

Fairfax County Environmental Vision

June 2017



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(From left to right: Daniel Storck, John Cook, Cathy Hudgins, Jeff McKay, Sharon Bulova, Penny Gross, John Foust, Kathy Smith, Linda Smyth, Pat Herrity)

Table of Contents

Preface	i
Summary	ii
Section 1: Fairfax County: A Record of Commitment	1
Section 2: Protecting and Enhancing our Environment	
A. Land Use	3
B. Transportation	9
C. Water	13
D. Waste Management.....	19
E. Parks and Ecological Resources	23
F. Climate and Energy	27
G. Environmental Stewardship	31
Section 3: Conclusions.....	35

Preface

Environmental quality is both a key responsibility and a critical legacy of any elected public body. Fairfax County's environment is resilient, but not indestructible. It is the county's overarching vision to attain a quality environment that provides for a high quality of life and is sustainable for future generations. These aspects of a quality environment are essential for everyone living and working in Fairfax County. No matter what income, age, gender, ethnicity, or address, everyone has a need and right to breathe clean air, to drink clean water, and to live and work in a quality environment.

A healthy environment enhances our quality of life and preserves the vitality that makes Fairfax County a special place to live and work. As such, the county government has a responsibility to be an environmental steward through its operational practices and to establish and implement policies and programs that will foster broader environmental protection and stewardship efforts throughout the community and in the broader region.

Good stewardship and prudent management of our natural and manmade environment are not merely "add-ons," or afterthoughts, but rather are essential and fundamental responsibilities that must be given fullest consideration at all times. The environmental impact of every decision the county makes must be carefully and purposefully evaluated. The Board of Supervisors is elected to represent the citizens of the county and is the principal source of creative decision-making and leadership in providing the best environment possible.

The Board of Supervisors Environmental Vision provides an overview of the visions and supporting objectives of the board in support of environmental sustainability across seven major core service areas. It is not a set of specific actions but sets the framework for the identification and implementation of activities needed to achieve the visions and supporting objectives. While this document does not address every environmental issue relevant to county operations and/or policy, it does provide guidance on all issues through the major environmental themes addressed. There are many other environmental issues for which the county has pursued programmatic and/or policy directions; the lack of explicit recognition in this document of any particular issue does not mean that the issue is not important to the board.

Cooperation with this vision among county residents, employees, employers, land developers and managers and government leadership and agencies is required to effect lasting solutions to the environmental challenges we face. While we have made great strides, we can and must do more. The board and I hope that you will take up the challenge and work with us to further support the county's Environmental Vision.

Fairfax County Board of Supervisors
Sharon Bulova, Chairman

Environmental Vision Summary

The Board of Supervisors Environmental Vision was first adopted in 2004 and later updated in 2017 to take into account new policies, techniques and opportunities, changed regulations, budget requirements and changes to county operations that had taken place since 2004.

The Board of Supervisors has shaped its vision to protect and enhance the environment around two principles: 1) conservation of our limited natural resources must be interwoven into all government decisions; and 2) the Board must be committed to provide the necessary resources to protect and improve our environment for quality of life now and for future generations.

The vision is divided into three sections. The first section describes a record of commitment along with notable awards and recognitions. This commitment is documented in the county's *Sustainability Initiatives* document, available at <https://www.fairfaxcounty.gov/environment/sustainability-initiatives>.

Section 2 demonstrates the county's leadership to protect and enhance the environment across seven core service areas: land use; transportation; water; waste management; parks and ecological resources; climate and energy; and environmental stewardship. Each of the service area describes existing and past county efforts followed by an area vision and supporting objectives.

Section 3 provides concluding remarks regarding the vision and reiterates the guiding principles identified above.

Section 1

Fairfax County: A Record of Commitment

Fairfax County has a long tradition of commitment to environmental stewardship. Building on previous environmental initiatives (e.g., Environmental Quality Corridor policy; Occoquan zoning initiatives; etc.) the adoption of the Fairfax County Environmental Vision in 2004 cemented that commitment into official policy, but was just one step in a long line of important environmental initiatives. The county's *Sustainability Initiatives* document at <https://www.fairfaxcounty.gov/environment/sustainability-initiatives> describes many of the county's innovative approaches to achieving its environmental and energy objectives that support Board policy. The following list highlights some of the important awards and recognitions the county has received:

2004 *Chesapeake Bay Program, Gold Chesapeake Bay Partner Community.* Launched in 1997, the Bay Partner Community Program recognizes local governments in the Chesapeake Bay watershed for their commitment to protecting and restoring the Bay and its tributaries. Fairfax County was first designated as a Gold Chesapeake Bay Partner Community in 1997 and recertified in 2004.

2006 *U.S. Environmental Protection Agency Landfill Methane Outreach Program (LMOP) Community Partner of the Year.* The LMOP helps to reduce methane emissions from landfills by encouraging the recovery and beneficial use of landfill gas (LFG) as an energy resource. The LMOP honored Fairfax County as a Community Partner of the Year for its use of LFG to produce electricity, dry sludge at its wastewater treatment plant, and heat the county's facilities using infrared heaters.

2007 *Solid Waste Association of North America (SWANA) Bronze Excellence Award, Integrated Solid Waste Management Program category.* The Excellence Awards recognize outstanding solid waste programs and facilities that are environmentally and fiscally responsible, advance worker and community health and safety, and implement successful public education and outreach programs.

2007 *U.S. Environmental Protection Agency ENERGYSTAR Partner.* Partners team with ENERGYSTAR to save energy through energy-efficient products and practices.

2010 *National Recreation and Park Association (NRPA) Gold Medal Award, Class 1 Category (population 250,000 and over).* The Fairfax County Park Authority was awarded the NRPA Gold Medal for demonstrating excellence in long-range planning, resource management, and agency recognition.

Board of Supervisors Environmental Vision

2011 *American Planning Association (APA) Daniel Burnham Award.* This award, which recognizes advancement of the science and art of planning, is granted to only one urban plan in the nation each year. In 2011, the APA honored the Comprehensive Plan for the Tysons Corner Urban Center for its approach to density that is focused around four transit stations, incentives to reserve 20 percent of new housing units for moderate-income households, and innovative stormwater management strategies designed to retain at least the first inch of rainfall on site.



2013 *National Association of Counties (NACO) Best in Category Achievement Award, Category of Environment Protection and Energy.* The NACO award honored the county's Government Center stream restoration project, an innovative water quality project that included a stream restoration and pond retrofits on county property.



2016 *Public Technology Institute (PTI) Sustainability Solutions Significant Achievement Award – Smart Irrigation Systems.* Fairfax County Park Authority was recognized for an energy and water conservation initiative that involved the replacement of existing irrigation controllers with smart web-based irrigation control systems that use local weather data to automatically adjust watering times and are capable of detecting leaks and sending notifications.

Section 2 Protecting and Enhancing our Environment

A. Land Use

Introduction:

Fairfax County has more than 1.1 million people, a population larger than that of eight states. Between 2000 and 2010, Fairfax County grew by over 11 percent. It is projected to grow another seven percent between 2010 and 2020, and yet another eight to nine percent between 2020 and 2030. Between 2015 and 2045, the Washington-Maryland-Virginia region will add more than 1.5 million people and 1.1 million jobs.¹ Between 2015 and 2045, the county is forecast to have nearly 280,000 new residents (a nearly 25 percent increase), 121,000 new households (a 30 percent increase) and 244,000 new jobs (a 37 percent increase). This growth will continue to present challenges to meet the needs of schools, transportation, air quality, water quality, recreation and public facilities and services. How we continue to accommodate growth through land use policy while providing for a quality environment will be one of the biggest challenges we face as a community.

Environmental protection, improvement and restoration are compatible with, and serve to support, the county's economic success. The Board's Strategic Plan to Facilitate the Economic Success of Fairfax County emphasizes a continuing commitment to growth in mixed-use, livable, walkable activity centers, to revitalization and redevelopment and to "protect[ion of] the environment and enhance[ment of] public health by preserving air and water quality, minimizing energy use and having a broad range of open space and recreational amenities to support the needs of our residents and employees." The county's growth and land use policies have been, and will continue to be, supportive of this goal and are intended to further both the county's economic and environmental success.



Mosaic District

There is no simple solution to the challenge of accommodating anticipated growth. We need to consider a wide range of options. One option, mixed-use development, can promote a vibrant, town-like community by combining housing, employment, shopping and entertainment into a master plan.

A complete mixed-use development encourages non-motorized transportation and fewer motor vehicle trips to obtain

¹According to Intermediate Round 9.0 Cooperative Forecasts adopted by the Metropolitan Washington Council of Governments.

goods and services and therefore can provide considerable environmental benefits. The concentration and orientation of such development around transit facilities can further reduce reliance on motor vehicle trips and can therefore reduce the associated adverse environmental impacts.

A related option, that of redevelopment within existing commercial activity centers, provides opportunities for environmental enhancements through the careful integration of environmentally-beneficial site design strategies (e.g., stormwater management, provision of tree canopy, pedestrian and bicycle connectivity) in areas where attention to such measures was previously lacking.

Opportunities for high-intensity, urban scale mixed-use, transit-oriented development within Fairfax County's "downtown" of Tysons have never been stronger, with the opening of four Metrorail stations within Tysons. The extension of Metrorail from Tysons to Reston, Herndon and Dulles Airport provides similar opportunities within new Transit Station Areas, and transit stations elsewhere in the county can also attract environmentally-beneficial redevelopment opportunities. Environmental enhancements through development design can also be pursued within these and other activity centers and revitalization areas, and concentration of the county's anticipated growth in the county's activity centers can have further environmental benefits by reducing development pressures in lower density areas.

Within lower density areas, another development option, that of clustering of residential development, allows several homes to be built close together with the remaining acreage left as open space in perpetuity. The challenge to clustering is building public trust that the open space will remain open.

At the site/development project-specific scale, the pursuit of low impact development (LID – also referred to as green stormwater infrastructure, or GSI), green building design, tree preservation and planting and sustainable site design practices (e.g., the use of native species in landscaping) can have energy conservation, water conservation, stormwater runoff, air quality and other environmental benefits.

LID concepts encourage ways to keep stormwater as close to the source as possible. LID techniques include placing homes closer to the street to reduce impervious surfaces, grassed swales to collect rain water, infiltration measures such as rain gardens, filter strips, porous pavers in less-used parking areas, infiltration of parking lot runoff and storage, green roofs and reuse of stormwater runoff.

Green building design provides a holistic approach to the location, design, construction, operation and, where applicable, dismantling of buildings and their associated landscapes in an environmentally responsible manner to minimize negative impacts on the environment, provide positive ecological benefits and provide positive health benefits to building occupants. For

example, green building design approaches that have been applied in several county library renovation and expansion projects are expected to result in 20 percent or greater reductions in annual energy use and 30 percent or greater reductions in annual water use compared to similarly-sized conventionally-designed facilities.

Policies supporting the application of LID and green building practices have been adopted within the county’s Comprehensive Plan and are applied in the reviews of zoning proposals. Support for higher levels of environmental commitment (e.g., green building design, stormwater management) have been included within a number of Plan amendments addressing development and redevelopment in specific mixed-use centers in recognition of the opportunities that development and redevelopment projects in these areas provide.

A challenge faces us as older communities are transformed by teardown construction, both for new housing and to expand existing homes. In these cases and in general, new developments may not blend well with their neighbors – in size, appearance or architecture.

Another important effect of growth is the challenge it presents to low-income workers trying to find affordable housing opportunities in the county. We need to provide opportunities for all members of the community to live and work in the county. In 2007, the Board adopted a Policy Plan Amendment to support the provision of workforce housing through agreements that would be negotiated with applicants during the zoning process.

The goals that have been adopted for Fairfax County by the Board of Supervisors, as presented in the Comprehensive Plan, include the following guidance for managing new growth: “. . .



Growth should take place in accordance with criteria and standards designed to preserve, enhance, and protect an orderly and aesthetic mix of residential, commercial/industrial facilities, and open space without compromising existing residential development. . . . ”

The Board has also adopted Fairfax County Vision Elements, Priorities and Goals that support a full range of environmental considerations, and numerous supporting initiatives have been pursued by the county. Notable efforts have included, but are not limited to: the adoption and revision of a Comprehensive Plan green building policy in 2007 and 2014, respectively (resulting in commitments during the zoning process to specific levels of green building performance); the adoption by the Board in 2008 of a new Tree Conservation Ordinance (strengthening tree preservation and landscape requirements during development); the development of Urban Design Guidelines

for Tysons and other mixed-use centers (resulting in commitments to high quality development designs serving to optimize relationships among buildings, streets, transit facilities, open spaces, pathways and landscaping); and the revision of Development Criteria found in the Policy Plan volume of the adopted Comprehensive Plan for both residential and non-residential development (providing guidelines for county staff during the zoning process related to density, location and amenities, etc.).

Since the Board's initial adoption of the Environmental Excellence 20-Year Vision Plan in 2004, the county's growth and land use policies have increasingly emphasized growth in mixed-use, transit-oriented centers. There has also been an increasing focus on strategic redevelopment and investment opportunities within the older and transforming commercial activity centers of the county. Guidelines addressing transit-oriented mixed-use development (TOD) were incorporated into the Policy Plan volume of the Comprehensive Plan in 2007, and numerous Area Plan amendments supporting TOD and/or mixed-use development concepts have been adopted since that time, including amendments addressing Tysons, Annandale, Baileys Crossroads, Seven Corners, Franconia-Springfield, Lake Anne Village Center, the Fairfax Center Area, areas near Fort Belvoir and future rail station areas in Reston and Herndon. The Richmond Highway corridor is being planned to allow for transit-supportive land uses, in anticipation of Bus Rapid Transit and a Metrorail extension. The establishment of the county's Office of Community Revitalization in 2007 highlights the importance and prioritization that the Board has placed on ensuring the long term viability of its older commercial areas, and numerous and substantial redevelopment projects continue to transform these areas into vibrant employment, residential, retail and entertainment destinations.

The Board's Environmental Vision:

The county will continue to refine and implement land use policies and regulations that accommodate anticipated growth and change in an economically, socially and environmentally sustainable and equitable manner while revitalizing older commercial centers, protecting existing stable neighborhoods, supporting sustainability and supporting a high quality of life. The development priority will be mixed use, pedestrian and bicycle-friendly transit-oriented development in activity centers. Policies and regulations will result, throughout the county, in the development and enhancement of vibrant and vital pedestrian and bicycle-friendly places where people want to live, work, shop, play, learn and thrive in a healthy environment, ensuring the protection, enhancement and restoration of natural resources, and the provision, in building and site designs, for the efficient use of resources.

Supporting Objectives:

- Use clustering and mixed-use development when appropriate to utilize space efficiently and provide perpetual open space.
- Promote walkable and bikeable communities using mixed-use development and village-style neighborhoods.
- Support development projects that promote human health and well-being.

Board of Supervisors Environmental Vision

- Pursue opportunities to revitalize the county’s older commercial activity centers.
- Pursue opportunities to improve environmental conditions through redevelopment.
- Explore opportunities to repurpose empty or obsolete commercial spaces.
- Maximize mixed-use development near transit stops.
- Make employment centers, such as Tysons, self-contained vibrant places to live and work by ensuring mixed-use, pedestrian friendly, transit-oriented development.
- Support a mix of housing types to accommodate a range of ages, household sizes and incomes and provide for affordable housing opportunities in livable, walkable, transit-accessible communities.
- Pursue equitability in provision of access to environmental resources.
- Apply environmentally-sensitive, sustainable site design and green building practices for development and redevelopment.
 - Apply high quality site design principles in activity centers, including landscaping and open space that will increase tree canopy and reduce stormwater runoff.
 - Apply low impact development concepts and techniques (also referred to as green stormwater infrastructure, or GSI) in new residential and commercial areas, and seek opportunities for retrofitting established areas.
 - Apply energy and water efficiency measures in building and site designs.
 - Ensure that proposals for development and redevelopment that require zoning approval will be pursued in an environmentally-sensitive manner consistent with county environmental policies, including policies addressing the protection, enhancement and restoration of the county’s natural resources.
 - Address adverse environmental impacts that may result from by-right development.
 - Improve energy conservation, air quality, water quality and stormwater management through tree conservation policies and practices.
 - Emphasize the use of native plant species for landscaping, particularly species that provide food and shelter for wildlife.
 - Increase tree conservation in land development by:
 - Ensuring that all tree preservation commitments for development projects are honored.
 - Optimizing tree preservation and planting efforts associated with by-right development.
 - Enforcing the county’s tree conservation requirements.
 - Optimizing tree preservation and planting efforts in the design and construction of public facilities.
- Support accessible and universal design efforts for an aging population.
- Evaluate urban agriculture opportunities and efforts that could be pursued in support of such opportunities.
- Continue to monitor and evaluate green building practices and rating systems and to explore related opportunities to strengthen green building policy guidance.
- Plan and implement appropriate mitigation and adaptation strategies for impacts associated with global climate change as they may affect land use.

Board of Supervisors Environmental Vision

- Pursue state enabling legislation to ensure adequate infrastructure is in place for new developments and to provide more flexibility to ensure harmonious and compatible development. Work toward ensuring that new and renovated homes are compatible with established neighborhoods.
- Locate noise-sensitive uses away from high levels of transportation-generated noise and/or provide measures to reduce noise impacts, and protect sensitive land uses from stationary noise sources.
- Design and install lighting fixtures to minimize adverse light impacts.
- Use our land and other resources wisely by
 - Concentrating employment and multi-family housing near transit services.
 - Integrating pedestrian-oriented neighborhood commerce (markets, restaurants, services) into new residential neighborhoods.
 - Providing pedestrian and bicycling amenities whenever possible, such as sidewalks and trails; traffic calming; street furniture in shopping areas; transit shelters; bicycle parking and support facilities and urban building design.

For more information about the county's land use efforts, see Fairfax County's *Sustainability Initiatives* at <https://www.fairfaxcounty.gov/environment/sustainability-initiatives>.

Section 2 Protecting and Enhancing our Environment

B. Transportation

Introduction:

Fairfax County's transportation network connects our communities internally and regionally through an extensive system of roadways, Metrorail, managed lanes, pedestrian walkways, bicycle facilities, and local, regional, and express bus routes. The dominant mode of travel in Fairfax County is single-occupancy vehicle (SOV) trips. The prevalence of these trips causes congestion on our roadways and releases harmful emissions from the combustion of fossil fuels into the air. Fairfax County is committed to reducing the dependence and impact of SOV trips by supporting efficient land use patterns and an improved transportation network which accommodates all modes of travel. In doing this, the county can offer residents and other stakeholders more transportation options, less congestion, cleaner air and water, positive health impacts, and more livable communities.

Efficient land use patterns integrate land use and transportation planning to reduce vehicle trips and support walking, bicycling and transit as viable transportation choices. Communities which have a mix of uses and robust multimodal transportation network provide greater opportunities for travelers to shorten or reduced their vehicle trips. Fairfax County has adopted a number of land use strategies to encourage this holistic planning and will continue to do so in the future.

Efficiency in the transportation network means utilizing the existing capacity of our transportation infrastructure by distributing trips across alternative modes and away from the

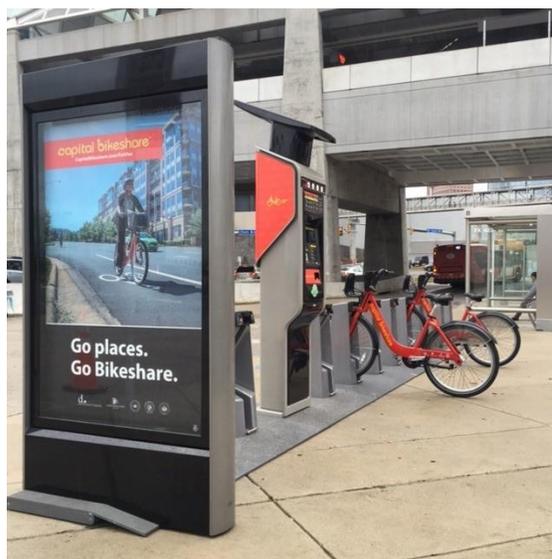


peak travel times, which in turn, reduces vehicle congestion and emissions. The county's Transportation Demand Management (TDM) guidelines set a framework for negotiating trip reduction goals based on the type of development and proximity to transit. TDM programs increase transportation efficiency by incentivizing alternative modes, ridesharing, teleworking, and other strategies to reduce peak-hour SOV trips.

Intelligent Transportation Systems convey information on the status of roadways and other transportation systems to users in real time and have the potential to decrease congestion, reduce

vehicle emissions, and improve the safety of our roadways. High-Occupancy Vehicle (HOV)¹ lanes move vehicles more efficiently by incentivize car sharing and diversion of trips from the peak hour. In the future, autonomous vehicles and other technological advancements will shape the future of our transportation system and will provide opportunities to increase efficiency. Fairfax County will continue to leverage technology to improve transportation.

Expanding the use of transit, walking, and bicycling as means of transportation requires an investment in the necessary infrastructure and maintenance of facilities such as bus stops, transit centers, sidewalks, crosswalks, bike lanes, trails, and more to support the safe and convenient use of alternative modes. The county's Trails Master Plan and Bicycle Master Plan identify the countywide network of trail and bicycle facilities to support multi-modal transportation goals. These plans give county officials, developers, and other stakeholders a guide to implementing these needed improvements. In 2016, Capital Bikeshare launched in Tysons and Reston, signifying the county's commitment to providing a multimodal transportation system.



Transportation planning in the Washington metropolitan region is heavily influenced by air quality planning. Under Section 174 of the Clean Air Act Amendments, the governors of Maryland and Virginia and the mayor of the District of Columbia certified the Metropolitan Washington Air Quality Committee (MWAQC) to develop specific recommendations for a regional air quality plan in the Washington, DC-MD-VA nonattainment area.

The Metropolitan Washington Council of Governments (COG), in close cooperation with state air quality and transportation agencies, provides technical support to MWAQC. Staff from the local counties and cities provide additional technical support. MWAQC with support from COG tests transportation plans to ensure that the projects in the plan, when considered collectively, contribute to air quality improvement goals. Although tremendous progress has been made over the past several years in meeting clean air standards, transportation remains an area of concern to regulatory agencies and to the general public because of its contribution to air pollutants and greenhouse gas emissions, and the resultant impact on human and environmental health. Fairfax County will continue to support transportation polices which strengthen the region's ability to ensure that the region complies with air quality improvement goals.

¹ High-Occupancy Vehicle (HOV) lanes include managed lanes, also known as High Occupancy Toll (HOT) lanes. HOT lanes function as HOV lanes but also allow toll-paying users with fewer passengers in the vehicle.



Fairfax County maintains the largest municipal fleet in Virginia and the ninth largest school bus fleet in the nation. The county owns and maintains a large variety of vehicles and equipment ranging from sedans, police package vehicles and motorcycles to dump trucks, fire apparatus and ambulances, and off-road and miscellaneous equipment (i.e. loaders, dozers, trailers, snow plow blades).

The Department of Vehicle Services provides management and maintenance services to the county's vehicle fleet and strives for economically responsible environmental stewardship by working to achieve increased fuel efficiency, reduced emissions, and reduced petroleum consumption in vehicle procurement and through best practices for maintenance of the existing fleet. Diesel Exhaust Fluid (DEF) stations are located at three heavily used fueling sites owned by Fairfax County for diesel vehicles. DEF is a non-hazardous solution that breaks down dangerous NOx emissions. As plug-in hybrids and electric vehicles continue to come to market, the county plans to continue its practice to procure alternative fuel vehicles when practical.

The Board's Environmental Vision:

A dependable, safe, efficient, accessible, and multi-modal transportation network is necessary to support the travel needs of Fairfax County residents now and into the future. The county will continue to develop policies and strategies that reduce the dependence on single-occupancy vehicle trips through smart development, efficient use of the transportation system, and by expanding the county's bicycle, pedestrian and transit infrastructure. The county will pursue transportation strategies in support of regional attainment of air quality standards.

Supporting Objectives:

- Provide a safe and convenient multi-modal transportation network which meets the needs of local and regional trips, reduces congestion, and improves air quality. Encourage the inclusion of pedestrian and bicycle mobility in major road projects and projects which fill in gaps within the existing network.
- Strengthen transportation policies which reduce the dependence on single-occupancy vehicle trips and are supportive of land use policies that include transit oriented development and mixed-use development.
- Improve pedestrian and bicycle mobility and connectivity. Maintain existing infrastructure.
- Increase public transit use and enhance the economic viability of public transit by:

Board of Supervisors Environmental Vision

- Maintaining the quality, reliability, and convenience of transit service including WMATA's Metrorail System.
- Supporting plans for a high-quality transit network that includes the extension of Metrorail, Light Rail Transit, Bus Rapid Transit, and express bus service.
- Coordinating public transit service to facilitate intermodal transfers, including convenient and safe bicycle and pedestrian access to transit, and secure bicycle storage in public places and stations.
- Continue to support TDM strategies to promote transit, alternative work schedules, teleworking, car-pooling, and use of other modes to reduce congestion and improve air quality.
- Promote the use of fuel efficient vehicles and travel decisions which reduce greenhouse gas emissions from single-occupancy vehicle trips. For example, where practicable, give parking preference to multiple-occupancy vehicles or alternative fuel vehicles over single-occupancy vehicles. Encourage electric vehicle charging stations in parking garages.
- Be on the forefront of integrating new/emerging best practices and/or technology to improve vehicle efficiency.
- Continue coordinating with the Metropolitan Washington Council of Governments to meet and remain in compliance with air quality standards. Support policies that strengthen the region's ability to meet current and future air quality standards.
- Minimize the environmental impact of the county's transportation fleet and facilities through:
 - The purchase of alternative fuel or fuel-efficient vehicles, and by following best practices for maintenance and vehicle efficiency;
 - Minimizing adverse impacts of storm water runoff from roads and other transportation facilities.

For more information about the county's transportation efforts, see Fairfax County's *Sustainability Initiatives* at <https://www.fairfaxcounty.gov/environment/sustainability-initiatives>.

Section 2 Protecting and Enhancing our Environment

C. Water

Introduction:

Water is the essence of life - without it, life on our planet would not exist. The availability of clean water and presence of functioning aquatic systems are fundamental to sustaining viable ecosystems and human societies. Fairfax County's natural aquatic resources are vast; its 30 watersheds encompass myriads of wetlands, tidal marshes, lakes, ponds and reservoirs – and include well over 1,000 miles of streams and associated riparian corridors. Fairfax County highly values water as an essential part of our ecosystem through protecting and restoring the natural environment, helping provide safe drinking water, and preserving the aesthetic and recreational opportunities these natural resources provide for county residents. This commitment to the value of water is supported by the many awards the county has received from various organizations which include National Association of Counties, National Association of Clean Water Agencies, North American Lake Management Society, Virginia Department of Conservation and Recreation, Virginia Department of Environmental Quality and Virginia Lakes and Watershed Association, to name just a few.

There are three major program areas focused on water in the county: 1) supply, treatment and distribution of drinking water; 2) collection, treatment and return of reclaimed wastewater back to the environment; and 3) collection, treatment and conveyance of stormwater to our streams (which includes managing the water quality and ecological health of these receiving streams). Although these are three distinct and separate operating systems, they use the same water which recycles from one system or purpose to the next. Once drinking water leaves the faucet and enters the drain, it becomes wastewater. Once wastewater is treated, it is returned to the natural environment in waterways, helps to recharge groundwater and again is made available as supply for drinking water or to evaporate into the atmosphere and eventually return to the land surface as precipitation, where it can become stormwater runoff. Drinking water supply can also come from groundwater sources through groundwater wells and wastewater from homes can be treated by onsite sewage disposal (septic) systems which primarily discharge back into groundwater. Proper management of both stormwater and wastewater are essential to preserving the ecological health of our streams and surface waters and to protecting drinking water sources, whether supplied from surface waters or groundwater. This “one water” concept envisions water as a resource regardless of its location or condition in any one system and is the lens through which water is viewed in this section.



Solar powered water circulator

In Fairfax County the drinking water system is operated by Fairfax Water, a water utility governed by a board of ten members who are appointed by the Board of Supervisors of Fairfax County. Fairfax Water withdraws raw water from the Potomac River and the Occoquan Reservoir. The water is then treated at either the James J. Corbalis Jr. Treatment Plant or the Frederick P. Griffith Jr. Treatment Plant, respectively. The treated water is then distributed through an underground pipe network to

individual homes, schools, businesses and others. On an average day, 163 million gallons of water are treated and distributed to nearly two million people in Northern Virginia in the communities of Fairfax, Loudoun, Prince William, Fort Belvoir, Herndon, Vienna, Alexandria, Falls Church and Fairfax City. Fairfax Water is also a participant in regional planning efforts for the Metropolitan Washington Area to address water supply and drought issues. As part of these efforts, the focus is on a year-round wise water use program for conservation and drought awareness and response.

Once the water is used, most of it then enters the wastewater system. Fairfax County's Department of Public Works and Environmental Services houses the wastewater management program. The county owns and maintains over 3,300 miles of wastewater collection pipes which deliver an average of 100 million gallons per day of wastewater to the seven regional wastewater plants that provide service to the county. Once treated, the water is then released back into the natural environment. In the case of the Upper Occoquan Service Authority (UOSA), the treated water enters Bull Run, several miles upstream of the Occoquan Reservoir, and is available for reuse as drinking water after advanced treatment at the Frederick P. Griffith Jr. Water Treatment Plant.

The county's wastewater program operations must also comply with the Clean Water Act-mandated requirements of the National Pollutant Discharge and Elimination System (NPDES) permit. This permit specifies the minimum levels of treatment which have been routinely exceeded by employing advanced treatment techniques at county wastewater treatment plants.

In Fairfax County there are over 14,000 private wells that serve individual residences or businesses for drinking water and/or irrigational purposes. There are over 21,500 onsite sewage disposal (septic) systems located in the county. The mission of the Fairfax County Health Department (HD), Division of Environmental Health, is to protect the public's health by

ensuring the proper installation and use of private groundwater wells and onsite sewage disposal systems. The HD is responsible for permitting, inspections, sampling, investigation of complaints and enforcement of regulations for groundwater wells and onsite sewage disposal systems and also provides the owners with education/outreach on the proper maintenance of these systems. The HD administers the compliance for all Alternative Onsite Sewage Disposal System in the county as specified in Virginia Department of Health's Chapter 613 of Regulations that were adopted December 7, 2011 for these systems. The HD also enforces provisions of the Chesapeake Bay Preservation Act and Chapter 68.1 of the Fairfax County Code requiring all onsite sewage disposal systems to be pumped out at least every five years.

Stormwater is the water that runs off surfaces during and after rain and snow events. Stormwater runoff is sometimes collected in catch basins and piped either to a stormwater management facility for treatment or directly to local streams. As the county has developed, natural landscapes like forests and meadows have been replaced by developed land that includes impervious surfaces such as roofs and pavement. Since rainwater or snow melt can no longer percolate into the ground through these surfaces, both the volume and velocity of water running off the surface have increased. Prior to the 1970's, stormwater was typically routed to an open water body as quickly as possible with no treatment. This resulted in local streams as well as downstream water bodies, such as the Potomac River and Chesapeake Bay, being negatively impacted by both the quantity and quality of stormwater running off impervious surfaces.

The stormwater management program is administered through several county agencies and has two facets – regulatory and operational. The regulatory program focuses on new and redevelopment land development activities and is instrumental in the adoption and implementation of standards through the Public Facilities Manual and the Stormwater Management Ordinance (Chapter 124) adopted in 2014. The operational program focuses on: 1) the maintenance of the stormwater infrastructure; 2)



Wetland-enhanced stormwater pond retrofit

retrofitting of existing development (by implementing stormwater management practices and techniques to address both the quantity and quality of water entering local streams); and 3) the

protection and restoration of natural receiving waters such as stream corridors, wetlands, lakes, tidal embayments, etc.

The county completed the development of watershed plans for all 30 of its watersheds in 2011. These plans now serve as a framework to document changing conditions and identify actions needed to preserve and restore the ecological health of local streams. The implementation of recommended actions from the plans are well underway as part of our annual capital improvement program. A significant part of this effort also relies on the implementation of the Tree Action Plan (adopted in 2006) to promote conservation of trees and the Chesapeake Bay Preservation Ordinance (first adopted in the early 1990s) which protects trees, wetlands and wildlife habitat by establishing buffers along more than 800 miles of perennial streams. There are also several state regulations and the County Ordinance that regulate activities in wetlands – these are valuable natural resources which help to prevent flooding, improve water quality and provide natural habitat. The county’s Tree Conservation Ordinance, adopted in 2009, which mandates tree preservation and planting during the development process, is also instrumental in providing tree canopy that improves water quality and contributes to the county meeting water quality regulatory requirements.



The ever-growing stormwater management infrastructure consists of over 6,500 stormwater management treatment facilities and over 1,300 miles of storm drain pipes and associated appurtenances. There are several large impoundments or lakes within the county that serve as flood and sediment control and/or recreational amenities that must comply with applicable state dam safety regulations for maintaining safe operations. The county’s stormwater program operations must

also comply with the Clean Water Act-mandated requirements of a state-issued municipal separate storm sewer system (MS4) permit which requires pollution prevention, infrastructure maintenance and monitoring programs and also defines pollutant reductions mandated by the Chesapeake Bay restoration efforts to address local stream impairments.

Stormwater management in Fairfax County also includes an advanced floodplain management program and flood response program. Fairfax County has participated in the National Flood Insurance Program (NFIP) since 1978 and has adopted floodplain regulations and development standards that have led to the vital protection of its residents and developments from flooding impacts. Fairfax County has also implemented floodplain development standards that exceed the

NFIP requirements. As a result, county residents are given a 20 percent discount in flood insurance premiums.

There are a number of older communities in Fairfax County that were developed before the creation of the NFIP, and were built in floodplains or flood prone areas. Fairfax County has implemented a comprehensive flood response plan that coordinates the actions of first responders to provide a level of safety to these communities. The goal of this plan is to provide early warnings to residents, and facilitate the speedy evacuation of affected residents to safer locations. The county also develops flood mitigation projects to reduce flooding impacts in some of these communities.

Although each water system (drinking, wastewater, and stormwater) operates independently with different technologies, they have a common goal of providing safe and healthy water for humans and wildlife.

The Board's Environmental Vision:

Fairfax County considers the protection, restoration and enhancement of environmental quality through the sustainable management of its water resources to be one of its highest priorities. Through its policies, regulations, and outreach to the community, the county will implement the best available technology, including advanced and innovative practices to protect and restore streams, wetlands and associated aquatic resources, promote water conservation and ensure the most effective stormwater management, advanced wastewater treatment, and the safest, most reliable drinking water supply for future generations.

Supporting Objectives:

In the interest of the health, safety and welfare of Fairfax County residents, it is the policy of Fairfax County government to promote the following measures in order to protect, conserve and manage our water resources to support an adequate drinking water supply and a healthy natural ecosystem:

- Increasing the capital reinvestment, based on demonstrated needs, for the infrastructure supporting drinking water, wastewater and stormwater. Keeping plans and strategies constantly updated to ensure an adequate water supply for future generations. Strategies may include the reuse of treated wastewater for drinking water (such as the effluent from the UOSA recharging the Occoquan reservoir) and irrigation, the capture and reuse of stormwater for irrigation and cooling water, or using quarries to supplement and protect the availability of our drinking water supplies.
- Improving wastewater and stormwater treatment where possible to maintain healthy recreational and aesthetic water bodies and restoring impaired stream ecosystems and other water bodies. Gunston Cove is one example of an aquatic ecosystem that has significantly improved as a result of the county's continued efforts to improve wastewater treatment.

Board of Supervisors Environmental Vision

- Recognizing that stormwater runoff and treated wastewater are valuable assets when properly managed.
- Minimizing the energy associated with the treatment and conveyance of stormwater, wastewater and drinking water by optimizing the use of more advanced and efficient processes and equipment (and synergizing these water operations when possible).
- Managing land use and development standards to protect and enhance existing water resources, to protect properties from flooding, and to better adapt to the emerging impacts of climate change and sea level rise.
- Continuing to identify the need for protection and improvement of the ecological health of our aquatic resources through the implementation of watershed plan recommendations, stream monitoring, tree conservation and applicable stormwater management policies/regulations.
- Incorporating tree planting and tree preservation in county stormwater management policies and practices and to help meet water quality regulatory requirements.
- Promoting the capture and treatment of stormwater runoff at the source whenever possible, which may involve education/outreach efforts to change behaviors and achieve a cultural shift.
- Enhancing the use and maintenance of all onsite sewage disposal systems by providing residents with information on state-of-the-art installation and best maintenance practices.
- Optimizing the latest information technology resources in order to provide cost-effective solutions and disseminate information on our programs in the most efficient and transparent manner.
- Continuing to work collaboratively with other agencies and jurisdictions to manage water resources more effectively and support regional planning efforts.
- Continuing to work with regional partners and organizations to increase outreach and awareness on vital issues such as water pollution prevention, water conservation, flooding prevention, drought response, watershed health and other environmental issues.

For more information about the county's water efforts, see Fairfax County's *Sustainability Initiatives* at <https://www.fairfaxcounty.gov/environment/sustainability-initiatives>.

Section 2 Protecting and Enhancing our Environment

D. Waste Management

Introduction:

The Fairfax County Solid Waste Management Program (SWMP) focuses on waste management, waste reduction, and pollution prevention activities, managing disposal and recycling services for Fairfax County residents and businesses since 1950. The county operates two complexes that manage solid waste, recyclables, household hazardous waste, electronics, and more. Fairfax County code requires that residents recycle paper and cardboard, plastic, metal, glass, and yard waste while businesses are required to recycle paper and cardboard. All haulers are required to provide curbside collection of recyclables along with trash collection. Since 1999, more than eight million tons of materials have been recycled rather than disposed of in Fairfax County. This equates to long-term, sustained pollution prevention and resource conservation for the county.

The Fairfax County Solid Waste Management Program does not rely on taxpayer funding to operate the waste-to-energy facility, transfer station, the regional ash landfill, and the closed landfills located within the county. The program also collects waste and recycling from about ten percent of the county residences, and many county facilities. The majority of households and all businesses receive service from the many private haulers operating in the county. The SWMP is focused on recycling as much solid waste as possible to minimize the need for disposal. In addition, the SWMP is focused on increasing the actual beneficial use of recycled materials. Where practical, recycling of materials from waste-to-energy ash is also encouraged.

The Department of Public Works and Environmental Services (DPWES) has also undertaken innovative measures to achieve energy savings in many of its industrial plant processes. The SWMP manages a regional ash landfill and two closed landfills in the county, using landfill gas collection systems at the two closed sites. The county's wastewater treatment plant, the Noman M. Cole, Jr. Pollution Control Plant, uses methane gas from a county landfill in its sludge-burning process, thereby avoiding the purchase of natural gas and recovering methane, which has a global warming potential that is 21 times that of carbon dioxide. DPWES is also using solar energy equipment to power nine remote wastewater flow-monitoring sites and to assist in treating wastewater; its use of solar mixers at the treatment plant is saving about \$40,000 a year in energy costs.





DPWES has also undertaken a Water Reuse Project to use approximately 580 million gallons of reclaimed water from the plant for process and irrigation purposes, respectively; this project avoids the energy use and costs associated with treating the water. This project will reduce consumption of potable water at the waste-to-energy facility through the reuse of wastewater treatment plant effluent as a substitute. This action will provide a cost savings of up to 25 percent per year over the cost of potable water. Efforts to expand water reuse are encouraged.

More information about these programs and initiatives is available at

<https://www.fairfaxcounty.gov/publicworks/recycling-trash>,

<https://www.fairfaxcounty.gov/publicworks/wastewater/noman-m-cole-jr-pollution-control-plant>

and

https://www.fairfaxcounty.gov/publicworks/sites/publicworks/files/Assets/Documents/PDF/publications/water_reuse.pdf.

The Board's Environmental Vision:

Fairfax County will use integrated waste management principles to ensure future waste management system capacity and sustainability. The county will promote policies and practices that maximize resource conservation and pollution prevention. The objective is an increase in waste reuse, diversion and recycling. Furthermore, the county will strive to decrease the amount of material disposed of; reduce greenhouse gas emissions by managing landfill gas; encourage the development of renewable energy and alternative fuels for buildings and vehicles; and preserve open space, green space, and wildlife habitats.

Supporting Objectives:

The Fairfax County Solid Waste Management Program is responsible for providing solid waste management services in an efficient and cost-effective manner while complying with federal and state environmental regulations. Supporting objectives for county operations:

- Ensure and act where possible to create a business environment that treats waste more like an asset than a liability, so that materials are directed to the highest and best use depending on current market conditions and technology.
- Promote the use of the best available technology and practices for recyclables, organics, and solid waste.
- Enhance educational programs with local schools to promote recycling, resource conservation and waste prevention.
- Track actual recycling of county waste to determine additional actions that could be taken to improve diversion rates.

Board of Supervisors Environmental Vision

- Recycle county resources (such as wastewater and collected glass) where practical.
- Utilize alternative energy sources, which may include landfill gas, wind, solar, and other emerging technologies, where practical.
- Rebrand solid waste complexes into resource recovery facilities to underscore the county's commitment to sustainable infrastructure. This will be accomplished by managing many different types of waste (household hazardous, electronics, yard waste, refuse, and recyclables) at one location with daily public access.
- Expand support for green initiatives including environmentally preferable purchasing, source reduction strategies, organics management (including food waste composting), waste-to-energy, landfill gas collection and use, wastewater reuse, and renewable energy generation at landfills.

Supporting objectives for the community at-large:

- Encourage pollution prevention, source reduction, and waste minimization through public outreach and infrastructure.
- Work with all sectors – residential, commercial, and institutional – to divert as much material as possible from the waste stream. This will include encouraging construction and demolition debris (CDD) recycling and green building principles.
- Promote policies that make recycling as convenient as disposal for all residents, particularly in the schools and in public spaces.
- Continue to work with regional partners and organizations to increase outreach and awareness on vital issues such as pollution prevention, resource conservation, and other environmental issues.

For more information about the county's waste management efforts, see Fairfax County's *Sustainability Initiatives* at <https://www.fairfaxcounty.gov/environment/sustainability-initiatives> and the official Fairfax County 20-year (2015-2035) Solid Waste Management Plan, available at <https://www.fairfaxcounty.gov/publicworks/recycling-trash/solid-waste-management-plan-update-2015-2035>.



Section 2 Protecting and Enhancing our Environment

E. Parks and Ecological Resources

Introduction:

Over 50,000 acres, or almost 20 percent, of the county is owned as open space by government and partnering organizations. Almost half of this open space is owned by the Fairfax County Park Authority and provides outdoor recreational opportunities that are utilized by 87 percent of county households, improves the well-being of county citizens, and protects vital ecological resources and the environment. The most important function that county park organizations and partners can perform is preservation of these resources for the holistic benefit of county residents.



The vast majority of the county's open space hosts ecological resources. Ecological resources are considered natural capital. This capital consists of various elements: living organisms; non-living components such as air, water and soil; the ecosystems they form; and the environmental services they provide, including cleaning air and water, supporting wildlife and contributing to quality of life. Natural capital is not self-sustaining; instead, deliberate care and investment are required for its preservation, enhancement, and restoration.

Many county agencies manage ecological resources in Fairfax County. These agencies include the Park Authority, the Stormwater Management Divisions of the Department of Public Works and Environmental Services, the Police Department, and the Northern Virginia Soil and Water Conservation District. Additionally, many partners including nonprofit organizations such as the Audubon Society of Northern Virginia, Earth Sangha, Fairfax ReLeaf, the Fairfax Chapter of Virginia Master Naturalists, Northern Virginia Conservation Trust, and others are engaged in ecological resource management and stewardship activities.

In addition to management by agencies and partners, county regulations play a key role in the protection of ecological resources. They include the Chesapeake Bay Preservation Ordinance, the Floodplain Regulations of the county's Zoning Ordinance, the Tree Conservation Ordinance, the Wetlands Zoning Ordinance, and others identified in this document. The Comprehensive Plan policy also plays a key role.

The Board's Environmental Vision:

Parks, trails, and green space provide habitat and other ecological resources that promote the physical and mental well-being of residents through supporting healthy lifestyles and allowing for interaction with our natural environment. A comprehensive county trails system, such as the Cross-County and W&OD Trails, can provide means for environmentally responsible transportation. Ecological resources that include the soil, water, air, plants, animals, ecosystems and the services they provide are considered natural capital and green infrastructure. The public, or ecosystem, services provided by this green infrastructure are often more cost-effective than the engineered alternatives, and thus are managed as any other infrastructure or capital asset through deliberate inventory, planning, maintenance, enhancement, and restoration to ensure healthy, high functioning, and resilient ecosystems and environment. Maintaining healthy, natural ecosystems is a priority of Fairfax County.

Supporting Objectives:

- Create more parks, trails, and green spaces that are equitable, accessible, safe, efficient, environmentally responsible, and ecologically valuable.
- Create more community parks for active and passive recreation – green spaces with native vegetation to sustain local wildlife and to create areas for walking, meditating, bird watching, community gardening, outdoor play, and other passive uses.
- Plan, implement, maintain, and support a comprehensive interconnected trails system throughout the county and region for nature appreciation, recreation, and non-motorized transportation.
- Continue to create a network of green space corridors and hubs, through direct purchase or conservation easements, to connect people, wildlife such as pollinators, and their ecological resources.
- Continue to encourage conservation easements for open space and trails either to private organizations, such as the Northern Virginia Conservation Trust and The Potomac Conservancy, or to government agencies like the Fairfax County Park Authority or the Northern Virginia Regional Park Authority.
- Provide adequate resources to maintain and manage healthy native forests and ecosystems, and outdoor recreational opportunities.
- Preserve, protect, maintain, enhance, and restore healthy native trees, forests, waterbodies, and ecosystems to promote natural capital, ecological services such as carbon sequestration, and green infrastructure.
- Actively manage urban ecological stressors such as overabundant white-tailed deer, non-native invasive vegetation, forest pests, urban stormwater flows, soil compaction and erosion, and others.
- Conserve the rare, threatened, endangered, and unique natural heritage and biodiversity of the county; and integrate with its cultural landscape, where appropriate.
- Inventory and monitor ecological resources, parks, and trails to inform citizens and integrate with all county decision-making.
- Educate communities about environmental stewardship, partner with diverse groups to

achieve common goals, and provide opportunities for citizen science.

For more information about the county's parks and ecological resource efforts, see Fairfax County's *Sustainability Initiatives* at <https://www.fairfaxcounty.gov/environment/sustainability-initiatives>.

Section 2 Protecting and Enhancing our Environment

F. Climate and Energy

Introduction:

Fairfax County government has long been proactive in its environmental actions. In the mid-2000s, it recognized the unique role that local jurisdictions play in the challenge of addressing climate change given their regional cooperation and influence on major environmental factors like air quality, land



use planning, transportation planning, forest preservation and water conservation. The county therefore led a national effort, “Cool Counties,” that encourages counties nationwide to reduce greenhouse gas (GHG) emissions. Participating counties commit to halting the growth in their operational GHG emissions by 2010 and moving toward the goal of reducing these emissions regionally by 80 percent below today’s levels by 2050. The Board of Supervisors signed the Cool Counties Climate Stabilization Declaration on July 16, 2007. The Declaration, as well as more information about Cool Counties, is available at <https://www.fairfaxcounty.gov/environment/cool-counties>.



Building on the principle that emissions reductions require combined efforts, Cool Counties signatories like Fairfax County commit to act locally, regionally, and nationally to reduce GHG emissions. As required under Cool Counties, the county has inventoried the GHG emissions associated with its own operations, both to determine a baseline and to assess policy or program changes that may be made, within existing authority and resources, to further reduce the emissions we produce. This inventory, which was published in 2013 for the years 2006-2010, demonstrated that energy consumption and more specifically electricity accounted for the majority of the county’s GHG emissions. The inventory also confirmed that the county had achieved its Cool Counties initial goal of halting emissions growth by 2010. Additionally, the county continues to reduce its operational emissions through measures including energy efficiency, conservation and education. Local government efforts to reduce GHG emissions and energy consumption within the community include education and outreach through the county’s Energy Action Fairfax program to both residents and businesses and the implementation of policies and programs that help reduce energy use and corresponding emissions, including transit-oriented mixed-use development and green building. Regionally, the county has teamed with its partners at the Metropolitan Washington Council of Governments (COG) to create an inventory of GHG emissions on a regional scale, to develop regional emissions reduction targets, and to develop a regional action plan. In 2010, the county and other COG members executed the

“Region Forward Compact,” which included the region’s first official regional GHG emissions reductions targets. Nationally, the county has worked with its counterparts to reach out to federal leaders, urging them to support proposals, including incentives for limiting and reducing GHG emissions and setting more rigorous Corporate Average Fuel Economy standards.

While Cool Counties is directly related to climate change, other county goals, objectives and policies provide strategic direction and commitment to achieve environmental and energy goals, including those set forth in the 2009 Energy Policy and the county’s Comprehensive Plan. A key implementation mechanism to address and support these goals, objectives, and policies is the county’s Environmental Improvement Program. Two collaborative inter-agency committees – the Environmental Coordinating Committee and the Energy Efficiency and Conservation Coordinating Committee – are vital to implementation, as they help ensure that cross-cutting action is coordinated across county agencies, authorities, and schools. The county’s *Sustainability Initiatives* document, available at <https://www.fairfaxcounty.gov/environment/sustainability-initiatives>, describes many of the county’s innovative approaches to achieving its environmental and energy goals, as well as some of the awards it has earned for those efforts and achievements.

The Board’s Environmental Vision:

The county will continue its leadership and commitment to promote and encourage energy efficiency and conservation efforts and renewable energy initiatives by employees, employers and residents. The county will work with local authorities, businesses, and residents to encourage sustainable reductions of the county’s geographical emissions that will contribute to achieving the targets as identified by the Cool Counties Climate Stabilization Declaration and the Metropolitan Washington Council of Governments. The county also will continue to support attainment of air quality through regional planning and action.

Supporting Objectives:

Supporting objectives at the local level:

- Advocate for new laws that encourage and incentivize businesses and residents to implement energy efficiency and clean energy strategies.
- Educate employees, employers and residents on the importance of energy efficiency and conservation, and promote and encourage energy efficiency and conservation efforts and renewable energy initiatives by employees, employers, and residents.
- Implement policies, programs and operations to achieve significant, measurable and sustainable reductions in operational GHG emissions.
- Ensure that cost-effective energy efficiency is an integral part of county operations, capital improvement, and capital renovation projects.
- Seek opportunities to incorporate cost-effective renewable energy generation at county facilities.
- Consider life-cycle energy costs when making procurement decisions.

Board of Supervisors Environmental Vision

- Achieve climate and energy benefits by implementing urban forest management policies and practices to increase tree canopy.
- Identify climate change impacts likely to affect the county and its population, engage in resilience planning to prepare for these impacts, and implement appropriate adaptation actions.

Supporting objectives at the regional, state and federal levels:

- Building on its successes in halting emissions growth and reducing emissions levels, continue to participate in regional efforts to achieve reductions in county geographical GHG emissions of 20 percent below 2005 levels by 2020 and of 80 percent below 2005 levels by 2050.
- Participate in the development and implementation of a regional plan that establishes short-, mid-, and long-term GHG reduction targets and identifies the actions needed to reach these targets.
- Participate in regional and state efforts to identify and address climate change impacts, including sea level rise, localized flooding and expected extreme weather events.
- To secure long-term energy savings, encourage prompt state adoption of updated commercial and residential building energy codes and work to ensure local enforcement and compliance.
- Continue to advocate for changes in state law that would allow all classes of electric customers to benefit from on-site or community renewable energy systems.
- Ensure Fairfax County's cooperation in regional compliance with federal primary and secondary national air quality standards.
- Urge Congress and the Administration to enact a multi-sector national program of requirements, market-based limits, and incentives for reducing GHG emissions to 80 percent below 2005 levels by 2050.

For more information about the county's climate and energy efforts, see Fairfax County's *Sustainability Initiatives* at <https://www.fairfaxcounty.gov/environment/sustainability-initiatives>.

Section 2 Protecting and Enhancing our Environment

G. Environmental Stewardship

Introduction:

The county government and its residents have a responsibility to respect and manage our finite natural resources. Together, residents, communities, governments and private entities need to make informed decisions that will conserve and improve our environment and minimize impacts on our ecosystems. The county also has a responsibility to be an environmental steward through its operational practices. As ecosystems are rarely defined by jurisdictional boundaries, the county recognizes that how it carries out its responsibility for environmental stewardship will have effects on a regional and even global scale.

Through coordinated planning efforts (including the Tree Action Plan and Watershed Management Plans), the county promotes the conservation of trees and identifies strategies for the protection, restoration or enhancement of water resources entrusted to its care. The county supports regional planning initiatives to improve air quality. The Fairfax County Park Authority demonstrates stewardship through its natural and cultural resource management programs and coordinates opportunities for park visitors to care for these shared resources.



The county and its partners work together to inform its citizens, communities, governments, and private entities who make decisions that conserve and improve our environment and minimize impacts on our shared ecosystems. The county demonstrates or partners with other organizations to provide formal and informal educational and engagement opportunities, which are featured extensively in the county's *Sustainability*

Initiatives document and promoted through the Fairfax County Environmental webpages and in social media outlets.

Surveys conducted by the Northern Virginia Clean Water Partners, a regional stormwater education campaign managed by the Northern Virginia Regional Commission, found that over 90 percent of Fairfax County respondents would change their own behaviors once they learned that certain activities were sources of pollution to local streams and rivers.

To promote personal stewardship, the county partners with organizations (such as the National Park Service, Fairfax County Park Authority, the Virginia Cooperative Extension Service, the Northern Virginia Soil and Water Conservation District, the Northern Virginia Conservation Trust, Fairfax ReLeaf, the Fairfax County Restoration Project, Earth Sangha, the Audubon Naturalist Society, Master Naturalists, Master Gardeners, faith-based communities, and civic groups, among others) to educate people on environmental protection. These organizations are also included in county-initiated projects and programs for the betterment of our environment. Businesses are often part of this effort, as well.



The county partners with the Fairfax County Public School system to support the Get2Green program; this program enriches school grounds with outdoor learning labs, and supplements K-12 learning with engaging programs developed with a local focus to meet Virginia Standards of Learning requirements. Teaching environmental stewardship to youngsters at an early age is an investment in future years of responsible behavior and decision-making.

Vision Statement:

An informed community works together with Fairfax County and its partners to care for and responsibly manage our treasured natural resources. In partnership, Fairfax County will continue to coordinate and promote education and outreach programs that encourage personal stewardship and promote initiatives at a countywide level.

Supporting Objectives:

- Promote the successes and lessons-learned of county demonstration projects.
- Provide forums for communities of learning to share local efforts by and between individuals and communities.
- Encourage affordable personal stewardship through the promotion of incentive-based or build-your-own programs.
- Encourage organizations (for example, those that work on stream monitoring, stream valley restoration, and habitat protection or enhancement) to involve schools, community groups, and individuals of all ages in their work.
- Encourage environmental stewardship groups and help them to work with all stakeholders to protect, enhance and improve the natural resources, and hence, the quality of life in their communities.

Board of Supervisors Environmental Vision

- Provide and promote opportunities for community service by students and involve children in projects that respect, protect and enhance the environment.
- Establish a support network for community groups which adopt natural areas such as parks, trails, and stream valleys and promote watershed awareness.
- Commit that county operations will be pursued in an environmentally-sensitive manner, supporting local, regional, and global environmental protection and improvement.
- Foster an appreciation for our urban forest and inspire county residents to protect plants and manage trees and forest stands on public and private lands.
- Promote ways county constituents can limit contributions to air and noise pollution in their day-to-day lives.
- Recognize excellence and models of environmental stewards.

For more information about the county's environmental stewardship efforts, see Fairfax County's *Sustainability Initiatives* at <https://www.fairfaxcounty.gov/environment/sustainability-initiatives>.

Section 3 Conclusions

A community with a quality environment requires a comprehensive vision supported by the leadership of an efficient and effective government. As shown in the picture below, we have made great strides in the last 13 years since the original adoption of the vision, but we can and must do more. This vision is guided by two overarching principles: 1) Conservation of our limited natural resources must be interwoven into all government decisions; and 2) the Board must be committed to provide the necessary funds and resources to protect and improve our environment for better quality of life now and for future generations.

Fairfax County government needs to set an example for the community and do its part to conserve our natural resources and protect the environment. However, local government operations typically only account for a fraction of total community-wide environmental impact. In order to meet the vision and supporting objectives, the county needs to inspire community action. Partnerships are important ways the county can encourage and support community action and innovations. In this way, we all have a role to play to leave our land, water and air better than we found it.



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