a larger community with four quadrants, each with focal activities.

Major Transportation Projects [2]

- **I-495 HOT Lanes** - Fourteen miles of new HOT lanes (two in each direction) are being built on I-495 between the Springfield Interchange and just north of the Dulles Toll Road.

[2] Virginia Megaprojects http://www.vamegaprojects.com

- **I-95/395 HOT Lanes** - This proposed 56-mile project would add a third lane to the existing 28 miles of HOV lanes between Arlington and Dumfries and build two new HOV lanes for an additional 28 miles south from Dumfries to Spotsylvania.

- **Dulles Corridor Metrorail Project** - A new 23-mile rail line will extend service from the East Falls Church station to Route 722/Ryan Road in Loudon County.

- **I-95 Telegraph Road Interchange** - Rebuilding the Telegraph Road interchange at I-95 is the final component of the Woodrow Wilson Bridge project.

- **Fairfax County Parkway Extension for Base Realignment and Closure** - This includes the final two miles of the Fairfax County Parkway, an interchange at the Engineer Proving Grounds and an extension of Boudinot Drive to provide an on-ramp to the southbound parkway.

Cool Counties

- Fairfax County's implementation of the Cool Counties program includes a number of exemplary efforts to reduce congestion and enhance transportation opportunities. Fairfax County's Cool Counties strategy reflects the relationship between land use and transportation.

Stewardship

Overview

- The array of forces that influence, drive and guide transportation and land use are highly interactive and complex. They include individual and corporate interests and behaviors, government regulations and processes, urbanization, climate change and cultural behaviors. This report focuses predominantly on the government role in managing these forces, but individual and corporate activities and behaviors are the predominant factors in the success or failure of environmental stewardship.

- Fairfax County residents have many opportunities to engage in environmental stewardship, ranging from personal activities in their daily lives, to active participatory citizenship, to serving as a volunteer with government or non-profit organizations. A well-informed, active citizenry is fundamental to good government and livable communities – every resident should know how our government operates, where our taxes go in one of the best-managed jurisdictions in the region and exactly what government functions are impacted by revenue losses. The county provides extensive opportunities for residents, employers and employees to learn about issues and the functions of government and to participate in decision making. The Fairfax County Web site is a wealth of information that can serve as a starting point for stewardship resources. The county also performs extensive public outreach for programs and development projects, bolstered by project specific efforts like the Reston Land Use College and the Tysons Corner Task Force.

Stewardship Responsibilities and Opportunities for Individuals

Transportation Stewardship

- Current transportation challenges in the county require critical stewardship activities from every household. According to the FY 2011 Financial Forecast presented at the Board of Supervisors' Retreat in June 2009, there are approximately 945,000 registered vehicles in the county. According to the Metropolitan Washington Council of Governments, there are 350,714 occupied housing units in the county and "nearly three-quarters of Fairfax County resident workers commute to work by driving alone, compared to 68 percent of the Washington region's workers. Seven percent of Fairfax County's resident workers use public transportation, compared to 11 percent of the Washington region's workers. Thirteen percent of resident workers of both Fairfax County and the Washington region use car pooling as a means of transportation to their jobs."[3]

- 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 alternatives to our current traffic volumes. Some examples of these alternatives, from the county Web site, 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.

    - Community Residential Program The Fairfax County Community Residential Program partners with residential developments, multi-family complexes and associations to promote use of alternative and public transportation. 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.

    - Guaranteed Ride Home The **Guaranteed Ride Home Program** is for commuters who regularly take the bus, rail, vanpool, carpool, bike or walk to work. It provides assurance they can get home if an emergency arises.

[3] (Metropolitan Washington Council of Governments, "Fairfax County and the Washington Region: A Look at Economic and Demographic Characteristics," January 2006, p.5).

- Pedestrian Program The Pedestrian Program for Fairfax County addresses pedestrian safety and community-generated pedestrian systems improvements. The Pedestrian Task Force consists of residents, appointed members and multi-disciplined staff. It reviews existing programs and activities, makes recommendations, 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 and ridematching assistance to form or join carpools or vanpools.

- Travel Training - MATT Bus is a unique Fairfax Connector bus that has been renovated for training senior citizens to travel safely and independently on regional transit systems.

- The county also offers periodic events or opportunities for commuters to test alternatives, such as Try Transit Week, September 2009, a statewide event sponsored by the Virginia Department of Rail and Public Transportation DRPT to encourage everyone to avoid driving solo and give transit options such as bus, rail, carpools, and telework a try.

Land Use Stewardship

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

- 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 Web site 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 in support of proposals to perform land-disturbing activities. In addition, the LDS database can be searched for zoning applications or construction plan submissions meeting any combination of the thirty-one search criteria. The Northern Virginia Soil and Water

Conservation District is an excellent starting point for residents wishing to learn more about stewardship practices and also an entry to other stewardship organizations.

- The Office of Community Revitalization and Reinvestment 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 Web site, 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

- The Fairfax County Economic Development Authority held a conference called "The New Urban Economic Model: The Transformation of Fairfax County" in June 2009 to "highlight what suburban communities can and should do to be well-positioned as the strong business communities of the future." According to a national survey commissioned by EDA in preparation for the conference, 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. Many of which Fairfax County, already has, but as this EQAC report indicates are in jeopardy without informed and concerted environmental stewardship. 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 EDA, developers, the real estate industry and future corporate tenants in new or revitalized developments. Tysons, the Dulles Corridor and other transportation 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.

> *"The involvement of business leaders in crafting a set of locally supported solutions would seem to be a very important element in the future. At the strategic end, business leader actions take the form of information development and communication with the public and decision-makers to emphasize the role of transportation in the state and regional economy. On the tactical end, business and community leaders can make the case for small-scale improvements that may not be evident to the operating agencies. And they can support individual workers who wish to choose carpooling, public transportation, flexible work hours, telecommuting or other route or mode options."* [4]

Comments and ongoing concerns

1. Share the county's knowledge and increase partnerships

EQAC commends the Board of Supervisors for actively supporting and implementing policies that address land use and transportation issues. EQAC encourages the county to publicize these successful projects, share the best practices and lessons learned, and encourage others to follow. Further, the county should partner with businesses, non profits and other organizations and groups to assist the general public in achieving common goals. Some examples of existing or potential programs are:

a. Telework: The county achieved the goal of 20 percent participation by county staff. The county should continue to work with the federal government and other jurisdictions to encourage them to set similar goals and work with the Virginia Congressional Delegation to secure resources to establish teleworking sites around the region.

b. The Environmental Improvement Program: The EIP creates an exemplary foundation that can be used to both educate and engage residents, businesses and organizations to support collaborative goals to enhance environmental quality, quality of life and progress on specific actions. Recognizing that many of the EIP actions are strictly internal, others offer opportunities to leverage outside resources to meet county goals as well.

c. Smart Growth: There are opportunities for partnering throughout the development/redevelopment process with the Economic Development Authority, the Redevelopment and Housing Authority, developers, new commercial tenants and real estate companies, among others, on mutually beneficial goals for commuter reduction strategies, car-free enclaves, local commutes, affordable housing and telecommuting.

d. County Stewardship Goals: Establish or compile existing stewardship goals or guiding principles that all residents can embrace and achieve. For example:

[4] 2009 Urban Mobility Report, Texas Transportation Institute, July 2009

implementing the tree action plan; reducing the average miles commuted per person; collaborating in Cool Counties, Cool Neighborhoods and Cool Houses to conserve energy.

e. Friends of RPAs: Establish partnerships with county departments, property owners, non-profits and the landscaping/lawn supply industry to educate and notify property owners of their locations and responsibilities associated with Resource Protection Areas. Through education, with expertise and marketing by local industry as an augmentation to governmental community outreach, encourage appropriate landscaping modifications.

2. Improve Transit Utilization

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

3. Transportation Funding and Authority

EQAC supports efforts to pursue alternatives that will give the county more funding and regulatory authority to address transportation enhancements and maintenance. Recognizing that this is an expensive and complex undertaking, EQAC supports the board's decision to review and hold a public discussion, and recommends: (1) that all options and innovations be reviewed; (2) that the trade-off costs and consequences of not taking action be made clear to the public; and (3) that implementation of the resolution(s) be phased so that steps will be taken where possible.

At the Board of Supervisors' recent retreat, approaches that were discussed included taking over responsibility for the road system in the county, perhaps by having the county assume city status, with the additional responsibilities and authorities that this would entail, or by retaining county status but following the model used in Arlington and Henrico counties. These ideas were evaluated by the board in the 1990s but were dismissed due to the recession, cost and concerns about assuming additional financial burdens from the state. As noted in this chapter, there are a number of forces and evolving practices, such as increasing pressures and demands from urbanization and sprawl in surrounding counties, that indicate this may be an idea whose time is coming.

In the 2008 report, EQAC noted that the county does not have sufficient authority over transportation decisions that are in the county's best interest. The Governor's decision on the Tysons Corner aerial rail alignment, even though all parties agreed the tunnel was preferable, shows how conflicting goals will result in inferior results. The

Virginia HOT Lane project also directly impacts the county but is being managed by VDOT with two private companies.

The county needs to have a greater role in these mega projects to make sure they align with its Land Use and Transportation goals.

4. 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's recommendations in the past to replace the Urban Development Information System identified specific benefits. 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.

5. Green Buildings

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

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 30 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."

As the county approaches build out, EQAC recommends 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 1995-2008 and assess impacts through 2025.

EQAC also recommends that the county consider the process for a complete review of the Comprehensive Plan. The current process of reviewing each section does not provide a comprehensive review of the interrelationships between sections, especially Land Use and Transportation, and does not review the underlying principles of the Plan. Further, there have been a number of substantial planning efforts and external factors that have occurred since 1995 that have not been evaluated comprehensively for their countywide implications. Among these efforts and factors are: the Base Realignment and Closure actions; the forthcoming extension of Metrorail through Tysons Corner to Dulles Airport; the Tysons Corner Transportation and Urban Design Study; substantial redevelopment projects, proposals and studies in revitalization areas; and major transportation projects such as the construction of high occupancy toll lanes on a portion of the Capital Beltway.

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 data regarding planned nonresidential land use intensities.

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.

c. 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.

d. EQAC further recommends that the county success in adopting this technology and transforming business practices to use the technology be expanded into a comprehensive vision for a Digital Comprehensive Plan. The Digital Comprehensive Plan 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 with both local and macro impacts.

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

3. Economic opportunities for Revitalization

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:

- 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, 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.

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 responsibilities involve conducting the monitoring of air quality and coordinating with regional organizations on plans intended to reduce air pollution and improve air quality. More recently, the county has also taken a leadership role beyond the limits of its traditional air quality partnership and has helped formulate and has subsequently adopted a program to reduce gases that may be the cause of global climate change. With regard to traditional air quality matters, Fairfax County has demonstrated a continuing commitment to being an active partner in improving the region's air quality.

Recent Activities

Budget impacts

- The FY 2010 budget eliminated two of the four field positions in the Air Quality Monitoring Program, with full elimination of the monitoring program scheduled for FY 2011. The Program Manager position that deals with air quality will be retained and will continue to participate in local and regional air quality meetings. During FY 2010 the monitoring program will transition from county to state responsibility, with the Virginia Department of Environmental Quality assuming full responsibility for air monitoring in FY 2011. During FY 2010 two remaining air quality staff will provide monitoring and sampling activities along with routine maintenance for ozone and fine particulate matter at county-operated monitoring stations located at Lewinsville, Mason, Mount Vernon, and Cub Run. They will also perform data analysis, prepare written reports, and represent the Health Department at local and regional air quality meetings and work with DEQ staff to facilitate the transition. All county air monitoring activities will cease on June 30, 2010.

- It is unclear as to what level of monitoring will be conducted by the state after the county ceases its air monitoring activities. There are ongoing discussions with the U.S. Environmental Protection Agency and the DEQ about this matter and it is unknown when further direction will be provided.

- In addition, the FY 2010 budget reductions eliminated the Environmental Hazards Investigation Section. In the past, EHI staff responded to approximately 1,000 residents' concerns per year about potential chemical, biological, and nuclear hazards such as mold, radon, asbestos, and indoor air quality. They also worked in collaboration with the Hazardous Materials program in the Department of Fire and Rescue to provide emergency response to hazardous material incidents. EHI staff investigate cases of elevated blood lead levels in children as mandated by state law. The Health Department will continue to investigate cases of elevated blood lead levels as mandated by law, however all other services previously provided to the

public will now be provided by private contractors. Services previously provided to the Hazardous Materials program in Fire and Rescue will be provided by the Virginia Department of Environmental Quality or private contractors.

Air Quality Status in Fairfax County

- Hazardous Pollutants – EPA data show a low level of emissions of hazardous pollutants in Fairfax County over more than the past ten years.

- Ground-level Ozone – Monitors in Fairfax County recorded violations of the eight-hour ozone standard on thirteen days during the 2008 ozone season. The Washington region registered 19 days with violations of the eight-hour standard during the 2008 season. Various studies have shown that much of the Washington Metropolitan area ozone problem originates west of the area and is beyond the control of Virginia, Maryland, and the District of Columbia.

Air Quality Planning

- Ozone -- The region has a deadline of June 15, 2010, to meet the 8-hour ozone standard of the Clean Air Act. Virginia submitted its 8-hour ozone state implementation plan in June 2007.

- Particulate Matter – Virginia submitted its $PM_{2.5}$ SIP in April 2008, despite a three-year history of $PM_{2.5}$ data in the region that demonstrates compliance with the 1997 $PM_{2.5}$ standards. In October, 2008 EPA proposed to determine that the Metropolitan Washington region has attained the 1997 $PM_{2.5}$ NAAQS. The Washington metropolitan area is on course to meet federal requirements for reducing $PM_{2.5}$ in 2009 and will also meet the NAAQS. EPA recently sent the PM SIPs submitted in April 2008 back to the states. States contacted EPA to alert them that the states did not want the SIPs returned. The PM SIPs are being resent to EPA.

- The Metropolitan Washington Air Quality Committee continues to be responsible for all air quality planning in the Metropolitan Statistical Area identified under Section 174 of the Clean Air Act. Members are appointed and Fairfax County currently has three members of the Board of Supervisors on the committee.

- One of the key issues related to ozone nonattainment is the extensive use of motorized vehicles and their emissions. The number of vehicle miles traveled per day has increased steadily over the past 20+ years, and, based on the most recent data, totaled more than 25 million miles in 2007. The Virginia Department of Transportation 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.

Stewardship

- Residents of Fairfax County have many opportunities to contribute to improvements in air quality. While much of the Washington Metropolitan area ozone problem originates west 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 mowing, paving and outdoor painting, limiting vehicle idling, bringing a lunch to work, avoiding drive-thru windows and refueling after dark. The following is a "Top 10 Tips List" that has been provided by Partners for Clean Air (www.cleantheair.org/overview.shtml):

    1. Limit driving – rideshare, walk or bike
    2. Take public transportation
    3. Avoid excessive idling and abrupt starts
    4. Use E85 [an ethanol fuel mixture] in your flexible fuel vehicle
    5. Use a charcoal chimney or electric starter instead of lighter fluid when grilling
    6. Limit use of household products that cause fumes
    7. Conserve energy at home to reduce demands on power plants
    8. Do not burn leaves and other yard waste
    9. Avoid burning wood in fireplaces
    10. Avoid using lawnmowers and other gasoline-powered equipment

  Additional information about air quality is available from Clean Air Partners (http://www.cleanairpartners.net/index.cfm?ForecastRegion=3), a nonprofit partnership chartered by the Metropolitan Washington Council of Governments and the Baltimore Metropolitan Council. Their goal is to improve public health and the environment by working with businesses, organizations, and individuals throughout the region to raise awareness and reduce air pollution through voluntary actions.

Comments

1. EQAC supports the retention of all of the air quality monitors that are currently being operated by the county's Health Department; these monitors should be incorporated within the Virginia DEQ's monitoring network. EQAC's understanding is that VDEQ is working with the regional EPA office to determine the specific air quality monitors and suite of monitoring parameters that it will propose to operate in the county. EQAC will continue to track VDEQ's decision-making process (proposals are anticipated to be made in Spring 2010) and may recommend further action at that time.

2. EQAC acknowledges that budget limitations required significant cuts in the FY 2010 budget and will likely require further cuts in the future. The 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 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. This staff position provides the following services: manages the county's air quality program; provides support to address board matters related to air quality and the environment; performs ongoing planning through attendance at Metropolitan Washington Council of Government's Air Quality Committee meetings and participation on the Air Quality Technical Review Committee and subcommittees; collaborates with other local, regional, and national air quality organizations, such as Clean Air Partners; 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 monitoring; and participates in outreach events and encourages county residents and others to take voluntary action to improve air quality.

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 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 plan, the Environmental Coordinating Committee initiated its annual preparation of a 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 FY 2010 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 and 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 2008 results from the 40 randomly selected sites suggest that approximately 77 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 underway 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 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 2008, one new regional stormwater management facility was substantially completed, which provides water quality control for 344 acres.

Headwater stream protection

- On February 25, 2008, the Board of Supervisors adopted an amendment to the Policy Plan to strengthen Comprehensive Plan guidance regarding the protection and restoration of streams and associated buffer areas along stream channels upstream of Resource Protection Areas and Environmental Quality Corridors. This new guidance augments the EQC policy by explicitly encouraging stream and buffer area protection and restoration in these headwaters areas.

Stormwater management facilities and infrastructure

- Fairfax County maintains more than 1,237 stormwater management facilities (as of 2008), 1,400 miles of pipe and 45,000 drainage structures designed to protect the county's streams. In 2008, the county retrofitted 14 stormwater management facilities to provide enhanced water quality benefits.

- There are approximately 3,164 private stormwater facilities in the county. The county inspected 1,193 county facilities and 585, of the 3,164 privately maintained facilities in 2008. 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 2008 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 nine complaints received by DCR from residents in Fairfax County during FY 09; all but two were addressed by County and DCR staff and closed. The remaining two complaints are being addressed but the cases have not been closed.

- In 2008, a total of 670 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 the DCR, resulted in 32,168 Erosion and Sediment control inspections. In 2008, the county issued 188 notices of violations. Criminal proceedings were started in 16 cases.

Illicit discharges

- In 2008, the Hazardous Materials and Investigative Services Section of the Fairfax County Fire and Rescue Department received 418 complaints. Approximately 330 of the complaints involved the actual release of various petroleum or chemical substances. Of the 340 releases, 267 involved the release of either diesel fuel (45), home heating fuel oil (63), gasoline (48), or hydraulic oil (45). Other releases investigated involved antifreeze, paint, sewage, mineral oil, and mercury. Storm drains or surface waters were involved in 43 of the releases.

Septic systems

- Approximately 23,905 homes and business are served by on-site sewage disposal systems in Fairfax County. The county's Health Department reported that, in fiscal year 2009, 88 new sewage disposal permits were issued for single family residences. There were 138 new sewage disposal systems installed, 57.9 percent were alternative type systems and 42.1 percent were conventional systems. Approximately 668 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 3,860 septic tank pumps outs.

- In fiscal year 2008, notices were sent to 13,421 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 2008, 251 miles of old sanitary sewer lines and 11 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 69,800 feet of sanitary sewer lines were rehabilitated and 30 dig-up and 142 trenchless point repairs were completed (46 robotic repairs and 96 tophats). Over the past eleven years, 252 miles of sewer lines have been rehabilitated.

Drinking water

- Fairfax Water withdraws water from both the Potomac River at 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 53,056 billion gallons of drinking water in 2008.

- 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 2008 Water Quality Report is available for review on the Fairfax Water Web site at www.fairfaxwater.org.

- In 2008, Fairfax Water monitored 3,302 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 2008. 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 2009.

- 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 116 new well approvals, 50 well repairs, and 130 Water Well Abandonments 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 Web site 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 19 water bodies in Fairfax County are included in Virginia's listing of impaired waters. Ten of the water bodies are multi-jurisdictional. Of the listed water bodies, 12 are riverine systems totaling 58.45 miles, six are estuarine with a total area of 23.23 square miles and one is a drinking water reservoir (Occoquan) with an area of 1,700 acres. The cause of the impairment for the majority of riverine systems is either fecal coliform bacteria, impacts to benthic macroinvertebrates or heptachlor epoxide or chlordane in fish. For the estuarine water bodies, the cause of impairment is bacteria and/or PCBs in fish tissue. According to the schedule, seven water bodies require TMDL studies to be completed by 2010, nine by 2014 and three by 2016.

- 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 is expected by 2010.

- 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.

Comments and Ongoing Concerns

1. EQAC commends the Board of Supervisors for its actions of the past few years authorizing one penny of the real estate tax to be dedicated to the stormwater management program. The amount increased from the original amount of $17.9 million for FY 2006 to $22.8 million for FY 2009. In FY 2010 however, this amount decreased to about $10.3 million due to the creation and structuring of the Service District as a funding mechanism halfway through the Fiscal Year. There were also reallocations of financial responsibilities from the General Fund to the Stormwater Fund, which means that funding in FY 2010 does not support basic operations, including regulatory compliance, and that carry over funds originally intended for watershed projects or infrastructure replacements will be used for annual operations

this year. Even in FY 2011, with full year's revenue, the current rate of one penny is expected to generate just over $18 million. After all annual operating expenses and dam safety needs are met, there will be very little available for watershed projects or infrastructure reinvestment.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. Given the anticipated increase in the number of small individual 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.

9. More than 12,000 single-family residences and businesses are served by individual well water supplies in Fairfax County, and approximately 30,000 homes and businesses have septic systems that ultimately infiltrate into groundwater. Areas of the county that have been unbuildable in the past now are now being developed and are using alternative onsite sewage disposal technology. These alternative systems are often more difficult to maintain and are therefore subject to failure. The Health Department staff and the American Water/Applied Water Management are developing a report that will establish a framework for ensuring that proper and timely septic system maintenance is preformed. EQAC continues to support this effort and recommends that this report include support for requirements that owners with alternative septic systems be required to file a maintenance plan for their systems and provide evidence of compliance.

Recommendation

1. EQAC recommends that Fairfax County 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 Division will come from funds generated through the Service District rates.

   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. This would result in the restoration of some 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

In a year of great challenge for our nation as a whole, and for local government in particular, Fairfax County's Solid Waste Management Program was able to maintain the general level of success and productivity it has demonstrated in previous years. 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 again increased the published recycling rate for the county – it has increased from 38 percent last year to a new record high of 40 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 7.1 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 Web site 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 2009, county agency locations recycled approximately 911 tons of material.

- Fairfax County offers residents the opportunity to shred personal documents at certain locations around the county, usually in conjunction with electronic

recycling events or household hazardous waste collection events. In FY 2009, 10 document shredding events were held. As of June 2009, approximately 100 tons of personal documents had been shredded.

Compact Fluorescent Lights and E-Wastes

- CFLs and other fluorescent lamps can be taken to 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. The Solid Waste Management Program also started to collect CFLs at the document shredding events held around the county each year. CFL collection for Fairfax County residents and employees is also available in the program's office location at 12000 Government Center Parkway, Suite 458.

- In FY 2009, the Solid Waste Management Program initiated its "Electric Sunday" program whereby, on one Sunday each month, residents can bring their e-wastes for recycling to the I-66 transfer station.

- With the end of analog television broadcasting in CY 2009, the Solid Waste Management Program is in the process of addressing the disposal of televisions from residents who purchase new digital equipment. The program is now accepting televisions at electronic collection events around the county. In calendar year 2008, 2,305 monitors with cathode ray tubes and 956 televisions were collected for recycling at county sponsored events. As reported to the county from all sources, 560 tons of e-wastes were recycled from residents and businesses in the county.

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 2009, the E/RRF processed approximately 1,059,000 tons of waste (almost 88,250 tons per month). Approximately 825,000 tons of this waste (78 percent) originated in Fairfax County, with the remainder coming 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 and the economic slowdown.

- In addition to recovering energy from municipal solid waste, metals are recovered from the ash residue and recycled. In FY 2009, 27,680 tons of ferrous metal and 1,294 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 during 2008.

- The I-95 Landfill operates one of the largest landfill gas collection systems in Virginia, with over 330 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 2009, county staff continued to install new landfill gas wells 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 the 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 for 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 2009, users visited the I-95 Recycling and Disposal Center over 88,000 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.

- 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 2009, users visited the I-66 site more than 191,000 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 185 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 five remote household hazardous waste collection events during FY 2009. The collection events were held at locations in the Mount Vernon, Mason, Dranesville, Hunter Mill and Springfield Districts. As noted in the Hazardous Materials section of this report, remote household hazardous waste collection events will no longer be held due to budgetary restrictions.

- Fairfax County's Solid Waste Management Program received a national excellence award from the Solid Waste Association of North America for its "No Collection Before 6 AM" campaign, which places multi-lingual notices on dumpsters close to residential communities, reminding the driver not to collect before 6 AM. The program, which was deployed at no cost to the county, has resulted in the complete elimination of early collection complaints in 2008.

- The contract waste disposal fee, offered to companies that sign agreements with the county, remained at $55.00 per ton in FY 2010, due in part to the loss of General Fund support for programs such as recycling education and household hazardous waste. Further restructuring of the program's finances and a general increase in operational costs has forced the program to increase its base solid waste disposal fee from $57.00 per ton to $60.00 for FY 2010.

- 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 Web site at www.fairfaxcounty.gov/eqac.

Clean Fairfax Council

- In its FY 2009 annual report to the Virginia Department of Environmental Quality, the council notes that there were 8,649 participants at 185 cleanup events; over 532 cubic yards of litter were collected at these events. The value of the volunteer hours (estimating three hours per volunteer) is approximately $466,260.00.

- The report also notes the distribution of over 200,000 pieces of informational materials (e.g., brochures, newsletters), 30 youth presentations/workshops (with a total attendance of 2,500), six additional group presentations/workshops (again with a total attendance of 2,500) and four staffed displays/events (e.g., fairs, community events) with an estimated attendance of 36,000.

Alice Ferguson Foundation

- On April 4, 2009, the foundation held its 21st annual Potomac River Watershed Cleanup. In Fairfax County and the City of Fairfax, nearly 1,900 volunteers working at over 100 sites collected over 77,000 pounds of trash, including 248 tires, over 30,000 bottles and over 4,600 cigarette butts.

- There are numerous other programs and initiatives that are implemented by the foundation; the reader is encouraged to visit the foundation's Web site 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 Web site at www.fairfaxcounty.gov/eqac.

Issues of note

- The elimination of remote household hazardous waste collection events is addressed through a recommendation in the Hazardous Materials section of this report.

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 418 complaints involving hazardous materials (103 more than the previous year).

- FY 2010 budget impacts that had direct impact on environmental programs relating to hazardous materials: 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 elimination of the Environmental Hazards Investigation Section is addressed within the Air Quality chapter of this report. The long-term impact for the loss of the LEPC Coordinator will come in 2012 when the alternative placement Lieutenant retires.

- The program of holding remote collection sites for discarding of older model televisions, as well as computer monitors and peripherals to encourage more participation in order to help keep lead from entering the land fill will be eliminated due to budgetary restrictions.

- Americans bought 290 million compact fluorescent light bulbs in 2007. That's 20 percent of all light bulbs sold in the United States and almost double the sales from a year earlier. Compact fluorescent light bulbs have become popular for residential use due their energy savings potential. The incandescent light bulbs

are being phased out and will no longer be sold in 2012. However, the compact fluorescent light bulbs contain minute quantities of mercury which classify them as HHW when they are disposed.

Stewardship

- What is considered hazardous materials has changed in recent decades. It use to be primarily industrial releases or transportation of chemicals used with industrial work. Hazardous material then came to include terrorist attacks, some household chemicals used for cleaning and chemicals used for yard work. Now hazardous material includes items that individuals use in everyday life such as rechargeable batteries for cell phones and power tools as well as the compact fluorescent light bulb. This year, many older televisions, some containing large amounts of lead, were disposed of with the transition from analog to digital. Stewardship for the storage, use of, and disposal of hazardous materials is no longer solely an industry issue; it now belongs to individuals and with more than a million individuals in Fairfax County, household hazardous waste will continue to increase.

Issues of note

- Compact florescent light bulbs contain small amounts of mercury which must be disposed of properly when the bulb is used as well as if it is broken. With the 2012 mandatory change to compact florescent light bulbs, proper disposal will become a bigger issue.

- The Fire and Rescue Department's Hazardous Materials and Investigative Services section reported an almost 69% increase in complaints received this year.

Legislative Update

1. 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 Marshall." 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.

2. 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. A comment within the Air Quality chapter of this report noted that the 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 regular basis. Consideration should be given to continuing remote household hazardous waste collection events.

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 227,750 acres. Of this total, about 28,108 acres (12.3 percent) are in parks and recreation as of January 2004. Another approximately 25,712 acres (11.3 percent) are vacant or in natural uses. This compares to the about 26,700 acres (11.7 percent) that were vacant or in natural uses as of January 2003. However, not all this acreage can be considered as open space that is valuable for natural habitat. First, the park acreage consists of active recreation (ball fields, etc.) as well as passive recreation (stream valley parks, nature centers, etc.) Ball fields, while greatly needed in Fairfax County, do not do much for protecting natural habitat. In a like fashion, much private open space consists of mowed areas and isolated trees (not woodlands). Again, this does little for protecting natural habitat. Both active recreation areas and private open space, however, if properly designed can help the environment by reducing storm water runoff (by allowing storm water to infiltrate into the soil).

Second, while vacant land is often wooded, this land is subject to development. Considering the continuing rapid pace of development in Fairfax County, much of this land will soon become residential space, office space, retail space, etc., and not provide much in the way of protecting natural habitat. In 1980, vacant land accounted for 32.2 percent of the total land in Fairfax County. By 1990, this had dropped to 19.5 percent and the figure was 11.3 percent as of January 2004.

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

Recently, action by the Fairfax County Board of Supervisors should help in the County's preservation and protection of natural resources. First, as reported in the 2004 Annual Report on the Environment, the Fairfax County Board of Supervisors adopted an environmental vision for Fairfax County – *Environmental Excellence for Fairfax County: a 20-Year Vision*. This vision cuts across all activities in Fairfax County and outlines guidelines that hopefully will be followed in future planning and zoning activities in Fairfax County.

EQAC continues to commend a number of organizations for their activities in protection, preservation, and enhancement of environmentally sensitive areas. These organizations include: the Northern Virginia Soil and Water Conservation District, the Virginia Department of Forestry, the Northern Virginia Conservation Trust, Fairfax ReLeaf, the Fairfax County Department of Public Works and Environmental Services, and the Fairfax County Park Authority and its staff. EQAC especially commends the Fairfax County Board of Supervisors for its vision and activities in environmental areas.

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

Recent activities

Fairfax County Park Authority

- The Fairfax County Park Authority added 114.2 acres between July 2008 and June 2009. This brings the parkland inventory to a total of 24,262 acres as of June 2009.

- FCPA's invasive plant control projects occur at over 50 sites throughout the county parkland. The partnership with Earth Sangha, continues to be a highlight of invasive plant control efforts at both the Marie Butler Leven Preserve and Wilburdale Park. In 2008, Earth Sangha expanded its work area to include several acres of English ivy infested forest, a paperbark mulberry grove and fine-scale invasive removal around desirable species at MBLP. The Invasive Management Area program completed its third year in 2008. FCPA successfully captured some of the enthusiasm of volunteers for unstaffed parks, establishing 40 sites with 45 trained volunteer leaders. From June 2008 to July 2009, nearly 1,220 volunteers donated 4,300 hours of work towards habitat restoration.

- Progress has been made in FCPA's Natural Area Geospatial Analysis Model Feasibility Study. The goal of this project is to develop a framework for modeling ecologically significant resources to support land use and development decisions in Fairfax County. This information will also be used as needed by FCPA to provide for informed land acquisition decisions as well as to support park planning processes. The project is well underway and all but the demonstration of the model (which is unfunded) was to have been completed late in summer 2009.

- The Fairfax County Park Authority, along with and in partnership with other agencies, continues to work on stream stablization/bioengeering projects. Three stream restoration projects underway or completed on park land during FY 2009 were the Turkeycock Run Stream Stabilization at Green Spring Gardens, the stabilization of a regional pond outfall on a tributary of Rabbit Branch in Royal Lake park by Stanley Martin (a developer) and the stabilization of a tributary of Pohick Creek by the Department of Public Works and Environmental Services at the old Hatch's Lake property in Springfield.

Northern Virginia Regional Park Authority.

- NVRPA holds conservation easements on 114 parcels covering more than 650 acres. Recently, a parcel at Pohick Bay Regional Park was donated to NVRPA, providing opportunities for better non-motorized trail access to the park.

- NVRPA completed certification by Audubon International of all three of its golf courses as Wildlife Sanctuaries. This extensive process took NVRPA over a year to complete, and NVRPA was the first public agency in the Mid-Atlantic region to achieve this designation for any of their golf courses.

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. The organization planted or distributed 7,283 trees in calendar year 2008. Over 700 volunteers spent over 3,397 hours planting tree seedlings, removing invasive species and maintaining sites.

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 2009, NVCT has preserved about 656 acres of open space in Fairfax County through easements, fee simple ownership, and partnerships. Between July 2008 and June 2009, NVCT permanently protected a waterfront property on Little Hunting Creek in the Mount Vernon District, and executed and recorded a trail easement to the Fairfax County Park Authority to complete the last segment of the Pimmit Run Trail from Old Dominion Drive to Pimmit Ben Park.

Potomac Conservancy

- The Potomac Conservancy currently holds easements of four properties in Fairfax County. These properties total 13.46 acres with 0.14 of that being river frontage.

McLean Land Conservancy

- The McLean Land Conservancy is a 501(c)(3) land trust organization that was incorporated in the Commonwealth of Virginia in January 2000 and recently became a “full-fledged” land trust in Virginia, with the ability to hold conservation easements. MLC has concentrated on the preservation of riparian buffers on privately owned land. MLC now holds a 16-acre conservation easement on Scotts Run in McLean. This important property is vital for the health of Scotts Run, which provides stormwater drainage for Tysons Corner.

Northern Virginia Soil and Water Conservation District

- The Northern Virginia Soil and Water Conservation District’s annual seedling program emphasizes the role of vegetation in preventing erosion, conserving energy,

and decreasing and filtering stormwater runoff. In spring 2009, a variety of 6,500 native tree and shrub seedlings were bundled into 413 packages and sold at a small cost to individuals and groups to promote urban reforestation, habitat enhancement and water quality protection.

- The county provided funding to NVSWCD to continue the expertise of a soil scientist. During the past year, the soil scientist has continued to facilitate the transition from the old to the new Fairfax County Soil Survey. Descriptions of all 119 soils have been published in the *Description and Interpretive Guide to NRCS Mapped Soils in Fairfax County*. The new soil survey has been integrated into the county's GIS. Maps showing soil types layered over county property maps have been created for each tax grid in the county. These maps are available to the public through the GIS Department's Digital Map Viewer on the county Web site. The soil scientist continues to assist with providing technical assistance to homeowners, homeowner associations, the development and construction community and county staff on soils-related matters and on infiltration practices. During 2008, soils information was provided to 173 consultants, engineers, realtors and homeowners. Special infiltration studies were conducted for eight county and NVSWCD projects.

Fairfax County Wetlands Board

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

- During the 2008 session, the General Assembly extended the Coastal Primary Sand Dune Protection Act (the Act) to all Tidewater Virginia localities including Fairfax County. As a result, all localities within Virginia's Coastal Zone were enabled to adopt the Act which is codified as *Coastal Primary Sand Dunes and Beaches, Code of Virginia, Ch. 14 of Title 28.2*. On June 22, 2009, the Board of Supervisors directed staff to draft a Coastal Primary Sand Dune and Beach Protection Ordinance for Fairfax County. This ordinance will be administered by the Fairfax County Wetlands Board. The purpose of the ordinance is to protect non-vegetated tidal beach area which may not be protected by the Wetlands Zoning Ordinance. This future ordinance is pending Board of Supervisors action.

Virginia Department of Transportation

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

- Approximately 0.8 acres of tidal wetlands, 0.7 acres of riparian buffer, and 0.3 acres of tidal wetland enhancement adjacent to Cameron Run at the I-95/Route 1 interchange improvement (Woodrow Wilson Bridge Project – Belle Haven sites).
- Approximately 0.5 acres of wetland creation, 1.17 acres of wetland restoration, and 1.08 acres of sub-aquatic vegetation remediation at I-95/Route 1 interchange improvement (Woodrow Wilson Bridge Project – Route 1 sites).
- Approximately 2 acres will be constructed at the confluence of Taylor Run and Cameron Run Currently underway at the I-95/Telegraph Road interchange improvement (Woodrow Wilson Bridge Project – Cameron Run site).

Urban Forestry

- On October 20, 2008, Fairfax County was the first jurisdiction in Virginia to adopt a local tree conservation ordinance with a focus on tree preservation during land development. The Urban Forest Management Division, with assistance from Land Development Services and Office of the County Attorney staff, prepared amendments to the Code of Fairfax County Virginia, the Subdivision Ordinance, the Zoning Ordinance and the Public Facilities Manual. These amendments provided the framework to implement the new ordinance.

- For the 26th year, Fairfax County received the Tree City USA Award at the Earth Day/Arbor Day celebration held at the Northern Virginia Community College. UFMD prepares the application each year for this award and Fairfax County has one of the five longest running records in Virginia.

- In calendar year 2009, gypsy moth caterpillar populations decreased somewhat compared to previous years. There was no measurable defoliation reported in Fairfax County. The Forest Pest Program conducted an aerial treatment program for fall cankerworms during spring 2003. Staff has monitored for adult female moths throughout the Mount Vernon and Lee Districts in since January of 2001. The result of the winter 2008– 2009 monitoring effort indicated that no aerial treatment was required in the spring of 2009.

- The emerald ash borer is an exotic beetle from Asia and was discovered in the state of Michigan in 2002. This beetle is known to attack only ash trees and can kill trees in as little as two years. After it was discovered, the United States Animal Plant Health Inspection Service quarantined the area infested. During summer 2003, 13 infected ash trees were planted at the Colvin Run Elementary School site (Dranesville District). These trees were removed by the Virginia Department of Agriculture and Consumer Services and incinerated. The removed trees contained evidence that adult beetles had escaped into the environment.

  In July 2008, two new infestations of emerald ash borer were discovered in Fairfax County in the Town of Herndon and in the Newington area. The U.S. Department of Agriculture's Science Advisory Council recommended that no eradication action be taken in Fairfax County. This decision was made due to the extent of the infestations and due to the fact that similar eradication attempts in other U.S. states have failed.

On July 11, 2008 a federal order quarantined Fairfax County for Emerald Ash Borer. This means that all interstate movement of ash wood and wood products from Fairfax County is regulated, including all hardwood firewood, nursery stock, green lumber, waste, compost and chips from ash trees. The Virginia Department of Agriculture and Consumer Services has initiated similar quarantines for the counties of Fairfax, Arlington, Loudoun, Fauquier, Prince William and the cities of Falls Church, Fairfax City, Alexandria, Manassas and Manassas Park. During spring 2009, staff assisted VDACS in implementing a large trapping (2,500 trap sites) campaign. The purpose of this campaign was to determine emerald ash borer population levels in Fairfax County as well as other areas of Northern Virginia. Data collected from this survey will be used in implementing future emerald ash borer control options, which are being studied by the Federal Government.

- Hemlock woolly adelgid is an insect that infests and eventually kills hemlock trees. In fall 2008, staff, in cooperation with Virginia Tech, released a colony of parasitic beetles (Laricobius nigrinus) in a native stand of eastern hemlock trees in the Difficult Run stream valley. Surveys will be conducted in fall 2009 in order to determine the effectiveness off the parasite release. Staff will continue to explore other methods of control for this pest.

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

Another significant change in water quality documented by the study has been the removal of chlorine and ammonia from the Noman M. Cole, Jr. Pollution Control Plant effluent. 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 Web sites: http://www.fairfaxcounty.gov/parks/resources/stewardship.htm and http://www.fairfaxcounty.gov/parks/resources.

- Fairfax County residents and other interested parties can donate to the Fairfax County parks through the Fairfax County Park Foundation. The Fairfax County Park Foundation is a 501(c)(3) not-for-profit organization and donations are tax deductible to the fullest extent allowed by law. The foundation's mission is to raise funds to support the parks and land under the stewardship of the Fairfax County Park Authority. Those interested in giving tax-deductible donations to the foundation can contact the foundation at:

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

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

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

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

- The Northern Virginia Conservation Trust offers many opportunities in stewardship for Fairfax County residents. Additional information on NVCT can be found on its Web site, http://www.nvct.org. Landowners whose property contains environmentally sensitive land such as wetlands, stream valleys and forests can also participate in environmental stewardship. If these landowners grant easements to NCVT, 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 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, planner 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.

Recommendation

1. The Fairfax County Park Authority approved a Natural Resource Management Plan in 2004. This partially fulfills a long-standing EQAC recommendation to develop and implement a countywide Natural Resource Management Plan. However, most of this plan cannot be implemented without additional staff and funding for the FCPA. The FCPA staff estimates that implementation will require $3 million plus per year. A more phased approach will allow FCPA to begin to manage 10 percent of parklands and set up the program to be phased in over time. Phase 1 with this approach would require $650,000 and six positions. EQAC strongly feels that the plan needs to be implemented. Therefore, EQAC recommends that the Board of Supervisors provide sufficient funding to implement Phase 1. EQAC recommends that some of the six staff positions should be found from internal FCPA staff assets.

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. These teams are required to engage in frequent practice in order to maintain their proficiency and having them target deer is a more efficient use of the required practice time. 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.

- However, despite these problems 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.

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 two recommendations for continuance of activity in the deer management program:

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.

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.

Impacts of Geese in Fairfax County

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.

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 Web site (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 dropped from 2007 levels, reflecting the first significant decrease in traffic since the terrorist attacks in 2001. These reductions were likely due to a combination of record high fuel prices and an overall downturn in the economy.

- That being noted, approximately 41.9 million passengers traveled through these two airports on roughly 640,000 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 and should be available for use by late fall 2009.

- A number of other construction projects at Dulles Airport are under way.

Ronald Reagan National Airport

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

Aviation Policy Committee

- The Metropolitan Washington Council of Government’s Aviation Policy Committee 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; nine new noise barriers will need to be constructed, and eight existing barriers will need to be replaced, enhanced and/or extended. Barrier heights will range from seven to 39 feet.

- New noise barriers are also being provided for the I-95/Telegraph Road interchange project, the I-95 4th Lane Widening project, the extension of the Fairfax County Parkway through the Fort Belvoir Engineer Proving Grounds site, 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, is expected to launch 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 info@fcrpp3.org.

Issues of note

- EQAC welcomes the implementation of the upgraded noise monitoring network for Reagan National and Dulles Airports and looks forward to reviewing monitoring data.

- While the FAA rejected noise abatement measures that were proposed outside the DNL 65 dBA impact area associated with Ronald Reagan National Airport, EQAC feels that noise impacts do not stop at DNL 65 dBA and that areas beyond the DNL 65 dBA noise contour both north and south of the airport continue to be affected by noise associated with operations at the airport.

Comments and ongoing concerns

1. Continue to support airport noise-compatible land use planning near airports in the county through the implementation of policies and regulations that reference the most current airport noise contour projections for the airports and that are at least as stringent as federal noise compatibility guidelines.

2. 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 Web site addressing noise issues. The county should ensure that this page is kept current through regular updates.

6. EQAC looks forward to reviewing results from the new noise monitoring system for Washington Dulles International and Ronald Reagan Washington National Airports, which became effective in fall 2008. EQAC assumes that results will be reported to the Fairfax County Board of Supervisors, relevant county staff, EQAC and other stakeholders on a quarterly basis.

7. With the goal of minimizing community noise exposure from the new runway configuration at Dulles Airport, EQAC and county staff plan to meet with Metropolitan Washington Airports Authority and Federal Aviation Authority staff to explore options, and EQAC also intends to coordinate with the Fairfax County Airports Advisory Committee. In addition, 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 measure that are accepted by FAA. EQAC may recommend further action subsequent to this coordination.

Recommendations

None.

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 adequately addressed 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. These revisions have been placed in Priority 1 status on the Zoning Administration work plan. EQAC has worked with Zoning Administration to begin to develop specifications for these areas. For example, security lighting around ATM machines mounted on the exterior of buildings for the safety of patrons using ATMs after dark has not been addressed in the current ordinance and is much needed.

- 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. EQAC has noted these problems in prior reports and this past year has worked closely with the Development Branch 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 in all of the recent tests that have been done show that the 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 is collaborating 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.

Issues of note

- Even though the Outdoor Lighting Ordinance revision is on Priority 1 status on the Zoning Administration work plan, the recessionary fiscal constraints under which the county is currently operating have limited the amount of staff time that could be devoted to preparing the needed revisions. Even though the Park Authority is experiencing similar constraints, the "white paper" and technical design specifications are farther advanced and thus much nearer completion.

Comments and ongoing concerns

1. In response to a recommendation in earlier EQAC Annual Reports on the Environment the Fairfax County Park Authority commissioned a study of sports field lighting design and technology. EQAC felt that this study had serious flaws in terms of the study objectives, the methodology and the evaluation criteria. The Park Authority issued a set of specifications, dated November 2006 (and largely based on this study), for new athletic field lighting installations that, in EQAC's view, did not address the issue of glare adequately. The Park Authority also commissioned a consultant to prepare a "White Paper" that would serve to justify the specifications. EQAC felt that this document contained serious scientific errors and thus created confusion rather than clarity. The Park Authority Director of Planning and Development informed us that they have done extensive rework of this material and requested EQAC to collaborate with his staff to revise the section on glare and to review the entire document. This effort is currently in progress.

2. The EQAC 2004 Annual Report recommendation that the Department of Planning and Zoning place high on its work plan priorities for 2005 a modest revision of the Outdoor Lighting Ordinance was not addressed. Unfortunately, following the same recommendation in the 2005 Annual Report, the issue was placed on the "Priority 2" list of the Adopted 2006 Zoning Ordinance Amendment Work Program and has therefore not been addressed. In 2007 this item was moved to the DPZ Priority 1 list, but to date work on it has barely begun.

3. EQAC recommends 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.

Recommendations

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.

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.

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 Web site 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.

Comments

1. In regard to cigarette butts, there are two key issues that EQAC would like to discuss with county staff prior to the development of recommendations: enforcement and public outreach. EQAC is interested in exploring 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.

2. With respect to illegal signs, EQAC plans to meet with appropriate county staff and with VDOT to clarify the rules governing signs in the VDOT rights-of-way; EQAC may develop recommendations on this matter based on the findings from these discussions.