

# Tree Action Plan

## A 20-Year Strategic Plan to Conserve and Manage Fairfax County's Urban Forest

December 2006

### Prepared by the Tree Action Plan Work Group

Penny Firth, Tree Commission, Co-Chair  
Eleanor Quigley, Tree Commission, Co-Chair  
Ron Rubin, Tree Commission, Alternate Chair  
Tanya Amrhein, Stormwater Planning Division, DPWES  
Kay Fowler, Fairfax ReLeaf, Inc.  
Harry Glasgow, Northern Virginia Soil and Water Conservation District  
Christin Jolicoeur, Northern Virginia Soil and Water Conservation District  
Noel Kaplan, Planning Division, DPZ  
Ed Karch, Fairfax ReLeaf, Inc.  
Krystal Kearns, Stormwater Planning Division, DPWES  
Michael Knapp, Urban Forest Management Division, DPWES  
Susan Langdon, Zoning Evaluation Division, DPZ  
Jim McGlone, Virginia Department of Forestry  
Lyle McLaren, Environmental Quality Advisory Committee  
Edward Nantamu, Fairfax County Health Department  
Douglas Petersen, Urban Forest Management Division, DPWES  
Heather Schinkel, Resource Management Division, FCPA  
John Regan, Private Land Developer  
Jessica Strother, Urban Forest Management Division, DPWES  
Ronald Tuttle, Stormwater Planning Division, DPWES  
Ellen Vogel, Virginia Department of Transportation  
Ben Wharton, Park Operations Division, FCPA

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### Managed meadow and trees near the Herrity Building at the Fairfax County Government Center



Photo provided by Urban Forest Management Division

## Preface

Awareness of rapid canopy loss in the early 1970's prompted Fairfax County to adopt its first tree preservation and planting ordinance by 1973, and since that time, to engage the community in processes to examine ways to limit the loss of tree cover during land development. In 1995, after consulting with local delegates to the Virginia State Assembly, the county was advised to exhaust all opportunities to optimize local practices and processes before seeking to enact new state enabling tree preservation codes. In response, the county chartered a Tree Preservation Task Force (TPTF) to examine tree-related issues and to make specific recommendations to amend local procedures, policies and local ordinances in a manner that would maximize the preservation of existing trees during land development. The TPTF involved representatives from the Board of Supervisors, staff from county and State agencies, the Tree Commission, developers and citizen's groups. Its deliberations resulted in several amendments to the county's Public Facilities Manual (PFM) affecting land disturbing activities; however, continued concerns prompted the Board of Supervisors to reconvene the Task Force in 1998.

In 1999, the TPTF published 37 recommendations that included proposals: to enhance the review of proposed zoning cases by the County Urban Forester; amend the Policy Plan text of the Comprehensive Plan in order to place greater emphasis on the preservation of existing trees; amend the PFM to provide incentives for developers to preserve trees; and, to conduct periodic tree cover analyses. In 1999, the Board of Supervisors adopted all 37 of the recommendations and directed county staff to implement them.

From 1999 to 2002, as a direct result of the TPTF recommendations, tree preservation and planting-related amendments to the Comprehensive Plan Policy Plan, the PFM, the Subdivision Ordinance, and the Erosion and Sediment Control Ordinance were adopted. The Tree Preservation Task Force continued to meet until 2003. The last major TPTF activity involved endorsement of the proposed amendment to State Code of Virginia § 15.2-961., entitled "Replacement of Trees during Development Process."

In October 2004, Chairman Connolly met with the Tree Commission<sup>1</sup> to discuss the future of the TPTF and the relevance of trees and forests to the Board's Environmental Agenda (this document, entitled *Environmental Excellence for Fairfax County* can be found at: [www.fairfaxcounty.gov/living/environment/eip/environmentalagenda.pdf](http://www.fairfaxcounty.gov/living/environment/eip/environmentalagenda.pdf) ). During this meeting Chairman Connolly announced that the TPTF would not be reconvened, but in its place, he charged the Tree Commission to develop a comprehensive Tree Action Plan and to take that plan before the Board's Environmental Committee for consideration. By April of 2005, the Tree Commission had approved a draft plan which was presented to Chairman Connolly in June, 2005, and to the Board's Environmental Committee in September, 2005.

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<sup>1</sup> The members of the Fairfax County Tree Commission are listed in Appendix 3

The Environmental Committee directed the Urban Forest Management Division (UFMD) to develop specific actions to implement the conceptual goals and strategies contained in the Tree Action Plan Framework. In response, UFMD staff developed 76 actions to accompany the Tree Action Plan.

In December 2005, after reviewing the 76 action prepared by UFMD and surmising that these had significant potential to impact the policies and practices of numerous county and Virginia State agencies, local non-governmental organizations, and the land development industry, the Board's Environmental Committee directed UFMD to form a "Working Group" (Tree Action Plan Work Group (TAP Work Group) ) comprised of representatives from various stakeholders to work collaboratively on the Tree Action Plan. The Board's Environmental Committee charged the TAP Work Group to:

- examine the feasibility of the concepts and strategies contained in the original Tree Commission Action Plan Framework
- examine the feasibility of implementing the 76 actions step tactics prepared by UFMD
- prepare implementation plans for the concepts and actions that are found to be feasible from both the Framework and 76 action steps
- submit a final report with recommendations for review by Environmental Committee by January 2007 (or sooner if possible)

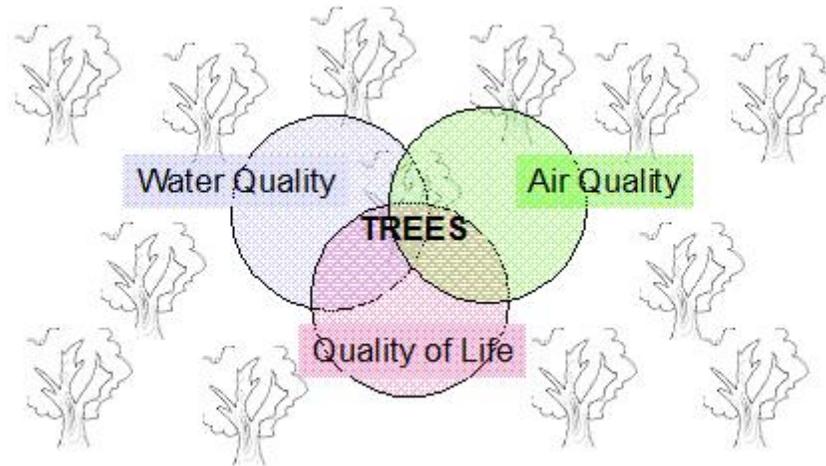
As directed, in April 2006, a work group of county staff, tree commissioners, Virginia State forestry and transportation agency officials, non-governmental organization representatives and a land development industry representative convened for the first time to work on the charge. The TAP Work Group met numerous times during 2006 to reach consensus on this plan. The Tree Commission endorsed the plan on December 6, 2006.

# Chapter 1

## Vision and Goals for Our Urban Forest

The Board of Supervisors' Environmental Agenda sets a far-sighted goal: To leave our land, water and air quality better than we found it.<sup>2</sup> Trees are central to an investment portfolio of water quality, air quality, and quality of life (Figure 1).

Figure 1. Benefits of trees.



The Board of Supervisors' goal requires that we not simply find more effective ways to preserve mature tree stands. We must also increase our forests, put trees at the center of comprehensive planning, set clear and measurable milestones to track progress toward our goals, and institute simple but effective communication capabilities to inform and educate the public, the private sector and government officials about the value of trees and efforts to preserve and restore them.

### 1.1 Vision and Goals

We envision a county that changes both form and function as a network of wooded greenways grows over the next decades. The network will be established along existing corridors of transportation, recreation and water. As the network grows and expands, water quality, air quality, and quality of life will all improve. The Fairfax County of tomorrow will be a case study for urban forestry and will show how the “commons” can be valued and enhanced by thoughtful planning and bold action.

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<sup>2</sup> Board of Supervisors' Environmental Agenda page 13

Figure 2. Vision and role of actions recommended in this plan.



The actions proposed in this plan are focused on three goals that will help us achieve our vision: 1) Commit to preserve current tree assets by fostering health and regeneration of specimen trees and urban forest; 2) Enhance the legacy for future generations by increasing the quantity and quality of trees and wooded areas; and 3) More effectively integrate urban forestry with planning and policy making.

### Framework Goal 1: Commit to Preserve Current Tree Assets

Despite the rapid loss of trees in recent decades, we still have tree assets that can, and should, be preserved by fostering the health, viability and regeneration of our urban forest. Principles to follow in taking action include:

1. Strengthen ordinances, oversight, and enforcement.
2. Protect trees along corridors of transportation, recreation, and water: roadways, trails, sidewalks and streams.
3. Manage and maintain different forest ecosystems appropriately. Plant communities each have unique environmental requirements and this should be reflected in management practices.
4. Emphasize education for homeowners and businesses --- RPA's, air quality goals, the multiple roles of trees and woodlands;
5. Use and promote conservation easements and other restrictive deeds to preserve trees and forest integrity.
6. Link county ordinances to Federal regulatory statutes.
7. Establish partnerships to achieve shared goals.

## **Framework Goal 2: Enhance the Legacy for Future Generations**

In order to leave a better environment for the future, Fairfax County needs to increase the quantity and quality of trees and wooded areas. Principles to follow in taking action include:

1. Encourage businesses and private citizens to plant native species.
2. Make sustainable design practices such as green roofs and rain gardens a countywide goal.
3. Develop desirable and effective incentives to encourage tree planting.
4. Demonstrate the county's commitment to trees by using parks, schools and other public lands as examples.
5. Involve schools and youth groups.
6. Establish public-private partnerships that help large landholders and homeowners associations manage common land for existing and future trees.

## **Framework Goal 3: Increase the Effectiveness of Urban Forestry with Planning and Policymaking**

The Board of Supervisor's Environmental Agenda states "the environmental impact of every decision the county makes must be carefully and purposefully evaluated. Environmental concerns should not be trade-offs or compromises; rather they should be one of the essential decision making criteria." In order to correct the mis-calibration between human intentions and ecological results, planning will need to consider the urban forest as a continuous resource regardless of ownership boundaries. Principles to follow in taking action include:

1. Set thresholds and indicators for tree preservation areas, tree planting, and forest cover in order to optimize for the benefits provided by trees (air quality, water quality, quality of life) in the finite space of the county.
2. Promote the use of visualization tools so that the public can see the progress being made in planting and preserving trees.
3. Emphasize the economic benefits of protection and preservation over restoration.
4. Incorporate proactive care, management and maintenance to help assure the success of preservation efforts.

The actions recommended in this Plan follow the urban forestry model (Table 1), aimed at making both public and private investments successful by the measure of trees.

**Table 1. Urban Forestry model for comprehensive planning.**

**Common Development Model**

- Trees have low priority
- Trees as ornaments
- Individual Trees
- Use of non-native and invasive trees
- Lawn and Paving
- Tree maintenance
- Man-made infrastructure-based design

**Urban Forestry Model**

- Trees are integrated into urban planning
- Trees as infrastructure
- Forest ecosystems with a wide range of organisms
- Emphasis on native trees that do not threaten local ecosystems
- Vegetative ground cover & pervious paving
- Forest management
- Soil/Ecological-based design

## 1.2 Past and Current State of Forest and Tree Resources

Since the appearance of European settlements in the 17<sup>th</sup> Century, Fairfax County's tree canopy coverage has fluctuated greatly. At the time of Captain John Smith's initial exploration in the early 1600's, the Chesapeake Bay region was estimated to have 95 percent of its landmass covered with tree canopy.<sup>3</sup> Historic evidence suggests that by the middle of the 19<sup>th</sup> century timber harvesting, agriculture, and military activities had reduced tree canopy levels to approximately 30 percent in Northern Virginia.

Canopy levels increased after the Civil War, when large-scale land clearing for military purposes ceased, but widespread agriculture still kept the county's canopy coverage in the 30 to 40 percent range for nearly a century. The abandonment of agricultural uses in the middle of the 20<sup>th</sup> century was accompanied by a rapid wave of natural reforestation. By the late 1960's, when the eastern portion of Fairfax County was described as suburban "bedroom community" to Washington D.C., agricultural uses were gradually abandoned in front of the wave of land development that generally traveled from east to west across the county. The sharp decrease in farming activities coupled with modest levels of land development allowed the county's canopy cover to rise to approximately 80 percent in the early 1970's.

Fairfax County's tree canopy is currently estimated to cover 104,000 acres or 41 percent of Fairfax County's landmass of 252,828 acres. Our overall tree canopy is comprised of 68 percent native forests (70,720 acres) that typically occur on public parklands, commonly owned open spaces, and on larger, privately owned parcels. Our native forests can be divided into 31 distinct vegetation communities, some of which are rare and threatened. The remaining 32 percent of the county's tree canopy (33,280 acres) is comprised of: planted landscape variety trees (typically found in residential open spaces, and in more formal commercial, institutional and industrial settings); areas with early succession-stage tree communities (typically found in undeveloped parcels and open space where young native trees are starting to cover areas previously kept in turf grasses); and, areas dominated by invasive trees and non-native plant species (typically found along highways, utility corridors, and adjacent unattended parcels).

Our percentage of tree canopy coverage compares favorably with that found in other urbanized areas of Virginia that average 35.3 percent, and with urbanized areas of Maryland which average 40.1 percent.<sup>4</sup> Our present level of tree canopy also corresponds closely to that recommended by American Forests (40 percent) as the overall tree canopy goal for communities east of the Mississippi River and the level of canopy needed to sustain the delivery of environmental and socio-economic benefits required to sustain an acceptable quality of life within those communities. Why does

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<sup>3</sup> Data from: *The State of Chesapeake Forests. 2006. The Conservation Fund and the USDA Forest Service, Northeastern Area, State and Private Forestry*

<sup>4</sup> Data from: *Connecting People with Ecosystems in the 21st Century: An Assessment of Our Nation's Urban Forests (2000), The USDA Forest Service publication. And the Fairfax County Urban Forest Management Division*

Fairfax County have a comparably high level of tree canopy coverage left? Two major factors are thought to have contributed:

1. ***Pre-development boom tree canopy levels were high.*** As already described, rapid forest regeneration occurred in the 1960's and 1970's on former agricultural land as it was gradually abandoned prior to urbanization. In 1973, satellite imagery shows that the county's landmass was covered with 200,000 acres (79 percent) of tree cover, and in 1986 180,000 acres (71 percent).
2. ***Fairfax County's early commitment to tree conservation.*** In 1973, just as urbanization started gaining momentum, the Fairfax County Board of Supervisors adopted requirements to preserve and plant trees on development sites and committed significant resources to administer and enforce those requirements. It is impossible to quantify the exact impact that the county's tree preservation and planting requirements have had on tree canopy levels, but when compared to other urbanized jurisdictions in Virginia, Fairfax County has nearly six percent more tree canopy. In terms of Fairfax County's total landmass, six percent equates to over 15,000 acres of tree canopy.

However, even though we enjoy relatively high levels of tree canopy compared with other urban areas, change detection analyses demonstrate that Fairfax County has actually lost 48 percent of its tree canopy over the last 32 years. Along with the physical loss of trees, Fairfax County has lost significant levels of environmental services that were provided by those trees. For example, the 85,600 acres of canopy lost since 1973 had the capacity to remove approximately 2.4 million combined pounds of sulfur dioxide, carbon monoxide, ozone and particulate matter annually, at a value of approximately \$6.8 million per year.<sup>5</sup> In addition to air quality benefits, the county also lost significant levels of water quality, energy conservation and other socio-economic and environmental benefits with those trees.

Forests now cover approximately 58 percent of the total Chesapeake Bay watershed. This percentage represents a modest increase over that found 50 years ago (approximately 54 percent). However, the tree canopy levels of urban jurisdictions in the Chesapeake Bay watershed tend to have declined during that same time period. Some 750,000 acres of tree canopy (an area equivalent to 20 Washington, D.C.s) in the Chesapeake Bay watershed have been developed since the 1980s. During roughly the same time period, the Chesapeake Bay watershed is estimated to have experienced a net loss of forestland at the rate of 100 acres a day.<sup>6</sup>

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<sup>5</sup> Data from *American Forests report: 1999 Urban Ecosystem Analysis of Fairfax County, Virginia*

<sup>6</sup> Data from: *The State of Chesapeake Forests. 2006. The Conservation Fund and the USDA Forest Service, Northeastern Area, State and Private Forestry*

### 1.3 Subjects for Future Consideration

As the county continues to approach a theoretical state of “build out” and as the amount of vacant land decreases, the rate of canopy loss from land development is predicted to slow. However, given recent trends in infill development, redevelopment, and real estate values, it is reasonable to expect that our community will need to continue conserving tree resources during the development of land for many years to come. In addition to land development, we will also need to carefully monitor the following human activities and ecological and environmental processes for the next 20 years:

- Expansion of public roads, highways and other transportation corridors.
- Continual fragmentation of forested tracts to facilitate installation, expansion and maintenance of utilities and other infrastructure.
- Development and expansion of governmental facilities.
- Development and expansion of active recreational facilities such as athletic fields.
- Tree removal occurring in residential areas brought about by differing cultural values.
- Continual introduction and proliferation of invasive plant species.
- Introduction and damage caused by exotic forest pests such as the emerald ash borer and Asian longhorn beetle.
- Degradation of native forests by unmanaged deer populations.
- Disposal of yard debris and household chemicals; turfgrass expansion; forest understory clearing; and, other human-related impacts.
- Impacts of climate change on tree species and other organisms that inhabit forest ecosystems.

Either individually or collectively, these processes have the potential to seriously threaten the extent, health and functionality of our urban forest. Although factored into the development of this plan, the strategies, tactics and actions devised to manage the impact of these processes must continue to be reviewed for effectiveness and for opportunities for improvement. With this concept in mind, this plan is offered as a “living document” as further described in Section 1.5.

Countywide tree cover image processed from year 2000 satellite imagery.

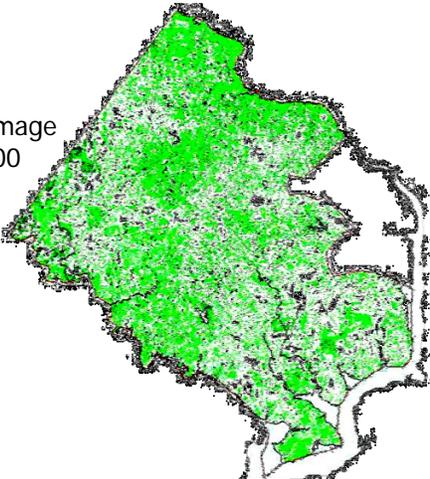
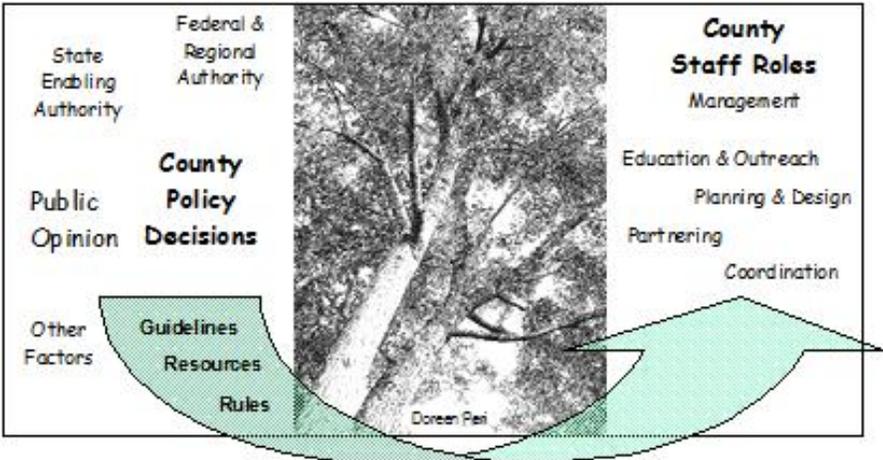


Image provided by Urban Forest Management Division

# 1.4 Stewardship Roles

County staff has central tree-related roles in planning and design, management, coordination, partnering and education and outreach (Figure 4). The Board of Supervisors sets overall policy that is expressed through guidance, directives, resources and other mechanisms. County policy is, in turn, informed, enabled and constrained by state enabling authority, federal and regional statutes and ordinances and public opinion (figure 4).

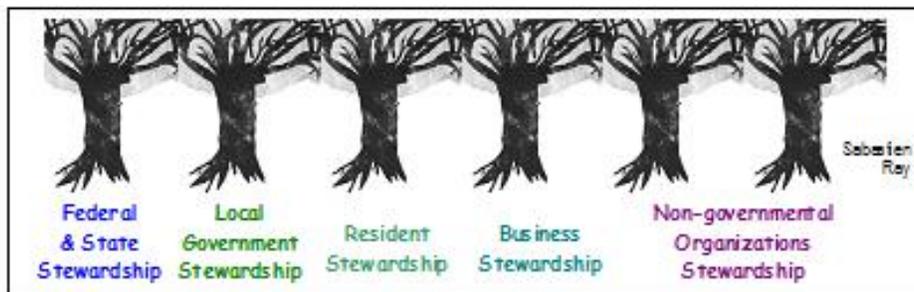
**Figure 4. County policy considerations and County staff roles**



In reaction to the current limitations of the Virginia State Code in regard to tree conservation, the county has attempted to increase its tree preservation authority in several recent legislative sessions by seeking amendments to the tree cover provisions of State Code of Virginia § 15.2-961. Summaries of the recent attempts to increase local authority to require tree preservation are listed in Appendix 1. The Tree Commission has strongly promoted these efforts and will continue to encourage the Board of Supervisors to pursue additional authority in this regard. In addition, while the Tree Action Plan was in development, the Board of Supervisors also adopted a number of tree-related Board Matters. The issues discussed in these Board Matters are congruent with the overarching goals of the Plan and they are listed in Appendix 2.

County staff roles have been, and will continue to be, critical to the success of the Tree Action Plan. Complete realization of the vision articulated here will depend on the combined stewardship efforts of the county, its residents and businesses, state and federal agencies, and non-governmental organizations (Figure 5).

Figure 5. Stewardship Roles.



## 1.5 Implementation and Tracking a Living Tree Action Plan

The following processes are proposed to implement and track the progress of the Tree Action Plan:

- Tree Action Plan recommendations will be incorporated into the Environmental Improvement Program (EIP) Annual Report.
- Individual projects, policies and budget requests will be identified in the EIP.
- The Board of Supervisors will be able to review Tree Action Plan progress and potential staffing and funding needs through the EIP.
- The Tree Action Plan-related EIP actions will be implemented by various agencies as identified in Chapter 3 of this report, entitled “Implementation and Lead Agencies.”
- The Environmental Quality Advisory Council and the Tree Commission may elect to report on Tree Action Plan progress and effectiveness within the Annual Report on the Environment and Tree Commission Annual Report respectively.

To ensure the long-term viability of this 20-year plan, the TAP should be considered as a “*living document*” with contents that can be amended over time to address new challenges and opportunities. Accordingly, the TAP should be comprehensively reviewed on a periodic basis. The TAP Work Group recommends that the frequency of these reviews be determined by the Tree Commission with input from TAP stakeholders. In general, the reviews should be scheduled frequently enough to ensure adequate monitoring of the plan’s direction, continuity and effectiveness; yet, not so frequent as to divert significant resources away from implementing the plan’s recommendations. The maximum period of time between reviews should not exceed 4 years.

The TAP review should be used to evaluate the effectiveness of the implementation plans identified in Chapter 3, and to prioritize uncompleted actions into quick hits, short, medium and long term categories as described at the beginning of Chapter 3. The “Lead Agencies” and “Considerations” components of Chapter 3 should also be updated to facilitate organizational changes to lead agencies that may have occurred and to identify any emerging challenges or new opportunities that should be addressed in the plan.

## Connection to Board's Environmental Agenda

It is important to note, that the Board's Environmental Agenda does not contain distinct objectives concerning the stewardship of trees resources. The lack of tree objectives has potential to diminish the support provided to tree-related policies, projects, and actions identified in the annual EIP and in other policy and budget processes. For these reasons, the Tree Action Plan Work Group strongly recommends that the Board's Environmental Agenda be amended so that it incorporates distinct tree-related objectives that complement and support its existing environmental objectives.

**2002 false-color image taken from high-resolution satellite imagery depicting tree cover and major streams in urbanized areas of Dranesville and Providence Magisterial Districts**

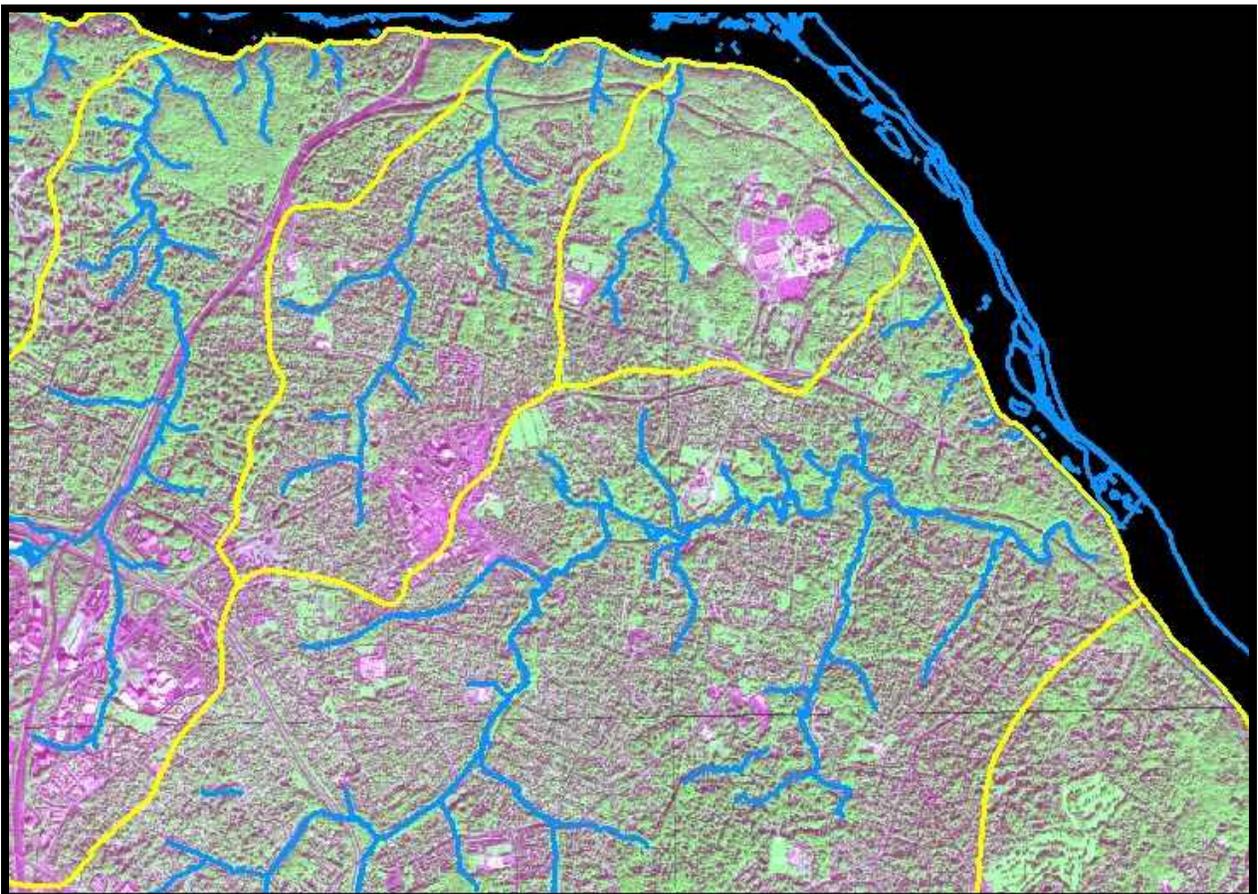


Image provided by Urban Forest Management Division

## Chapter 2

### Core Recommendations

Our 12 Core Recommendations below are presented in this chapter using classic strategic planning terms that flow from the conceptual to the specific as follows: **Goals** are what we are trying to accomplish in simple, high level terms; **Strategies** are what we will do to accomplish our goals; and, **Tactics** are specific actions with tangible results that will be used to advance our strategies.

1. Engage and Educate
2. Build Strong Partnerships and Alliances
3. Optimize Tree Conservation in County Policies
4. Improve Air Quality and Address Climate Change through Tree Conservation
5. Improve Water Quality and Stormwater Management through Tree Conservation
6. Use Ecosystem Management to Improve and Sustain the Health and Diversity of our Urban Forest
7. Strengthen State-Enabling Authority for Tree Conservation
8. Encourage Sustainable Design Practices
9. Plant and Protect Trees by Streams, Streets and Trails
10. Optimize Tree Conservation in Land Development
11. Optimize Tree Conservation in Utility and Public Facility Projects
12. Support and Refine the County's Urban Forestry Programs

## 2.1 Core Recommendation #1

### Engage and Educate

#### Goals

- Foster an appreciation for trees and urban forests among the target audiences of Fairfax County.
- Inspire target audiences to protect plant and manage vegetative communities, including trees.

#### Strategies

- Develop an outreach and education plan with clear targets and measurable results that will work to meet the goals established in the Tree Action Plan.
- Fund and implement an outreach and education program that may include funding a communication and outreach consultant.
- Provide technical assistance and training to the public that will, among other things, encourage the use of environmentally-friendly engineering solutions, promote the use of natural landscaping practices and techniques and promote the on-site treatment of runoff with bio-engineering practices.
- Develop incentives and an awards and recognition program and pursue grants.
- Provide examples via demonstrations on public lands.

#### Tactics

- Develop an outreach and education plan that incorporates the goals, strategies and tactics from the various sections of the Tree Action Plan. The plan will include a baseline assessment for monitoring and evaluation of current efforts, including goals and needs.
- Acquire funding for the outreach and education plan, implementation of projects and associated outreach including:
  - The identification of staff and budget needs to implement the education and outreach plan
  - Exploration of funding options including the budget process and grants
- Provide technical assistance and training to target audiences including residents, business owners, schools, consultants, service organizations, county employees, industry, etc. that focuses on such topics as:
  - The importance of managing and maintaining forest ecosystems including management of forest pests and invasive plant species.
  - The benefits of “day-lighting” of underground (piped) or lined sections of streams where appropriate.
  - The use of sustainable design principles, practices, and techniques.
- Strengthen the long-term viability of conservation easements through improved education and enforcement.
- Evaluate existing incentives, awards, and recognition programs and develop recommendations for expansion which may include publicizing known benefits that act as monetary incentives to preserve and plant trees such as the increased

## Engage and Educate, *Tactics continued*

- sale value associated with wooded home sites (preserved or planted), and the lower stormwater infrastructure costs associated with pervious land covers.
- Identify and implement demonstration projects on public lands such as an ecosystem management demonstration project involving riparian buffers on public land in each district by 2010, including installation of wayside exhibits that demonstrate the need to conserve RPA's and other water resources.
  - Ensure that communication and outreach efforts are multicultural.
  - Target messages to decrease negative behaviors and increase positive behaviors.
  - Explore sources of grant funding for resident and HOA projects.
  - Provide learning and stewardship opportunities including a countywide tree planting program to target audiences to increase the extent of wooded riparian areas along intermittent streams on publicly owned land and promote the same on private and developing properties; to strengthen partnerships with nonprofit tree planting groups; to enhance public involvement and participation in maintenance efforts on public and private properties; and to increase land protection activities on Agricultural and Forestal District properties.
  - Notify current and prospective property owners of RPA restrictions and conditions.
  - Author and disseminate an information packet to publicize and promote the program among target audiences that may include encouraging the members of the Board of Supervisors and residents to support the installation of natural landscaping and low impact development (LID) demonstration projects in their individual districts and properties.



Volunteer tree planting projects help to engage and educate the community. In turn the trees planted by volunteers help to improve the quality of life in our community.

Photo provided by Urban Forest Management Division

## 2.2 Core Recommendation #2

### Build Strong Partnerships and Alliances

#### Goals

- Use partnerships to help create linkages among all aspects of the Tree Action Plan and other resource protection and enhancement activities.
- Develop partnerships that promote implementation of the plan including collaboration for outreach, technical expertise, policy, demonstration projects and land management.

#### Strategies

- Formalize and maintain partnerships with various county, state, Federal, and non-governmental agencies and divisions to, among other things, meet the goals established in the Tree Action Plan; establish a framework for collaboration and “buy-in support” on tree preservation and planting efforts associated with the design and review of county development projects; and increase UFMD involvement in the public facility and Comprehensive Plan review process.
- Formalize and maintain partnerships with industry-, professional- and public-based organizations to:
  - Meet the goals established in the Tree Action Plan.
  - Encourage and implement tree planting on privately owned land.
  - Pursue areas of mutual interest in support of improved tree preservation and planting efforts along public roads.
  - Enhance and protect trees along trails.

#### Tactics

- Identify existing and potential partners and establish their roles in implementing the Tree Action Plan which may include:
  - Working with utility agencies to prevent loss of tree cover in stream corridors and associated utility easements and to identify incentives to route utilities in a manner that preserves existing trees and to partner in mutually beneficial projects.
  - Partnering with NVRPA, the FCPA and NVCT to monitor and manage public lands and conservation easements.
  - Partnering with major landholders and organizations such as the Virginia Department of Forestry (VDOT) and the USDA Forest Service to establish the Urban Forest Management Plan/program and encourage cooperative management of forestland.
  - Working with Fairfax County Public Schools, the FCPA and NVRPA to identify opportunities for planting trees near trails.
  - Develop a partnership with the Health Department’s air quality program to promote the use of urban forestry practices in future air quality management plans.

## Build Strong Partnerships and Alliances, *Tactics continued*

- Engaging a nonprofit entity, like the Forest Stewardship Council, to set standards for responsible urban forest practices and to guide and accredit responsible developers that will include providing occasional status reports on the progress of this effort.
- Collaborate with partners to establish and maintain funding sources for the Tree Action Plan.
- Identify and create opportunities for communication with identified partners such as:
  - Requesting one or more meetings between appropriate county staff (Urban Forest Management Division; Department of Transportation) and VDOT staff to identify opportunities for improvements to tree preservation and planting efforts along public roads and developing recommendations for consideration by the Board of Supervisors, as appropriate, based on these discussions.
  - Convening a meeting between the Forest Conservation Section of UFMD and agencies that design and develop public facilities to develop standard operating procedures to address tree preservation and planting in the design and review of county projects.
- Gain backing and active support of partners in implementing the plan through such means as:
  - Continuing a strong working relationship between Stormwater Planning Division (SWPD), UFMD and DOF staff to encourage a more unified effort to protect, extend and/or replant riparian buffers, and to practice ecosystem management on public land.
  - Coordinating with the state and other jurisdictions to establish and implement a regional tree-planting program with definable goals.
  - Collaborating with non-county entities (e.g. VDOT, DOF, NVRC, non-profits) on planting plans and initiatives to ensure that their tree-planting activities support broader county environmental objectives.
  - Establishing a countywide tree planting program including a strengthening of partnerships with nonprofit tree planting groups.

## 2.3 Core Recommendation #3

### Optimize Tree Conservation in County Policies

#### Goals

- Make county policy documents consistent as they relate to tree preservation and planting.
- Ensure that county policy supports optimization of tree preservation and planting.

#### Strategies

- Review county policy documents, including the Comprehensive Plan, the Board of Supervisors' Environmental Agenda, the Tree Action Plan, adopted watershed management plans, county air quality planning documents, the Fairfax County Park Authority's Natural Resource Management Plan and the forthcoming Urban Forest Management Plan to identify areas of inconsistency among these documents relating to tree preservation and planting.
- Revise the above documents as needed and appropriate to ensure consistency.
- Amend the Comprehensive Plan as may be needed to support the maximum attainable and sustainable tree canopy goals for the county.

#### Tactics

- Amend Comprehensive Plan policy to encourage the use of tree preservation and planting practices to mitigate air pollution that might result from proposed changes to land use and density, including tree plantings that can reduce energy consumption, thereby reducing power plant emissions.
- Identify opportunities to align the language and direction of the Policy Plan volume of the county's Comprehensive Plan, the Board's Environmental Agenda and the Tree Action Plan, so these documents complement each other and other county policy documents. Prepare a document that will outline these opportunities.
- If identified as an opportunity in the document referenced in the previous bullet point, pursue an amendment to the Comprehensive Plan to align it with other policy documents as they address tree preservation and planting.
- Identify opportunities to crosswalk Tree Action Plan steps and Urban Forest Management Plan tactical and strategic components with other natural resource management plans such as watershed management plans, the Park Authority's Natural Resource Management Plan and the county's air quality planning documents. Incorporate recommendations into the document referenced in the 2<sup>nd</sup> "tactic" for this section.
- Amend Comprehensive Plan guidance as may be needed, and ensure that there are implementation mechanisms in place to support the maximum attainable and sustainable tree canopy goals for the county.

## Optimize Tree Conservation in County Policies, *Tactics continued*

- Incorporate watershed-specific tree canopy goals (see Tactics that support “Improve Water Quality and Stormwater Management through Tree Conservation” recommendation) and related policy into the Comprehensive Plan for consideration during the review of land development proposals, recognizing that uniform tree canopy policies would not be appropriate within any watershed but that smaller area analyses would be the building blocks of the overall watershed-wide goals.

## 2.4 Core Recommendation # 4

### Improve Air Quality and Address Climate Change through Tree Conservation

#### Goals

- Optimize tree preservation and tree planting in support of air quality improvement and climate change considerations.
- Incorporate tree preservation and tree planting into air quality planning efforts.

#### Strategies

- Ensure policies and regulations promote tree preservation and planting, including the Comprehensive Plan and the parking lot landscaping provisions of the Zoning Ordinance.
- Partner with county, regional and state agencies to incorporate trees in air quality planning, including efforts to use increased urban tree canopy in support of attainment of Federal Clean Air Act requirements.
- Develop and implement tree-planting programs that target the reduction of reactive volatile organic compound emissions, and the reduction of ambient ozone levels.
- Develop and implement urban forestry practices that can be used to reduce the emission of greenhouse gases such as carbon dioxide
- Develop and implement urban forestry and wood waste utilization practices that can be used to encourage long-term sequestration of carbon in wood tissue forms.
- Explore the feasibility of selling carbon sequestration credits for forested tracts preserved in perpetuity and using this type of program to fund tree conservation practices and projects.

#### Tactics

- Amend Comprehensive Plan policy to encourage the use of tree preservation and planting practices to mitigate air pollution that might result from proposed changes to land use and density, including tree-plantings that can reduce energy consumption, thereby reducing power plant emissions.
- Increase current Zoning Ordinance Parking Lot Landscaping requirements.
- Establish a countywide tree-planting program, including a strengthening of partnerships with nonprofit tree planting groups in order to enhance public involvement and participation in planting and maintenance efforts on public and private properties.
- Use proffered funds from land development to provide support for community tree planting projects that are organized and conducted by non-profit tree planting groups.

## **Improve Air Quality and Address Climate Change through Tree Conservation,** *Tactics continued*

- Conduct comprehensive cost-benefit analyses of tree-planting and maintenance programs as a component of the establishment of a countywide tree planting program, and in support of optimization of broader tree preservation and maintenance efforts.
- Coordinate with the state and other jurisdictions to establish and implement a regional tree-planting program with definable goals.
- Coordinate with the state and other jurisdictions to evaluate the potential for inclusion of the above-mentioned tree-planting program as a practice for the regional air quality plan for the Washington, D.C. metropolitan area.
- Develop a partnership with the Health Department's air quality program to promote the use of urban forestry practices in future air quality management plans.
- Support efforts to develop and incorporate a credited tree canopy conservation measure into the regional air quality plan for the DC-MD-VA Metropolitan Area
- Establish UFMD representation on the Environmental Coordinating Committee's Air Quality subcommittee.
- Provide additional tree cover credits for planting tree species that are low-emitters of reactive volatile organic compounds in the PFM requirements for meeting Tree Cover.
- Ensure that plant species that are planted for air quality management purposes are non-invasive, and where possible, native to the mid-Atlantic region.
- Investigate carbon cap and trade programs and assess applicability in Fairfax County. Investigate if this type of program could be used to fund tree conservation practices and projects.
- Investigate the relative effectiveness of different trees species to absorb and sequester carbon dioxide. Compile list and embed in the Tree Selection and Cover Guide of Chapter 12 of the PFM.
- Consider providing additional tree cover credits for planting tree species that are more effective in absorbing and storing carbon dioxide.
- Encourage Solid Waste Program and UFMD to participate in waste wood utilization workshops such as those hosted by Metropolitan Washington Council of Governments to investigate alternative wood waste uses that may act to sequester carbon.
- Improve specifications within the PFM regarding reforestation/restoration of disturbed areas, particularly in Environmental Quality Corridors and RPA's.

## 2.5 Core Recommendation #5

### Improve Water Quality and Stormwater Management through Tree Conservation

#### Goals

- Link stormwater management and land use policy and regulations with conservation of forests and riparian buffers.
- Optimize preservation of current tree assets through watershed planning and implementation projects.
- Identify maximum, realistic and sustainable tree canopy goals on both a countywide and individual watershed basis.

#### Strategies

- Adopt an overall goal to minimize loss, sustain and, if possible increase tree canopy coverage by a specified target date and encourage measures to attain these goals in accordance with the Chesapeake Executive Council Directives No. 03-01, and No. 06-1.
- Embed tree canopy goals as strategic and tactical planning components of each of the 30 watershed management plans being prepared to address Chesapeake 2000 Agreement goals in Fairfax County.
- Incorporate the forest protection strategies and tactics identified in the Chesapeake Executive Council 2006 Directive No. 06-1 in our local watershed management plans.
- Commit to maximum, realistic and sustainable tree canopy goals on county-owned property.

#### Tactics

- Correlate water quality and watershed health data collected by Fairfax County with available tree canopy and impervious surfacing data.
- Conduct a Strategic Urban Forest Assessment to develop maximum, realistic and sustainable tree canopy goals for each of the county's watersheds.
- Continue to fund the acquisition of "leaf on" high-resolution satellite imagery on a five-year basis in order to conduct a Strategic Urban Forest Assessment.
- Review and, where appropriate, amend pertinent ordinances and land use policies to adopt and implement maximum, realistic and sustainable tree canopy goals.
- Revise and implement a runoff value for mature forest condition to encourage tree preservation as a stormwater management incentive.
- Research the extent to which other localities have pursued efforts to establish tree cover goals and evaluate the applicability to Fairfax County.
- Develop and implement methodology for assessing and reporting progress.

## 2.6 Core Recommendation # 6

### Use Ecosystem Management to Improve and Sustain the Health and Diversity of our Urban Forest

#### Goals

- Optimize preservation of current tree assets through ecosystem management.
- Manage the forest ecosystems holistically by taking into account the wide range of organisms that make up and inhabit forests.
- Improve our ability to ensure optimal, long-term natural resource management in conservation easements.

#### Strategies

- Develop a comprehensive Urban Forest Management Plan.
- Establish meaningful quantitative metrics for tracking success of forest ecosystem management initiatives.
- Manage the county's urban forest as a functional ecosystem and factor climate change into urban forest management plans.
- Partner with other landholders to manage forest systems across boundaries.
- Expand and protect the urban forest by establishing parkland and other protected areas.
- Review and, where appropriate, revise legal language used in conservation easement agreements for easements dedicated to the county to address long-term management concerns.
- Implement a comprehensive and proactive forest pest and invasive species management program
- Work with animal control to integrate sustainable forest management into the deer management program.

#### Tactics

- Generate and adopt specific recommendations within the comprehensive Urban Forest Management Plan to address forest health issues, ecosystem management, and measuring mechanisms (biometrics) for tracking, and regenerative capacity.
- Ensure that trees are an integral component of master planning and design for parks, particularly parks with playing fields.
- Partner with major landholders such as the Fairfax County Park Authority, National Park Service and other organizations such as the VDOF and the USDA Forest Service to establish the Urban Forest Management Plan/program and encourage cooperative management of forest land.
- Address the emerging challenges caused by climate change in urban forest management.
- Use regenerative capacity, i.e. ability of the forests to replace themselves as healthy native ecosystems, as the measure of success.

## Use Ecosystem Management to Improve and Sustain the Health and Diversity of our Urban Forest, *Tactics continued*

- Establish a working knowledge on the part of staff and the community about the importance of managing and maintaining forest ecosystems including management of forest pests, invasive plant species and deer herds.
- Identify invasive plant species and forest pests and formulate strategies to control their effects. Include control strategies in the comprehensive Urban Forest Management Plan as well as in site-specific recommendations.
- Coordinate with the Office of the County Attorney to initiate appropriate changes to conservation easement agreements to provide for effective natural resource management while allowing for reasonable use and enjoyment of these areas.
- Establish a comprehensive inventory of conservation easements in Fairfax County and incorporate into the county's Geographic Information System.
- Strengthen the long-term viability of conservation easements through improved education and enforcement.
- Use current and emerging prescriptions to control and manage deer populations and protect urban forest environments. Coordinate with animal control on public lands.
- Continue to fund the National Vegetation Classification System (NVCS) mapping of vegetative communities in the county to obtain data for countywide forest ecosystem management.
- Develop specific, ecosystem-based, forest management plans and prescriptions and offer tailored assistance to landowners.
- Develop specific, ecosystem-based, forest management plans for county properties.
- Acquire land, including acquisition of parkland and through establishment of conservation easements, to expand and connect greenways.
- Partner with NVRPA, the FCPA and NVCT to monitor and manage public lands and conservation easements.
- Continue to incorporate trees in urban parks.

## 2.7 Core Recommendation #7

### Strengthen State-Enabling Authority for Tree Conservation

#### Goals

- Work for passage of State enabling legislation for more stringent tree conservation measures.
- Pursue appropriate legislative and/or code changes to enhance awareness of RPA's by land owners.

#### Strategies

- Promote strengthened enabling legislation through regional consensus.
- Require disclosure of RPA's in real estate transactions.
- Require the delineation of RPA's on land plats.

#### Tactics

- Continue efforts to build an inter-jurisdictional consensus that promotes stronger state enabling authority to conserve trees during land development.
- Link proposed tree conservation legislation to larger regulatory pressures.
- Continue to quantify the environmental benefits of forest and tree cover and articulate what the loss of tree cover does to the local and regional economy and quality of life. This will support efforts to establish tree preservation enabling legislation and to establish conservation easements.
- Use innovative modeling and visualization systems to analyze, quantify and communicate the benefits of trees and forests.
- Pursue legislation to strengthen penalties associated with violations of tree preservation requirements.
- Seek legislation to require that RPA's be disclosed during real estate transactions.
- Seek legislation to require RPA's to be delineated on land plats.

## 2.8 Core Recommendation #8

### Encourage Sustainable Design Practices

#### Goals

Enhance future tree canopy levels and quality through sustainable design.

#### Strategies

- Promote the use of sustainable design principles in site development and redevelopment.
- Ensure that all county projects model principles of sustainable design.
- Ensure preservation of mature trees as the first priority, with replacement of lost tree canopy an imperative when mature trees are killed.
- Encourage the use of environmentally friendly engineering solutions.
- Promote the use of natural landscaping practices and techniques.
- Promote the on-site treatment of runoff with bio-engineering practices.

#### Tactics

- Refer to *Better Site Design: A Handbook for Changing Development Rules in Your Community*, Center for Watershed Protection.
- Educate developers on the use of sustainable design principles, practices and techniques.
- Provide full credit towards meeting tree cover and parking lot landscaping requirements for plant materials used in infiltration strips, rain gardens and other LID practices.
- Fund and implement natural landscaping at county owned facilities and properties.
- Encourage Board of Supervisors and residents to support the installation of natural landscaping and LID demonstration projects in their individual districts and properties.
- Revise and implement a runoff value for mature forest, urban canopy, and urban canopy augmented with shrub, herbaceous and/or mulch to encourage tree preservation as a stormwater management incentive.

## 2.9 Core Recommendation #9

### Plant and Protect Trees by Streams, Streets, and Trails

#### Goals

- Protect and proactively establish native, desirable and non-invasive trees along trails and streets.
- Restore streams to a natural state with functional riparian forest buffers.

#### Strategies

- Develop goals and commit to expanding wooded riparian buffers on both perennial and intermittent streams.
- Plant trees along streets and along sidewalks and trails.
- Partner with the VDOT to encourage and implement tree planting along streets.
- Partner with Fairfax County Public Schools, FCPA and NVRPA to enhance and protect trees along trails.
- Establish and maintain funding sources for tree planting and maintenance.
- Ensure that policy and county practices promote tree planting along streets and trails.
- Work with businesses, homeowners associations and residents to encourage and implement tree planting on privately owned land.
- Identify monarch trees and rare or significant vegetation communities so that they may be avoided and preserved in placement of future transportation corridors.
- Involve UFMD staff in any Comprehensive Plan reviews involving transportation facilities.
- Set measurable goals for naturalizing streams, and commit to plant native tree species along stream corridors.
- Require appropriate review of all site plans, permits and waivers with potential impacts to streams and vegetation management components, including Resource Protection Area exception applications.

#### Tactics

- Develop measurable goals for planting native, desirable and non-invasive trees along streets and trails.
- Develop and implement a tree planting program for streets and trails that encourages businesses, homeowners associations and residents to participate.
- Work with VDOT to identify criteria and a strategy for planting trees along streets based on correct urban forestry practices and compliance with VDOT and/or AASHTO design standards. Develop a Memorandum of Understanding and/or other working agreement with VDOT.

## **Plant and Protect Trees by Streams, Streets, and Trails, *Tactics continued***

- Work with Fairfax County Public Schools, FCPA and NVRPA to identify opportunities for planting trees near trails. Develop Memorandums of Understanding and/or other working agreements
- Implement the policy recommendations of the Fairfax County Trails and Sidewalks Committee for significant county trails. Require that all new and redeveloped residential, commercial and industrial activities that abut, or are adjacent to, the Washington & Old Dominion and Cross-County trails respect and preserve these important assets by designating a 50' natural area buffer, in addition to a minimum 25' building setback, on both sides of the rights of way of these Regional Trails.
- Identify potential funding sources for tree planting programs including proffers, county operating and capital budgets, bond programs and grants.
- Review county policies and practices in order to optimize tree-planting projects and initiatives.
- Review policy and practices and initiate actions that promote native and/or non-invasive trees.
- Strengthen Article 13 of the Zoning Ordinance to include street tree preservation and planting.
- For near-term transportation projects, identify monarch trees and rare or significant vegetation communities that may be threatened by these projects and coordinate with county and state transportation planners to identify possible approaches to preserving monarch trees and avoiding or minimizing impacts to significant vegetation communities.
- Implement routine UFMD participation in Comprehensive Plan reviews that may affect the siting and design of transportation facilities in order to encourage the placement of future transportation projects in the most urban forestry-sound manner.
- Develop, estimate the cost and budget for tree maintenance programs along streets, trails and sidewalks.
- Collaborate with non-county entities (e.g. VDOT, DOF, NVRC, non-profits) on planting plans and initiatives to ensure that their tree planting activities support broader county environmental objectives.
- Develop and update guidance for planting street trees.
- Promote "day-lighting" of underground (piped) or lined sections of streams where appropriate.
- Work with utility agencies to prevent loss of tree cover in stream corridors and associated utility easements.
- Modify the existing plan review process to ensure that UFMD reviews the vegetation management components of site plans, permits and waivers, including Resource Protection Area exception applications.
- Obtain technical assistance to address riparian restoration, buffer plantings and retrofit planning.

## Plant and Protect Trees by Streams, Streets, and Trails, *Tactics continued*

- Continue a strong working relationship between FCPA, SWPD, UFMD and VDOF staff to encourage a more unified effort to protect, extend and/or replant riparian buffers and to practice ecosystem management on public land.
- Enhance planting activities and public awareness to increase the extent of wooded riparian areas along intermittent streams on publicly owned land and promote the same on private and developing properties.
- Implement at least one ecosystem management demonstration project, involving riparian buffers for intermittent streams on public land, in each district by 2010, including installation of wayside exhibits that demonstrate the need to conserve RPA's, headwater areas and other water resources.
- Use National Vegetation Classification System (NVCS) data to establish which species are appropriate to plant in lowland and riparian forest environments in order to replicate native plant communities and to minimize the use of species which, although nominally native to the region, may not be native to a specific plant community.



Shade trees placed along streets and paths can help define a sense of "community," and provide cooling relief to hot urban environments.

Photo provided by Urban Forest Management Division

## 2.10 Core Recommendation # 10

### Optimize Tree Conservation in Land Development

#### Goals

- Ensure that all tree preservation commitments for development projects are honored.
- Optimize tree preservation and planting through commitments made during the zoning process.
- Increase the degree of knowledge and understanding of existing tree preservation flexibility among staff and developers.
- Optimize tree preservation and planting efforts associated with by-right development.
- Use the enabling authority of the Virginia State Code to develop a local tree preservation ordinance that can be used as an additional tool to ensure the protection of heritage, specimen, memorial and street trees.

#### Strategies

- Optimize the effectiveness of proffer commitments relating to tree preservation.
- Enhance the inspection of construction projects with tree-related proffers
- Include tree preservation and planting in all zoning actions where appropriate.
- Promote the use of sustainable design principles in site development and redevelopment, including the application of better site design, LID and natural landscaping practices.
- Brief newly elected or appointed policy makers on the socio-economic and environmental services that trees provide, and on what ordinance and policy tools can be used to promote tree conservation during land development.
- Identify incentives that can serve to improve tree preservation commitments
- Encourage early collaboration between developers and county staff on tree preservation issues.
- Develop incentives for tree preservation and planting, especially for application in by-right development.
- Identify factors that make it expedient to cut down trees during development and identify measures that can be pursued to transform these into incentives to preservation.
- Establish an accreditation program to acknowledge responsible urban forest practices pursued during development
- Establish a process through which the Forest Conservation Branch of UFMD will increase its level of review of by-right development plans (as staffing levels permit).
- Develop a heritage tree preservation ordinance based on Virginia State Code 10-1-1127.1.

## Optimize Tree Conservation in Land Development, *Strategies continued*

- Periodically review and update the contents of the PFM 12-0000 Vegetation Preservation And Planting and other sections of this publication that utilize trees and plants for purposes of LID to ensure effectiveness and scientific validity of their requirements and specifications.
- Advocate the use of Agricultural and Forestal Districts to protect open space and forest land and promote the preservation and restoration of forests in these districts
- Review, on a periodic basis, PFM provisions pertaining to tree conservation.

### Tactics

- Monitor the effectiveness of tree-related proffer language that developers use to ensure the successful execution of commitments made during the review and approval of zoning cases.
- Ensure, through periodic evaluation, that there are sufficient resources to provide for continued UFMD involvement in the inspection of construction projects with tree-related proffers.
- Continue existing level of UFMD involvement in the reviews of zoning applications and assess the implications of current practices.
- Negotiate with developers so they implement better site design, LID, natural landscaping and other sustainable design practices.
- Encourage pre-application site consultations with the UFMD prior to submission of rezoning applications, thereby providing for an up-front, collaborative approach to development design as it relates to tree preservation.
- Evaluate criteria used to review P District zoning applications to determine if tree preservation is given sufficient weight in these reviews. This can be done through consideration of an amendment to P Districts provisions of the Zoning Ordinance that is in progress.
- Evaluate the benefits and drawbacks of establishing an expedited plan review process for site plans and subdivision plans exceeding certain thresholds of tree preservation.
- Contact newly elected or appointed policy makers and schedule one-on-one appointments to discuss the socio-economic and environmental services that trees provide. Also discuss the ordinance and policy tools that can be used to promote tree conservation during land development.
- Research and publish a background paper addressing potential tax and regulatory incentives for tree preservation and planting.
- Publicize monetary incentives to preserve and plant trees such as the increased sale value associated with wooded home sites (preserved or planted), and the lower stormwater infrastructure costs associated with pervious land covers.
- Evaluate opportunities to amend the Zoning Ordinance, PFM and, perhaps, other county regulatory documents to support and promote sustainable principles in site development and redevelopment, including the application of better site design, LID and natural landscaping practices.

## Optimize Tree Conservation in Land Development, *Tactics continued*

- Amend Article 13 of the Zoning Ordinance to:
  - Clarify the use of existing trees and alternative plant materials for landscaping requirements.
  - Allow for an investigation of the feasibility of providing additional incentives to preserve existing trees for these purposes.
  - Revise requirements for maintenance so that more guidance is given for the long-term maintenance and replacement of plant materials and barrier features associated with parking lots, transitional screening and other landscaping.
- Engage a nonprofit entity, like the Forest Stewardship Council, to set standards for responsible urban forest practices and to guide and accredit responsible developers. Provide occasional status reports on the progress of this effort.
- Develop a standard operating procedure for Forest Conservation Branch to increase review of by-right development plans as staffing levels permit.
- Use the enabling authority of the Virginia State Code to develop a local tree preservation ordinance that can be used as an additional tool to ensure the protection of heritage, specimen, memorial and street trees.
- Conduct a review of the PFM at least once every five years to ensure that the requirements take full advantage of enabling authority, and that the horticultural, arboricultural, forestry and urban forestry specifications are based on the latest research available.
- Ensure that management plans for Agricultural and Forestal District properties reflect the need to protect sensitive lands (e.g., Resource Protection Areas (RPA's), Environmental Quality Corridors), optimize tree preservation and planting and land stewardship consistent with agricultural or forestal uses.

## 2.11 Core Recommendation # 11

### Optimize Tree Conservation in Utility and Public Facility Projects

#### Goals

- Optimize tree preservation in the siting and construction of utility lines
- Optimize tree preservation and planting efforts in the design and construction of public facilities.
- Establish a framework for collaboration and “buy-in support” among county agencies and the Forest Conservation Section on tree preservation and planting efforts associated with the design and review of county development projects.

#### Strategies

- Establish planning mechanisms to ensure that tree save areas will not be subject to destruction by planned or foreseeable utility projects
- Increase Urban Forest Management Division involvement in the public facility review process.

#### Tactics

- Research and publish a background paper addressing potential strategies to reduce impacts from utility construction to trees and other natural resources. The paper should address:
  - The feasibility of requiring the use of shared utility easements to avoid impacting existing trees and other natural resources.
  - The feasibility of locating utilities in roadbeds of new developments.
  - How conduits could be used to support tree preservation efforts.
- Draft a letter for signature by the Chairman of the Board of Supervisors to the State Corporation Commission and local construction industry groups urging cooperation in co-locating utilities in shared easements in order to avoid unnecessary clearing and damage of proffered tree save areas.
- Encourage utility companies and building industry groups to identify incentives to route utilities in a manner that preserves existing trees and to partner in mutually beneficial projects.
- Establish a requirement for submission of a preliminary utility plan for zoning applications where utility construction might result in clearing of trees.
- Develop a data set of culturally, historically and ecologically significant trees. This data set should be used to identify potential impacts of planned transportation and utility projects and facilitate early discussions with project sponsors regarding design modifications that could be pursued to protect these trees.
- Convene a meeting between the Forest Conservation Branch of UFMD and agencies that design and develop public facilities to develop standard operating procedures that address tree preservation and planting in the design and review of county projects.

## 2.12 Core Recommendation # 12

### Support and Refine the County's Urban Forestry Programs

#### Goals

- Develop a strong urban forestry program that is adequately funded, attracts and retains high quality employees and has the capacity to conserve and manage our community's tree and forest resources

#### Strategies

- Ensure that adequate funding is provided for projects and activities recommended in the Tree Action Plan.
- Perform workforce analyses of staffing levels and position class descriptions for all agencies and business areas involved in urban forestry to determine if these are adequate to address business changes.
- Evaluate adequacy of UFMD staffing levels to perform core land development services.
- Evaluate the effectiveness of alignment of UFMD within the Land Development Services line of business to implement business changes.
- Provide for retention of personnel by performing periodic job market surveys to ensure that Fairfax County's compensation for urban forestry-related jobs remains competitive.
- Ensure that UFMD provides adequate levels of urban forestry training to other county staff such as the Environmental and Facilities Site Inspection Division, DPWES (EFID).
- Evaluate the effectiveness of the county's current policy to utilize EFID personnel to enforce tree preservation and planting requirements on by-right development sites.
- Examine the charter of the Fairfax County Tree Commission and amend it to reflect the Commission's evolving role in conserving and managing the county's tree and forest resources.
- Provide opportunities to expose students and newly graduated professionals to Fairfax County's urban forestry programs by developing partnerships with institutions of higher learning.

#### Tactics

- Continue UFMD contribution to the Environmental Coordination Committee's Environmental Improvement program (EIP) Action Group's updating of the EIP with Tree Action Plan projects, policies and budget requests.
- Conduct a workforce analysis of all urban forestry-related staffing levels, position class descriptions and compensation levels to determine if these are adequate to address changes in responsibilities that could result from the implementation of the Tree Action Plan and the countywide Urban Forest Management Plan. Conduct these analyses every five years with the Department of Human Resources.

## Support and Refine the County's Urban Forestry Programs, *Tactics continued*

- Evaluate the effectiveness of the current alignment of UFMD within the Land Development Services Line of Business to implement changes resulting from the Tree Action Plan and the Urban Forest Management Plan. Forward any alternative organizational alignments to the Environmental Coordination Committee and Board of Supervisors' Environmental Committee for consideration.
- Perform quality control analyses to determine the effectiveness of EFID personnel in inspecting and enforcing tree preservation and planting requirements on by-right development sites. Analyses will include quality and quantity of training provided by UFMD and the assignments and scope of responsibility of EFID personnel.
- Form a task force to define the mission and role of the Fairfax County Tree Commission and forward to the Board of Supervisors' Environmental Committee for consideration.

**2002 false-color image (tree canopy is in red) taken from high-resolution satellite imagery depicting tree cover in Mount Vernon and Lee Magisterial Districts**

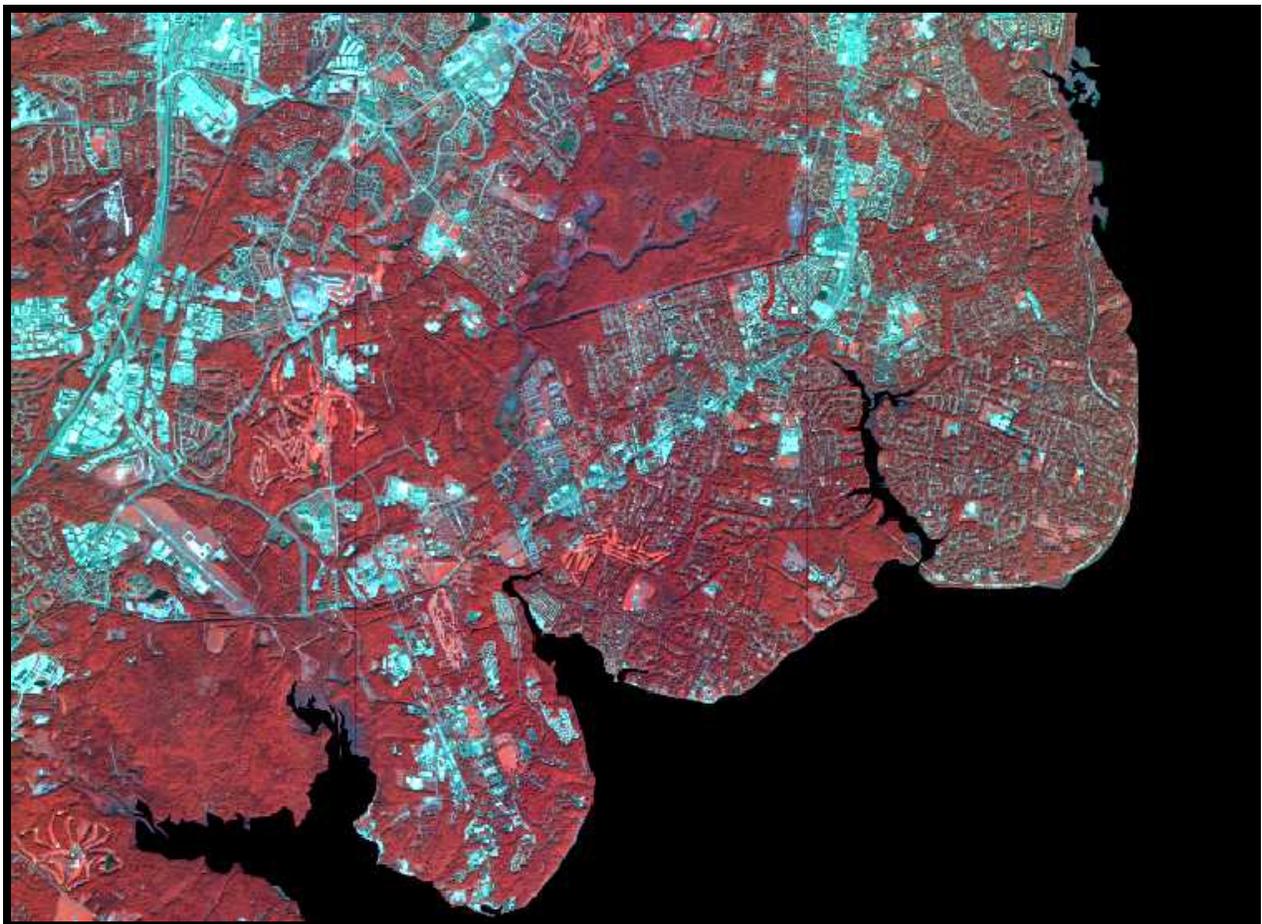


Image provided by Urban Forest Management Division

## Chapter 3

### Implementation and Lead Agencies

This Chapter provides *implementation plans* which are very specific actions that must be undertaken to ensure the implementation of the 12 Core Recommendation identified in Chapter 2 that ultimately support the Vision and Goals of Chapter 1.

The implementation plans build upon the goals, strategies and tactics of the 12 Core Recommendations and include the following components:

- **Lead Agencies** identifies the primary agencies and/or business areas that will be responsible for implementing the various actions associated with each of the Core Recommendations.
- **Quick Hits** identify actions that can be accomplished within 1 year
- **Short-term** identifies initial and perquisite actions that can be accomplished within 5 years.
- **Medium term/Long-term** identifies actions that will take substantial amounts of time and staff resources to complete. The implementation of these actions will be determined based on periodic assessments of progress as described in Section 1.5.
- **Considerations** identify issues that must be taken into consideration when implementing actions, or guidance on their intended outcome.

## 3.1 Engage and Educate

### Lead Agencies

UFMD (in coordination with SWPD, DPWES, Northern Virginia Soil and Water Conservation District (NVSWCD), Office of Public Affairs, FCPA, and VDOF).

### Quick Hits

- Inventory existing awards and recognition programs.
- Inventory existing outreach efforts and publications.

### Short Term

- Develop an education and outreach plan (funding required).
- Identify staff and budget needs to implement the education and outreach plan.
- Outline an outreach and technical assistance program and identify resource needs.
- Define role of UFMD in outreach and training for Home Owners Associations (HOA's) and residents.
- Define role of UFMD in providing consulting and technical assistance for tree management on county land.
- Form an inter-agency team for education related to urban forestry.
- Using the information, gleaned from inventory of outreach efforts and publications develop a presentation and/or program on tree planting geared toward owners of private open space.
- Develop a scope of work for the education and outreach plan. Determine budget and timeline for in house and outsourced options.
- Identify and propose potential demonstration projects.
- Initiate outreach to increase working knowledge of managing and maintaining forest ecosystems.
- Host joint training seminars for planners, site reviewers and developers on how to encourage tree preservation and planting.
- Compile list of applicable grants and prepare literature publicizing known benefits that act as monetary incentives to tree preservation and planting.

### Medium / Long Term

- Initiate implementation of demonstration projects (funding required).
- Evaluate the effectiveness of the education and outreach program.

### Considerations

- Funding and staff resources need to be identified to develop and execute the plan as well as fund a professional publicity firm to assist in implementation. Possible funding opportunities can be pursued through the county budget, proffered tree funds, and grants.

## Engage and Educate, *Considerations continued*

- Researching target audiences is an essential component of developing the plan and must be executed prior to implementation. It is essential to understand the audiences' knowledge, opinion and behaviors around tree issues in order to develop strategies and programs that work toward the plan's intended outcomes. Research may include surveys, focus groups and one-on-one interviews.
- The plan should target a wide variety of audiences including residents, HOA's, industries, private businesses, landscaping companies, county staff and county policy makers. The plan should reach out to a wide variety of audiences with varying knowledge, opinions and behaviors both support and pose a challenge to the realization of TAP goals and recommendations.
- In order to fulfill the county's guidelines, all communication and outreach materials must comply with the county's communications strategy.

## 3.2 Build Strong Partnerships and Alliances

### Lead Agencies

UFMD (in coordination with the Tree Commission).

### Quick Hits

- Continue to participate on the Northern Virginia Urban Forestry Roundtable.
- Continue participation on the Environmental Coordination Committee.
- Continue a strong working relationship between SWPD, UFMD and VDOF staff.
- Partner with the Health Department's air quality program to promote the use of urban forestry practices in future air quality management plans.

### Short Term

- Identify potential participants in a discourse between building industry representatives and staff and outline what this communication process might entail. Then invite participants and initiate discussions with this group.
- Contact the Forest Stewardship Council and/or other nonprofit entities to gauge their interest in pursuing an accreditation program.
- Initiate discussions between county staff and VDOT staff regarding tree planting and preservation efforts along public roads.
- Initiate discussions among the UFMD, the Department of Planning and Zoning (DPZ) and the Department of Transportation regarding Urban Forest Management Division participation in Comprehensive Plan reviews that may affect the citing and design of transportation facilities.
- Work with Fairfax County Public Schools, the FCPA and NVRPA to identify opportunities to plant trees near trails and on public lands.

### Medium / Long Term

- Partner with NVRPA, the FCPA and NVCT to monitor and manage public lands and conservation easements.
- Partner with major landholders and organizations such as the Virginia Department of Forestry (VDOF) and the USDA Forest Service to establish the Urban Forest Management Plan/program and encourage cooperative management of forestland.
- Partner with utility companies to prevent loss of tree cover in stream corridors and associated utility easements.

### Considerations

- As part of the formalization and maintenance processes, it is important to understand that partnerships will build over time, will be based on trust and will be negotiated around differences in organizational culture. Consistency between the plan's written strategies and the county's execution of those strategies is essential to maintaining partnerships.
- Among the key partners are the Board of Supervisors, the Environmental Coordination Committee and the Northern Virginia Urban Forest Roundtable.

## 3.3 Optimize Tree Conservation in County Policies

### Lead Agencies

UFMD (in coordination with DPZ).

### Quick Hits

- Prepare a Plan Amendment proposal for consideration by the Planning Commission and Board of Supervisors to encourage tree preservation and planting as an air pollution mitigation practice.

### Short Term

- Conduct a review of the policy documents referenced in Section 2.3 and prepare a brief report summarizing the extent to which tree preservation and planting considerations are consistent and inconsistent among these documents. Incorporate recommendations as to whether and how policy documents should be revised to reinforce tree preservation and planting concepts. Review the report with the Tree Commission and any other interested board, authority, or commission.
- Develop a Plan amendment proposal or other amendments to other policy documents, if applicable, based on the findings of the policy study.

### Medium / Long Term

- Upon development of watershed-specific tree canopy goals (see Section 3.5), develop recommendations and related amendments regarding the incorporation of such goals into the Comprehensive Plan; link these recommendations to an overall countywide objective to support the maximum, realistic and sustainable tree canopy goals for the county.

### Considerations

- Additional UFMD resources may be needed to assist in the development of and/or review of future amendments to the Comprehensive Plan and/or other policy documents.
- DPZ staff resources will be needed to assist in the review of policy documents and to pursue any resulting Plan amendments.
- Policy development relating to watershed-specific tree canopy goals and countywide goals will need to consider the underlying land use planning context and desired levels of development.

## 3.4 Improve Air Quality and Address Climate Change through Tree Conservation

### Lead Agencies

UFMD (in coordination with DPZ and Health Department Air Quality Coordinator; VDOF; and, partnering with local non-profit tree-planting groups).

### Quick Hits

- Submit a Plan Amendment proposal to the Planning Commission and Board of Supervisors to encourage tree preservation and planting as an air pollution mitigation practice.
- Establish UFMD representation on the Environmental Coordinating Committee's Air Quality subcommittee.
- Identify current tree planting efforts and the groups that spearhead these efforts.
- Compile lists of non-invasive, native, and low-emissions tree species recommended for used in air quality improvement plantings and distribute to agencies and groups that plant trees in Northern Virginia.

### Short Term

- Identify a review of Article 13 of the Zoning Ordinance (Landscaping and Screening) for consideration in the Zoning Ordinance Amendment Work Program. Such an amendment would allow for strengthening of parking lot landscaping requirements as well as other recommendations in the Tree Action Plan. (Note – the time frame for consideration of such a Zoning Ordinance Amendment would depend on where it is placed on the Work Program and competing Zoning Ordinance Amendment needs.)
- Incorporate tree preservation and planting considerations into the county's air quality planning efforts. Seek to incorporate such efforts at the state and regional levels. Integrate the UFMD into internal, countywide air quality planning efforts as well as state and regional air quality coordination.
- Develop and begin implementation of a county tree-planting program.
- Incorporate strategies and tactics noted in section 2.4 regarding cost-benefit analyses and partnerships with nonprofit organizations and state and regional entities.
- Participate in waste wood utilization workshops such as those hosted by Metropolitan Washington Council of Governments to investigate alternative wood waste uses that may act to sequester carbon.

### Medium / Long Term

- Work to develop a credited voluntary tree canopy measure in the 2009 regional air quality plan and beyond.
- Investigate feasibility of implementing a carbon cap and trade program in Fairfax County. Investigate if this type of program could be used to fund tree conservation practices and projects. If feasible, develop draft and program and

## **Improve Air Quality and Address Climate Change through Tree Conservation, *Medium/Long Term continued***

present to the Environmental Coordinating Committee and Board for consideration.

- Investigate the relative effectiveness of different trees species to absorb and sequester carbon dioxide. Compile list and prepare proposed amendment to include information in the Tree Selection and Cover Guide of Chapter 12 of the PFM.
- Consider providing additional tree cover credits for planting tree species that are more effective in absorbing and storing carbon dioxide. If feasible prepare proposed amendment to Chapter 12 of the PFM.
- Improve specifications within the PFM regarding reforestation/restoration of disturbed areas, particularly in Environmental Quality Corridors and RPA's.

### **Considerations**

- Limited staff resources for Zoning Ordinance Amendments and a large number of competing projects on the Zoning Ordinance Amendment Work Program.
- Although the Technical Advisory Committee of the Metropolitan Washington Air Quality Committee has approved tree canopy and urban heat island reduction practices as items for consideration for inclusion into the 2007 regional air quality plan for the DC-MD-VA Metropolitan Area, uncertainty still exists regarding the final acceptance as an allowable practice.
- Although tree canopy can produce very significant levels of air quality improvements, a tree canopy measure is not likely to produce measurable impacts to air quality until after a 10 to 15 year period of time.
- The tree canopy measure should only be offered as a non-credited voluntary measure in the 2007 regional air quality plan.
- During the 2007 State Implementation Plan (SIP) cycle, the Urban Forestry - Work Group will work on a regional analysis to study probable tree canopy loss/gain trends over the next 20 years. The results of this study will be used as a basis to determine if is advisable to include a credited voluntary tree canopy measure in the 2009 regional air quality plan.
- Considerable staff and budget resources may be needed to establish a countywide tree-planting program; however, proffered donations from zoning cases may prove to provide significant levels of funding.
- There are many volunteers and several non-profit organizations that would be willing to participate in tree planting efforts.
- Because non-profit tree planting organizations tend to utilize volunteer labor to plant trees, they can often plant trees at significantly lower costs than landscape contractors. In addition, they act to engage and educate the community about the value of conserving trees and other natural resources.

## 3.5 Improve Water Quality and Stormwater Management through Tree Conservation

### Lead Agencies

UFMD; SWPD; and Land Development Services, DPWES (in coordination with partners such as the NVSWCD; VDOF; Metropolitan Washington Area Council of Governments; and the Center for Watershed Protection).

### Quick Hits

- Research tree cover goals of other localities.
- Continue a strong working relationship between SWPD, UFMD and VDOF staff.
- Continue to fund the acquisition of “leaf on” high-resolution satellite imagery on a five-year basis to support a Strategic Urban Forest Assessment that will be used to: identify current tree canopy levels; identify specific opportunities to preserve existing forests and plant trees for water quality improvement and stormwater management; and track canopy changes over time and to gauge the county’s success in reaching its tree canopy goals

### Short Term

- Develop a procedure to include tree canopy goals as an integral part of watershed planning and begin to include the goals in watershed management plans.
- Review the forest protection strategies and tactics identified in the Chesapeake Executive Council 2006 Directive No. 06-1. Prepare protection strategies and tactics that could be used as tools to complement local watershed management plans.
- Determine appropriate runoff value for forested condition for use in hydrologic studies and revise the PFM and otherwise implement an appropriate runoff value for forested condition.
- Authorize UFMD reviews of the vegetation management components of site plans, permits and waivers including Resource Protection Area (RPA) exception applications.

### Medium / Long Term

- Conduct a Strategic Urban Forest Assessment (a protocol developed by the USDA Forest Service and others) to develop maximum, realistic and sustainable tree canopy goals for each of the county’s watersheds that utilizes:
  - Interagency and interdisciplinary coordination with watershed steering committees and other stakeholders.
  - iTree (USDA Forest Service software) hydrology studies to predict impacts of tree and impervious cover gain or loss in each watershed.
  - Existing land use and potential canopy conditions, including tree cover increases through vegetative succession and tree growth.
  - Likely changes in land use and subsequent changes to tree canopy levels through by-right development, zoning actions and public sector projects.

## Improve Water Quality and Stormwater Management through Tree Conservation, *Medium/Long Term continued*

- Opportunities for protection, replanting and restoration through the zoning process.
- Legal authorities related to tree preservation and planting;
- Potential gains associated with tree planting projects and voluntary stewardship activities.
- Correlate water quality and watershed health data collected by Fairfax County with available tree canopy and impervious surfacing data to develop maximum attainable and sustainable tree canopy goals.
- Review and, where appropriate, amend pertinent ordinances and land use policies to adopt and implement tree canopy goals (see Section 3.5).
- Implement policies and practices needed to achieve maximum, realistic and sustainable tree canopy goals.
- Partner with utility companies to prevent loss of tree cover in stream corridors and associated utility easements.

### Considerations

- These actions will help acknowledge that trees are an important and integral part of watershed planning and watershed plan implementation.
- The Strategic Urban Forest Assessment and tree canopy goal planning projects equate to “green infrastructure planning and/or mapping.”
- Ideally, our tree cover planning efforts should complement the Chesapeake Executive Council Directives concerning Riparian Buffers and Urban Tree Canopy Goals. However, local tree cover planning efforts will need to be tailored to address local considerations and processes and may substantially deviate from the Chesapeake Bay Program recommendations.
- Efforts to conduct a Strategic Urban Forest Assessment and to identify tree canopy goals for watersheds should support the development of more effective watershed management plans; however, these projects may take considerable time to complete. A procedure will need to be developed that acknowledges the need to complete watershed plans in a timely manner, yet facilitates the inclusion of tree cover goals and related projects into watershed management plans on an on-going basis.
- Revising runoff values for forested conditions may offer increased incentive to the development community to preserve additional trees. However, it may be more appropriate to revise runoff values of other conditions such a turf grass planted open-space that has been compacted by development activities yet currently receive the same runoff value as forested areas.
- Although stormwater goals and tree conservation and reforestation goals are the same, sometimes the fixes appear to be in conflict in the short term. For example, day lighting pipes could easily result in an initial loss of trees, especially where trees have grown over or near an underground pipe. Likewise, stream restoration frequently requires significant re-grading which can result in tree removal.

## 3.6 Use Ecosystem Management to Improve and Sustain the Health and Diversity of our Urban Forest

### Lead Agencies

UFMD; FCPA; VDOF; and Fairfax County Animal Control.

### Quick Hits

- Continue current funding to support National Vegetation Classification System mapping.

### Short Term

- Identify current and emerging practices and techniques to manage deer populations and protect urban forest resources.
- Complete on-going effort to map the county's vegetation resources using the National Vegetation Classification System. The finished dataset will need to be updated once every 10 years.
- Coordinate with the Office of the County Attorney to review conservation easement agreement language as it relates to long-term management issues.

### Medium / Long Term

- Develop ecosystem-based forest management practices and techniques.
- Adopt specific recommendations within the comprehensive Urban Forest Management Plan to address forest health issues, ecosystem management, measuring mechanisms (biometrics) for tracking and regenerative capacity.
- Implement guidance to ensure that trees are an integral component of master planning and design for parks, particularly parks with playing fields.
- Initiate appropriate changes to conservation easement agreements to provide for effective natural resource management.
- Incorporate a comprehensive inventory of conservation easements in Fairfax County into the county's Geographic Information System.
- Use current and emerging prescriptions to control and manage deer populations and protect urban forest environments. Coordinate with animal control on public lands.
- Continue reviewing conservation easement issues with the County Attorney's Office.
- Offer ecosystem-based forest management prescriptions and tailored assistance to landowners.
- Develop ecosystem-based forest management plans for county property and offer assistance to landowners to do the same.
- Include invasive plant and forest pest control strategies in the comprehensive Urban Forest Management Plan as well as in site-specific recommendations.
- Partner with NVRPA, FCPA and NVCT to monitor and manage public lands and conservation easements.

## Use Ecosystem Management to Improve and Sustain the Health and Diversity of our Urban Forest, *Medium/Long Term continued*

- Examine penalties for violations of conservation easements to determine the extent to which the county can/should strengthen them. Strengthen penalties if and where appropriate.

### Considerations

- These actions will optimize preservation of current tree assets allow the urban forest to be managed as a functional ecosystem.
- These actions will improve our ability to ensure optimal, long-term natural resource management in conservation easements.
- Competing demands in the Office of the County Attorney could slow a study of conservation easement language.
- These actions will need to acknowledge diverse opinion regarding ecosystem management.
- Although the county's Geographic Information System contains information about recently recorded conservation easements, considerable staff resources would be needed to research all past conservation easement records and to add these to the existing GIS dataset.
- Tree canopy coverage is a two-dimensional metric that is used to convey the relative extent of trees and forests resources in a given geographic area. Tree canopy coverage incorporates both naturally occurring forest communities and areas reforested by landscape cultivars. Tree canopy coverage is limited as a management metric because it does not address the health, species composition, biodiversity, age or biomass of forest and tree resources.
- Tree canopy coverage composed by naturally occurring forest communities is preferable to planted tree canopy. Naturally occurring forest communities are thought to deliver higher levels of ecological, environmental and socio-economic benefits than that provided by planted tree cover by virtue of greater bio-mass and forested soil conditions. It is critical that this information be communicated to citizens, homeowner associations and public agencies that own and manage forested tracts.

## 3.7 Strengthen State-Enabling Authority for Tree Conservation

### Lead Agencies

UFMD (in coordination with the Office of the County Executive; and the County Attorney's Office).

### Quick Hits

- Continue already initiated efforts through the Northern Virginia Urban Forestry Roundtable to build inter-jurisdictional consensus in support of stronger enabling legislation for tree conservation.
- Link proposed tree conservation legislation to Federal Clean Air Act regulatory pressures.

### Short Term

- Continue efforts to quantify the environmental benefits of forest and tree cover as identified above.
- Develop legislative initiatives for consideration by the County Executive's Office and Board of Supervisors that would (a) require disclosure of RPA's during real estate transactions; and (b) require RPA's to be delineated on land plats.

### Medium / Long Term

- Continue to pursue tree preservation enabling legislation or, if successful, evaluate and develop measures to implement new tree preservation authorities.

### Considerations

- The county has attempted to increase its local tree preservation authority in several recent legislative sessions by seeking amendments to the tree cover provisions of § 15.2-961. See Appendix 1 for more information.
- The Northern Virginia Urban Forestry Roundtable is working to build inter-jurisdictional consensus in support of stronger enabling authority by reaching out to local politicians, local tree commissioners, citizens and environmental groups. This group is likely to support Fairfax County's legislative efforts relating to tree conservation.
- Unless steps are taken to reach out and partner with the land development and woods products industries, considerable opposition to tree conservation enabling legislation is likely to continue.
- Land owner awareness benefits of disclosure and plat requirements for RPA's
- The state legislature recently considered the issue of disclosure of RPA's in real estate transactions; adopted legislation did not require such disclosure but only required a notice to purchasers that the owner makes no representations with respect to whether the property in question contains any RPA's.

## 3.8 Encourage Sustainable Design Practices

### Lead Agencies

UFMD; Land Development Services, DPWES; SWPD; NVSWCD; Environmental Coordination Committee; EIP Action Group; and Natural Landscaping Committee.

### Quick Hits

- Develop or revise ordinances to provide full credit towards meeting tree cover requirements for plant materials used in infiltration strips, rain gardens and other parking lot-related LID practices.
- Implement natural landscaping projects at county owned facilities and properties.

### Short Term

- Where appropriate, start using the hydrological module of the iTree software suite to demonstrate effects of tree canopy on hydrology and other environmental considerations. This software may be useful in demonstrating the need to revise runoff values for forested conditions.

### Medium / Long Term

- Implement at least one ecosystem management demonstration project, involving riparian buffers on public land, in each district by 2010, including installation of wayside exhibits that demonstrate the need to conserve RPA's and other water resources.

### Considerations

- On June 21, 2004 the BOS directed staff to identify County properties where natural landscaping could be used to reduce maintenance practices that can cause harmful environmental impacts such as air pollution and reduce the need and expense of mowing, pruning, edging, and using fertilizers, pesticides, and herbicides. In response, a Natural Landscaping Committee was formed to identify practices, policies and a countywide implementation plan.
- LID, natural landscaping, and ecosystem management projects may require additional staff and/or additional funding. Future EIPs will need to contain proposals to support the implementation and maintenance of these projects.
- Sustainable designs may require more funding than conventional designs to construct initially, but over time tend to recoup initial costs through the environmental and socio-economic benefits that they are designed to produce.

## 3.9 Plant and Protect Trees by Streets Trails and Streams

### Lead Agencies

UFMD; SWPD; VDOT; VDOF; Fairfax County Public Schools; FCPA; and NVRPA (in coordination with local non-profit tree-planting groups).

### Quick Hits

- Continue a strong working relationship among SWPD, UFMD and VDOF staffs.
- Research case studies that quantify tree planting programs, such as the Strategic Urban Forest Assessment conducted by the Cities of Baltimore, MD and Annapolis, MD.

### Short Term

- Develop a presentation/program on tree planting geared towards owners of private open space.
- Coordinate with VDOT to develop the criteria and strategies needed to optimize tree preservation and planting opportunities in and adjacent to VDOT rights-of-ways.
- Initiate discussions among UFMD, DPZ and the Department of Transportation regarding UFMD participation in Comprehensive Plan reviews that may affect the siting and design of transportation projects.
- Coordinate with the county's Department of Transportation to identify near-term transportation improvement projects that may affect trees and/or significant vegetation communities.
- Use NVCS data to establish which species are appropriate to plant in lowland and riparian forest environments in order to replicate native plant communities and to minimize the use of species which, although nominally native to the region, may not be native to a specific plant community.
- Authorize UFMD reviews of the vegetation management components of Resource Protection Area exception applications.

### Medium / Long Term

- Partner with utility companies to prevent loss of tree cover in stream corridors and associated utility easements.
- Identify the near-term transportation projects (see Short Term) for which there may be adverse impacts to monarch trees and/or significant vegetation communities and pursue follow-up coordination with the County's Department of Transportation and with VDOT as appropriate.
- Implement pilot projects that daylight underground (piped) or lined sections of streams.

## Plant and Protect Trees by Streets Trails and Streams, *continued*

### Considerations

- The recommendations of the Trails and Sidewalks Committee should be examined to see how these could impact TAP recommendations.
- Examine usefulness of existing Northern Virginia Regional Commission tree planting educational publications for possible distribution to the community.
- Partner with stormwater business area agencies to incorporate native trees in stormwater facilities.
- We need to define what the term 'native' tree means (e.g. how narrow a geographic region source should be from).
- Look at terminology regarding rights of way, medians and intersections to be sure we are using correctly.
- County DOT staff and VDOT staff resources will be needed in the identification and evaluation of transportation project corridors.
- Even after identifying future transportation project corridors, it may not be determined to be feasible to protect the trees and/or vegetation communities in question.
- These actions will establish functional riparian buffers to improve stream health and enhance the quantity and quality of tree resources.
- These actions will require diverse opinion regarding riparian buffers to be addressed in favor of stream health and enhanced quantity and quality of tree resources.
- Considerable funding will be needed for pilot projects that daylight underground (piped) or lined sections of streams.

The county's Champion Swamp Chestnut Oak (*Quercus michauxii*) has a trunk that is 17.5 feet in circumference measured 4.5 feet from the ground. With an estimated age of 190 years, this tree is probably one of Fairfax County's oldest residents. This tree was once threatened by road expansion, but is now protected on public lands near Huntley Meadows Park.

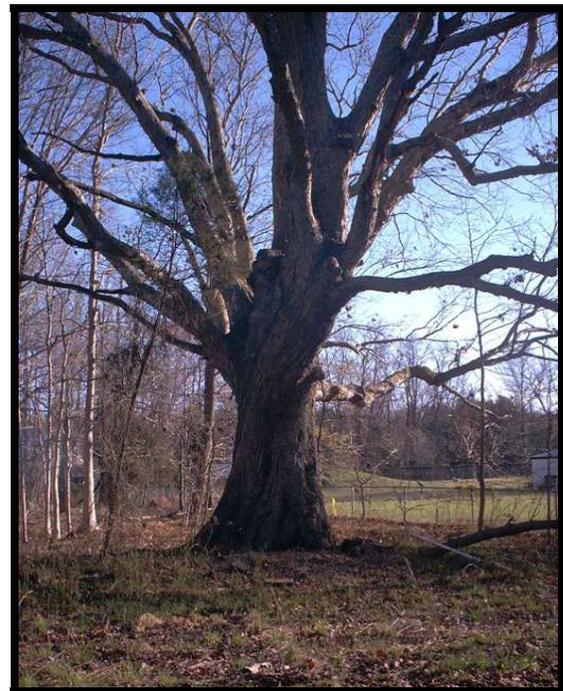


Photo provided by Urban Forest Management Division

## 3.10 Optimize Tree Conservation in Land Development

### Lead Agencies

UFMD and DPZ

### Quick Hits

- Identify a review of Article 13 of the Zoning Ordinance (Landscaping and Screening) for consideration in the Zoning Ordinance Amendment Work Program. Such an amendment would allow for clarification of the use of existing trees and alternative plant materials for landscaping requirements, for the consideration of whether additional incentives may be available for tree preservation and other recommendations in the Tree Action Plan. (Note—the identification of the issue on the Work Program would be a quick hit action. The time frame for consideration of such a Zoning Ordinance Amendment would depend on where it is placed on the Work Program and competing Zoning Ordinance Amendment needs.)
- Periodically review levels of funding/staff resource needs for various levels of tree-related construction site inspections by LDS staff.

### Short Term

- Identify potential participants in a discourse between building industry representatives and staff and outline what this communication process might entail. Then invite participants and initiate discussions with this group.
- Evaluate the strengths and weaknesses associated with the current level of UFMD involvement in the reviews of zoning applications and assess the benefits and other implications of increased involvement. This action should be performed periodically.
- Proceed to consider a review of P District guidelines in the Zoning Ordinance in order to identify whether appropriate consideration is given to tree preservation efforts during the reviews of P District applications.
- Prepare literature publicizing known benefits that act as monetary incentives to tree preservation and planting.
- Contact the Forest Stewardship Council and/or other nonprofit entities to gauge their interest in pursuing an accreditation program.
- Assuming interest, develop a program to provide urban forestry accreditation for responsible developers.
- Convene a meeting, or series of meetings, among staff from DPZ, UFMD, VDOF, and NVSWCD to evaluate the effectiveness of the Agricultural and Forestal District process in preserving and managing environmentally sensitive lands, preserving and planting trees and ensuring appropriate land stewardship practices. Identify any changes to the process that may be appropriate to improve such preservation and management efforts. Include a consideration of the need for monitoring and enforcement actions relating to land management activities; evaluate whether or not enabling legislation may be needed in this

## Optimize Tree Conservation in Land Development, *Short Term continued*

regard. Refine these ideas further through coordination with the Agricultural and Forestal District Advisory Committee.

### Medium / Long Term

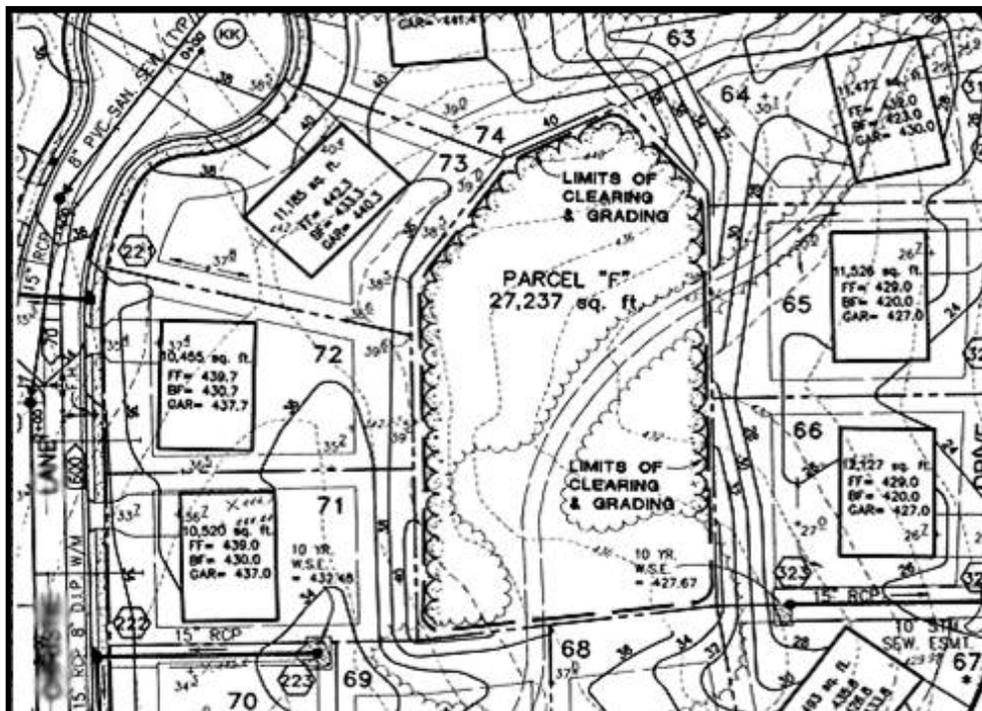
- Establish a stakeholder working group to explore possible tax and/or regulatory incentives for improved tree preservation. The final product from this working group would be a report outlining options, considerations, and recommendations.
- Research and publish a background paper addressing potential tax and regulatory incentives for tree preservation and planting. This paper should address:
  - The extent to which tax incentives could be applied as an incentive for tree preservation and planting.
  - What other jurisdictions have done to provide incentives to preserve trees during land development.
  - Trade-offs in other site development requirements that may be available for consideration as incentives for tree preservation and planting.
  - The use of administratively-granted, environmentally friendly incentives, such as performance-based Public Facilities Manual and Zoning Ordinance standards that have significant potential to disturb less land and effect more tree preservation.
  - Factors that contribute to tree clearing and impediments to tree preservation during development.
  - Opportunities to partner with building industry groups in mutually beneficial projects.
  - Enabling authority – to what extent do we have authority to offer tax incentives?
  - Implications of tax incentives to revenues.
  - Implications of regulatory trade-offs to other county goals, objectives and policies
- Develop, for targeted distribution, publicity for the Agricultural and Forestal District program that addresses both the potential financial benefits of this program to eligible landowners as well as the expectation for environmentally sensitive forest management/land stewardship activities on properties that are entered into this program.
- Create a map that identifies properties within the county that could be eligible for consideration within the Agricultural and Forestal District program and target publicity efforts towards owners of these properties.

### Considerations

- Staff resources – Additional positions within UFMD will probably be needed if levels of inspection are to increase and/or if increased efforts during the zoning process are suggested.

## Optimize Tree Conservation in Land Development, *Considerations continued*

- Developer willingness to incorporate suggested proffer language into their proffer packages. Proffers are voluntary commitments on the part of developers and cannot be imposed.
- Would we need enabling authority to offer tax incentives for tree preservation?
- Additional staff resources will be needed to support mapping and targeted outreach efforts associated with the Agricultural and Forestal Districts program.
- Limited staff resources for Zoning Ordinance Amendments and a large number of competing projects on the Zoning Ordinance Amendment Work Program.
- Implications of regulatory trade-offs to other county goals, objectives and policies.
- Staff resources needed for coordination with building industry and stake holder groups, research efforts and publicity efforts.
- Uncertainty regarding willingness of the Forest Stewardship Council or other nonprofit entity to undertake an accreditation program.



Example of subdivision plan showing tree preservation area protected by tree preservation fencing installed at the limits of clearing and grading.

Image provided by Urban Forest Management Division

## 3.11 Optimize Tree Conservation in Utility and Public Facility Projects

### Lead Agencies

UFMD; DPZ; FCPA; and Capital Facilities business area of DPWES

### Quick Hits

- Draft a letter for signature by the Chairman of the Board of Supervisors to the State Corporation Commission and local construction industry groups urging cooperation in co-locating utilities in shared easements in order to avoid unnecessary clearing and damage of proffered tree save areas.
- Identify, for consideration in the Zoning Ordinance Amendment Work Program, the strengthening of zoning case submission requirements to require submission of a preliminary utility plan for zoning applications where utility construction can conceivably result in clearing of trees. (Note – the time frame for consideration of such a Zoning Ordinance Amendment would depend on where it is placed on the Work Program and competing Zoning Ordinance Amendment needs.)

### Short Term

- Schedule a meeting between the Forest Conservation Branch of UFMD and agencies that design and develop public facilities to develop standard operating procedures that address tree preservation and planting in the design and review of county projects.
- Prepare a background paper addressing potential strategies to reduce impacts from utility construction as outlined in Section 2.11.
- Coordinate with GIS staff to identify funding and other resource needs that may be required in order to develop a data set of culturally, historically, and ecologically significant trees. Pursue appropriate follow-up actions.

### Medium / Long Term

- Initiate investigation of legal authority to require the use of shared utility easements and develop appropriate legislative initiatives if needed.
- Coordinate with utility companies and building industry groups on tree preservation issues associated with the routing of utility lines.

### Considerations

- Requiring underground utilities to be co-located in share easements will probably require enabling legislation which is very likely to encounter opposition by utility companies.
- Staff resources will be needed to conduct research and coordinate with utility companies and building industry groups.
- Limited staff resources for Zoning Ordinance Amendments and a large number of competing projects on the Zoning Ordinance Amendment Work Program.

## 3.12 Support and Refine the County's Urban Forestry Programs

### Lead Agencies

UFMD; Environmental and Facilities Site Inspection Division, DPWES (EFID); SWPD, FCPA; Human Resources Branch, Land Development Services, DPWES; Department of Human Resources; Environmental Coordination Committee; EIP Action Group; and Tree Commission

### Quick Hits

- Perform quality control analyses to determine the effectiveness of UFMD training to other county staff such as EFID. If training levels are insufficient, then UFMD should increase the frequency of training and/or identify specific needs to improve their training programs. This action should be performed annually.
- Evaluate if UFMD staffing levels are adequate to perform core land development services relating to: the review of proposed zoning applications; the review of site plans and associated waivers and modifications; and the monitoring and inspection of sites with tree-related proffers and development conditions. If staffing levels are not sufficient for these purposes, then LDS should submit budgetary requests to increase staffing levels. This action should be performed annually.

### Short Term

- Identify projects and activities recommended in the Tree Action Plan in the FY-2009 (and beyond) EIP submission and other budgetary processes. This action should be performed annually.
- Periodically evaluate if utilizing EFID personnel for frontline inspection and enforcement of the tree preservation and planting requirements on by-right development sites is effective. If utilizing EFID for these purposes is not producing effective results, then generate alternative assignments and scope of responsibilities needed to improve these functions.
- Conduct a workforce analysis of all urban forestry-related staffing levels, position class descriptions to determine if these are adequate to address changes in responsibilities that could result from the implementation of the Tree Action Plan and the countywide Urban Forest Management Plan. This action should be performed periodically.
- Perform job market survey to ensure that Fairfax County's compensation for urban forestry-related job classes remains competitive with comparable positions in local, State, and Federal government and with comparable positions in private industry. This action should be performed periodically.

## **Support and Refine the County's Urban Forestry Programs, *Short Term*** *continued*

- Partner with academic institutions offering natural resource management curriculums to develop opportunities that provide urban forestry internships for students and newly graduated professionals.
- Form a task force to define the mission and role of the Fairfax County Tree Commission and forward to the Board of Supervisors' Environmental Committee for consideration.

### **Medium / Long Term**

- Evaluate if the current alignment of UFMD within the Land Development Services Line of Business is the most effective location within the structure of the county government to effect mission and procedural changes resulting from the implementation of the Tree Action Plan and the countywide Urban Forest Management Plan. If current alignment is not effective, then alternative organizational alignments should be developed and forwarded to the Environmental Coordination Committee and Board of Supervisors for consideration.

### **Considerations**

- UFMD is currently part of the Land Development Services business area, and as such is partially funded by fees collected from the land development industry for review of plans and inspection of construction sites. As the Tree Action Plan is implemented over time, it is likely that UFMD will spend less time on land development services and more time managing forest resources outside of the land development context; therefore, it will become appropriate to evaluate the level of funding that UFMD receives from land development fees, versus the level of funding it receives from the General Fund.
- Over the last five years, the county has lost talented staff to comparable, but higher paying positions in the USDA Forest Service, and in other local governments such as the District of Columbia. In order for Fairfax County pay scales to remain competitive with all regional opportunities, future job market surveys for urban forestry-related job classes must take into account the salaries afforded to urban forestry positions in the Federal workforce as well as other local governments.
- The Fairfax County Park Authority and other county agencies have positions that are routinely involved in urban forest management and arboricultural (tree care) activities. The class specifications for these positions should also be reviewed.

## Appendix 1.

### Recent efforts to acquire state enabling authority to conserve trees during land development

In reaction to the current limitations of the Virginia State Code, the county has attempted to increase its local tree preservation authority in several recent legislative sessions by seeking amendments to the tree cover provisions of § 15.2-961. Summaries of the recent attempts to increase local authority to require tree preservation and are listed below in chronological order. The Tree Commission has been very instrumental in the development and promotion of these efforts and will continue to encourage the Board of Supervisors to pursue additional authority in this regard.

- 2002: Fairfax County initiated a proposal to amend Virginia State Code § 15.2-961 as part of its 2002 Legislative Program. Senate Bill 484 and House Bill 105 were submitted by Fairfax and Prince William Counties as proposals to change the core concept of § 15.2-961 from tree replacement to tree conservation, with a strong emphasis on tree preservation. Both bills were introduced in the 2002 Virginia State Legislative Assembly, but were tabled until the 2003 session due to opposition by the Virginia Building Association.
- 2003: SB484 and HB105 were later terminated as viable legislation due to a Virginia State Legislative Assembly funding crisis.
- 2004: For the third consecutive year, staff from the Department of Public Works and Environmental Services forwarded proposed amendments to Virginia State Code § 15.2-961 to the Board's Legislative Committee. In light of two previous years of substantial opposition to the proposed amendments in the Virginia Legislative Assembly and unwillingness by local Virginia State policy makers to introduce a similar proposal adopted in the previous Legislative Program, the BOS Legislative Committee chose not to include the proposal in the 2004 Legislative Program.
- 2004: Local Virginia State Delegate Mark D. Sickles (House District 43) introduces HB1479, which proposed the same tree preservation amendments originally contained in SB484. On January 23, 2004, HB1479 was referred to the Committee on Counties, Cities and Towns; however, on February 11, 2004 the Committee voted to continue the bill to the 2005 Legislative Assembly.
- 2005: The 2005 Fairfax County Legislative Program contains two tree-related matters: a legislative position supporting HB1479 which is a proposal to amend § 15.2-961 so that the existing tree cover requirements place higher emphasis on tree preservation; and a proposed resolution concerning the use of tree preservation and planting measures in Virginia's air quality management plan.

## Appendix 1. *continued*

- In conjunction with legislative program staff from the Office of the County Executive, UFMD prepared a proposed resolution for consideration by the 2005 Virginia Legislative Assembly. The proposed resolution directed the Virginia Department of Environmental Quality to study the feasibility of including tree-related measures in Virginia's air quality management plans (a.k.a. State Implementation Plans or SIP) and if these measures could receive credits as voluntary stationary source emission reduction programs under section 110 of the Federal Clean Air Act. The proposed resolution was patronized by State Senator Mims as SJ 343, but was left in the Senate Rules Committee because of anticipated budgetary impacts. However, the resolution generated considerable interest and raised awareness levels within Virginia State governmental circles. The increased awareness lead the Virginia State Forester to direct VDOF Staff to initiate communication with the USDA Forest Service research staff and Fairfax County's UFMD to pursue the application of tree-related practices in air quality plans.
- 2006: The Board of Supervisor's Legislative Committee proposes to include a legislative position supporting tree conservation legislative proposals in the county's 2006 Legislative Program.
- 2006: State Senator Ticer introduces SB 236, which is proposed tree conservation legislation which would amend Virginia State Code § 15.2-961, SB 236 is passed by indefinitely in the Senate Committee on Counties, Cities and Towns by a vote of 8 to 6.

## Appendix 2.

### Recent Board matters regarding tree preservation policies

Concurrent with the development of the Tree Action Plan, the Fairfax County Board of Supervisor has adopted the following tree-related Board Matters within the past year. The issues discussed in these Board Matters are interwoven with the major goals and objectives of the Tree Action Plan, and as such, an effort should be made to coordinate their contents and conclusions:

- **Strengthening Tree Preservation Policies And Procedures: Enhanced Identification Of Tree Save Areas, February 28, 2005**
  - Directs the County Urban Forester and the Department of Planning and Zoning to work with a sub-group of the Tree Commission to review and strengthen the policies and procedures of the identification of tree save areas and the marking of the limits of clearing and grading.
  
- **Air Quality, June 20, 2005**
  - Directs staff to prepare a report that delineates what urban forestry-related practices, including tree planting, the county can use to improve air quality and how these practices can be included in the air quality management plans, and to identify a set of best practices with the intent of creating a comprehensive urban forest management plan that will protect the community's trees and maximize the delivery of all the environmental, social, and economic benefits that they provide.
  - Directs staff to investigate the possibility of creating a funding mechanism for a countywide tree planting program through the use of reparations obtained from violations of tree save commitments, cash proffers, and in-kind proffer commitments obtained during the land development process.
  
- **PCA 1999-PR-035, October 17, 2005**
  - Directs staff to set up a county fund for tree preservation and planting.
  - Directs staff to prepare recommendations for integrating Urban Forestry back into the site inspection process in terms of training and staffing needs.
  - Include tree surveys as part of the submission package for land use cases which would indicate the condition of the trees.

## Appendix 2. *continued*

- **Heritage Tree Preservation, June 5, 2006**
  - Directs the Office of the County Attorney, with input from the Urban Forest Management Division to draft a heritage tree preservation ordinance such as granted by Virginia State Code 10-1-1127.1, and to present the draft to the Board's Environmental Committee for consideration and recommendation.
  - Directs staff to determine the county's current authority to protect trees in a "by-right" development and provide definitions of the different categories of tree designations.
  - Directs staff to provide a report on the trees currently identified in the special categories.

## Appendix 3

### Members of the Fairfax County Tree Commission

Mr. Michael J. McMahon, Braddock District, Chair

Ms. Deborah G. Foster, Sully District, Co-Chair

Ms. LaDuska Adriance, At-large

Mr. John Dudzinsky, Dranesville District

Dr. Penny Firth, Providence District

Mr. Harry Glasgow, Northern Virginia Soil and Water Conservation District

Ms. Kathryn K. James, Mason District

Ms. Elizabeth Kohm, Lee District

Ms. Sandra D'Alli Logan, Springfield District

Dr. Jim McGlone, Virginia Department of Forestry

Mr. Lyle C. McLaren, Environmental Quality Advisory Council

Ms. Eleanor Quigley, Mount Vernon District

Mr. Ron Rubin, Hunter Mill District

Mr. Ben Wharton, Fairfax County Park Authority

Ms. Kristi Kubista-Hovis, Fairfax ReLeaf, Inc., Liaison to Tree Commission